NATIONAL INSTITUTE ON DRUG ABUSE

2ND NATIONAL CONFERENCE ON DRUG ABUSE RESEARCH & PRACTICE

AN ALLIANCE FOR THE 21ST CENTURY

July 14-17, 1993 • Washington, D.C. Renaissance Hotel • Washington D.C.

CONFERENCE HIGHLIGHTS

NATIONAL INSTITUTES OF HEALTH

NIDA SECOND NATIONAL CONFERENCE ON DRUG ABUSE RESEARCH & PRACTICE: *An Alliance for the 21st Century*

July 14-17, 1993
Washington, D.C. Renaissance Hotel
Washington, D.C.

CONFERENCE HIGHLIGHTS

Sponsored by:
National Institute on Drug Abuse

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WEDNESDAY, JULY 14, 1993

WELCOMING REMARKS

Conference Host: Richard A. Millstein
Acting Director, NIDA

NIDA's First National Conference on Drug Abuse Research and Practice was held in January 1991. The United States has continued to see a decline in drug use among the general population. However, at the same time, there is increasing variability in drug use among subpopulations according to age, gender, and race. The medical consequences of drug abuse have increased significantly; for example, incidences of HIV/AIDS and tuberculosis (TB) have increased. The NIDA Second National Conference on Drug Abuse Research and Practice brought together drug abuse researchers and prevention and treatment practitioners to share recent promising research findings and to explore ways to apply these findings in day-to-day practice.

NIDA reached a major turning point when it joined NIH in fall 1992. This union has given NIDA a strengthened mandate for research and has heightened the legitimacy of NIDA research. It also has established drug abuse as a medical and health problem requiring biomedical and behavioral treatment, just like other major diseases.

NIDA'S NEW ROLE AT NIH

Speaker: Ruth L. Kirschstein, M.D.
Acting Director, NIH

More than 9 months ago, NIH enthusiastically welcomed the inclusion into NIH of NIDA, along with NIMH and NIAAA. NIH is pleased to have the Institute's specific focus be on the integration of behavioral and biomedical research. This merger is significant in its reflection of the biological roots of addiction and the behavioral and biological approaches to preventing and treating addiction. This conference was extremely important in demonstrating the significance of this multiple approach to drug abuse research, prevention, and treatment and in sharing information on the complex social and medical problems overwhelming individuals and communities. For instance, research can help elucidate the relationship between drug abuse and violence, child abuse, relapse, HIV/AIDS, TB, and other problems.

The marriage of NIDA with NIH should promote greater collaboration among all the Institutes. For instance, NIDA currently is engaged in an ongoing collaborative effort with the National Institute of Allergy and Infectious Diseases on drug use and abuse, as well as HIV-related issues, which has facilitated the further collaboration necessary to address the issue of TB among drug abusers. NIDA also is working with the National Institute of Child Health and Human Development on studies concerning the neurodevelopmental outcomes of drug-exposed versus nondrug-exposed children. Furthermore, in collaboration with the National Cancer Institute; the National Heart, Lung, and Blood Institute; and the National Institute of Neurological Disorders and Stroke, NIDA is studying the effects of one of the most broadly used drugs in the United States (particularly among women)—nicotine. NIDA also is playing a major role in piloting a large-scale, multidepartmental "human brain project," in which nine NIH components, two additional Federal agencies, and the National Science Foundation are working together to develop computerized maps of the brain in both normal and diseased states. This research will enable neuroscientists to understand better the biology of drug abuse. Another example of NIDA's collaborative role within NIH is its cooperation with NIMH in examining drug-related violence.

Advocates of NIDA's merger with NIH believed that incorporating drug abuse as a researchable disease within NIH would destigmatize the disorder, so that individuals suffering from addiction would be treated as patients, not social outcasts. Treatment for addiction must become not only widely available but must be applied with care and love. The Clinton Administration is taking a step in that direction with the Health Care Reform Task Force's serious consideration of incorporating basic benefits for drug and alcohol abuse and mental health services.

TWENTY YEARS OF DRUG ABUSE RESEARCH: FORMER NIDA DIRECTORS LOOK AT WHAT HAS BEEN LEARNED

Speaker: William Pollin, M.D.

Today we are encountering a cultural sickness, partly evidenced by a tendency to ignore institutional success. For instance, we are aware all too often of NIH's problems but not its strengths. When NIDA was established—in the mold of NIH's emphasis on scientific excellence—it supported a strong program of basic science research.

During my tenure as head of NIDA, beginning in 1978, several major successes occurred. The first major success was the opiate receptor endorphin studies. Researchers on this project made threshold discoveries that marked a change from focusing on plant alkaloids to brain chemistry, opening up rational explanations for why certain substances are powerfully addictive. Second, NIDA moved the intramural program from Lexington, Kentucky, to the Baltimore, Maryland, campus. Third, NIDA played a major role in influencing Congress to accept tobacco as part of the Institute's mandate to reduce the incidence of substance use in the

U.S. population; however, this was only a partial success, since smoking remains popular among youth.

NIDA grew out of a culture led by psychiatry and consequently encountered internal conflicts over the need to include, as the core of its institutional identity, the slogan "Just Say No" (to drugs), developed as part of the Reagan and Bush Administrations' abstinence approach. NIDA needed to achieve Institute-wide acceptance of a policy that essentially viewed the national drug policy as the "Churchillian" definition of democracy—a terrible policy, but one that was better than all others. Although much time and effort went into obtaining a working internal consensus on that view, these efforts helped make other achievements possible.

At least two major failures also occurred during this time. NIDA had hoped to develop new pharmacological agents and to determine the essence of what works in therapeutic communities, apply it more broadly, and then develop new treatment concepts. Unfortunately, the input of more researchers into these new research areas did not yield any breakthrough improvements in clinical treatment. Second, it was hoped that these therapeutic goals would lead to success in the way that in the 1840s Semelweis discovered how to prevent childhood fever before having any concept of the central mechanism involved in fever; Semelweis' answer was neither accepted nor implemented. Similarly, NIDA had difficulty communicating the nature of addiction.

Addiction concerns the loss of control of behavioral choices (more so than with tolerance and withdrawal). It is necessary to understand the neurophysiology and neuroanatomy of behaviors, such as a choice, will, and commitment to behavioral change, before a rational understanding and approach to the treatment of addictive behaviors can be achieved. However, only in the past year has neuroscience truly begun to understand the neurophysiology of complex functions such as memory. At the time, this failure revealed a missed institutional opportunity to integrate into one institute of addictive disorders all the scattered programs in PHS that deal with loss of control. It is hoped that such an integration still may occur with enhanced policy and funding.

Finally, there was a "success that wasn't." Drug use incidence increased rapidly in the 1970s, peaked in 1978, and then decreased. This downward trend indicated that NIDA's work was having a positive effect on drug abuse prevention and treatment efforts. It also was found that this trend corresponded directly with the proportional decrease of adolescents to the total population; NIDA alone could not claim credit for the downward turn of drug abuse. In the past year, for the first time in three decades, the number of adolescents again is increasing, and drug abuse is increasing among teenagers. NIDA must watch this trend carefully to avoid being surprised by another sharp increase in drug abuse as staff, dollars, and priorities are being reduced.

Speaker: Charles R. Schuster, Ph.D.

During my tenure as NIDA Director, NIDA's budget grew from $85 million to more than $400 million. Phenomenal growth took place at NIDA during that time period, largely due to the need to respond to the dual epidemic of cocaine abuse and HIV/AIDS. The increase in funding facilitated an increase in the number of grants from approximately 500 to 1,300, as well as an increase in the scope of the grants. This broad, multidisciplinary scope is essential to understanding the complex issues associated with drug addiction and AIDS. The field needs molecular biologists, neurochemists, pharmacologists, clinicians, behavioral scientists, and researchers in other disciplines to collaborate on the myriad of problems associated with drug abuse.

The increase in NIDA funding also was due to the recognition that injection drug use was largely responsible for the spread of HIV infection. One-third of the current AIDS cases in the United States are associated with drug abuse due to needle-sharing and the propensity of drug users to engage in high-risk sexual behavior. It became apparent that NIDA's mission of understanding the causes and consequences of drug abuse was vital to curtailing the spread of HIV. This recognition in part led Congress to add $10 million to the 1988 Anti-Drug Abuse Act for developing new medications for drug dependence; this spawned the formation of the Medications Development Division. Progress is occurring in this area. For instance, the drug LAAM obtained FDA approval recently for the treatment of opiate dependence and will be available soon. Also, researchers have developed a depot form of naltrexone, a narcotic antagonist that appears to be an effective drug abuse treatment. Medications are not the answer to drug abuse, but they may be a valuable component of comprehensive drug abuse treatment and rehabilitation.

Treatment on demand is an unfulfilled promise, and many drug abusers never seek treatment. This lack of treatment makes the spread of HIV infection more likely. In 1987 NIDA started the National AIDS Demonstration Research Program to educate and treat injecting drug users and their sexual partners. The program, which has funded 41 AIDS community outreach programs in 63 sites across the United States, has two primary goals: (1) to better understand the behavior of people who are not receiving treatment and (2) to develop, implement, and evaluate targeted interventions for those people.

During my tenure as director, NIDA held its First National Conference on Drug Abuse Research Practice. Both researchers and practitioners profited a good deal from that conference, and it is hoped that this confer-

ence will have served as a continuation of the essential dialogue between researchers and practitioners.

Drug Abuse Research and Practice: Applying Today's Knowledge in Tomorrow's Programs

Speaker: Richard A. Millstein

NIDA research consistently has shown that, like many other diseases, drug addiction is preventable, measurable, and treatable. Long-term funding in the addiction sciences can improve the quality of life for millions of people, decrease health care costs, and help fight communicable diseases such as AIDS and TB. At the close of 1992, the number of adults and adolescents diagnosed with AIDS—as reported to the Centers for Disease Control and Prevention—totaled nearly 250,000; one-third of these cases were linked to drug abuse. Drug abuse also affects society through related crime and violence, decreased productivity of the Nation's workforce, and developmental deficits among newborn children of drug abusers.

Much work remains in this field. Because the stigma of drug addiction remains—along with the misperception that addiction stems from a lack of willpower rather than biology and behavior—drug abusers encounter limited access to treatment. Drug addiction is a disease requiring a strengthened scientific base. Toward this end, NIDA's missions include the following: (1) improving the scientific understanding of drug abuse prevention and control, (2) decreasing the demand for illicit drugs, (3) transferring research-based findings to practice, and (4) working with the practitioner community.

The merger of NIDA with NIH is significant for NIDA, the field, and the individuals that NIDA serves because this merger associates studies on the disease of drug addiction with other biomedical and behavioral research efforts. Congress has affirmed that drug abuse is a disease that deserves the same personal compassion, scientific rigor, and funding as other diseases. NIDA supports 88 percent of drug abuse research in the United States, the highest of any of the health Institutes; very little funding comes from the private sector. Therefore, the American public must be educated about the value of drug abuse research. NIDA's joining with NIH has facilitated expanded collaboration among NIDA and other NIH Institutes. The reorganization has revealed the vital links between research and practice and the necessity for collaboration among NIDA, NIH, and SAMHSA. SAMHSA's mission is to ensure that the most recent research is used effectively to prevent and treat substance abuse; NIDA therefore will continue to work closely with SAMHSA.

NIDA now must support the strengthened scientific foundation of a treatment and prevention program. Since its formation in 1974, NIDA's unique breadth, scope, and diversity of research have demonstrated the comprehensive approach necessary to address drug addiction. NIDA's support of rigorous scientific research in many disciplines has contributed to an understanding of drug abuse. However, due to current fiscal constraints, NIDA must refocus its priorities. In the past 2 years, NIDA has been formulating 5-year research plans in the following six key scientific areas: (1) nonpharmacological treatments, (2) HIV infection and AIDS, (3) maternal and fetal effects of drug abuse, (4) medications development, (5) epidemiology and prevention research, and (6) neuroscience. NIDA also is giving special attention to minority health care and women's health. These plans have generated proposals for enhancements and redirection in all of NIDA's research areas.

In addition, NIDA will be emphasizing three major initiatives in 1994. First, NIDA will focus on behavioral therapies—the most frequent treatment for drug abuse. The assessment of behavioral therapies is still in its early stages, and NIDA will apply a rigorous evaluation process to psychosocial and behavioral therapies. This will involve small-scale studies along with large-scale, multisite clinical trials. Based on this research, NIDA then will develop educational materials for practitioners through its technology transfer program. NIDA will work to successfully combine medications and the most effective behavioral therapies into comprehensive treatment programs. The second major initiative is continuing NIDA's medications development program, with emphasis on winning FDA approval of effective medications for drug treatment. Only three medications have been approved for drug abuse indications: (1) methadone, (2) naltrexone, and (3) LAAM. It is hoped that two other drugs—buprenorphine and clonidine—will win approval within the next 2 years. With recent research developments, NIDA hopes to develop antagonist medications for cocaine as well. NIDA's third major initiative builds on basic biological research that has demonstrated that drug addiction is a disease of the brain and behavior. In Fiscal Year 1994, NIDA will expand a neuroscience program in the area of human studies with a clinical neuroscience initiative. Researchers will measure neuroanatomical, chemical, and physiological outcomes associated with drug use. This type of research is critical to improving treatment and prevention.

In support of new legislative initiatives, NIDA's research agenda will incorporate a strong emphasis on health services research, which is critical to justifying the inclusion of drug abuse treatment within a national health care system. NIDA's treatment and services research programs will build on past research, which has demonstrated that treatment can be effective.

NIDA is both a research agency committed to the advancement of scientific knowledge and a part of PHS

committed to improving the health of all Americans. Therefore, NIDA is dedicated to both research and the application of that research through its technology transfer program and through mutual sharing between researchers and practitioners. Working more closely with practitioners is, and will remain, one of NIDA's highest priorities.

