Bloodborne and Sexually Transmitted Infections in Drug Abusers in the United States, Latin America, the Caribbean, and Spain

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In the United States, ∼1 million Americans are infected with human immunodeficiency virus (HIV), and several thousand new infections are reported each year. More than one-third of cases of acquired immunodeficiency syndrome (AIDS) are associated with injection drug use. An estimated 1.8 million adults and children are currently living with HIV in Latin America and the Caribbean, and injection drug abuse remains a major factor in initial exposures to HIV in these parts of the world. Although only 3 cases of AIDS related to drug abuse have been reported in Bolivia, a country with a nascent epidemic, >19,000 cases of AIDS have been reported in Argentina and >22,000 in Brazil, with a significant number associated with injection drug use. Extensive epidemiological and clinical research has been conducted in the United States and elsewhere to determine the extent and nature of the problem and to design and develop interventions (prevention and treatment) for drug abusers infected with HIV. The articles in this supplement present a current view of the nature and extent of the bloodborne and sexually transmitted infections in drug abusers and their partners in the Western Hemisphere.

Since 1981, when AIDS was first identified, ∼1 million people in the United States have become infected with HIV [1], and ∼40,000 new cases of HIV infection are reported each year. According to the US Centers for Disease Control and Prevention [2, 3], drug abuse remains the second-most-common mode of exposure to HIV among AIDS cases in the United States. Through June 1997, AIDS cases related to the injection of illicit drugs represented 32% of total diagnoses. According to a recent survey, ∼94 million people in the United States aged ≥12 have used at least 1 illicit drug in their lifetime, whereas ∼15.9 million used an illicit drug in the past month prior to the survey (“current users”) [4]. Although no definitive figures are available, an estimated 1.8 million adults and children are living with HIV in Latin America and the Caribbean—a region that is experiencing diverse epidemics. With an average adult HIV prevalence of ∼2%, the Caribbean is the second-most-affected region in the world. Injection drug use is also a major factor in initial exposure to HIV in Latin America and the Caribbean. For example, in Bolivia, 791 cases of HIV have been reported since 1984; 42% developed into full-blown AIDS, and 3 cases developed into AIDS reportedly associated with injection drug use. In comparison, between 1982 and September 2001, there were 20,713 cases of AIDS reported in Argentina, 39% of which have been associated with injection drug use. In Brazil, 22,879 cases of AIDS were developed into AIDS reportedly associated with injection drug use. In comparison, between 1982 and September 2001, there were 20,713 cases of AIDS reported in Argentina, 39% of which have been associated with injection drug use. In Brazil, 22,879 cases of AIDS were reported between 1982 and 1997, 25% of which have been associated with injection drug use. The prevalences of HIV/AIDS among injection drug users (IDUs) in other Latin American countries and the Caribbean Islands have remained within this range, whereas in Spain, 75% of the 61,000 cases of AIDS have been related to injection drug use.
HIV is a retrovirus that infects CD4+ lymphocytes, macrophages, and other cells, causing profound immunosuppression that eventually may develop into full-blown AIDS. The course of HIV infection and AIDS may be complicated further by a variety of medical and health consequences secondary to the direct toxic effects of HIV: opportunistic infections, neoplasms, and complications of antiretroviral and other medications used for treatment. In addition to drug abuse as a factor in initial exposure to HIV, ongoing drug abuse, correlates of the lifestyles associated with drug abuse, and issues of access and adherence to treatments for drug abuse and associated medical consequences are some of the drug-related factors that affect the onset and course of HIV disease. HIV and drug abuse are associated with numerous medical and health consequences. Although virtually every organ system can be affected during the course of HIV infection, the articles in this supplement address the issue of drug abuse and co-occurring bloodborne and sexually transmitted diseases (STDs) and associated health and medical consequences; interventions (prevention and treatment strategies) used in the United States, Latin America, and the Caribbean Islands; and investigators’ experiences in designing strategies that are appropriate for these geographic areas of the world.

