Principles of HIV Prevention in Drug-Using Populations

A Research-Based Guide

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Principles of HIV Prevention in Drug-Using Populations

1 **Reducing the risk of HIV/AIDS in drug users is an achievable goal.** To prevent the spread of HIV and other blood-borne infections, drug users must reduce or eliminate those behaviors that place them and others at risk. Research has shown that appropriately designed prevention programs can reduce transmission of not only HIV but of other blood-borne diseases (e.g., hepatitis B [HBV], hepatitits C [HCV], and other sexually transmitted diseases [STDs]) as well.

2 **A community must start HIV/AIDS prevention programs as soon as possible.** Even when HIV/AIDS is well established in a community, prevention programs can significantly limit the further spread of HIV/AIDS.

3 **Effective prevention programs require a comprehensive range of coordinated services.** Given the diversity of drug users and their sexual partners, no single prevention strategy will work for everyone. A comprehensive approach that can readily adapt to changing needs and circumstances is the most effective approach for preventing HIV/AIDS and other blood-borne infections in drug users, their sexual partners, and their communities. This approach should include such services as community outreach, HIV testing and counseling, drug abuse treatment, access to sterile syringes, and services delivered through community health and social service providers. Services must be carefully coordinated within a community.

4 **Prevention programs should work with the community to plan and implement interventions and services.** Involving the local community increases the likelihood of developing and implementing culturally appropriate HIV/AIDS prevention strategies that the community accepts and that can effectively reach drug users and their sexual partners in their natural environments.

5 **Prevention programs must be based on a thorough, continuing assessment of local community needs, and the effectiveness and impact of these programs must be continually assessed.** Because the nature and extent of drug abuse and the HIV/AIDS epidemic vary widely,

prevention strategies must be adapted to local community needs and resources. Local drug use and HIV/AIDS risk-behavior patterns must be tracked to refine program approaches over time and to evaluate program outcomes.

6 **Prevention services can most effectively reach drug-using populations when they are available in a variety of locations and at a range of operating times.** Drug users are dispersed throughout communities and have varying lifestyles. Thus, reaching them requires providing HIV/AIDS prevention services in a wide range of settings, including community health and social service agencies, hospitals and clinics, and drug abuse treatment and correctional facilities. Coordinating these services in various community settings and at a range of operating times enhances the impact of interventions and reduces the unnecessary duplication of services.

7 **Prevention and treatment efforts should target drug users who already have the HIV infection, as well as their sex partners.** People who have the HIV infection may need help gaining access to services and adhering to treatments that can prevent HIV from progressing to AIDS. Research has demonstrated that HIV-positive drug users are able to make major behavioral changes to protect their injecting and sex partners from contracting the infection.

8 **Prevention efforts must target not only individuals, but also couples, social networks, and the broader community of drug users and their sex partners.** Risky behaviors typically occur in the context of social groups. Community-based outreach interventions that engage these groups can be highly effective in reducing risks and preventing the spread of infection. Behavioral norms that permit drug users to share injection equipment also need to be modified within the community. Relying on opinion leaders within these groups can be an effective strategy to influence the drug-using behaviors of individuals and their social networks.

9 **Community-based outreach is an essential component of HIV/AIDS prevention and must be directed to drug users in their own neighborhoods.** Drug abuse is usually a covert activity, making it difficult to contact drug users and their sex partners through traditional health and social service agencies. Indigenous outreach workers who are familiar with the drug use subcultures and local neighborhoods in their communities have been shown to be effective agents of behavioral change and referral sources to service agencies and drug abuse treatment facilities.

10 **Prevention interventions must be personalized for each person at risk.** Effective prevention entails discussing the many behavioral changes a drug user must make to reduce his or her risks for HIV/AIDS. It may require showing drug users and their sex partners how to assess their own risk behaviors. It may also require helping people identify barriers that keep them from changing their behavior, informing them about available resources to help them make those changes, encouraging them to seek voluntary HIV testing and counseling, and teaching them how to develop specific, achievable strategies to protect themselves and others from contracting HIV and other infections.

11 **Drug users and their sex partners must be treated with dignity and respect and with sensitivity to cultural, racial/ethnic, age, and gender-based characteristics.** To successfully engage drug-using populations in interventions, it is important that outreach workers and service providers show that their concern for drug users is genuine and that they believe that drug users are capable of changing their HIV-related risk behaviors. Outreach workers and service providers should use socially and culturally appropriate, non-judgmental approaches to engage drug users and their sex partners.

12 **As part of a comprehensive HIV prevention program, injection drug users should have ready access to sterile injection equipment to reduce their use of previously used injection equipment.** Individuals who inject drugs are at high risk for HIV and other infections if they share or reuse someone else's syringe and other injection equipment, including cookers, cottons, and rinse water. Research has shown that access to sterile syringes, one component of a comprehensive HIV prevention approach, effectively reduces syringe sharing and prevents the spread of HIV.