THURSDAY, JULY 15, 1993

DRUG ABUSE AND THE PUBLIC HEALTH

Conference Host: Richard A. Millstein

REMARKS

Speaker: Peter Edelman, J.D.
Counselor to the Secretary of Health and Human Services

With the new Federal Administration and the recent reorganization of ADAMHA into SAMHSA, professionals in the field of substance abuse face many changes and have new opportunities for enhancing research and work in the field. Although many people are skeptical of this reorganization, it is important for everyone to work collaboratively to ensure its success.

Workers in the substance abuse field face a number of important challenges. First, they face the challenge of building a genuine service system for treatment and prevention. Despite the significant number of individual programs in operation across the country, not enough exist and there is little sense that the programs and research work together. Additionally, workers in the substance abuse field face the challenge of putting the accumulated knowledge of the drug abuse field to better use; partnerships must be developed within government and especially in communities. Special populations, such as the homeless or those who are HIV positive, must receive special attention, as must their families. It is imperative to incorporate proven research findings into prevention and treatment programs. Workers in the substance abuse field also must face the challenge of closing an especially glaring gap in the provision of drug treatment for prison inmates. Furthermore, departments of the Federal Government must work together to close this gap and save money while assisting these individuals.

Health care reform is a major area of national debate. It can be anticipated that the reform will include greater access to a broad array of services for individuals with persistent substance abuse disorders; encouragement for alternatives to hospitalization, such as home-based treatment; incentives to allow for the delivery of services in the least restrictive environment that is appropriate to an individual's needs; and encouragement for early intervention through incentives to initiate substance abuse treatment. In addition to the health care reform changes, new grants and programs are necessary to create a service infrastructure and provide supplementary funding for services, especially in the criminal justice system. Furthermore, much attention must be focused on changing American health behavior, which could have a vast impact in preventing disease and facilitating savings of up to $90 billion each year in health care costs. Substance abuse workers must convey the importance of prevention, which often is too easily dismissed. The Clinton Administration is committed to investing in prevention to facilitate better studies, provide more resources, and develop more culturally appropriate messages.

Prevention must be a priority but cannot be viewed in isolation. Prevention efforts must be additive and cumulative. People must learn to take responsibility for themselves, change their behaviors, and rejuvenate their value systems. Public policy by itself is not enough. Communities must be rebuilt because healthy individuals grow up in healthy communities. Everyone must work together on this task. Social ills can be erased only by rebuilding the foundations of opportunity.

KEYNOTE ADDRESS

Speaker: Lee Brown, Ph.D.
Director, Office of National Drug Control Policy

NIDA is the world's premier drug abuse research agency; its programs embrace many areas of study and research essential for policy planning. Research on drug use in the United States has provided considerable information on who uses what drugs and with what consequences. Recent news has been both good and bad: The National Household Survey on Drug Abuse indicates that the number of occasional drug users is falling, especially among young people; that frequent use of cocaine and alcohol has remained constant for the past 7 years; and that there appears to be a resurgence of heroin use.

The principal problem lies with the heaviest users of drugs and the subsequent diminishment of their physical and psychological health. Other problems persist. Many schools in high-intensity drug environments cannot effectively perform their missions, and many American businesses are experiencing an increased number of accidents and reduced productivity due to drug use. Inner cities are experiencing criminal and social violence, and the criminal justice system is overwhelmed by the drug problem. For taxpayers, the burden is immense. That is why more attention must be focused on reducing the number of heavy drug users.

The Office of National Drug Control Policy's drug control strategy incorporates many important elements. Reducing the overall demand for drugs is the paramount national goal, and reducing the level of drug use and the number of hardcore users also are critical. The criminal

justice system alone cannot combat the drug problem; prevention programs are needed, particularly for young people in inner cities, to avoid new high levels of drug use. Communities must be empowered to prevent drug use, and more and better treatment must be made accessible, particularly as part of alternative sentencing for nonviolent criminal offenders. Community policing also must be an important part of an effective drug strategy by discouraging criminal behavior and taking back neighborhoods from drug dealers.

Drug use should not be legalized. The recent declines in drug use are largely attributable to the legal prohibition against use. Legal prohibition supports antidrug education, whereas the legalization of drugs is a formula for self-destruction. The National Drug Control Strategy stresses the importance of research and evaluation to help determine the best means to prevent and treat drug use. Drug strategies should be based not on ideologies but on empirically based data. Researchers must translate the results of their work into successful practice. Additionally, to adequately understand the extent of the drug problem, a new survey is needed to identify those drug users, usually heavy drug users, who are homeless and live in transient housing. The Nation's research objectives should include (1) improved understanding of the nature and causes of hardcore drug use, (2) the evaluation of all strategies to control drug use, (3) more effective knowledge transfer, (4) ways to make the criminal justice system more responsive to the needs for drug treatment and prevention, and (5) ways to ensure the availability of effective behavioral treatments to service providers. Such research and evaluation must play increasingly significant roles in the Nation's drug control strategy.

The United States cannot measure its commitment to fighting drugs by how much money it spends. An effective strategy requires a significant amount of resources, but in an era of tight Federal budgets, positive results must be shown. Thus, better indicators of program effectiveness are essential.

Drug Abuse Prevention and Treatment: Building the Infrastructure

Speaker: Elaine M. Johnson, Ph.D.
Acting Administrator, SAMHSA

NIDA's research enterprise aims at reducing drug problems through research. Likewise, SAMHSA addresses the same goal with prevention and treatment services. SAMHSA must use the knowledge gained from research and its own programs to implement effective systems of care. To that end, the agency is developing a more responsive infrastructure to integrate findings from drug abuse research into action. It is hoped that with the reorganization of ADAMHA into SAMHSA will come a clearer focus of Federal substance abuse resources. While SAMHSA emphasizes service delivery, it has a mandate to support and integrate research results into its initiatives. Therefore, forging and maintaining linkages between SAMHSA and research institutes are priorities.

SAMHSA's highest priority, however, is meeting the needs of individuals with or at risk of developing addictive disorders, along with the needs of their families and communities. Through service programs, demonstrations, and training activities, SAMHSA identifies problems and generates service-related hypotheses and questions that research can address. Substance abuse prevention and treatment require an appreciation of the complexity of community dynamics, and research findings must be applicable to the problems experienced by substance-abusing populations. SAMHSA provides the research community with program evaluations that are usable, understandable, and credible. Also, SAMHSA has developed a strategic plan with a framework for action over the next several years by facilitating a more effective use and coordination of Federal resources to address drug and alcohol problems.

SAMHSA's mission targets four primary elements: (1) access, (2) quality, (3) empowerment, and (4) knowledge utilization. First, SAMHSA intends to maximize prevention, treatment, outreach, and rehabilitation by establishing productive linkages with health care organizations and other social systems and by developing culturally competent services for all Americans. Second, it is vital to have services that are of the highest quality, based on the most current knowledge, and properly matched to the people being served. Third, the empowerment of individuals who need services gives meaning to increased access and improved quality, and through education, consumers of services are better able to participate actively in prevention and treatment. Finally, the fostering of knowledge through programmatic evaluation is the foundation of SAMHSA's strategic approach and enables the determination of what works and what does not work. In these four areas, SAMHSA is placing special emphasis on three currently underserved populations: (1) children and adolescents, (2) individuals with or at risk for HIV and AIDS, and (3) women.

The establishment of SAMHSA marks the beginning of the construction of a solid and resilient nationwide infrastructure to assist people suffering from addiction and mental disorders. SAMHSA is dedicated to the needs of research, practice, and the American people.

Research and Practice: Point/Counterpoint

Moderator: Thomas Backer, Ph.D.

While many innovations developed by researchers are being used by practitioners, others have not moved from the research laboratory into the community. This gap between knowledge and its use may exist for three

possible reasons: (1) the gap may reflect a shortage in resources; (2) it may reflect a shortage in motivation; or (3) it may result from yet another gap between researchers and practitioners, who often do not speak the same language and have different objectives and perspectives. The most powerful force for closing the gap between knowledge and its use is through human interaction among researchers, practitioners, clients, community leaders, and many other individuals.

Speaker: George De Leon, Ph.D.

A new paradigm for technology transfer in treatment research settings centers on "cross-fertilization" and goes beyond dissemination. Not only must research results be disseminated to practitioners and other individuals, but research must involve all of these people from the beginning in defining problems, developing evaluation designs, and conducting other related activities.

Speaker: Patricia Evans, M.D.

Resources generally are not sufficient for institutionalizing research findings. Practitioners operate under many constraints, and funding simply is not available for them to implement exciting research results, which could be extremely valuable to their clients.

Speaker: Herbert Kleber, M.D.

The problems faced by researchers and practitioners in substance abuse are not unique. The main problem, however, usually lies with the researchers. It is true that clinicians sometimes are unwilling to suspend their ideologies, such as those regarding methadone doses, or their beliefs, such as those regarding the use of medications, even when no data base demonstrates that they work. But researchers may not be doing their job adequately—for example, studies frequently exclude many of the types of patients treated in the real world.

Speaker: Linda Lewis

In bringing together research and practice, five suggestions may be worthwhile: (1) teach the practitioner community about research; (2) aggressively move drug abuse research out of the laboratory and into the field; (3) increase efforts directed at treatment, behavioral research, and applied health services research; (4) rethink technology transfer; and (5) when research indicates a method that works, use it.

Speaker: David Mactas, M.A.

Three to five years of funding for a research project are fleeting, and research application is too rare and insignificant. When the two meanings of R.I.P.—"research in progress" and "rest in peace"—fuse, practitioners become discouraged, because nothing happens after their brief collaboration with researchers. Researchers and practitioners must become more unified in their collaboration and communication.

Speaker: Rafaela Robles, Ed.D.

Researchers often focus their work in response to prestige, power, and money, as the academic community expects. However, researchers lack linkages with service providers. Researchers must ask themselves to whom they respond—to the research community or to the people they serve.

Speaker: Susan Rusche

The barriers largely are self-made, often relating to the complexity of research technology and a lack of respect for each other's work. Throughout the past two decades, citizens have taken more responsibility for dealing with, for example, parents and community partnerships, but such activities seldom are measured. Typically, if something is not measured, it is considered not to work, and if the Government does not fund a project, nothing happens at all. Workers in the drug abuse field must overcome these axioms.

Speaker: Flavia Walton, Ph.D.

The most significant barrier to unifying research and practice is the lack of communication between them. Four basic aspects of this barrier in the drug abuse field include the following: (1) research is perceived as unrelated to the reality of the practitioner, (2) research is exclusive and misses valuable data, (3) there is a need for better dialogue between researchers and practitioners, and (4) there is a need for mechanisms to translate practice into research—a transition from demonstrations into the research arena.

Questions, Answers, and Comments

How can researchers work more intimately with and in communities, as practitioners desire? First, researchers can be housed in community-based settings and programs. Program-based research should be a new mode of research, bringing clients, program administrators, and researchers together. In Puerto Rico, Dr. Robles is conducting NIDA research in a treatment community. She has found it easier to communicate her work to the people in treatment centers. Careful research is not always necessary, however, to recognize when something works or does not work. The research trick is how to reveal moderate differences that are important to treatment. Researchers therefore might want to focus more on larger trials with more of the "real" people whom practitioners are trying to reach so that results will be more relevant. Furthermore, NIDA has the obligation to train new researchers who come from the community, and these people may become more involved in peer review. In addition, NIDA and others may want to explore how to reinforce the integration and structure

of research within program operation, so that research becomes not an elective but a necessity in program operation. Research must become part of the structure of treatment. Research requires a long time to produce valid results, and when working at a community treatment level, it would be helpful to market the short-term benefits that programs receive when they have access to research in their treatment settings. Practitioners must be able to use research findings more quickly, even if the findings are in their preliminary stages.

How do the special problems of women and their infants and children relate to the discussion of collaboration between researchers and practitioners? When the crack-cocaine epidemic began to affect women and infants, it moved from a substance abuse issue into the health field. When working with a pregnant, addicted woman, a practitioner deals with her from a treatment and prevention perspective—two arenas that must be bridged effectively. All workers in the drug abuse field must engage in more effective interdisciplinary dialogue and need to maximize dwindling resources.

What arguments can be used to increase funding in important areas and bridge the gap between researchers and practitioners? First, NIDA demonstration grants showed that certain methods worked, but then those methods were not translated into other places. There must be a nexus among research, treatment, and prevention so methods that have been shown to work will be translated into dollars on the treatment and prevention side. Second, at the local level, the capability to develop needed grants must be enhanced. Sometimes conflict between research and practice can be useful, and the issue may be not so much how to ameliorate this conflict as how to sublimate it.

It is critical not only to develop new knowledge but to better apply the knowledge that already has been discovered, such as the difference in the retention rates between the best and worst programs. Funding agencies must be willing to hold programs to certain standards in order to receive funding. The research community also should give more prestige to the intervention research projects in the community.

Two structural changes must be considered. First, can funding agencies build into treatment grants designated funding for the translation and dissemination of information directly at the program site level where the research was carried out? Second, how can programs be moved into continuance beyond the grant period? Workers in the drug abuse field have done a poor job communicating their needs to Congress. It is ludicrous that research and demonstration funding, but not replication funding, are available.

FRIDAY, JULY 16, 1993

A Videotaped Message from Donna Shalala, Ph.D., Secretary of Health and Human Services

Drug abuse is not just a problem for drug addicts—it affects everyone through its direct link to other social problems such as crime and violence. Studies show that the overall use of illicit drugs has been declining, largely due to the increased emphasis on prevention. However, several disturbing trends remain. For instance, a recent NIDA study showed that, while rates of drug use among high school seniors were decreasing, rates of drug use among eighth graders were increasing. It is necessary, therefore, to renew efforts in research, prevention, and treatment through a comprehensive approach and a major national commitment to reduce the demand for illicit drugs. For many people, drug abuse is both a symptom of and a response to hopelessness and alienation. Too many racial and ethnic minorities are clustered at the bottom of the economic and social ladder, and too many youth do not believe that education will bring them jobs and respect. Continued research efforts are needed in conjunction with local action and leadership to combat drug abuse. NIDA and other Government officials need to hear from practitioners and others about what is occurring in communities across the country and how these communities may best be served.