The meeting “Bloodborne and Sexually Transmitted Infections among Intravenous Drug Users and Their Partners in the Western Hemisphere: Experiences and Lessons Learned, Regional Expert Consultation” was held on 17–19 December 2001, in Buenos Aires, Argentina. The meeting was cosponsored by the Center on AIDS and Other Medical Consequences of Drug Abuse, in the National Institute on Drug Abuse (NIDA)—part of the National Institutes of Health (NIH), US Department of Health and Human Services—and the Pan American Health Organization, Regional Office of the World Health Organization (WHO) for the Americas. Clinicians, researchers, and other health care providers from Latin America and the United States who are engaged in drug abuse and infectious diseases research presented data from their ongoing studies and exchanged histories of their experiences in dealing with the problems of drug abuse and co-occurring infections, including HIV, hepatitis, and STDs, among drug-abusing populations in their respective countries. The researchers also made recommendations for future research. A summary of the meeting in both English and in Spanish appears on the NIDA Web site at http://www.nida.nih.gov/whatsnew/meetings/NIDA_PAHO.

ARGENTINA

Dr. Sergio Sosa-Estáñi (National Center for Diagnosis and Research on Endemoe�pidemics, Buenos Aires) (see Sosa-Estáñi et al., pp. S338–42) stated that, between 1982 and September 2001, there were 20,713 cases of AIDS reported in Argentina, 80% of which were found in large urban cities. Of an estimated 671,584 drug users in Argentina, ~10% were IDUs, and 12,137–34,538 IDUs were infected with HIV. The prevalence of HIV was 0.7% among pregnant women and 17.5% among prisoners; ~50% of HIV-infected children were born to IDU women or women whose partners were IDUs. Overall data suggest that injection drug use was the main risk factor among the reported cases of AIDS in Argentina.

Dr. Graciela Moscatello (Hospital “Francisco J. Muñiz,” Buenos Aires) (see Moscatello et al., pp. S343–7) reported that, among the 12,252 HIV-infected persons, 47% were IDUs. The prevalences of infections were as follows: HIV, 80%; hepatitis C virus (HCV), 92%; hepatitis B virus (HBV), 73%; human herpesvirus, 17%; human T-lymphotropic virus type I or type II (HTLV-I or -II), 8%; tuberculosis, 44%; multidrug-resistant tuberculosis, 30% (of total tuberculosis cases); syphilis, 22%; gonococci, 15%; and human papillomavirus (HPV), 3%.

However, tuberculosis was the main health problem among IDUs, with HIV infection being the main risk factor. Among HIV-positive IDUs, the possibility of developing tuberculosis was twice as high as among non-injecting drug users. Poverty further enhanced the development of tuberculosis and STDs and increased the sexual and perinatal transmission of HCV.

In terms of intervention programs to deal with HIV infection among drug abusers, Dr. Moscatello showed that the higher rates of chronic hepatitis and cirrhosis in IDUs reduced the benefits derived from HAART for HIV/AIDS. Lamivudine eliminated the HBV infection with an efficacy of 86% in HIV-positive patients after 2 years of treatment, but drug resistance occurred in 50% of the cases. The higher incidence of HCV required treatment with interferon or ribavirin with associated toxicity and higher cost but was worsened by drug abuse. Dr. Moscatello cautioned that, among IDU women, gonococci- and HPV-related pelvic inflammatory disease and cervical carcinoma could be misdiagnosed.

In another small cohort of 174 male and female IDUs in Buenos Aires, Dr. Mercedes Weissenbacher (University of Buenos Aires) (see Weissenbacher et al., pp. S348–52) found the prevalences of infection to be as follows: HIV, 44.3%; HCV, 54.6%; HBV, 42.5%; HTLV-I, 2.3%; and HTLV-II, 14.5%. Only 37% of IDUs had no viral infection; 63% had evidence of ≥1 viral infections. Of the infected subjects, 21% had a single viral infection, 26% were infected with 2 viruses, 35% were infected with 3 viruses, and 18% were infected with 4 viruses simultaneously. She noted that HIV-infected IDUs were at high risk of being infected with other viruses, such as HBV, HCV, HTLV-I, and HTLV-II. Dr. Weissenbacher stated that there is a strong need for developing intervention programs directed specifically at this population.