13 **In a comprehensive program, interventions that target injection risk must address sharing other injection equipment in addition to syringes.** Sharing other injection equipment, including cookers, cottons, and rinse water, and drug solutions that have been prepared for injection, presents another potential route of infection for HIV and other blood-borne diseases. Sharing drug solutions (drugs mixed with water in preparation for injection) is a significant, but

frequently overlooked, HIV transmission risk. Targeted interventions can help drug users reduce these associated risks.

12 **While necessary, risk reduction information alone cannot help drug users and their sex partners make lasting behavioral changes.** In addition to offering accurate and up-to-date information on risky behaviors, effective HIV/AIDS prevention programs focus on enhancing individuals' motivation to change their behavioral patterns, teaching concrete strategies and behavioral skills to reduce risk, providing tools for risk reduction, and reinforcing positive behavior change.

15 **Prevention efforts must address the risks of transmitting HIV and other infections sexually as well as through drug injection.** Drug and alcohol use may reduce inhibitions and increase the likelihood of engaging in unsafe sexual behaviors. Injecting and non-injecting drug users, their sexual partners, and people who exchange sex for drugs or money are at risk for sexually transmitting HIV, STDs, and other infections.

16 **HIV/AIDS risk-reduction interventions must be sustained over time.** Although research has shown that brief interventions have significantly reduced risks for HIV and other infections among substantial numbers of drug users and their sex partners, brief interventions are typically not sufficient. Sustained and repeated interventions are usually needed.

17 **Community-based prevention is cost-effective.** Sustained, well-designed prevention programs are cost-effective and can substantially reduce health care and social service costs associated with treating and caring for people with HIV/AIDS and other infectious diseases.

Contents

1 Principles of HIV Prevention in Drug-Using Populations

7 Preface

9 Acknowledgments

11 Introduction

13 Frequently Asked Questions

13 How can drug users reduce their risks for HIV/AIDS?

14 What is the best HIV/AIDS prevention strategy for drug users?

15 What are the components of a comprehensive HIV/AIDS prevention approach?

16 How effective is a comprehensive HIV/AIDS prevention approach?

19 What role does the community-based outreach worker play in comprehensive HIV prevention for drug users?

19 Is comprehensive HIV prevention for drug users cost-effective?

23 Research on Preventing HIV/AIDS and Other Infections in Drug-Using Populations

28 Resources

Preface

During the past 15 years, the National Institute on Drug Abuse (NIDA) has sponsored a comprehensive research program in response to the dynamic nature of the co-occurring epidemics of drug abuse and HIV/AIDS. This research has yielded a set of scientifically based principles that should prove useful to community planners, policymakers, service providers, and medical practitioners as they develop and implement programs to prevent the spread of HIV and other infections among injecting and non-injecting drug users and their sexual partners. To foster widespread use of these principles, NIDA is pleased to provide this research-based guide: *Principles of HIV/AIDS Prevention in Drug-Using Populations.*

Pages 1–4 of the guide summarize the basic overarching principles that characterize effective HIV/AIDS prevention in drug-using populations. Pages 13–21 elaborate on these principles by providing answers to frequently asked questions. Pages 23–27 describe the epidemiology of HIV/AIDS risk behaviors. This section also provides an overview of major research programs that NIDA has supported since the mid-1980s to gauge the effectiveness of outreach-based interventions in preventing the spread of HIV/AIDS and other diseases among drug users and their sex partners.

Although research has shown clearly that HIV/AIDS can be prevented in drug-using populations, the epidemic continues to spread. We must take every opportunity to meet this public health threat, not only by advancing our research efforts but also by ensuring that our research findings on HIV/AIDS prevention are adapted for use within diverse drug-using groups and their communities. We hope that this guide will be an important contribution to our ever-expanding prevention toolbox.

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The cover photograph is of a painting by Community Health Outreach Worker Craig Lasha. Called "Reaching Out: Preventing HIV/AIDS in Our Community," the painting depicts outreach workers talking to people on the streets of San Francisco's Tenderloin District. It was painted in 1989.

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Introduction

In the mid-1980s, the National Institute on Drug Abuse (NIDA) launched an extensive research program to develop, implement, and evaluate the effectiveness of a range of intervention strategies to reduce risk behaviors and prevent the spread of HIV/AIDS, particularly among injection drug users (IDUs), their sex partners, and crack cocaine users. Cumulative findings from these efforts show that it is possible to prevent the transmission of HIV in drug-using populations.

These studies have shown that comprehensive HIV prevention strategies, in the absence of a vaccine or a cure for AIDS, are the most cost-effective and reliable approaches for preventing new HIV infections in diverse populations of drug users and their communities. Comprehensive HIV prevention includes a variety of complementary components—community-based outreach, drug abuse treatment, and sterile syringe access programs—to help drug-using populations increase their protective behaviors and reduce their risks for HIV/AIDS as well as other blood-borne infections, such as hepatitis B (HBV) hepatitis C (HCV), and other sexually transmitted diseases (STDs). In combination with HIV testing and counseling, each major component has proven somewhat effective in reducing HIV-related risk behaviors. However, no single strategy has proven sufficient by itself to prevent the further spread of HIV/AIDS.