Remarks

Speaker: Richard A. Millstein

An exciting recent development in the drug abuse treatment field is the advocacy movement of former drug addicts who are representing their vital interests in obtaining treatment and other health care services. The advocacy movement has led to the following: (1) the creation of new role models who have been successful in treatment, (2) the destigmatization of drug addiction, and (3) the development of increased prevention and treatment services for drug addiction and related medical problems. More role models are needed in the drug abuse arena. In addition, the partnership that is being forged between researchers and practitioners must include the voices of patients themselves.

Speaking Out for People in Recovery

Speaker: Maia Szalavitz

Many myths exist about drug addiction; therefore, it is crucial that recovering addicts become more open about their addiction in order to debunk these myths. For example, one myth involves the public's image of a drug addict as a poor, undisciplined, vicious criminal of color. In fact, the majority of drug addicts are Caucasian, and

although the use of illicit drugs is by definition criminal behavior, the most violent crimes are related to the most troubled childhoods, not simply to drug use. It is important to fight the racist image of drug addicts and to educate people that addiction is not about weakness or lack of willpower—addiction is a disease.

Another myth is that drug treatment does not work. A recent *New York Times* article perpetuated this myth through a tone of skepticism about drug abuse treatment. The article implied that punishment is the most popular method of fighting drug abuse. However, this viewpoint ignores the extensive literature favoring treatment for drug addicts and the political realities that have dictated how drug abuse has been addressed. This article would not be accepted as valid if more individuals who have been successful in drug treatment would tell their stories.

Still another myth is that addicts like to share needles—a myth that has hindered the development of needle-exchange programs which provide clean needles to addicts to prevent the spread of AIDS. (These programs will not make addicts use drugs more often). The myth that addicts like to share needles has been enhanced, sometimes unwittingly, by antidrug media campaigns that portray drug abusers as terrible, "scummy" people. For example, a media campaign sponsored by the Partnership for a Drug-Free America deglamorized drug use but also demonized drug users. The results is that people simply think they should punish drug addicts, not help them. Such attitudes make drug addicts reluctant to be open about their problems. To prevent addiction, drug addicts must become part of the process. This could be accomplished partly if the organizations that produce such antidrug media campaigns would create and receive input from an addict advisory board. Recovering addicts also must show, in large part through greater participation in political debate, that treatment is more effective and humane as well as less expensive than punishment. Addicts must teach that addiction is a disease, not a moral issue. As consumers of drug abuse treatment, addicts must let their voices be heard.

Recovering people also need to speak out more often to show how addicts view drugs and drug policy differently from nonaddicts. For instance, drug addicts—as opposed to casual users—will give up anything for drugs. In this context, most efforts to fight drug abuse are ineffectual. For example, punishing drug abusers by sending them to prison, where drugs are readily available, generally leads to increased drug use. If society does not deal with addicts' hunger for drugs, how can it expect addicts to quit crime? Punishment is not a deterrent to this disease. Drug addicts also become afraid of treatment when they encounter treatment programs that strip them of their personal dignity. Many programs admit anyone who will pay for treatment, even if addicts would receive better treatment from an alternative program. Thus, effective and honest referral systems are needed across the country. Therefore, recovering addicts must become more involved in treatment development, administration, and counseling. The addict's voice also must be heard in the current debate on national health care reform and certainly among researchers, who should form addict advisory boards. Addiction must be treated like other diseases, and addicts must be treated with respect. Furthermore, addicts need a say in research; too few addicts now work in research.

Some political grassroots efforts already are under way through organizations such as Treatment on Demand and the Society of Americans for Recovery. Even so, more recovering addicts need to speak out and become involved at all levels of the drug abuse issue.

Speaker: Stan Novick

Methadone maintenance (MM), which was developed in the 1960s, is one of the most effective tools we have in treating drug abuse. However, even now in 1993 we are still debating the benefits of MM and spreading the myth that methadone just causes another addiction. This myth about methadone treatment must be debunked. Anyone who perpetuates this myth does not know what the life of a heroin addict is like. Heroin is about death, and methadone is about life. At this conference, researchers and practitioners have sat on opposite sides and battled over this issue, yet they have not discussed the casualties of the schism in the debate. These casualties are the tens of thousands of people in treatment who are stigmatized and ostracized from society and who are afraid to speak out. We need an atmosphere of change in our society so that we will applaud those who receive treatment for drug addiction.

The mission of the National Alliance of Methadone Advocates is to educate the public and to provide a voice for the voiceless—drug addicts. The catchword of the 1990s is "empowerment," but we need a social atmosphere conducive to empowerment. Patients have the right to demand treatment with dignity and sensitivity; treatment for and to patients must change to treatment with patients.

Perhaps here we can begin a real Renaissance. A famous rabbi once said, "If not now, then when?" Similarly, if not with you, then with whom?

Speaker: Gerald Ribeiro

It is imperative that the issue of drug abuse and addiction be personalized with the stories of drug addicts themselves. The story of T.T. personalizes what it means to be an addict. T.T. is a 34-year-old addict living in New Bedford, Massachusetts. She entered recovery 5 years ago. One month into her recovery, her sister was murdered by a serial killer. In October 1992 another sister died from AIDS. Seventy-five days later, her mother died of a heart attack.

T.T. has been on methadone for 4 years. Methadone has kept her alive, but she has needed more than treatment. For example, she needed employment. Three months ago, she entered a nurse training program, but on completion she could not find a job and fell back into addiction. One month ago T.T. attempted to enter a treatment program, but her HMO (health maintenance organization) was averse to this decision since she already was receiving high doses of methadone. The HMO finally gave her 7 days in a treatment program. This brief treatment did not meet her needs, and she soon was using drugs again. An attempt 1 week later to admit T.T. into another treatment program again met with resistance from the HMO, which allowed her 4 days of treatment. However, this time the program would not admit her because she had abscesses related to HIV. T.T. finally entered a 2-day treatment program, but now she is back on the streets again.

It should not be this difficult to receive treatment for drug addiction. There simply is not enough understanding of the roots of drug addiction, nor is there enough commitment to care for drug addicts, who are seen as expendable. We must recognize that drug addiction is a disease. We need to become, like participants in this conference, "Soldiers of the Struggle" against addiction and AIDS. We are not talking about statistics; we are talking about human beings who can give back to their communities if they are given the chance.

Treatment on Demand requires basic human rights for drug addicts. An old African proverb states, "It is not only important to get the tiger out of the house, but also to find out how he got into the house, to keep the lion from coming in next." We need to get drugs, AIDS, and crime out of our communities, but we also must understand the conditions under which these problems have flourished. We must educate our communities. Finally, do not mourn—organize.

SATURDAY, JULY 17, 1993

Looking Toward the 21st Century

Conference Host: Richard A. Millstein

Speaker: David Musto, M.D.

The slowness of historical change is important to consider when evaluating future drug policy and drug abuse trends. The clash between popular expectations for drug policy and the actual pace of social change suggests at least one speculation concerning the next 5 to 10 years. First, as background, it is important to remember that the 1960s and 1970s saw a growing toleration of drug use; a drug problem only was considered as such when someone took too much of a drug. For the last decade, a growing intolerance of any drug use has occurred, with a subsequent decline in use. Despite this promising trend, many people are frustrated with its slow pace and hence are expressing greater alarm at the drug problem. A similar trend occurred in the 1930s when, after a previous wave of drug use subsided, anger at drugs and drug users did not so much stimulate research or treatment programs as encourage a negative depiction of drugs in the media and help raise the penalties for drug use. A similar scenario likely will continue in the next 5 to 10 years. Another concern is that harsher drug abuse laws are causing overcrowding of the criminal justice system, an occurrence that also occurred in the 1920s when an increased number of persons were imprisoned under Federal antidrug laws. Thus, the condition of today's criminal justice system is not surprising.

Based on such an examination of the history of drug and alcohol abuse, it is probable that antidrug education intentionally may be reduced from its current plateau not just because of the decline in drug use but because of the fear that even mentioning drugs may lead to experimentation. Such a change in perceptions of antidrug education occurred earlier in the century. Therefore, an examination of the history of drug abuse indicates a possible cyclical schema. Movements since the 1980s to reduce drug use and the risk of drug use are not unprecedented and, in fact, constitute the third temperance movement in American history. These temperance movements historically have lasted about 30 or more years and have achieved considerable power leading to dramatic actions as well as backlashes, such as the widespread disregard of the alcohol problem for many years after the repeal of Prohibition. It thus is reasonable to assume that the pattern of risk reduction will continue in the next few decades. The previous two temperance movements in the United States resulted in the prohibition of alcohol, and people should be aware that today's attitude is very similar to that during the beginning of the temperance movement early this century.

It appears likely that alcohol will be the target drug in the next decade. During eras of temperance, people change their view of alcohol from one of a substance with a safe limit of use to one of a poison with no safe limit of use. Usually a very positive view of alcohol is prevalent between eras of temperance movements, but once people turn against alcohol, they begin to ridicule this positive attitude.

One negative aspect of the decline of drug use is the accompanying scapegoating of minorities for the drug problem. Whether Americans will resist this trend depends largely on the media, who portray the drama of drug dealing and addiction. In summary, reduction of the demand for drugs may be accompanied by excessive penalties, scapegoating minorities, and overcrowded criminal justice systems, and then may end with policies that actually create conditions favorable to another wave of drug use. A challenge to future drug and alcohol

policy is whether attitude swings can end by the establishment of an enduring, viable policy. An obstacle to this possibility, however, is the extreme oscillation in perceptions of drugs. The backlash to drug use that has occurred historically and is occurring presently has in previous years led to a triple policy to maintain a low level of drug use: silence when possible, exaggeration when necessary, and steadily escalating punishment. But such a nearsighted policy erases the slowly and painfully acquired public wisdom about drugs and alcohol; ignorance and distortion are conveyed to later generations. Thus the next decade likely will see a battle against drugs conducted more through words, images, and penalties than through treatment and research, and thus Americans are in danger of repeating past errors such as scapegoating minorities and casting the issue into exaggerated positions. Such a scenario is likely, but not inevitable. It is vital to learn from the mistakes of the past and the consequences of anger and fear.

Speaker: Mary Jeanne Kreek, M.D.

In combating the alcohol and drug abuse problem, it is vitally important for neurobiologists, clinical scientists, and clinicians to listen and learn from patients, prospective patients, and others in the field of drug and alcohol abuse treatment and research as well as in other allied fields, such as the social sciences. It is critical to share questions and knowledge with each other.

While the number of individuals dependent upon cocaine has decreased recently, still one-half to 2 million people are addicted to cocaine, and one-half to 1 million are addicted to heroin. Between 5 and 12 million people are addicted to alcohol. Researchers have been able to uncover much information about the AIDS epidemic, including when it hit New York City (around 1978). Early indicators from New York and other major cities suggest that risk reduction education may be having positive effects. Researchers also have shown, although through very preliminarily studies, that markers for the hepatitis B virus are not as common as previously. From 1985 to 1993 there has been a slow but steady reduction in the number of individuals infected with hepatitis B, indicating a reduction in the use of unsterile needles. Still, pharmacotherapies as well as social and behavioral therapies are needed urgently in addressing addiction. Much important research work is being conducted on the development of pharmacotherapies at both the clinical and bench levels. Any pharmacotherapy for the treatment of addiction must prevent withdrawal systems, reduce drug craving (which causes former addicts to relapse), and normalize any physiological functions disrupted by drug use. Such a treatment thus should target a specific site of action—a receptor or physiologic system. In treating heroin dependency, for example, several agents have been developed, such as methadone, LAAM, and buprenorphine.

Currently over 115,000 Americans are being treated effectively with methadone maintenance treatment. However, others are not treated so effectively because programs with inadequate funding cannot provide the services essential to maximize the effectiveness of pharmacotherapy. Methadone has three important actions: It prevents withdrawal symptoms and drug craving, blocks the effects of other imposed short-acting opiates, and allows normalization of physiological function. It acts by stabilizing the endogenous opioid peptide and receptor system. Effective methadone maintenance programs have prevented infection with the HIV virus by preventing continued use of unsterile needles. The challenge for the next decade and century is to use methadone or other pharmacotherapies with good sense and humanity. A variety of programs are needed, such as emergency clinics, full-service methadone programs, special programs for special groups, and medical maintenance programs for rehabilitated patients. And properly trained and competent staff are needed to provide such services.