Dr. Damián Lavarello (Rosario Municipal Program on AIDS, Santa Fe, Argentina) (see Lavarello et al., pp. S353–7) reported
on the Rosario program of comprehensive interventions for prevention that included promoting dialogue, providing condoms, providing voluntary HIV testing and counseling, discussing birth control strategies with women to prevent HIV transmission during pregnancy or lactation, and treating pregnant women and their babies with antiretroviral drugs. He noted that the current rate of mother-to-child transmission was quite low (2%) in the city of Rosario and that efforts were underway to reduce it further.

Dr. Graciela Radulich (National University of La Plata, Buenos Aires) (see Vivas et al., pp. S358–61) urged that, in addition efforts to deal with poverty, efforts should be made to accomplish the following goals: carry out prevention and care strategies specifically designed for subgroups of drug-using populations, such as drug-using and non–drug-using sex workers, immigrants, and prisoners; bring into the public debate discussions and policies that promote the exclusion and criminalization of drug users; develop research and specific interventions for HCV; work closely with local health centers to guarantee access to and ensure the continuity of specific medical treatments; develop specific and gender-sensitive interventions designed for women drug users; work with society at large on the micro level to empower local community networks that can expand harm reduction actions and on the macro level to raise awareness and involve actors with political decision-making power.

Dr. Diana Rossi (Intercambios Civil Association and the University of Buenos Aires) (see Rossi et al., pp. S362–5) described successful harm reduction programs and lessons learned in Argentina. She noted that application of the rapid assessment and response methodology helped in developing the first syringe exchange program in the country and that a community-based outreach program was an effective model for poor populations in Buenos Aires. Studies have been developed to determine seroprevalence and focused preventive campaigns oriented toward drug users and their sex partners and children. With cooperation from 15 governmental and nongovernmental organizations, prevention focusing on use of pharmacies to reach drug users was found to be effective in distributing preventive materials to them. Research, community-based interventions, and collaborative work among different organizations have made it possible to effectively reach the IDU population in Argentina.

Dr. Silvia Inchaurregu (National University of Rosario, Rosario, Argentina) (see Inchaurregu, pp. S366–71) briefly summarized the harm reduction program of the Argentina Ministry of Health, which consists of providing an injection kit and an instructional handbook. She noted that the campaign of “if you do it, do it well” was quite successful in reducing HIV/AIDS and drug abuse problems in the city of Rosario.

According to Dr. Graciela Touzé (University of Buenos Aires) (see Touzé, pp. S372–5), numerous obstacles have hindered the development of prevention and health care policies for IDUs in Argentina, including lack of good research and its impact on the development of government policies; punitive laws regarding drug use; lack of access to health and social care services available to drug users; lack of adequately trained health care professionals; and inefficient allocation of existing resources. She suggested that international agencies such as the United Nations (e.g., The Joint United Nations Programme on HIV/AIDS and the United Nations Office for Drug Control and Crime Prevention) should play a significant role in the development of harm reduction and other prevention programs in the affected regions.

**BOLIVIA**

Dr. Franklin Alcaraz del Castillo (Latin American Center of Scientific Investigations, La Paz, Bolivia) (see the abstract for del Castillo, p. S472) reported that since the first report of HIV in 1984, only 791 cases of HIV had been reported in Bolivia; 42% developed into full-blown AIDS, with a mortality rate of >50%. Most cases were found in the cities of Santa Cruz (285), La Paz (151), Cochabamba (76), and Trinidad (30); 41% of cases occurred among 25- to 34-year-olds, 23% among 35- to 44-year-olds, 22% among 15- to 24-year-olds, 11% among those ≥45 years of age, and 3% among children 0–14 years old. Only 3 cases of AIDS were reported to have occurred in association with injection drug use in Bolivia.