In August 1997, after more than a decade of HIV prevention research, NIDA sponsored the "Research Synthesis Symposium on the Prevention of HIV in Drug Abusers" to review and translate research conducted by NIDA on HIV/AIDS prevention strategies for drug users and their sex partners. Less than a year later, NIDA published a special issue of *Public Health Reports* (1) that featured selected papers from the Symposium on the origins, current status, and future prospects of HIV prevention in drug-using populations. The special issue also provided an initial set of overarching principles to help guide HIV prevention planning efforts.

As a follow-up to both the Symposium and the special issue, NIDA held a workshop on "HIV Prevention in

Drug-Using Populations: Research Outcomes and Principles of Effective Behavioral Interventions" in January 2000. The workshop sought to (a) review the scientific literature on the principles of effective behavioral interventions to prevent HIV/AIDS among drug users, (b) refine a set of prevention principles that is both comprehensive and representative of the best science available, and (c) translate the principles so that they could be widely applied and implemented in diverse community settings. The workshop coincided with NIDA's development of a manual on the NIDA Outreach Model, released in September 2000 (2). The manual discusses the principles of HIV prevention for drug users and their sex partners, includes step-by-step instructions for conducting community-based outreach, and provides information for program managers to use in designing outreach risk reduction programs in their communities (for more information, see "Resources" on page 28).

Available resources, social and cultural factors, and local conditions and policies will influence how, when, where, and to what extent HIV/AIDS prevention programs can be implemented to ensure that even the most difficult-to-reach drug users have access to the services that they need. The research-based principles described in this publication can be a useful tool for communities to use in planning and implementing a comprehensive HIV/AIDS prevention program. Coordination and effectiveness of the various services called for in a comprehensive approach can be improved through partnerships among researchers, drug abuse and HIV/AIDS prevention and treatment providers, and local civic leaders. Once HIV/AIDS prevention programs are adapted to the individual community, they should be assessed continually to determine whether they are successfully achieving program objectives and whether they should be modified or adapted in response to other blood-borne diseases.

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Frequently Asked Questions

1 How can drug users reduce their risks for HIV/AIDS?

Drug users should be advised that stopping all drug use, including drug injection, is the most effective way to reduce their risks for contracting HIV/AIDS and other blood-borne diseases, including hepatitis B and hepatitis C. However, not every drug user is ready to stop using drugs, and many of those who stop may relapse.

A variety of HIV/AIDS prevention strategies to protect against becoming infected are available for individuals who may be considering or already injecting drugs. These are described in a hierarchy of HIV/AIDS risk-reduction messages, beginning with the most effective behavioral changes that drug users can make:

- Stop using and injecting drugs.
- Enter and complete drug abuse treatment, including relapse prevention.
- If you continue to inject drugs, take the following steps to reduce personal and public health risks:
  - Never re-use or "share" syringes, water, or drug preparation equipment.
  - Use only sterile syringes obtained from a reliable source (e.g., a pharmacy or a syringe access program).
  - Always use a new, sterile syringe to prepare and inject drugs.
  - If possible, use sterile water to prepare drugs; otherwise use clean water from a reliable source (e.g., fresh tap water).
  - Always use a new or disinfected container ("cooker") and a new filter ("cotton") to prepare drugs.
  - Clean the injection site with a new alcohol swab before injecting drugs.
  - Safely dispose of syringes after one use.

As the hierarchy shows, drug injectors can best reduce their risks by stopping all drug use. If they inject drugs, they should always use sterile supplies and never share them. When this is not possible, cleaning and disinfecting

techniques should be considered. Full-strength bleach is the most effective disinfectant when safer options are not available. However, sterile, unused injection equipment is safer than previously used injection equipment disinfected with bleach (1). Drug users should never share their other injection equipment, such as cookers, cottons, rinse water, and drug solutions prepared for injection. Sharing these materials presents an important but often overlooked HIV transmission risk.

In addition to learning how to make the behavioral changes described in the hierarchy, drug users and their sex partners should be counseled about sexual risks for HIV and other STDs and the importance of avoiding unprotected sex.

Community-based outreach workers, treatment providers, and other public health professionals should use any contact with a drug user as an opportunity to convey these important HIV/AIDS risk-reduction messages. The messages should be delivered along with referrals for testing and counseling services for HIV and other blood-borne infections, drug abuse-treatment programs, and other services.

2 What is the best HIV/AIDS prevention strategy for drug users?

Given the diversity of drug users and their sex partners, no single HIV/AIDS prevention strategy will work effectively for everyone. A comprehensive approach is the most effective strategy for preventing HIV/AIDS and other blood-borne infections in drug-using populations and their communities. A comprehensive approach readily adapts and responds to changing patterns of drug use and HIV/AIDS risk behaviors, to the characteristics of the local setting, and to the varied service needs of drug users and their sex partners. At every contact with a drug user, outreach workers, interventionists, and counselors deliver drug- and sex-related risk-reduction messages and provide the means to reduce or eliminate their risks for transmitting HIV and other blood-borne infections.