Increasing evidence indicates that genetic factors may play a role in the neurobiological basis for addiction. No data support a specific genetic basis yet, but family cluster studies suggest its likelihood. Many labs currently are addressing this issue at a very fundamental molecular biological level. Also, drugs of abuse may alter physiology in a way that causes permanent changes and may contribute to drug craving and relapse. Furthermore, variable host response factors appear to be important in the development of addiction. At the Rockefeller University, researchers are investigating the role of the endogenous opioid (or endorphin) system at a molecular level in the addictions of heroin, cocaine, and alcohol. There are three classes of endogenous opioids—(1) the endorphins, (2) the enkephalins, and (3) the dynorphins—with one gene guiding the development of each. Three receptor classes—(1) mu, (2) delta, and (3) kappa—have been studied. Within the last year, two groups have cloned the delta receptor, and others subsequently have cloned the mu kappa receptor genes. There appear to be at least three receptor types for the three classes of opioid peptides. Further study should reveal more information on their roles in fundamental processes, such as hormone control, gastrointestinal function, memory, and possibly addiction. Earlier findings revealed that in the endorphin system the most important stress hormone—ACTH—is released from the same gene, as is the most important long-acting opioid, beta-endorphin. These two hormones are being studied for their responses when opiates are placed in the body. Heroin, for example, has been found to suppress this stress response, but methadone (and possibly LAAM) allows normalization of stress response and the normal release of the hormones. During chronic treatment with a long-acting opioid, such as methadone or LAAM, researchers have found normalization of very important stress and reproductive responses, as well as of the

immune function, due to the opioid's action on the opioid receptor. Opioids are one type of peptide chemical messengers between nerve cells; dopamine is another type of nonpeptide chemical messenger. Cocaine acts by blocking the re-uptake into the nerve cell of released dopamine, causing the excessive activity of dopamine. However, the dopamine has been found still to fade away, so the excess activity may in fact be from the endogenous opioids caused by the dopamine release.

Finally, recent studies with rats have shown that both the mu and kappa receptor systems are increased in the brain after cocaine use. These systems are located in areas of the brain involved in cocaine's effect on the reward system. Therefore, changes effected by cocaine on the endorphin system may alter the reward of cocaine or the drug hunger and craving for cocaine by the addicted. The challenge in the next two decades is to define how this opioid system—these endorphins with their newly cloned receptors—may modulate or help control human stress responses and other behaviors and how they may be involved in addiction.

Speaker: Peter Reuter, Ph.D.

The following two primary drug policy debates have occurred in the United States in the last few years: (1) the legalization debate and (2) the supply-side and demand-side debate. The former has been essentially irrelevant to policy formulation and only looks at extremes; however, the latter is more common and narrow and has focused primarily on the balance of the Federal budget but has not taken into consideration the full consequences of strict enforcement. A third, three-sided debate is important and taking place between (1) the hawks, or those who believe in aggressive enforcement; (2) the doves, or those who believe that enforcement and prohibition actually are the problem; and (3) the owls, or those who believe that, within current prohibitions, the possible negative consequences from being overly aggressive must be attended to.

Over the last decade, the hawks have prevailed in this debate. The Nation has committed itself to an enforcement dominated policy, with roughly two-thirds of the Federal drug budget going toward enforcement activities and only one-third toward treatment and prevention. Furthermore, the national drug control budget (including State and local government expenditures) is dominated even more by enforcement activities. For instance, until recently, Michigan law required a mandatory life sentence without parole for possession with intention to distribute more than 650 grams of cocaine. A series of such tough laws has been enacted, and legislatures are reluctant to ease those laws and risk the perception of being soft on the drug problem. These changes in the law have been implemented by the criminal justice system (i.e., long sentences have increased dramatically), with the subsequent increased cost to the Federal Government. The public generally believes that such an approach has been successful; so it is a real challenge to confront this perception in order to change the emphasis on enforcement in policy.

The focus on punishment has been codified in the goals of the National Drug Control Strategy. Congress required that the ONDCP develop measurable objectives for 2-year and 10-year periods. The ONDCP's goals have focused on prevalence (i.e., the number of people who use drugs, but not necessarily the frequency of use). However, this focus on prevalence leads Federal attention away from treatment and biases against prevention, since prevention affects prevalence only after a long delay. These goals do not focus on the damage caused by drug use, such as HIV infection, crime, and the number of babies born exposed to cocaine. There is a real contradiction between prevalence-focused goals and harm-focused goals. The Government should concentrate its efforts more on harm reduction than on prevalence reduction.

Americans have hardened their attitudes toward drug use partly because the connection between drug use and crime is increasing. The public sees the drug problem as a crime problem, and it does not appear likely that the treatment and prevention communities will compete well against the criminal justice system in the struggle for budget resources. The recent budget defeat, in which Congress eliminated some funds for prevention and treatment and claimed that Head Start was a higher priority, revealed that the real struggle for budget dollars is not with enforcement agencies but with other health and educational agencies. This fight can be won by emphasizing the extent to which drug abuse contributes to health care costs in the United States.

Speaker: Richard A. Millstein

NIDA staff are committed to listening to researchers, practitioners in the field, and patients. For instance, NIDA staff are planning to meet with staff from CSAP to share knowledge and to discuss the dissemination of researchers' findings and how best to present those findings to practitioners and others. Besides the technology transfer conference, NIDA is attempting to continue the dialogue between researchers and practitioners through the development of multicomponent packages for use by drug treatment practitioners and associations. The packages are available from the National Clearinghouse for Alcohol and Drug Information (NCADI). NIDA distributes technology transfer packages on such topics as relapse prevention, clinical assessment of adults using the Addiction Severity Index, and program outcome evaluation. A fourth package is being prepared on family dynamics related to addiction and recovery.

For more than 1 year, NIDA also has been distributing four 20-minute videotapes and accompanying user guides for drug abuse treatment program staff on

treatment approaches and information from NIDA-sponsored research. The tapes cover relapse prevention, treatment issues for women, adolescent treatment approaches, and assessment. The videos also are available from NCADI (1-800-729-6686). Four additional videos are being produced currently on drug abuse and the brain, dual diagnosis, methadone, and prevention.

PACESETTER AWARDS

The *Pacesetter Awards* acknowledge the contributions and accomplishments of individuals and organizations in the areas of drug abuse research, prevention, and treatment. Since its origination in 1976, the *Pacesetter Award* has been presented to 35 individuals.

The most recent recipients reflect the diversity and breadth of achievement that can contribute to reducing the demand for illicit drugs. The National Institute on Drug Abuse is honored to be able to recognize the talent and dedication of the following individuals:

- ***George De Leon, Ph.D.***, National Development and Research Institutes, Inc., director, Center for Therapeutic Community Research, was recognized for outstanding leadership in pioneering research on the therapeutic community approach to drug abuse treatment. The majority of Dr. De Leon's professional work has been devoted to developing the research basis for the therapeutic community approach to drug abuse treatment. Through his pioneering research efforts at Phoenix House in New York City, Dr. De Leon has produced an impressive series of studies which have illuminated the characteristics of clients entering community treatment.

- ***F. Ivy Carroll, Ph.D.***, Director for Organic and Medicinal Chemistry at the Research Triangle Institute in North Carolina, was recognized for exceptional achievement and productivity in cocaine chemistry, the synthesis of cocaine analogs with potential as medications, and the elucidation of structure activity relationships of cocaine receptors in the brain. Dr. Carroll has produced a vast number of cocaine analogs and has provided the drug abuse research field with a large number of novel tools to explore psychostimulant mechanisms. He has also assisted in patenting the licensing many of the compounds that are useful agents for imaging cocaine receptors in humans.

- ***Charles P. O'Brien, M.D., Ph.D.***, Professor and Vice-Chairman of Psychiatry, University of Pennsylvania and Chief of Psychiatry, Veterans' Administration Medical Center, was recognized for outstanding contributions to the field of drug abuse treatment and treatment research. Dr. O'Brien founded a treatment program that integrated treatment, research, and training. His group has conducted pioneering studies of conditioning in patients dependent on opioids or cocaine, controlled studies of psychotherapy and pharmacotherapy, and studies of patient-treatment matching.

- ***Huda Akil, Ph.D.***, the Gardner C. Quaxton Professor of Neuroscience, Department of Psychiatry, Research Institute, Mental Health Institute, University of Michigan, was recognized for outstanding leadership and continuing contribution to the understanding of the biological and molecular bases of drug addiction. Dr. Akil's research represented the first physiological evidence for the existence of endogenous opioids in the central nervous system. Her work, with emphasis on the biology of endogenous opioid systems, has contributed greatly to our current understanding of the underlying mechanisms of drug abuse.

- ***Daniel X. Freedman, M.D.***, the Judson A. Braun Professor of Psychiatry and Pharmacology at the University of California, Los Angeles, School of Medicine, was honored in memorium for outstanding contributions as Chairman of the Board of Scientific Counselors to the research programs of NIDA's Addiction Research Center and the drug abuse and mental health research fields. Dr. Freedman passed away June 2, 1993. He was a pioneer in psychopharmacology, and in the 1950's he demonstrated the link between hallucinogens and serotonin. He was the first to identify elevated serotonin levels in the blood of autistic patients, thus establishing a biological basis for the condition. He also was among one of the first researchers to describe how stress affects the brain and how the brain plays a role in allergy symptoms. Dr. Freedman was also editor of the American Medical Association's *Archives of General Psychiatry*.

RESEARCH UPDATES

RS01. UNDERSTANDING DRUG ADDICTION AND THE BRAIN

Moderator: Christine Hartel, Ph.D.
Speakers: David Friedman, Ph.D.
Michael Kuhar, Ph.D.
Frank Vocci, Ph.D.
July 15, 1:15 p.m.-2:45 p.m.

For the first 30 minutes of this session, participants viewed the videotape "Drugs and the Brain," produced by the NIDA's Community and Professional Education Branch. For further information on this and other films, please refer to the section Film Festival Summaries.

Speaker: David Friedman, Ph.D.

Drug addiction is a brain disorder resulting from chronic use of drugs. Individuals experiment with drugs for many reasons, but after their first exposure, a number of biological learning processes take place. To help addicted individuals, it is crucial to understand exactly what is happening in their brains.

Studies have shown that animals can be trained to take virtually every drug that humans abuse; this fact strongly indicates a biological basis for drug use. It is difficult to determine exactly why individuals use drugs, but research on animals provides a simplified approach to addressing this issue. This research has shown that something common to both humans and other animals leads to drug abuse and addiction. However, this viewpoint was not held a short time ago when people believed that drug addicts had a problem with morality and willpower. Gradually the medical community began to accept that addiction, along with mental illness, is a disorder of the brain.

The brain is the organ of behavior. Drugs change how people behave because they change the way the brain works. Different parts of the brain control different functions; for example, the brain stem governs functions that are important for survival, such as the heart beat. Higher cognitive functions are handled by the cerebral cortex. Localization of function is found within the cortex, with many different parts controlling separate functions. Emotions are controlled by the brain's limbic system, part of which consists of a group of neurons that constitute the brain reward system, and when this area is activated, one feels pleasure. Thus, it is very important to one's survival as it prompts one to want the things he/she needs, such as food. Because one feels good when one gets what he/she needs, a condition that B.F. Skinner labeled a natural reinforcer, one works hard to acquire those things. Studies in the 1950s showed that electrical stimulation of certain parts of the brain can induce similar feelings of pleasure, causing the subjects to work hard to gain that pleasurable feeling again and again. People repeat behaviors that are reinforced, and drugs, which are very powerful reinforcers, work directly on the brain reward system. In a process of unconscious learning, drugs reinforce the very act of taking drugs.

Other kinds of learning involved in drug addiction are cognitive learning and classical conditioning. By pairing certain neutral environmental stimuli with drug-taking, much is learned about drugs. For instance, a recovering cocaine addict may feel a craving for the drug upon the sight of sugar. Most neuroscientists agree that learning constitutes some kind of change in the brain. Another change that takes place in the brain during drug use is tolerance, which happens as the body becomes accustomed to having that substance in its system. Another response is physical dependence—the body goes into withdrawal when the drug is withheld. With all these responses occurring in the brain, one major tool in treating drug addiction is merely talking to the addicts. This process of talking encourages them to use their cognitive abilities to change their behavior and fight the effect of drugs at the noncognitive level.

Speaker: Michael Kuhar, Ph.D.

One reason that highly effective treatments for drug addiction are lacking is that it is not known what is malfunctioning in the brain. Most of the information about drug addiction comes from animal studies, and the medications developed as a result of these studies have not worked on humans as well as expected. Perhaps studies need to concentrate more on what happens in human brains differently than in animal brains. Using a positron emission tomography (PET) scanner to develop an image of the brain, scientists

can learn about drugs' effects on certain regions of the human brain. In looking at a PET scan image of activity in slices of the human brain, the distribution or effect of drugs in this structure can be seen in varying concentrations. For instance, scientists can see a drug similar to cocaine concentrated in one region of the brain slice which contains a large number of cocaine receptors—the molecular sites to which drugs must bind to produce their effects. In looking at the same image over time, one can see that the cocaine has dissipated after 20 minutes, which corresponds to the time that cocaine users say they feel the drug's psychological effects. However, these receptors are not in the limbic system, and it is likely that they do not cause the rush of euphoria. Therefore, many researchers now are trying to find cocaine receptors in the limbic system.

It can be surmised from these images that certain receptor sites are decreased in addicts. Consequently, one drug treatment strategy is to administer an excess of dopamine stimulants. When one region of the brain works hard, the glucose metabolism increases at that region. Thus, an image taken when the subject was administered radio-labelled glucose indicates that cocaine can activate parts of the brain far away from its receptors and trigger a pleasure response. In addition to seeing the receptor sites and effects of drugs through the PET scan, researchers also can discover the parts of the brain associated with drug cravings. Since the brain is the organ of human behavior, the strategy is to use these technologies to discover which behaviors are associated with drug addiction and how to counteract them.

Speaker: Frank Vocci, Ph.D.

In reviewing the history of drug abuse research, one can see how research leads to discoveries which lead to new treatments. This process started in the United States in 1929 when the National Research Council (NRC) was asked to develop a strategy for addressing heroin addiction. The NRC decided that further sociological studies were not likely to solve the problem and that research should focus on the biological basis of addiction. NRC researchers wanted to develop nonaddictive substitutes for morphine that would produce similar effects without addiction.

Next the U.S. Public Health Service (PHS) was charged with implementing the biological and chemical aspects of this strategy. PHS started labs at the University of Virginia and in Lexington, Kentucky, where Dr. Clifton Himmelsbach operated a "narcotic farm" to measure the physical dependence of narcotics addicts. He developed the Himmelsbach Scale, which equates narcotics addiction to abstinence signs yet does not account for psychic distress or drug-seeking behavior. Dr. Himmelsbach did not trust addicts in interviews and therefore wanted to study their addiction phenomenologically by grading their withdrawal effects after a period of being on morphine.