**BRAZIL**

Dr. Waleska Téixeira Caiaffa (Federal University of Minas Gerais, Belo Horizonte, Brazil) (see Caiaffa et al., pp. S376–81) reported that HIV seroprevalence in Porto Alegre increased from 48.5% in 1998 to 78% in 2000, the mean age at which HIV infection occurred increased from 28 to 31, and the duration of drug use increased from 11 to 12.4 years. During the same period, the rates of homelessness, joblessness, and imprisonment increased significantly in Porto Alegre, and the number of respondents who reported ever having shared needles also increased—from 26% to 56%. By comparison, in Itajaí, HIV prevalence decreased from 78% to 31%, as did the age at which HIV infection occurred and duration of drug use. Although condom use was similar by year of survey and by site, the prevalence of men who have sex with men increased from 16% to 31% in Porto Alegre. At both sites, there were increases in IDUs seeking health care (but not drug treatment) and testing for HIV. Dr. Caiaffa suggested that data on survival, attendance bias, dynamics of HIV transmission, age, and sex should be collected in the prevalence studies.

Dr. Fábio Mesquita (Secretary of Health of the City of São...
reduction program was established). Injection drug use (1992 (before any intervention) to 42% in 1999 (when the harm reduction program was established). Injection drug use (>5 times daily) decreased from 42% to 15%, but the use of crack cocaine increased from 11% to 60%. However, there was no significant alteration in the pattern of safe sex in the population. The change in drug use patterns probably affected the HIV epidemic more than did the modest public health interventions carried out during the past 10 years.

According to Dr. Mônica Siqueira Malta (Oswaldo Cruz Foundation, Rio de Janeiro) (see Malta et al., pp. S386–91), drug abuse and HIV cases in Rio de Janeiro are managed in cooperation with a team from the outpatient facility, where strategies are discussed with patients to improve their quality of life. A weekly antiretroviral therapy adherence group includes role-playing and psychotherapy activities; monthly “waiting room debates,” covering a broad range of issues, are encouraged. She noted that Brazil was in a unique position among developing countries with regard to antiretroviral therapy, because Brazil also has a network of preventive programs targeting drug users, including >50 syringe exchange programs. However, much needs to be done in a huge country where social and economic inequalities and stigma and prejudice against dispossessed communities and minorities have reached unacceptably high levels.

COLOMBIA

Dr. Inés Elvira Mejía (Universidad de Los Andes, Bogotá, Colombia) (see the abstract for Mejía, p. S472) described the WHO-funded study of risks for HIV, HBV, and HVC among IDUs in Bogotá. The study showed that although sharing needles and syringes was not a common practice (because of perception of risk), indirect sharing (e.g., drug cookers, rinse water from a common container, filters) was very common. Hygienic injection was rare, and overdoses were highly prevalent among those who used heroin. Injection commonly occurred in private and closed settings, given the stigmatization and harassment from authorities. Sexual risk behaviors were common; condom use was limited among primary and casual partners. The amount of information about HIV, HBV, HCV, and other communicable diseases was also limited. Although sterile equipment was readily available, there was an absence of policies, programs, and outreach actions targeting this vulnerable group to discourage injection or prevent transition to injecting drugs of abuse. She suggested that it is necessary to develop infrastructure and intervention strategies for drug abusers coinfected with HIV.

PUERTO RICO

Dr. Rafaela Robles (Central University of the Caribbean’s School of Medicine, Bayamon, Puerto Rico) (see Robles et al., pp. S392–403) reported that Puerto Rican IDUs living in Puerto Rico were more likely to be males and were less likely to have been in jail and be HIV-seropositive than were Puerto Rican IDUs residing in New York City. Puerto Ricans in Puerto Rico were significantly more likely than Puerto Rican IDUs in New York to inject drugs more frequently, use “shooting galleries,” share syringes, and have multiple partners; they were less likely to use condoms, health services, and methadone treatment. Subjects who reported use of methadone treatment were not likely to inject more frequently than did those who did not use this treatment. She suggested that Puerto Rico needs to significantly improve access to health care, especially methadone treatment, to be able to reduce HIV risk behaviors and the self-sustaining HIV epidemic.