A comprehensive approach is the most effective strategy for preventing HIV/AIDS and other blood-borne infections in drug-using populations and their communities.

3 What are the components of a comprehensive HIV/AIDS prevention approach?

The comprehensive HIV/AIDS prevention approach for drug users includes three complementary approaches: community-based outreach, drug abuse treatment, and sterile syringe access programs. Each of these also includes HIV testing and counseling.

Community-based outreach is an effective approach for contacting drug users in their local neighborhoods to provide them with the means to change their risky drug- and sex-related behaviors. This approach relies on outreach workers who typically reside in the local community and are familiar with its drug use subculture. As a result, they are in a unique position to educate and influence their peers to stop using drugs and reduce their risks for HIV and other blood-borne infections. Outreach workers distribute HIV/AIDS educational information, bleach kits for disinfecting injection equipment when sterile equipment is not available, and condoms for safer sex. They also provide drug users with referrals for drug treatment, syringe access and exchange programs, and HIV, HBV, and HCV testing and counseling.

Drug abuse treatment is HIV prevention. Drug users who enter and continue in treatment are more likely than those who remain out of treatment to reduce risky activities, such as sharing needles and injection equipment or engaging in unprotected sex. Drug abuse treatment can be conducted in a variety of settings (e.g., inpatient, outpatient, residential) and often involves various approaches, including behavioral therapy, medications, or a combination of both. The best treatment programs offer their clients HIV testing and counseling and referral to other services.

Comprehensive HIV prevention programs can help drug users stop using drugs, change their risk behaviors, and reduce their risks for acquiring or transmitting the HIV infection.

Sterile syringe access programs complement community-based outreach and drug abuse treatment by providing drug users who will not or cannot seek treatment, or who are in treatment but continue to inject drugs, with access to sterile syringes and other services. These programs help remove potentially contaminated needles from circulation. They also

Testing and Counseling Services for HIV and Other Blood-Borne Infections

HIV testing and counseling services are an important part of comprehensive HIV prevention programs. These services are most effective when a range of anonymous and confidential testing options are available in diverse, accessible settings (e.g., mobile clinics) and at nontraditional times. The most current, rapid testing technologies can be especially useful. These allow drug users and others at risk to learn their test results as soon as they are available, plan a course of action to stop using drugs and reduce their risk of transmitting HIV to others, and get a referral to appropriate drug abuse treatment and other health services (2). HIV testing and counseling staff also can inform drug users about their potential risks for contracting HBV and HCV and explain why it is important to be tested for these and other blood-borne and sexually transmitted infections. Staff are trained to help people who test positive for HIV and/or other infections to inform their drug use and sex partners about their potential risks for infection and the importance of getting testing and counseling (3).

serve as a bridge to active and out-of-treatment drug users by providing them with HIV/AIDS information and materials (e.g., bleach kits and condoms) to reduce their risks, by offering opportunities for HIV testing and counseling, and by providing referrals for drug abuse treatment and other social services. Hence, it is important that drug abuse treatment and other services are available and accessible to drug users referred by sterile syringe access programs.

4 How effective is a comprehensive HIV/AIDS prevention approach?

Comprehensive HIV/AIDS prevention, which includes the strategies and components of community-based outreach, drug abuse treatment, and sterile syringe access programs—all in combination with testing and counseling for HIV and other infections—currently is the most effective approach for preventing the spread of HIV, other blood-borne infections, and STDs in drug-using populations.

Community-based outreach. More than 15 years of research on HIV/AIDS prevention interventions with IDUs, crack cocaine users, and many of their sex partners has shown that community-based outreach is effective for all types of drug-using risk groups, in a range of local settings. Cumulative research from a 23-site study that followed 18,144 drug users (13,164 IDUs and 4,980 non-injecting crack users) reports that 3 to 6 months after participating in the intervention, 72 percent of the IDUs either stopped injecting drugs or reduced their frequency of injection. Of those who continued to inject, nearly 60 percent either stopped or reduced reusing or sharing their syringes. Twenty-six percent of the crack cocaine users, including 8,184 IDUs who also used crack and 4,980 non-injecting crack users, had stopped using crack cocaine at follow-up. Nearly 25 percent of the 18,144 drug users who participated in the study had entered drug abuse treatment at follow-up, many for the first time.

More than 15 years of research have shown that community-based outreach is effective for all types of drug-using risk groups, in a range of local settings.

Drug abuse treatment. Studies have consistently shown that participation in drug abuse treatment is associated with lower rates of drug injection. For example, a 3-year study of drug use patterns among male IDUs participating in methadone maintenance treatment reported that 71 percent of 388 patients who had remained in treatment for 1 year or more had stopped injecting drugs. By contrast, in a second group of 105 IDUs who had dropped out of treatment, 82 percent had relapsed to injecting drug use within a year. Another study found that opiate addicts who were recruited by street outreach workers and offered free methadone maintenance treatment were significantly more likely to enter and remain in treatment, even if they had never been in treatment before or claimed not to want treatment (4).