Other researchers with the Addiction Research Center contended that studies should focus not only on physical dependence but also on the subjective effects of drug use. Frank Frasier was one of the first researchers to declare that physical dependence is insufficient for explaining addiction to opiates, because in the absence of withdrawal, addicts still crave the drugs. To quantify this assertion, Frasier measured the subjective, or reinforcing, effects of opiates by talking to addicts about how the drugs made them feel. Then, in 1965, Chuck Gorodetsky and Bill Martin found in a study with nalorphine (a drug similar to morphine) that addicts showed a withdrawal syndrome, but they did not request drugs. There appeared to be a dissociation between withdrawal and drug-seeking behavior, which coincides with today's knowledge of how the three components of the narcotics syndrome do not necessarily covary. For instance, stadol is another drug that produces less drug-seeking behavior than either morphine or heroin.

The concept of addiction in the 1990s is based less on the psychopharmacological properties of drugs and more on behavior. In other words, addiction is viewed not as physical dependence or reinforcing effects, because an individual can abuse drugs without being dependent. The key issue then concerns the patterns of use and the reasons people continue to use drugs despite the consequences. Skinner said that behavior is controlled by its consequences, but this is not true with addiction. Addiction appears to be a loss of control—despite the negative consequences of drug addiction, some other factor controls an addict's behavior and keeps him/her from changing it. Drug addicts recognize that at some point they stop wanting to use drugs and begin needing to use

them. Thus, the focus has shifted from the psychopharmacology of drugs to an examination of their effects on addicts' behaviors, a change reflected in the DSM-III-R *(Diagnostic and Statistical Manual*, revised third edition). The concept of physical and psychological dependence is outmoded, and now the focus is mainly on dependence. Addiction is a neurobiological disorder, not just a psychological or physical problem.

In one study, rats in a group were trained to self-administer cocaine by hitting a bar. Rats in another group were given the drug whenever the rats in the first group self-administered it, and at that time, rats in a third group received saline. The results demonstrated cocaine's effects on glucose utilization in brain structures. Furthermore, the study showed that there is a difference between the amount of glucose utilized and the brain structures in which it is being utilized, depending on whether the user self-administers or is given the cocaine. This effect likely is related to motor behavior and learning.

In other research, by isolating and studying the primary amino acid structure of the dopamine transporter, researchers can learn about its neurobiology and how cocaine and dopamine bind to it. In this way, researchers hope to find a drug that will block cocaine but allow dopamine to bind to it. Consequently, findings such as these can be used in molecular biology, along with findings in behavioral pharmacology and radioisotope work, to design drugs to counteract addiction.

RS02. Recent Trends in Drug Abuse Research

Moderator: Ann Blanken
Speakers: Joseph Gfroerer
Lloyd Johnston, Ph.D.
Andrea Kopstein, M.P.H.
July 15, 10:30 a.m.-12:00 p.m.

Speaker: Joseph Gfroerer

The 1992 National Household Survey on Drug Abuse (NHSDA), conducted with a sample of 28,832 participants ages 12 and older, had a response rate of 95 percent for household screening and 83 percent for interviews of people selected in the household. No significant changes occurred in the prevalence rate of drug use between 1991 and 1992, and the survey results generally continued trends that had been observed in recent years, such as the steady decrease since 1988 in the levels of alcohol consumption and cigarette use. Heavy alcohol use (five or more drinks on five or more occasions in the past month) has remained steady. According to NHSDA results in past years, the use of any illicit drugs peaked (in terms of the number of users) in 1979 at 24 million users and has been decreasing ever since to a current level of 11 million users. Cocaine use peaked in 1985 with 5 million users. Incidence rates from the early 1970s indicated that the number of new users of marijuana equaled the number of new births—about 3 million per year. The 1992 survey showed that about one-half of individuals ages 23 to 49 had tried marijuana at some time in their lives, with a slight pattern of increase with education status. Although little difference is evidenced in lifetime cocaine use based on education status, persons who have graduated from high school only are three times as likely as college graduates to be engaged in current use. Additionally, the survey found that 18- to 25-year-olds reported the highest rate of drug use in the past month, although there have been decreases since the late 1970s. Although there have been decreases since 1979 in drug use in the past month among individuals in the age groups of 12 to 17, 18 to 25, and 26 to 34, the rate of use among those in the 35-and-older age group has remained fairly constant. The 35-and-older age group demonstrates the lowest rate by percentage; however, because the group consists of such a large population, the percentage indicates a large number of users. Furthermore, the NHSDA has shown that cocaine use has decreased among occasional users, while the number of heavy users has remained fairly constant.

The following results were found in a 1991 analysis of heavy cocaine users (an estimated population of 625,000): 43 percent were high school dropouts, 39 percent had no health insurance, 35 percent had been arrested within the past year, 32 percent were unemployed, 30 percent had received drug treatment, 21 percent had received psychiatric treatment at some time within their lifetime, 16 percent had received treatment for alcohol abuse within the past year, and 8 percent had received treatment in an emergency room for drug abuse.

Speaker: Lloyd Johnston, Ph.D.

The findings discussed below are based on the Monitoring the Future Survey, which NIDA has funded since 1975. Researchers with this project recently completed its 19th national survey of high school seniors and its 13th national survey of American college students. Younger age groups (i.e., 8th- and 10th-grade students) recently were added to the study. Earlier in the year, the project released findings from recent surveys of five main population groups: 8th, 10th, and 12th graders; college students; and young adults who are high school graduates.

Currently the Monitoring the Future Survey gathers data from about 50,000 8th-, 10th- and 12th-grade students in over 500 schools nationwide. Results of these surveys from 1986 to 1992 have indicated a steady decline in overall drug use among young adults, high school seniors, and college students. Marijuana use, however, appeared to level off in 1992 but now has risen among young adults and college students, while LSD use also has increased among all five populations in recent years. The availability of LSD appears to be increasing, while the perceived danger of LSD (especially among younger students) and social disapproval of LSD use are declining. Studies have shown that cocaine was the drug of the 1980s and that levels of cocaine use decreased in the latter half of the decade and into the early 1990s. Now use of inhalants (other than nitrites) is on the rise, mainly among the younger populations, and this is a trend that must be addressed. The alcohol consumption rate continues to be very high and constant among college students, while high school seniors have shown a decrease in the level of heavy drinking. Alternatively, alcohol consumption rates among eighth-graders appear to have risen in the past decade.

Although cigarette smoking rates dropped by about one-third since the late 1970s, the initiation rate of cigarette smoking among American young people has been stable for the past 8 years, a statistic of vital concern with dramatic implications for health, disease, and health care costs. Until greater measures are taken toward fighting the tobacco use problem, no substantial improvements will be seen.

During the peak years of drug use, 1979 to 1981, almost two-thirds of high school seniors had tried an illicit drug at least once, and by the time this population reached their late twenties, about 80 percent had tried an illicit drug. The use of any illicit drug other than marijuana peaked 1 year later and has decreased since then. The cocaine epidemic has shown more regional variation than any other illicit drug epidemic, with high lifetime prevalence rates particularly in the West and Northeast. Furthermore, study results indicate that drug use is an all-class problem; not much difference occurs as a function of socioeconomic status. Likewise, decreases in drug use have occurred across all economic classes. However, as the cocaine epidemic was evolving, upper classes tended to use cocaine more frequently than lower classes until the mid-1980s, when crack-cocaine availability caused cocaine use among the lower classes to catch up with the higher classes. The declines in drug use cannot be attributed to declines in availability or supply reduction, because drug availability actually has remained constant or has risen in some cases. But the perceived dangers of drug use and peer group disapproval of drug use have been found to be the most predominant deterrent tools in reducing demand for and use of drugs.

Speaker: Andrea Kopstein, M.P.H.

The Drug Abuse Warning Network (DAWN), an ongoing data collection system operated by NIDA, monitors two types of adverse consequences associated with drug use. In 1988 NIDA instituted a new sampling procedure for DAWN to produce national estimates of drug-related emergencies. The first component of DAWN consists of information on the number of people seeking hospital emergency room services for their drug abuse problems. The second component consists of data on episode reports of drug-related deaths that occur at the approximately 130 participating medical examiner facilities throughout the United States. However, the second component is not nationally representative; information presented in this session thus focuses on the hospital emergency room portion of the data set. Episodes reportable to DAWN involve the nonmedical use of legal drugs and any use of illegal drugs. Hospitals that are eligible for DAWN are non-Federal, short-stay general hospitals with at least one 24-hour emergency room department. Trained reporters collect data at participating hospitals, including demographic information about the patient and information on the circumstances pertaining to the emergency room visit, such as

motive(s) for taking the drug, reason for the visit, and type(s) of drugs used.

The latest DAWN data released from SAMHSA cover the third quarter of 1992. Although the Monitoring the Future Survey and the NHSDA have shown decreases in drug abuse, results of the DAWN study from 1988 until the third quarter of 1992 have shown increases in drug use. In the first three quarters of 1992, there was a 7-percent increase in the number of drug-related emergency room visits, compared to the first three quarters of 1991. The greatest increase occurred among the older age group, which comprises the largest part of the population. Population-based rates are used to help eliminate overrepresentation of specific population groups.

The following statistics indicate recent trends in drug-related emergency room visits: the population-based rate of drug-related emergency room visits for the 12- to 17-year-old age group peaked in 1989 at 277 per 100,000 and dropped to 240 per 100,000 in 1991; the rate of drug-related emergency room visits for 18- to 25-year-olds peaked in 1988 at 325 per 100,000, dropped in 1990, and began to rise again in 1991; the rate of drug-related emergency room visits for the 26- to 34-year-old age group reflects the same results as the 18- to 25-year-old age group's trend; and the 35-and-older age group exhibited the greatest increase in the rate of drug-related emergency room visits, with an increase from 99 per 100,000 in 1988 to 115 per 100,000 in 1991.

Of the over 685,000 drug mentions in DAWN for 1991, 15 percent were cocaine related and 5 percent were heroin related. Over time, these two drugs have been a major portion of drug-related emergencies. Cocaine-related emergency room visits hit a low in late 1990 but then sharply increased, with a peak in the third quarter of 1992. Comparing the first three quarters of 1991 with those of 1992, cocaine-related visits increased 16 percent and were greater for males than females. Furthermore, between 1988 and 1992 there was a large increase in the number of cocaine-related problems among persons over 26 years of age. The 1990 rates were the lowest for all age groups. Also notable is the fact that heroin-related emergency room visits increased significantly between 1991 and 1992, particularly among men between 26 and 34 years of age, but also among men over 35 years of age. Not many 12- to 17-year-olds report to emergency rooms with heroin-related problems, and the 18- to 25-year-old group has shown a steady rate between 1988 and 1992.

In general, central-city emergency rooms are more likely than other types of emergency rooms to treat drug-related emergencies. For instance, a drug-related emergency room visit is five times more likely to occur in San Francisco compared with the national average. However, of 14 metropolitan areas in the DAWN study, only San Francisco showed a decrease in drug-related emergencies from 1991 to 1992. Suicide attempts form a large proportion of the drug-related visits to these emergency rooms.

Therefore, after hitting a low point in 1990, the number of drug-related emergencies now are rising and are reaching peaks. There are many possible reasons for these increases, including the increased purity of available drugs and the increased medical consequences among people who continue drug-taking behavior (i.e., aging chronic drug users). The increasing frequency of drug-related emergencies, despite apparent declines in drug use, points out the importance of using multiple data sets when monitoring drug trends.

Questions, Answers, and Comments

How are the self-reported data from this study validated? The data are validated in many ways, such as through determination of face validity, examination of the logistical consistency of the data, determination of construct validity, and the use of questions about the respondents' friends—not just themselves. Results from such questions are similar to the self-reported data, thus supporting its validity. However, it is likely that results from the survey would be higher with completely truthful responses.

Why has tobacco use not declined along with other drug use? The advertising and promotion of tobacco is a very powerful influence in creating a great demand for tobacco. Political leaders have not had the courage to address this problem.

How does perceived personal risk compare with concerns about the legal risk of drug use? The two factors that studies indicate are of greatest concern to marijuana users are the risks for physical and psychological harm; fear of arrest is not very high.

Are there any differences among males and females in the patterns of drug use, particularly for smoking? Sex differences do exist. For instance, males are more likely than females to use illicit drugs. But the trends appear to have been similar for both sexes. Males were heavier tobacco smokers until the late 1970s, when females became heavier smokers. Since then, both sexes have decreased use of tobacco by one-third, and the rates now are about the same among high school seniors. In college, however, females are more likely to smoke.

Are any data available on prevalence rates of drug abuse among pregnant women? The only national data base for such data is from the National Maternal and Infant Health Survey, which is administered by the National Center for Health Statistics, part of the Centers for Disease Control and Prevention. This survey used self-reports, and the numbers were very low. A recent longitudinal followup to this survey examined the mental development of children whose mothers used drugs. It is expected that beginning next year, the NHSDA will add a question asking women if they are pregnant. Several local studies have been conducted, and NIDA's Division of Epidemiology and Prevention Research currently is conducting a Pregnancy and Health Study, interviewing women in hospitals within 24 hours after delivery.

RS03. Update on Drugs—Heroin and Synthetic Opioids

Moderator: James Dingell, Ph.D.
Speakers: John French, M.A.
Mary Jeanne Kreek, M.D.
Frank Vocci, Ph.D.
July 17, 11:15 a.m.-12:45 p.m.

Speaker: James Dingell, Ph.D.