SPAIN

Dr. Roberto Muga (Metropolitan Hospital, Barcelona) (see Muga et al., pp. S404–9) noted that two-thirds of the 61,000 AIDS cases in Spain were related to injection drug use and that this pattern of spread had been observed since the beginning of the epidemic. Temporal trends in the epidemiology of HIV among IDUs from a hospital cohort of IDUs starting detoxification in 1987 indicated an overall decline in the prevalence of HIV among IDUs who were newly addicted (for <5 years). The prevalence of HCV was >60% in the same population. In settings with a high residual prevalence of HIV, the emerging epidemic was related to HIV- and HCV-coinfected persons surviving AIDS but at risk of developing end-stage liver disease. The prevalence of HBV (defined as a test results positive for hepatitis B surface antigen) and serological syphilis (defined as a positive result of the rapid plasma reagin or Treponema pallidum hemagglutination tests) remained stable over time. However, tuberculosis was the most frequent opportunistic infection in Spain. Before the HAART era, the risk of developing active tuberculosis among 184 HIV-positive IDUs was 15% at 5-year follow-up (incidence, 3 cases per 100 person-years). Concerning the incorporation of HIV-positive IDUs in antiretroviral therapy, the cohort of seroconverting patients indicated that
There was an urgent need to implement sustainable research-epidemiological data on HIV/AIDS and HCV in IDUs and users were not taken into account. There was a paucity of good distribution of syringes was illegal, and human rights for drug difficulties for IDUs to access integral health care services. Dis-tributions could be important for young IDUs.

Dr. Maria Luz Osimani (Research and Development Institute, Montevideo, Uruguay) (see Osimani, pp. S422–6) noted that as of December 2001, in the 3.4-million population of Uruguay, there were 4041 HIV-positive persons and 1788 cases of AIDS; 23% of HIV-infected persons were IDUs. Forty percent of HIV-positive children were born to drug-using mothers or to moth-ers who had IDU sex partners. Data showed that cocaine use began between 11 and 15 years of age, whereas injection drug use began much earlier. There was little perception of the risk of disease progression but also for the transmission of multidrug-resistant HIV to new IDUs.

Dr. Patricia Insúa (University of the Basque Country, San Sebastián, Spain) (see Insúa and Moncada, pp. S416–21) described a training program for health care personnel who work with IDUs infected with HIV that she and her colleagues had developed to reduce the health problems of HIV/AIDS and drug abuse in Spain. She noted that increasing the trainers’ personal abilities, beliefs, attitudes, and behaviors and sustaining these attributes over time were useful in implementing AIDS prevention programs, such as safe injection practices, for drug abusers. The lessons learned from this experience further confirmed the need for and usefulness of training health care professionals to implement AIDS prevention programs for drug users.

**URUGUAY**

Dr. María Luz Osimani (Research and Development Institute, Montevideo, Uruguay) (see Osimani, pp. S422–6) noted that as of December 2001, in the 3.4-million population of Uruguay, there were 4041 HIV-positive persons and 1788 cases of AIDS; 23% of HIV-infected persons were IDUs. Forty percent of HIV-positive children were born to drug-using mothers or to mothers who had IDU sex partners. Data showed that cocaine use began between 11 and 15 years of age, whereas injection drug use in general began at ~16–18 years of age; intravenous cocaine use began much earlier. There was little perception of the risk of HBV and HCV, HIV reinfection, or interactions between drugs or about risky sexual behavior. The drug laws made it difficult for IDUs to access integral health care services. Distribution of syringes was illegal, and human rights for drug users were not taken into account. There was a paucity of good epidemiological data on HIV/AIDS and HCV in IDUs and preventive actions from the local and federal governments. There was an urgent need to implement sustainable research-based programs, develop and implement intervention programs for drug abusers, train health care personnel, recruit drug users into treatment at an early stage of drug addiction, and obtain legislative support for public health interventions.

Dr. Raquel Magri (Presidential Board on Drugs, Montevideo, Uruguay) (see the abstract for Magri, p. S472) argued that although it was necessary for the government to have the primary responsibility, the test subjects involved in the interventions should also actively participate in designing strategies and formulating the messages to be delivered, their format, and their distribution channels. He advocated active participation by the recipient, parents and teachers, and community health care personnel.

**UNITED STATES**

Dr. Walter Royal (Morehouse School of Medicine, Atlanta) (see Royal et al., pp. S427–32) noted that nervous system disease frequently occurs in patients infected with HIV, despite the availability of HAART. Among the manifestations associated with primary nervous system involvement, dementia and neuropathy remain significant causes of disability. In recent years, the use of more effective therapies has been associated with a decrease in the incidence of dementia. However, newer clinical cases have presented a clinical profile that suggests that cases may begin to appear in persons who are less severely immuno-compromised. Clinical and pathological studies demonstrate that drug users might be at higher risk of developing these disorders as well as other complications, such as cerebrovascular disease.