Drug users who enter and continue in treatment are more likely than those who remain out of treatment to reduce risky activities.

Research has also shown that participating in methadone maintenance treatment is linked to lower rates of HIV infection. In one study, for example, drug users who remained out of treatment were nearly six times more likely to become infected than those who remained in treatment (5).

Sterile syringe access programs. When implemented as part of a comprehensive HIV/AIDS prevention strategy, sterile syringe access programs play a unique role in engaging hard-to-reach populations at high risk for HIV infection in meaningful prevention interventions and treatment opportunities. Evaluations of these programs indicate that they are an effective part of a comprehensive strategy to reduce the injection drug use-related spread of HIV and other blood-borne infections. In addition, they do not encourage the use of illicit drugs. For example, one study in New York City showed a 70 percent decrease in HIV incidence attributed to sterile syringe access programs (6). By comparison, international investigators found that in 29 cities with established sterile syringe access programs, HIV prevalence decreased an average of 5.8 percent per year but increased an average of 5.9 percent per year in 51 cities without such programs (7).

The cumulative research shows that sterile syringe access programs are effective in reducing the further spread of HIV among IDUs, their sexual partners, and their children. Furthermore, these programs help to:

- increase the number of drug users who enter and remain in detoxification and drug treatment programs if they are available to them;
- disseminate HIV risk reduction information, materials for behavioral change, and referrals for HIV testing and counseling and drug treatment services;
- reduce injection frequency and needle-sharing behaviors;
- reduce the number of contaminated syringes in circulation in a community; and
- increase the availability of sterile injection equipment, thereby reducing the risk that new infections will spread.

5 What role does the community-based outreach worker play in comprehensive HIV prevention for drug users?

Community-based outreach workers are on the front line in the local community, and they know where, when, and how to contact even the most difficult-to-reach drug users in their neighborhoods. As a trusted and recognized source of information, an outreach worker can help drug users understand their personal risks for HIV and other blood-borne diseases and identify the preventive steps they need to take. As a peer, the indigenous outreach worker can encourage drug users to stop or reduce using and injecting drugs and enter drug abuse treatment. They can provide referrals to drug users for drug-abuse treatment, for testing and counseling for HIV/AIDS and other infectious diseases, and for sterile syringe access programs. Outreach workers are a vital link to:

- educational and risk-reduction information on HIV/AIDS, HBV, HCV, and other STDs;
- information and materials for behavioral change, including the HIV/AIDS risk-reduction hierarchy, bleach kits to disinfect injection equipment, condoms for safer sex, and instructions for proper condom use and disposal; and
- services for testing and counseling for HIV, HBV, HCV, and other STDs; drug abuse treatment; and other community health, prevention, and social programs.

Outreach workers are in a unique position to educate and influence their peers to stop using drugs and reduce their risks for HIV and other blood-borne infections.

6 Is comprehensive HIV prevention for drug users cost-effective?

Research has shown that the three complementary approaches that make up comprehensive HIV prevention for drug users—community-based outreach, drug abuse treatment, and sterile syringe access programs—are cost-effective. Comprehensive HIV prevention permits ongoing contact with drug users who may otherwise not be reached and provides them with information and opportunities to stop using drugs, to enter drug-abuse treatment, and to reduce their

drug- and sex-related risks for HIV and other blood-borne infections.

Cost-effectiveness studies have reported that, by preventing HIV infections, community-based outreach interventions help avert future medical costs associated with the care and treatment of HIV/AIDS (8). Similarly, drug abuse treatment programs are cost-effective in reducing drug use and its associated health and social costs, especially when compared to not treating addicts or to incarcerating them (2). Evaluations of sterile syringe access programs have demonstrated that by lowering the frequency of injections with used needles these programs help prevent the spread of new HIV infections and save medical-care costs for each averted infection (9).

Comprehensive community-based HIV prevention approaches help avert future medical costs associated with the care and treatment of HIV/AIDS.

Sustained, well-designed strategies of comprehensive HIV prevention also can lead to substantial reductions in health-care and social-service costs associated with the treatment and care of people with HIV/AIDS and other infectious diseases. Comprehensive HIV prevention is most cost-effective when its strategies are implemented early in the epidemic (10), when the prevalence of HIV is low and the greatest number of potential new infections in the population can be averted.

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Research on Preventing HIV/AIDS and Other Infections in Drug-Using Populations

Epidemiology of Risk Behaviors

Reusing and sharing syringes, needles, and other drug injection equipment exposes injecting drug users (IDUs) to the risk of contracting or transmitting HIV and other blood-borne infections (e.g., hepatitis B (HBV) and hepatitis C (HCV). In addition to injecting drug use, unprotected sexual contact with infected individuals is a major way that these and other sexually transmitted diseases (STDs) are transmitted.