Since opioids are the drugs of choice among chronic, intravenous (IV) drug abusers, they will continue to be a major concern to our society and an important factor in the propagation of HIV through needle-sharing. This seminar provided a review of the epidemiology of opioid abuse together with an overview of the findings from recent research and their present and potential impact on treatment and medications development. The imagination and productivity of organic chemists have brought forth a remarkable variety of semisynthetic congeners of morphine, as well as totally synthetic compounds with morphinelike actions. Moreover, recent research has demonstrated the presence in mammalian tissues of not only several peptides with opioid activity but also endogenous morphine and codeine. The search for new opioid analgesics has yielded a large number of compounds of diverse chemical structures with a spectrum of pharmacological activities—from agonists with many times the potency of morphine through mixed agonist-antagonists to pure antagonists which totally prevent the actions of opioids. The availability of these compounds, together with the discovery and characterization of the receptors with which they interact, has both increased therapeutic options and suggested new strategies for the treatment of opioid addiction.

Speaker: John French, M.A.

Heroin and various other opioid addictions always have been and probably always will be regional problems. The Mexican importation of heroin dominates the opioid trade throughout the West, Southwest, and a large part of the Midwest; the Northeast's primary importers of heroin are parts of southwest and southeast Asia. In 1980 a new form of heroin, known as "P dope," was introduced on the streets of Newark, New Jersey. As a result, the number of addicts who reported never injecting heroin, but only snorting it, rose significantly by 1985 and has continued to increase since then. This finding has both positive and negative aspects. The main negative aspect is that snorting heroin often leads to injection of heroin. The positive aspects of snorting heroin are that (1) the morbidity rates are much lower for heroin snorting than they are for heroin injection and (2) the risk of contracting the AIDS virus is much lower than that among IV drug users. Why are more people snorting heroin now as compared to in the past? One reason is the fear of contracting AIDS, and the other reason is that the purity of heroin on the streets today is much higher than it has been in the past.

The media have a tendency through their reporting to create epidemics, such as the "ice" epidemic which was highly publicized in the United States several years ago but which was largely nonexistent. Recently, the media have been reporting extensively about heroin smoking, which actually occurs only rarely. Heroin smoking is popular in Europe and Asia but is not yet popular in the United States. However, because smoking heroin

provides a better high than snorting heroin does, it could become more prevalent in this country. Also, high purity heroin is available for smoking, and the risk of AIDS from injecting heroin may lead more people to smoke heroin instead. However, people's ignorance about how to convert heroin into a form fit for smoking and how actually to smoke it, along with the lack of an available heroin base, may prevent heroin smoking from becoming more prevalent in the United States. Heroin users easily could overcome these obstacles, however, by learning how to convert heroin into its base for smoking or by shipping in the base from other countries. It also is possible that the increasing number of Asians entering the United States could bring about increased knowledge of and access to heroin smoking, particularly in the Northeast.

Fentanyl, an opioid, began receiving more attention as a widely available and dangerous drug in 1990 when 20 people in the Northeast died in 1 weekend after using the drug without proper knowledge of how to cut it. The drug had been sold in too pure a form to distributors. Between 1990 and late 1992, 126 people died of fentanyl overdose between Boston and Baltimore. The Drug Enforcement Agency arrested the manufacturers of the drug, based in Wichita, Kansas, in early 1993. The chemists had used organized crime networks to distribute the drug in the Northeast. The low cost of manufacture, coupled with user interest, create the possibility of future popularity for this drug. Even though dozens of addicts died from using it, others are attracted to it because of its potency.

Speaker: Mary Jeanne Kreek, M.D.

Updated and improved methods of prevention and treatment for various addictions, with a special emphasis on the use of synthetic opioids and their antagonists, should be a primary area of focus from the standpoint of the pharmacotherapy field. Also, an increased amount of information about the causes of vulnerability toward drug abuse and addiction would be helpful for future treatment practices.

The following important treatment agents—which either are being used currently, are being researched, or are still in the theoretical stage—were discussed: (1) the widely used racemic mixture of methadone; (2) the active 1-enantiomer methadone; (3) L-Alpha-Acetyl-Methadol (LAAM); (4) the two metabolites of LAAM—norLAAM and dinorLAAM; (5) the endogenous opioid dynorphin-related peptide; and (6) the specific opioid antagonists—naloxone, naltrexone, and nalmefene.

Morphine is a natural derivative from the poppy seed and also may be synthesized in humans and other mammals. Heroin is a manmade, di-acetylated derivative. These two drugs are very similar, but heroin has a quicker rate of onset. When methadone maintenance was first investigated in 1964 as a treatment agent, V.P. Dole, M. Nyswander, and M.J. Kreek, as researchers, had two criteria for a treatment agent. The first was to develop an effective oral treatment agent because an oral agent would gradually steer intravenous, drug-using individuals away from the lure or mystique of using needles and from the dangers of using unsterile needles. The second objective was to use an opioid which is long acting in humans for proposed long-term pharmacological treatment to allow stabilization and hopefully normalization of physiological function with a medication given only one time per day.

In 1964 methadone specifically was chosen for research on the treatment of addiction. Methadone was found to satisfy both objectives: (1) it is orally effective and (2) it has a long-acting (over 24 hours) pharmacological profile in humans. Subsequent studies showed that, if the initial dose of methadone was properly chosen not to exceed the degree of tolerance developed by the patient, then no euphoria or narcotic effects were observed, and the dose then could be increased gradually to a full-treatment dose—a dose that would "blockade" any euphoric or other narcoticlike effects of any illicitly superimposed short-acting narcotic such as heroin. During early studies of methadone maintenance, methadone proved to be a very stable treatment, producing neither "high" (i.e., euphoric) periods nor narcotic withdrawal periods. Because patients do not receive any euphoric effects from use of illicit heroin while on methadone maintenance, they typically choose to stop using heroin and become normalized through methadone maintenance. Methadone also has been shown to be medically safe to use, with prospective studies conducted for 3 years and with followup studies for over 10 years.

Methadone is most effective when used in combination with counseling and other social

and medical services for the long-term treatment of opiate dependency. One common misconception among a large number of the methadone maintenance facilities is that lower dosages are better; this is not true. For the majority of individuals in methadone maintenance treatment, there is a need for a dose that will effectively prevent withdrawal symptoms, block drug craving, and also block any effects of illicit use of short-acting narcotics through the development of tolerance and cross-tolerance. A recent study by Dr. John Ball revealed that persons treated with 60 to 100 mg. of methadone had less than a 6-percent incidence of testing positive for heroin use, whereas those treated with smaller doses of methadone showed a higher incidence of relapse. However, it is true that some patients may do very well on low doses of treatment. Therefore, individualization, not legislation, of dose is necessary.

In summary, methadone has been shown to prevent withdrawal symptoms and drug hunger and to block the euphoric effects of short-acting narcotics, all of which result in significant reduction or cessation of illicit narcotic use. Also, methadone, as used in stable doses in maintenance treatment, has been shown to allow the normalization of physiology disrupted by chronic use of short-acting narcotics like heroin. The mechanisms of action are by the provision of steady state levels of exogenous opioid at specific opioid receptor sites. Methadone treatment in steady dose allows normalization of many critical physiologic systems disrupted by heroin use, such as the stress responsive hormonal axis and the reproductive biological hormonal axis—disruption which may contribute to the drug-seeking behavior itself. Of critical importance to the AIDS epidemic is that, during methadone maintenance treatment, normalization occurs of some of the most important indices of immune function (e.g., the restoration to normal activity of natural killer cell function), in addition to reduction or cessation of illicit drug use and thus exposure to unsterile needles.

Another agonist that has been under study for some time is LAAM, a cousin of methadone. LAAM will undoubtedly become another important agent in the treatment of addiction; NIDA is very supportive of additional studies of its use. LAAM has a long duration and may be effectively administered orally. It was approved by the FDA in July 1993. In early studies of LAAM, it was found that retention in LAAM treatment was slightly less than in methadone maintenance treatment, but new techniques for induction of LAAM should allow for greater retention. As with methadone, stabilization of patients is the most critical issue in the use of LAAM. LAAM is not a substitute for methadone; however, it can serve as an alternative choice for treatment since it also is a long-acting opioid effective for the treatment of opiate dependency. Also like methadone, LAAM's effectiveness depends in part on the quality of other services administered along with the drug and on how well staff are trained in its usage.

Speaker: Frank Vocci, Ph.D.

To begin, a few brief comments on drug abuse in the United States are noteworthy. First, there is a widespread misperception in the United States that heroin use is no longer a significant problem and that the use of crack-cocaine has taken its place. Many heroin addicts inject the drug intravenously, putting themselves at risk for HIV infection if they share needles. In fact, one out of three AIDS patients in the country is an IV drug user or the sexual partner of an IV drug user. Second, the fentanyl compounds are a very potent series of opiates. One derivative is 25,000 times as potent as morphine. Synthetic chemists can make extremely potent synthetic opioids that likely will keep addiction around for a long time. Attention must be paid to addiction to opiates in general, not just to heroin. Heroin has only been around for about 100 years, whereas use of other opiates has occurred for thousands of years.

There historically has been difficulty in transferring technologies from researchers to practitioners. About 3 years ago, the FDA would not approve LAAM, despite controlled clinical studies with 6,000 patients, because it was unknown how practitioners would use the drug. The FDA wanted to ensure that the knowledge gained from the clinical trials would be transferred effectively to practitioners, who may see many uses for the drug. The FDA suggested that practitioners be given the drug with instructions to use it on whomever they thought could benefit from it. Consequently, a team of investigators gave the drug to methadone maintenance program directors with instructions on the use of LAAM. This study required only that the patients given LAAM not be at immediate risk of death (i.e., were expected to live for at

least the following 12 weeks) and that the patients not have court dates during that time, which would interrupt the administration of the drug to them. This LAAM study revealed, as expected, a lack of any kind of organ toxicity due to the drug. Essentially, this study validated the results of the earlier controlled clinical trials. The FDA was pleased with these results and soon approved the drug.

The more drugs available for treatment of narcotic addiction, the better practitioners will be able to tailor therapies to patients. One drug that should be mentioned as a possible future treatment is buprenorphine, a partial agonist and synthetic opioid. An agonist produces a biological response in a physiological system. A partial agonist, on the other hand, also produces a biological response but needs greater receptor occupancy to produce the same level of biological response. Buprenorphine is an analgesic and may be administered in doses of 0.15 to 0.6 mg. Many studies currently are being conducted on buprenorphine, such as on its dose responsiveness, with the hope of bringing the drug to treatment by as early as 1995. Due to concerns about the drug, however, researchers are investigating a formulation that includes an antagonist. One potential candidate, naloxone, is being tried in combination with buprenorphine in NIDA studies.

In addition, naltrexone is available for treatment of addiction, but addicts do not like it and therefore do not comply with treatment using the drug. It has a rapid onset, which may lead to dysphoric effects. A depot formulation currently is being evaluated as a possible treatment for addiction. This formulation may be effective without producing unwanted side effects.

RS04. Update on Drugs—Marijuana, Hallucinogens, and Inhalants

Moderator: Ann Blanken
Speakers: Christine Hartel, Ph.D.
Arturo Hernandez
Geraline Lin, Ph.D.
July 15, 4:45 p.m.-6:15 p.m.

Speaker: Ann Blanken

Based on continuing surveys, it has been determined that approximately 33 percent of all high school students have tried marijuana at least one time during their lives. Another alarming finding is that use of the hallucinogenic drug LSD is again on the rise. In addition, inhalant use has shown a gradual trend toward a younger population of users.

Speaker: Geraline Lin, Ph.D.

Hallucinogens can be defined loosely as drugs that alter one's mental state within a very short period of time. LSD—the main hallucinogenic drug—gained a lot of publicity during the psychedelic revolution of the 1960s and seems to be making a notable return. In 1970, LSD was classified as a Schedule 1 substance, which means that using this drug for medical reasons was outlawed due to the determination that high levels of its use and/or abuse were unsafe. In conjunction with this ruling, human testing also was banned, with the result that little is known about the long-term medical effects of LSD use or treatments for LSD abuse. There are, however, many known pharmacological effects associated with LSD use, including the following: perceptual hallucinations, blurring of the senses, heightened awareness of audio reception and other sensory input, the sense of being part observer of and part participant in one's own thoughts and actions, clear mental capabilities, dilated pupils, increases in hormonal activity, and sense of time distortion.

A number of side effects have been experienced among LSD users. The most well-known, acute side effect is what is referred to as a "bad trip." Simply, this is experiencing a certain level of fear and anxiety while under the influence of the drug. Three known chronic side effects have been reported by LSD users. The first, a "flashback," is an LSD-type encounter experienced by a person who is not actually using the drug at the time of the flashback's occurrence. The second is an LSD-induced mental psychosis. Lastly, long-term use of this drug has been found to gradually impair vision.

Researchers must be able to conduct thorough investigations of LSD in order to understand completely its physiological effects. Human testing now is needed to validate any findings that come about through animal testing. Until all the mysteries surrounding LSD are discovered, including its underlying mechanisms, scientists will never find effective treatment for the abuse of this drug. Also, it is possible that a therapeutic use for LSD may be discovered.

Speaker: Arturo Hernandez

Very little research has taken place in the area of inhalant use and abuse. Therefore, very little is known about the level of damage caused by prolonged inhalant use. Limited studies have found that the following are the most commonly used inhalants: adhesives, aerosols (e.g., a popular inhalant is spray paint), anesthetics, cleaning agents, solvents or gases, and food products (e.g., whipped cream nitrogen dioxide).