Dr. Paula J. Lum (University of California, San Francisco) (see the abstract for Lum, p. S472) described her experience in immunizing drug abusers against HBV infection, which is highly prevalent (44%–80%) among IDU populations in San Francisco (unpublished data). Completion of HBV immuni-zation is more likely in geographically stable, young IDUs who identify as drug users and engage in other prevention activities, such as HIV testing and syringe exchange. Street-based outreach and reimbursement may improve completion rates. She noted that given suboptimal vaccine responses among those completing vaccinations, repeated or higher-dose immunization schedules could be important for young IDUs.

Dr. David Bell (Affiliated Systems Corporation, Houston) (see Bell et al., pp. S433–8) noted that since the advent of the HIV epidemic, a major component of public and private interventions for reducing HIV risk behaviors among drug users had involved warning persons engaged in risky behaviors (drug injectors, sex partners) to treat their partners as if they were HIV-seropositive. In a study cohort of 1541 drug users and their risk partners (i.e., sex and injection partners), risky behavior between 1 HIV-seropositive person and another was at...
a very high level, whereas risky behavior between HIV-sero-positive persons and their proximate partners was moderate (one-third of that level), and risk between proximate and remote partners was very low (one-fifth to one-tenth). Risk between 2 remote partners was about the same as between an HIV-positive person and a proximate partner. Data suggested that, at least among and around the drug-using community in Houston, people were acting as if their risk partners were infected with HIV. Public health messages about the risk of HIV had apparently been received, and persons were taking the disease status of their partners into account. However, there was still substantial residual risk: risks had been reduced, but they had not been eliminated.

Dr. Stephen Crystal (State University of New Jersey, New Brunswick) (see the abstract for Crystal, p. S472) discussed the issues of health care access, utilization, persistence, and other issues of treatment for drug abuse and co-occurring infections; issues of HAART; and psychiatric comorbidity in drug abusers coinfected with HIV.

Dr. Jerry Flanzer (National Institute on Drug Abuse, NIH, Bethesda, MD) (see Flanzer, pp. S439–44) noted that there was a direct relationship between the quality of drug use treatment and a patient’s program completion, the patient’s perception of the staff, feelings of self-empowerment and mitigation of patient and organizational readiness, the superiority of integrated care, and the primary reasons for delays in patients with substance abuse problems seeking HIV care. He further noted that despite the research, many substance abuse programs were still not teaching about or testing for HIV and that persistent barriers to integration of care prevailed.

Dr. Mary Latka (New York Academy of Medicine, New York City) (see Latka, pp. S445–50) observed that in the United States, although drug users had dramatically reduced drug-related risk behaviors, they still continued sexual behaviors that placed them at risk for HIV. Successful interventions were likely to be those that intervened at multiple levels; however, historically, sexual interventions for drug users had primarily addressed only personal factors, such as condom use. For female drug users, multiple sources of risk plus concurrent drug use with sex posed additional prevention challenges that disproportionately elevated their risk of sexually acquired HIV. She suggested that new, multimodal interventions were needed to more effectively address the many sources of sexual risk facing female drug users.

Dr. David Metzger (University of Pennsylvania, Philadelphia) (see Metzger and Navaline, pp. S451–6) pointed out that no intervention had been as widely applied and as carefully evaluated as substance abuse treatment. The available data suggested that drug treatment, in conjunction with harm reduction and community-based outreach, was essential to respond to the HIV epidemic among drug users and their sex partners. Despite strong evidence of effectiveness and widespread support for the important public health role of drug treatment, its impact had been compromised by limited access.

Dr. Barbara Turner (University of Pennsylvania, Philadelphia) (see Turner et al., pp. S457–63) noted that long-term methadone treatment or drug-free care significantly reduced the use of medical services but was associated with poor health status of HIV-infected drug users. Drug-free treatment had a stronger protective association with reduced hospitalization.