During the course of the HIV/AIDS epidemic, the major groups at risk for HIV in the United States have been men who have had sex with men, IDUs, the sexual partners of IDUs, and people who have blood transfusions. Today, however, the boundaries between the major risk groups are less distinct. Considerable mixing occurs among different at-risk populations who engage in multiple types of drug use, high-risk needle practices, and unsafe sex. A disproportionate number of HIV/AIDS cases, most of which are associated with injecting drug use, have occurred among racial and ethnic minority populations of both genders. These changes reflect the dynamic interactions of the epidemic and simultaneous risk-taking behaviors, including injecting and non-injecting drug use, unprotected sex with multiple partners, and the exchange of sex for drugs or money (1).

Prevalence rates have been reported as high as 50 percent for hepatitis B virus and 65 percent for hepatitis C virus among people who have injected drugs for less than a year.

IDUs have one of the highest HBV incidence rates among all risk groups, and at least half of all new HCV cases occur among IDUs. Studies have shown that infection with HBV and HCV frequently occurs soon after an individual begins injecting drugs. Prevalence rates vary considerably, but have been reported as high as 50 percent for HBV and 65 percent for HCV among people who have injected drugs for less than a year. Co-infections of HBV, HCV, and HIV

have been found to cluster in IDUs and, in some geographic regions, are endemic among long-term IDUs. HCV is now considered an opportunistic infection in HIV-positive people, according to the U.S. Public Health Service and the Infectious Diseases Society of America (2). Although a vaccine is not yet available for HIV or HCV, data on the HBV vaccine indicate that it is possible to immunize injecting and non-injecting drug users successfully.

The strong epidemiologic association between HIV and other STDs also has been recognized since the HIV/AIDS epidemic began. Some studies have reported a two- to five-fold increased risk for HIV among people who have other STDs (3). Shifts in the HIV/AIDS epidemic in the United States highlight the important cofactor effects of STDs. The notable increase in heterosexual HIV transmission among young women, especially young African-American women, has been linked in part to the disproportionate rate of other STDs in this group (3), as well as to the mixing of drugs (including the non-injecting use of heroin, crack cocaine, amphetamines, and other substances), alcohol, and unprotected sex. Moreover, pregnant women who use drugs or are the sex partners of IDUs risk transmitting one or more infections to their infants. Because the proportion of asymptomatic STDs is higher among women than among men, many women are unaware that they have an infection and do not seek routine screening examinations. Therefore, testing and counseling for HIV and other blood-borne and sexually transmitted infections, including routine screening for asymptomatic STDs, are critically important for controlling, preventing, and treating these infections.

Research Programs on HIV/AIDS Prevention in Drug-Using Populations

NIDA initiated two national multisite intervention programs—the National AIDS Demonstration Research (NADR) program and the Cooperative Agreement (CA) for HIV/AIDS Community-Based Outreach/Intervention Research Program—to study the effectiveness of HIV/AIDS prevention approaches among injecting drug users and their sex partners. The NADR program began in 1987. In 1990, NIDA established the CA program, which built on the findings and experiences gained through the NADR program. When crack cocaine emerged in the mid-1980s, it was quickly identified as a major risk factor for unsafe sex, other drug use, and HIV transmission, and the CA program expanded the target population to include non-injecting crack cocaine users.

Community-based outreach was a central intervention strategy in both the NADR and CA programs, and was shown to be a highly effective approach for contacting and engaging out-of-treatment drug users (4). Early in the HIV/AIDS epidemic, a prevailing belief was that IDUs and their sex partners would not or could not modify their behaviors in response to the threat of infection. However, findings from the NADR and CA programs demonstrated that, with the help of well-designed prevention programs, drug users can stop using drugs, change their risk behaviors, and reduce their risks for acquiring or transmitting the HIV infection (4,5).

Following is a brief overview of each program.

National AIDS Demonstration Research (NADR) Program

The NADR program was conducted from 1987 to 1992 in 29 sites across the United States. The program investigated the effectiveness of outreach-based interventions in reducing HIV risks among out-of-treatment injection drug users and the non-injecting female sex partners of male IDUs. During the study, outreach workers from the local communities were sent to contact members of the target population and begin risk-reduction activities in places where IDUs tend to gather. The outreach workers provided drug users with information on how HIV/AIDS is transmitted, prevented, and treated and materials to reduce risks for infection, such as condoms and bleach kits to disinfect injection equipment. Outreach workers also provided referrals to drug users for locally available services, including drug abuse treatment and medical care for HIV/AIDS. The community-based outreach intervention often included follow-up activities, such as confidential HIV testing and counseling and individual risk assessment.