Inhalant use is most prevalent among younger populations. Two studies—the National High School Senior Study and the National Household Survey on Drug Abuse—found that inhalant use has been increasing since it was first covered in the survey in 1975. A 1988 Texas study analyzed lifetime prevalence rates for inhalant use. The findings were disturbing, revealing that 75 percent of all secondary school students admitted using an inhalant at least once in their lives. A 1990 followup study showed an increase of 5 percent, bringing the rate of use among high school students to an alarming 80 percent. In 1992, the rate dropped back to 75 percent. Inhalant use has been found to have an equal ratio of use among males and females, with children living in single-parent homes having a higher rate of use than children living in two-parent environments. The following traits have been exhibited by some or all young chronic inhalant users: difficulties in school; slow cognitive processes; extensive rates of school absenteeism; high rates of suspension and expulsion; higher rates of dropping out of school compared to noninhalant users; more criminal problems; tendency toward polydrug use; greater likelihood of coming from low socioeconomic environments; greater likelihood of coming from families that have problems with drugs and/or the law; and more emotional, personality, and conduct disorders.

What needs to be done in regard to this problem? Since it has been noted that inhalant abusers do not tend to be very receptive to inpatient programs, an increased number of outreach programs should be provided. Traditional methods of finding inhalant users will not work with this population. For instance, it must be explored how the criminal justice system can assist with outreach to inhalant users. In addition, more advanced and comprehensive methods of screening and assessing incoming patients should be developed in order to provide more accurate client-to-treatment matching. Cultural sensitivity is a big consideration when staffing various treatment facilities. Furthermore, concerning treatment, extended detoxification must be made available prior to other therapeutic interventions. Treatment workers should explore nontraditional, creative ways of working with inhalant users, and treatment planning should include multidisciplinary case management. In addition to treatment, a greater emphasis must be placed on prevention of inhalant abuse. For instance, in Texas, the Texas Prevention Partnership has earmarked all of its prevention efforts toward this problem, and an education and media campaign has helped steer youth away from inhalant abuse.

Speaker: Christine Hartel, Ph.D.

Marijuana use reached its peak among high school seniors in the late 1970s and has been declining ever since. However, marijuana use among eighth graders has experienced a steady rise over the last 2 years. Based on comparisons of levels of THC (the major psychoactive ingredient in marijuana) in seized batches of marijuana and in the marijuana grown on NIDA's own marijuana farm, it has been found that potency levels have risen over the years. Marijuana found in the late 1970s and early 1980s generally had THC levels in the 2-percent range. Recent seizures of marijuana have revealed 3-percent levels of THC and, in some cases, levels as high as 20 and 30 percent have been detected. Despite the extreme levels of potency for these plants, no THC toxicity deaths have been reported. Immediate effects of marijuana use include the following: change in perception, irritated eyes, increased heart rate, anxiety, and acute psychotic reactions.

It is hard to determine the long-term effects of marijuana use due to the fact that nearly everyone who uses this drug also uses other drugs. The use of alcohol in conjunction with marijuana poses the greatest threat in terms of ill health effects for the user.

A recent Baltimore Shock Trauma Study tested the blood of 1,000 patients for the presence of alcohol, marijuana, or both. The study results showed that one-half (500 patients) of the people tested had either alcohol, marijuana, or both in their system at the time of the test. Of those tested, one-third tested positive for alcohol, one-third tested positive for marijuana, and one-third

tested positive for both. These findings give an idea of the extent of the problem surrounding both marijuana and alcohol use. The THC found in marijuana—while mainly used by people in search of euphoric effects—has a few positive uses, such as pain-killing attributes and treatment qualities for relieving muscle spasms commonly associated with multiple sclerosis.

Questions, Answers, and Comments

Comment: Inhalant treatment needs to focus on the young user because as inhalant use continues, polydrug use becomes very common. It is not that older chronic users cannot be treated, but that not enough information is available about the long-term effects of use. NIDA soon will be sponsoring a technical review on inhalants.

RS05. Update on Drugs: Cocaine and Stimulants

Moderator: Robert Millman, M.D.
Speakers: Anna Rose Childress, Ph.D.
Christine Hartel, Ph.D.
Thomas Kosten, M.D.
July 16, 2:30 p.m.-4:00 p.m.

Speaker: Anna Rose Childress, Ph.D.

The most prominent effects on patients after withdrawal from prolonged cocaine use are druglike effects reminiscent of cocaine use. External and internal factors reminiscent of cocaine use seem to trigger craving and arousal in the patients. Long after detoxification, patients often experience strong episodes of cocaine cravings upon returning to their normal environment. These episodes usually are marked by a quickened heartbeat, the taste of cocaine in the back of the throat, and ears ringing or head buzzing, as though the patient had in fact been using cocaine. While the druglike state patients call "craving" is a prominent one, it is difficult to study because it describes more than one subjective state. Patients related their desire to use cocaine, or return to use, to these cravings. It is clinically important to understand and measure these states in order to develop clinical studies for the purpose of reducing these states.

Strategies are developed according to those things in a patient's internal and external environment that have been paired, signaled, or associated with cocaine use over the course of an addiction. Patients in the study discussed here were tested with exposure to a variety of stimuli associated with cocaine use and usually evident in their normal environment. They reported craving, which was the most common subjective response, as well as a host of psychophysiological responses. Various arousals were described, such as cooling of the fingertips, increased heart rate, and occasional respiratory changes. This study demonstrated a simple model of Pavlovian conditioning—that certain stimuli precede things that are biologically significant or important. In this case, a drug stimulus can become a signal for that event.

Once certain states of cocaine craving were recognized, the next step involved devising methods of reducing these cravings. Patients who had just completed detoxification versus those who had stayed away for 30 whole days were given a great deal of exposure to possible stimuli found in their normal environments. For an extensive 2-week period after detoxification, inpatients were given 15-hour sessions of exposure to these cues to help reduce physiological reactivity and cravings. When patients were shown cocaine videotapes, they experienced the same craving response and temperature drop of the skin as those patients handling cocaine. The strategy tried in this case was passive cue exposure. The results show a reduction to subjective craving. There was a reduction in positive urines and better retention in the outpatient phase. Both groups of study participants experienced similar difficulties, however, in achieving this reduction in craving, thus showing the persistence of cocaine-craving stimuli. Also, they showed no reduction in craving when exposed to cues that had been used in the testing laboratory.

Strategies also were developed to aid users during outpatient treatment in dealing with outside stimuli. In one strategy, a patient would recount the craving episode and then would be taught active tools to respond to this craving, such as a deep relaxation response. In a second strategy, it is suggested that when the patient has a craving, he/she should do nothing for 5 minutes, consider behavioral alternatives based on an already prepared mental list, and then do one of those alternatives (e.g., call a friend). Also, patients are told to think through a written list of negative consequences of cocaine use. Another strategy involves imagery (comparing the positive alternatives versus the negative consequences) or mastery imagery (conjuring up a metaphorical image of the

craving that they can attack). The last strategy is a cognitive therapy session during which the patient analyzes his/her thoughts and what he/she tries to convince himself/herself of in these situations. If these strategies prove to be effective for cocaine, they also may work for other substance classes or compulsive behaviors. Other possible involvements are interfacing these cuing techniques with medications development work and relating cuing work to brain imaging.

Speaker: Christine Hartel, Ph.D.

Khat is a shrub that grows in Northeast Africa and the Southeastern part of the Arabian peninsula. Khat leaves have been used as a mind-altering substance for over 700 years. The shrubs are harvested and sold in the marketplace for the purpose of masticating. A substance in khat called cathenone is extracted by the combination of saliva and chewing, creating a "high." Seventy-five to ninety percent of those people using the shrub, primarily men, are addicted to khat. It has been used for hundreds of years to relieve fatigue, an effect also caused by the coca leaf. The use of khat was ritualized in these societies and only certain classes were allowed to use them. In recent years, however, people have become aware of the widespread use of this substance and, in the late 1970s, appealed to the World Health Organization for help in controlling this substance. At that time, cathenone, the effective ingredient, was isolated from khat leaves and given to universities around the world to study.

One of the first necessary studies conducted on a drug is to see if animals will take the drug (stimulants are taken avidly by animals); cathenone was no exception in this case. Usually if animals will take a drug, it has a high likelihood for being abused by humans. The study showed that cathenone, like amphetamines or cocaine, is taken by animals. Drug discrimination studies with animals also showed that cathenone can act as a substitute for amphetamines or cocaine. Cathenone can be taken either intravenously or intranasally. The structures of amphetamines and cathenone and the results of taking either drug are extremely similar. Cathenone shares all the properties of amphetamines and cocaine in terms of increasing alertness and activity, decreasing appetite, alleviating fatigue, and producing euphoria. Amphetamine was the first group of drugs to be shown to have neurotoxicity. Methamphetamines and related drugs cause actual nerve damage in the brain, an effect probably also caused by cathenone, though studies have not yet been conducted on this issue. Tolerance can develop from use of cathenone. Users take about one-half to 1 per day, at a cost of $100.00 per gram. Amphetamines cause psychosis, hyperactivity, and agitation and can be treated clinically with antipsychotics and benzodiazapines; cathenone appears to have similar results.

Concern about whether khat would become a problem in the United States was heightened by media attention during the Somalia conflict, but use in the United States was considered unlikely because khat is only effective when fresh. Cathenone breaks down chemically when the leaves lose their freshness after 2 to 3 days. However, the chemical synthesis of cathenone is relatively simple, and quantities of cathenone now have shown up in DEA seizures. On the street, cathenone is referred to as "cat." It is an extremely potent and addictive drug, with highs lasting as long as 6 days.

Speaker: Thomas Kosten, M.D.

With the neurobiological adaptation that occurs during chronic cocaine use, a variety of adverse actions occur in brain receptors. Studies show evidence of changes in animals' brain receptors in certain serotoneurgic, dopamineurgic, and noradreneurgic areas. All of these areas are affected by cocaine in fairly direct ways.

When a normal brain is given a ligand that binds to dopamine receptors, a PET scan shows the cordate area lit up brightly due to the large amount of dopamine receptors in this area, which is intimately involved with Parkinson's disease. When looking at a PET scan of a cocaine abuser's brain that has been given the same ligand, the cordate area is virtually nonexistent. There is about an 80-percent decrease in dopamine receptors in a cocaine abuser's brain, exemplifying what typically results from Parkinson's disease. Part of the reason these symptoms are not noticed is because there is a tremendous reserve of dopamine receptors in this area. This test clearly shows a significant toxicity and decrease in dopamine receptors with chronic cocaine use. Clinical cases of cocaine users in their thirties show an increase in the development of dystonia (i.e., Parkinsonian tremors or stiffness) after using

cocaine. Amphetamine users from the 1960s, for example, are developing symptoms of Parkinson's disease much earlier in life (in their forties) than is normal.

In other studies, on a PET scan, cortical areas of the brain experiencing decreased activity portray the result of multiple strokes in an older person. Tests of younger drug users show major profusion deficits in their brains, similar to stroke patients. Neuropsychological testing on these patients shows marked problems with concentration and memory. Two major deficits that also occur in cocaine users are cortical abnormalities related to higher cognitive function and subcortical abnormalities shown in movement disorders and other types of disorders, such as Parkinson's disease.

One concern has been with cocaethylene, a compound formed when cocaine and alcohol are ingested and mixed together in the liver. The alcohol metabolizes cocaine into this compound, which is similar to cocaine itself except for a few key properties. For instance, cocaethylene is active (meaning it produces profound changes in the brain) for about 6 to 7 hours, versus 1 hour or so for cocaine. Also, cocaethylene is formed at about 15 percent of the levels of cocaine; however, if a person were to take cocaine every 20 to 30 minutes for several hours, the cocaethylene level eventually would exceed the cocaine level and the toxicity would go on for hours. High cocaethylene levels cause high levels of cardiovascular and central nervous system toxicity, which is potentially greater than that of cocaine alone. The combination of cocaine and alcohol also causes behavioral effects. Alcohol is a long-acting, sedating drug, and cocaine is a short-acting and activating drug. A person mixing the two will feel the alert effects of cocaine at first, but the sedating alcohol effects remain once the cocaine wears off. Consequently, cocaine and alcohol interact in a variety of very toxic ways, both in a neurobiological interaction and a behavioral pharmacological interaction.

Cocaine itself has significant effects on serotonin transport, dopamine, and norepinephrine. But cocaethylene does not have as much effect on serotonin transporters. Serotonin has many effects that are opposite to those of dopamine and norepinephrine, particularly on the cardiovascular system. There appears to be somewhat of a protective effect from cocaine relative to norepinephrine. Because cocaethylene is not affecting these certain neurgic systems, a person has unopposed adrenergic and dopaneurgic activity, a substantially increasing heart rate, higher blood pressure, the chance of a stroke or seizures, and other complications. Thus, cocaethylene may be more toxic, depending on the way it is taken.

A study conducted in the 1980s on desipramine and the treatment of cocaine abuse compared amounts of cocaine use over a 6-week period with treatment using placebos, lithium, and desipramine. The use of desipramine showed a decrease in cocaine use that persisted throughout the 6 weeks. Noticeably, the psychotherapy given at the same time as a placebo or lithium clearly had a substantial effect. There was a 50-percent reduction in cocaine use due to ongoing psychotherapy. Clearly, these medications did not operate alone but benefited from the effects of psychotherapy as well. Later studies have not been able to replicate this dramatic treatment effect and have shown cocaine pharmacotherapy techniques being less successful. This may be due to the fact that, when the study was first done, most people were using intranasal cocaine. Now most people are using intravenous or smoked cocaine. Such routes of administration and use at earlier ages are resulting in a greater prevalence of substantial neurobiological deficits. Thus, there are fewer success stories now compared to 5 years ago.

A study using Prozac, the supposed wonder drug that many people believe cures everything, including drug abuse, shows some reduction in cocaine abuse. The levels of cocaine abuse are measured in urine benzoylecgonines. Someone relatively abstinent would have a level of 300. An improved patient would drop from a level of 60,000 to 30,000, still about 100 times above the abstinent level. Clearly, the best these medications are doing with cocaine abusers is reducing the amount of cocaine they are abusing, but they are not stopping their cocaine use, with very few people becoming abstinent.