WORLD HEALTH ORGANIZATION

Dr. Silvana De Castro (WHO, Geneva) (see De Castro and Sabaté, pp. S464–7) described the WHO project aimed at improving adherence rates for long-term therapies for drug abusers worldwide through applied research, network development, and advocacy to policy makers. The prevalence of adherence to long-term therapy ranged between 2.35% in Russia to 89% in Spain; the most-used pharmacological interventions were treatment with methadone, buprenorhine, and naltrexone, for which rates at month 3 after the start of therapy were 79%, 58%, and 35%, respectively. A consistent pattern of declining adherence over time was also reported: at month 12, adherence rates were 60%, 0%, and 0%, respectively. Reinforcement interventions such as take-home medications, vouchers, and payment incentives significantly increased adherence to therapy. Other factors—such as being employed, having high motivation, experiencing positive environmental influences, having a non-drug-abusing partner, and having responsibility for child care—were predictors of higher adherence rates. Methadone was an effective treatment for heroin dependence, with the best adherence rates. Reinforcement interventions were effective in enhancing adherence rates, but there was an urgent need to increase research in developing countries and evaluate the cost-effectiveness of interventions for improving adherence.

SUMMARY

In summary, in the United States, Latin America, and the Caribbean, there are millions of drug-abusing adult men and women and drug-exposed children living with HIV and other infections. A number of intervention programs have been developed and implemented to prevent and/or treat drug abuse and coinfection-related health problems. The evidence presented suggests that similar to the case in the United States, drug abuse is significantly associated with increased incidence of co-occurring infections such as HIV, HBV, HCV, and other STDs in Latin America, the Caribbean Islands, and Spain. The prevention and treatment intervention strategies, such as collaborations with governmental and nongovernmental organi-
zations to provide health care, community-based outreach programs to reduce the burden of adverse health consequences, methadone treatment programs, and others, have had limited success in countries such as Argentina and Brazil, whereas similar programs have been quite successful in the United States. Much more research is needed to develop intervention programs and strategies, identify methods of technology transfer, and build much-needed infrastructure specifically designed for drug abusers and their partners coinfected with bloodborne and sexually transmitted diseases in the Western Hemisphere.

RECOMMENDATIONS FOR THE FUTURE

Research. Consensus was reached that National Institute on Drug Abuse (NIH) and/or world organizations, such as the Pan American Health Organization (WHO), should support research on drug abuse and co-occurring infections, including HIV, hepatitis, tuberculosis, and other STDs. Suggested areas of research included the following: epidemiology, clinical interventions, diagnosis, prevention, treatment, and health care access, with emphasis on high-risk subpopulations such as men who have sex with men, IDUs, women, children, adolescents, and youth; behavioral (attitudinal and motivational) research applicable to different cultures; development of instruments to evaluate HIV and HCV prevention knowledge and service needs of drug users that are applicable to various Latin and North American countries; development of strategies and infrastructure to further encourage collaborations in the United States, Latin America, and the Caribbean Islands; and establishment of special funding programs dedicated to less-developed Latin American and Caribbean countries to improve their capacity to provide health care.

Protocol development. Recommendations were made to support the development of standard research protocols that could be used in different cultures, countries, regions, and communities to foster the utilization of clinical and applied research findings applicable to a wide variety of infected drug users.

Intervention (prevention and treatment). Actions, strategies, and infrastructures should be established to promote the development, continuity, and impact of interventions (prevention and treatment) and risk reduction programs for drug abusers with co-occurring infections.

Publication and dissemination. Research findings and best practices should be disseminated via publications, conferences, and workshops to professionals engaged in providing health care at the clinic and community levels in Latin America and the Caribbean Islands.

Training. It was recommended that programs be developed for training investigators and other professionals in the areas of epidemiology, intervention, diagnosis, management of infections, and health care access specific to minorities in Latin America and the Caribbean Islands; bilingual training manuals be developed for professionals engaged in providing health care access to drug users with infections; and travel awards or scholarships be provided to young investigators to attend international meetings on AIDS and drug abuse.

Policy. On the basis of sound research, policies should be formulated and designed to promote sound health care practices applicable to drug users with co-occurring infections in Latin America and the Caribbean Islands.

References