Cooperative Agreement (CA) Program

The CA program was carried out in 23 sites (21 in the United States, and one each in Puerto Rico and Brazil) from 1990 to 1999. It was designed to advance the knowledge base gained through the NADR program. Successful elements of the NADR program were incorporated into the CA program, and the study design was refined based on its scientific results and insights. Community-based outreach workers contacted out-of-treatment IDUs and crack cocaine users to participate in the intervention. These individuals were assigned to basic or "enhanced" intervention services, but they had access to the same basic services at all study sites. The basic intervention involved community-based outreach as a prelude to two education and counseling sessions. The sessions were organized around optional HIV testing and counseling, which was provided to help drug users learn whether they had tested positive or negative for HIV and what behavioral changes they needed to make to reduce their HIV transmission risks.

References

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2. Centers for Disease Control and Prevention (CDC). 1999 USPHS/IDSA Guidelines for the Prevention of Opportunistic Infections in Persons Infected with HIV: U.S. Public Health Service (USPHS) and Infectious Diseases Society of America (IDSA). *MMWR* 48(RR-10), 1999.

3. CDC. HIV prevention through early detection and treatment of other sexually transmitted disease—United States recommendations of the advisory committee for HIV and STD prevention. *MMWR* 47(RR-12):1-24, 1998.

4. Coyle, S.L.; Needle, R.H.; and Normand, J. Outreach-based HIV prevention for injecting drug users: A review of published outcome data. *Public Health Reports* 113(Suppl 1):19-30, 1998.

5. Stephens, R.C.; Simpson, D.D.; Coyle, S.L.; McCoy, C.B.; and the National AIDS Research Consortium. Comparative effectiveness of NADR interventions. In: Brown, B.S.; and Beschner, G.M., eds. *Handbook on Risk of AIDS.* Westport, CT: Greenwood Press, pp. 519-556, 1993.

Resources

General Inquiries:

NIDA Public Information and Liaison Branch, 301-443-1124

NIDA's HIV Prevention Research Activities:

Center on AIDS and Other Medical Consequences of Drug Abuse (CAMCODA), 301-443-1801

NIDA's Web Site:

www.drugabuse.gov

Selected NIDA Educational Resources on HIV Prevention in Drug-Using Populations

The following publications are available from the National Clearinghouse on Alcohol and Drug Information (NCADI) at 1-800-729-6686, or online at www.drugabuse.gov.

The NIDA Community-Based Outreach Model: A Manual To Reduce the Risk of HIV and Other Blood-Borne Infections in Drug Users. (2000) Provides principles of HIV prevention for out-of-treatment drug-using populations, information on community-based HIV prevention, a discussion of the roles of effective community-based outreach workers, instructions for conducting community-based outreach, information for program managers for designing an outreach risk-reduction program in their communities, and cue cards to use during counseling sessions. NIH Publication No. 00-4812, or available at the NIDA Web site at www.drugabuse.gov.

HIV Prevention With Drug-Using Populations: Current Status and Future Prospects. *Public Health Reports* (1998); *113*(Suppl 1). Provides a historical perspective on the current status of the knowledge base on prevention of HIV in drug-using populations, and includes sections on community-based outreach risk-reduction interventions, syringe exchange/access programs, drug abuse treatment, social networks and their roles in preventing HIV in drug users, and future directions for HIV prevention research. For sale by the U.S. Government Printing Office, ISBN 0-16-049601-2.

Integrating Cultural, Observational, and Epidemiological Approaches in the Prevention of Drug Abuse and HIV/AIDS. (1999) Provides a historical and future perspective on the integration of qualitative and quantitative methods approaches for the collection, analysis, and interpretation of data on drug abuse and HIV/AIDS, and shows how combining epidemiological and ethnographic methods informs the development of effective HIV prevention interventions for drug users. NIH Publication No. 99-4565, or available from the NIDA Web site at www.drugabuse.gov.

Preventing Drug Use Among Children and Adolescents: A Research-Based Guide. (1997) Provides an overview of research on the origins and pathways of drug abuse, the basic principles of drug abuse prevention, and the development and application of research-based programs for the prevention of drug abuse among children and adolescents. NIH Publication No. 99-4212, or available from the NIDA Web site at www.drugabuse.gov.

Principles of Drug Addiction Treatment: A Research-Based Guide. (1999) Summarizes basic overarching principles that characterize effective treatment, describes types of treatment, and presents examples of scientifically based and tested treatment components. NIH Publication No. 99-4180, or available from the NIDA Web site at www.drugabuse.gov.

Research Monographs

Qualitative Methods in Drug Abuse and HIV Research (Research Monograph 157). (1995) Describes advances in the use of qualitative research methods for the study of drug abuse and HIV/AIDS, including a review of qualitative methods, their appropriateness for different populations and settings, and their strengths and limitations. NIH Publication No. 95-4025, or available from the NIDA Web site at www.drugabuse.gov.

Social Networks, Drug Abuse, and HIV Transmission (Research Monograph 151). (1995) Explores the roles of social networks and network characteristics on patterns of risk behaviors and the transmission

of HIV/AIDS, including the use of network analysis techniques for developing and implementing strategies to prevent HIV transmission among drug-using populations. NIH Publication No. 95-3889, or available from the NIDA Web site at www.drugabuse.gov.

The Collection and Interpretation of Data From Hidden Populations (Research Monograph 98). (1990) Examines the use of qualitative approaches in the analysis and understanding of complex human behavior, including the use of ethnographic methods for contacting hard-to-reach and hidden populations of drug users and other at-risk individuals. DHHS Publication No.(ADM)90-1678, or available from the NIDA Web site at www.drugabuse.gov.

Additional Information

NIDA's 5-Year Strategic Plan. NIDA's overarching goal for the next 5 years is to significantly reduce the health and social consequences of drug abuse and addiction. Using input from Congress, the Institute's staff, its advisory groups, and its constituents, NIDA has developed three broad strategies and several priority areas within each that will be pursued to fulfill this goal. Information on the strategies and priority areas, in addition to NIDA's basic, clinical, prevention, epidemiological, and services research areas, is available from the NIDA Web site at www.drugabuse.gov/StrategicPlan/Index.html.

Global Research Network (GRN) on HIV Prevention in Drug-Using Populations. In 1998, NIDA collaborated with the Office of AIDS Research at the National Institutes of Health, the Joint United Nations Programme on HIV/AIDS (UNAIDS), and the World Health Organization (WHO) to hold the inaugural meeting of the GRN in Geneva, Switzerland. The GRN was established to facilitate international cooperation and collaboration on research to prevent HIV and other blood-borne diseases among drug users, to increase understanding of HIV in drug-using populations, and to report on new research findings at both the regional and country levels. The second annual meeting of the GRN was held in Atlanta, Georgia, in August 1999, and the third annual meeting was held in Durban, South Africa, in July 2000. For inquiries about the GRN and the GRN's proceedings from the 1998 and 1999 meetings, call NIDA's CAMCODA at 301-443-1801.

HIV/AIDS and Drug Abuse Treatment Services. HIV/AIDS and Drug Abuse Treatment Services Literature Review. Barry S. Brown, Ph.D., University of North Carolina at Wilmington, September 1998. Available at NIDA's Web site; search for "HIV" or go to 165.112.78.61/HSR/da-tre/BrownHIV.html.

Community Epidemiology Work Group (CEWG) Publications. Participant Observation Study of Indirect Paraphernalia: Sharing/HIV Risk in a Network of Heroin Injectors. Available at NIDA's Web site; search for "HIV" or go to 165.112.78.61/CEWG/ethno.html.

Funding Opportunities

For information on funding opportunities at NIDA, including NIDA's list of program announcements, requests for applications, and research training sites, and for information on grants and contracts, application guidelines and policies, forms, and answers to frequently asked questions, go to www.drugabuse.gov/Funding.html.

Other Resources

Center for Substance Abuse Prevention (CSAP). CSAP, part of the Substance Abuse and Mental Health Services Administration, is responsible for providing national leadership in the Federal effort to prevent alcohol, tobacco, and illicit drug problems that are intrinsically linked to other serious national problems, including HIV/AIDS. CSAP publications are available through the National Clearinghouse for Alcohol and Drug Information at 1-800-729-6686. Additional information about CSAP can be found on its Web site at www.samhsa.gov/csap.

Center for Substance Abuse Treatment (CSAT). CSAT, part of the Substance Abuse and Mental Health Services Administration, is responsible for supporting treatment services through block grants and developing knowledge about effective drug abuse treatment, disseminating the findings to the field, and promoting the adoption of these treatments. CSAT also operates the National Treatment Referral 24-hour HOTLINE (1-800-662-HELP), which offers information and referrals to people seeking treatment programs and other assistance. CSAT publications are available through the National Clearinghouse for Alcohol and Drug

Information at 1-800-729-6686. Additional information about CSAT can be found on its Web site at www.samhsa.gov/csat.

The National Clearinghouse for Alcohol and Drug Information (NCADI). NIDA publications and prevention materials along with publications from other Federal agencies are available from this information source. Staff provide assistance in English and Spanish and have TDD capability. Phone: 1-800-729-6686. Web site address: www.health.org.

Centers for Disease Control and Prevention (CDC). CDC is responsible for promoting health and quality of life by preventing and controlling disease, injury, and disability. CDC's programs include support for State and local disease prevention activities; a national public information network; education programs in the Nation's schools; disease monitoring; and laboratory, behavioral, and epidemiologic studies designed to identify the most effective interventions to combat HIV. CDC's Web site is www.cdc.gov.

Joint United Nations Programme on HIV/AIDS (UNAIDS). Established in January 1996, UNAIDS brings together the United Nations Children's Fund, United Nations Development Programme, United Nations Population Fund, United Nations International Drug Control Programme, United Nations Economic and Social Council, World Health Organization (WHO), and the World Bank in leading and supporting a worldwide effort to prevent HIV and alleviate the impact of the AIDS epidemic. UNAIDS' Web site is www.unaids.org.