Other medications have been examined, such as buprenorphine, and hold promise in alternatives to methadone for opiate addicts. One big problem with opiate addicts is that 70 percent also use cocaine. An earlier study comparing methadone to buprenorphine shows that only 25 percent tested positive for cocaine use when on methadone, and only

2.5 percent tested positive when on buprenorphine. Buprenorphine helps decrease opiate use and cocaine use.

Three randomized clinical trials have analyzed buprenorphine at dosages of up to 8 mg. daily and shown virtually no difference between methadone and buprenorphine. If the buprenorphine dosages are increased to 16 mg. daily, the amount of cocaine use drops off. Buprenorphine appears to be dosage dependant. When using more, it decreases opiate use as well as cocaine use. In a randomized trial study comparing 2 mg. to 6 mg. of buprenorphine with opiate withdrawal symptoms of people using and not using cocaine, subjects on low doses of buprenorphine had persistent low-level opiate withdrawal symptoms. When taking cocaine, their persistent level of opiate withdrawal symptoms significantly and substantially dropped. Cocaine reduces these withdrawal symptoms. More critical, at this relatively lower dose of buprenorphine (6 mg.), cocaine use at higher dosages increases withdrawal symptoms. With larger dosages of an opiate, there is no persistent, long-term, low-level withdrawal. With 16 mg. doses of buprenorphine and dosages of up to 120 mg. or higher of methadone, people stop using cocaine and, if they do use it, the effect is now unpleasant.

Finally, pharmacotherapies and psychotherapies go hand in hand and are very helpful when used together. A study done looking at two types of psychotherapies, an interpersonal psychotherapy and relapse prevention psychotherapy, showed the percentages of cocaine abusers who were abstinent for 6 weeks and received relapse prevention therapy to be less than 40-percent abstinent. Those who received interpersonal therapy alone were 30-percent abstinent, and patients who received a placebo plus interpersonal therapy were 20-percent abstinent. Those who received desipramine and interpersonal therapy were 80-percent abstinent. Clearly, the combination of psychotherapies and medications is effective.

Questions, Answers, and Comments

Which types of populations were researched in the cocaine craving reduction studies? Two primary types of populations that have been served during the history of this research are Vietnam veterans and African-American males (mostly in their thirties). Sixty percent of the Vietnam veterans were involved with opiates, and 40 percent of the African-American males were more heavily involved with cocaine. In the past 2 years, more women and non-Vietnam veterans are being treated. A larger sample of women is needed in order to be able to understand their differences in more depth. Most subjects treated were users who smoked cocaine, with opiate users primarily excluded from this particular research.

What types of mentally disturbed people were treated in those studies? Subjects evaluated to be experiencing psychosis of any nature were those of Axis-I and Axis-II disorders. This research excluded psychotics or organics because they could not be interviewed using these tools. This research did not exclude people with personality disorders or major affective disorders but did exclude those with thought disorders or organic symptoms.

Is the route of administration of drugs important as to what type of treatment to use? The route of administration is very important in terms of what type of treatment is set up and how quickly it needs to be set up.

What are some of the side effects of khat? Because there is a lot of tannin in the leaves, one side effect of too much use is severe gastrointestinal upset.

Are there any other derivatives of khat? The plant has been methylated into methcathenone, which is considered better than cathenone. (Cathenone is on the Schedule 1 list of illegal substances.)

What is a blunt? A blunt is an emptied cigar that is refilled with cathenone, marijuana, stimulants, tobacco, or any combination of these substances. Such a route of administration is significant because any substance that is smoked reaches the brain very quickly.

Is khat used to stimulate aggression? It is believed that khat is used for aggression in war tactics in the geographical areas where it is most prevalent, but the most abused substance for creating aggression in our society is alcohol. The link between violence and stimulants is not as established as many people think it is.

When cocaine abusers experience a decrease in their number of dopamine receptors, what happens to the receptors? They recede into hidden receptors: they enter a different or low-affinity state, or they get swallowed by membrane and are sitting inside of the cell.

The system has been downregulated with a reuptake blocker blocking dopamine from coming back into the cell. Therefore, when the synapse is being flooded with dopamine, the postsynaptic cell responds by decreasing the number of receptors. This process appears to be reversible, however.

What is the relation between heroin and cocaine, and does heroin make cocaine unpleasant in the withdrawal phase? The amount of heroin used on the street is equivalent to about 25 mg. of methadone, a relatively low dose. A low dose of methadone or heroin mixed with cocaine results in a decrease in withdrawal symptoms and is also a pleasant experience, according to the data. However, a large dose of heroin makes the use of stimulants, like cocaine, unpleasant.

Do you have any experience using methylphenidate to treat cocaine users? In some studies, people with versions of attention deficits who also were cocaine abusers were treated with methylphenidates (Ritalin). These people used relatively small amounts of cocaine and showed no binge patterns. When they took methylphenidate, they did well and most quit using cocaine. But when a variety of cocaine users were tested, results indicated that the treatment was successful only at first—patients stopped using cocaine, but then they began to want more methylphenidate and, ultimately, more cocaine.

What test might determine neurological deficits? There are various memory tests, such as story recall, random-digit tests, and Sternberg's memory test, to name a few. Using these tests, people who had stopped using cocaine for a period of 6 months still had deficits. Preliminary data from giving such people Diamox show it may reverse profusion deficits. Much more information is needed on this subject.

Comment: Surveys show that cocaine use may be decreasing in the general society, but it looks like the adverse sequelae of cocaine use is increasing in certain areas (e.g., the inner city). The cocaine epidemic may have waned, but it is becoming more endemic. It is not sweeping across a normal population but is thriving in a sicker population and attacking those individuals who are at risk—the psychologically, physically, and socially disadvantaged.

Comment: It makes clinical sense that cravings would vary with psychopathology; consequently, a highly anxious person might express an increased craving. Withdrawal also depends on psychological effects. Some work was done with opiate patients to see whether or not inducing a mood state (such as depression, anxiety, anger, or euphoria) actually triggers cravings; many patients reported that a mood state could be just as powerful as seeing a crack vial in the street. It was demonstrated that depression was a prominent cue for opiate use.

Comment: Animal models are critical in determining how addiction and dependency work. Good animal models exist for cocaine and heroin but not for alcohol. This may be due to animals' innate fear of predators and the impediment that alcohol causes to their protection.

RS06. Update on Drugs—Tobacco

Moderator: Jack Henningfield, Ph.D.
Speakers: Sharon Hall, Ph.D.
Marlyne Kilbey, Ph.D.
David Sachs, M.D.
Karen Sees, D.O.
July 16, 8:30 a.m.-10:00 a.m.

Speaker: Marlyne Kilbey, Ph.D.

Although there is ample scientific evidence that smoking is widespread and highly addictive, the causes of smoking are not very well understood. The distinction between smoking and nicotine dependence rarely has been made, and the relationship between nicotine dependence and other substance abuse disorders and affective disorders has received little attention. Fifty million smokers have quit smoking, but nearly 50 million others continue to smoke despite overwhelming information about adverse health effects, expense, and increased inconvenience (with the advent of recent antismoking rules and regulations).

A study done in 1989 classified young adults between the ages of 21 and 30 according to smoking status categories to examine whether significant differences existed among the groups in terms of the relationship between smoking status and other substance use disorders and between major depressive disorders and anxiety disorders. Three smoking status groups were formed: (1) nonsmokers, (2) nonnicotine-dependent smokers, and (3) nicotine-dependent smokers. Of this sample, 39.1 percent smoked daily for 1 month or more in their lifetime, of which 51 percent were nicotine dependent. Among

smokers with nicotine dependence, 62 percent were mild dependents, 38 percent were moderate dependents, and none met the criteria for severe nicotine dependency. Rates of smoking and nicotine dependence were higher for Caucasians than African-Americans, and these rates were inversely correlated with levels of education.

In rates of other substance use disorders in smoking history, it was found that all people who had smoked daily for 1 month or more at any time in their lifetime were at increased risk for other substance use dependence disorders. Nondependent smokers had a twofold increase in their rate of cannabis and cocaine dependency compared to nonsmokers. Dependent smokers had between threefold and fourfold increases in the rates of substance dependence. The rates of anxiety disorders with major depressive disorders (MDDs) were higher in those with other substance use disorders. Nicotine dependence was associated with twofold increased rates of MDDs and fourfold increased rates of anxiety disorders with MDDs.

Fourteen months later, a followup interview of 995 of the original 1,007 subjects examined whether smokers with a history of MDDs had progressed to nicotine dependence and whether persons with a history of nicotine dependence are at increased risk for MDDs. Of the various smoking status groups, 20 to 46 percent of the smokers progressed to the next level of abuse. Within a 14-month period, 38 percent of smokers with a positive history for major depression showed progressive nicotine dependence. Most of the subjects did not show any progression toward MDDs; however, MDDs were more evident in those who smoked more. Overall, the history of MDDs increased the risk twofold for progression to nicotine dependence and more severe levels of nicotine dependence.

A history of an MDD or any anxiety disorder also was associated with failure to quit smoking. Of 394 people who had smoked daily for 1 month or more, 61 percent tried to quit—86.2 percent of these people failed. Only 14.3 percent of those with moderate nicotine dependency had been able to quit compared to 24 percent of those with mild nicotine dependency. The severity of withdrawal symptoms was examined to see if it accounted for the association between the history of MDDs and continued smoking. The initial analysis showed that people with MDDs experienced more severe withdrawal symptoms when they tried to quit.

Nicotine-dependent smokers differ from nondependent smokers in terms of personality characteristics and cognitive patterns. It was found that nicotine dependence is associated with increased scores on neuroticism, negative effects, and hopelessness. Neuroticism and correlated psychological measures may constitute common predispositions to nicotine dependence, major depression, and anxiety disorders. Nicotine-dependent smokers had higher expectations that smoking would reduce negative effects, aid in appetite and weight control, and provide sensory satisfaction and distraction. Thus, it would appear that the expectations of positive reinforcement from smoking increased in nicotine-dependent persons.

Data suggest that all smokers are at risk for other substance abuse disorders and that dependent smokers are at risk for MDDs and anxiety disorders. This is probably because a common set of predispositions underlie both disorders, because persons dependent on cigarettes are less likely to be successful in quitting, and because dependent smokers with MDDs and anxiety disorders are even less successful in quitting smoking.

Speaker: Sharon Hall, Ph.D.

Histories of depression result in more severe withdrawal symptoms when people quit smoking. Two studies found that smokers with a history of depression were more irritable, angry, and anxious and had more trouble quitting when they quit smoking than smokers who did not have this history. This could be because (1) nicotine actually prevents the recurrence of major disorder episodes, (2) a history of major depression makes withdrawal symptoms worse, or (3) major disorder episodes and withdrawal are correlated. Smokers with a history of depression appear to lack the social resources and skills needed to quit smoking.

One treatment available attempts to decrease the bad mood experienced by some smokers with a history of depression and to prevent the occurrence of negative moods that may cause relapse. Negative thoughts and activities that may lead to increased smoking are discouraged, and healthy thoughts and activities are encouraged. The present intervention is aimed at changing thinking patterns and more global patterns

of behavior that lead to bad moods and thus the relapse of smoking.

Several treatment sessions focus on the internal environment, increase positive moods, analyze situations, and develop different beliefs. One session focuses on people, moods, and increasing the kind of social activities that lead to good moods. One session focuses on demoralization in relapse (i.e., that things are hopeless) and the development of life goals. The final session reviews the results and introduces more cognitive intervention skills. A followup treatment involves nicotine gum, group support in developing individualized quitting strategies, commitment to abstinence, and health education materials.

Outcome data at each assessment show that with continued abstinence for more than 1 year, MDD history negative was slightly worse in those who were in a cognitive behavior condition than in those who were in standard treatment. The MDD history positive subjects had reverse results. For a subject who did not have a history of depression, significant factors were the following: (1) whether he/she had quit smoking or was abstinent for 1 year, (2) his/her baseline carbon monoxide levels, and (3) the age at which he/she first smoked. The important predictors for a person who has a history of MDDs are the following: (1) whether he/she was abstinent for 1 year, (2) the type of treatment condition he/she received, (3) whether he/she was in a cognitive behavioral condition, (4) whether he/she was more likely to be abstinent, and (5) what his/her score was on the profile of mood, state, anger scale when he/she came into treatment. People who had a history of depression and started treatment with very low, negative moods were more likely to succeed.

Cognitive behavioral intervention may be differentially effective for smokers who have a history of mood disorders. Different variables may be important in determining quitting and relapsing in smokers with and without a history of mood disorders. As smoking shows up at increased rates in special populations, interventions will have to be developed to fit these populations.

Speaker: David Sachs, M.D.

Tobacco dependence is driven by two interlinked forces: (1) psychological dependency and (2) nicotine dependency. A variety of external and internal factors are related to these driving forces that effect cortical neurotransmitter function. In the internal factors, a sudden withdrawal of nicotine produces symptoms of anxiety, restlessness, or difficulty in concentrating.

Two medications that have FDA approval for use in treatment of nicotine dependence are (1) nicotine polacrylax gum and (2) the nicotine transdermal patch. There are four brands of nicotine patch available and two doses of nicotine polacrylax. Data provided show that the 4-mg. dose of nicotine polacrylax is the medication of choice for treatment of high nicotine-dependent smokers. Both nicotine reduction medications have very similar absorption mechanisms in that the nicotine in the medication is absorbed very slowly across the buckle epithelium. In the case of nicotine polacrylax, the nicotine is absorbed slowly into the submucosal capillary bed. The nicotine transdermal patch is also a very slow nicotine delivery system in contrast to the tobacco cigarette, slowly releasing its nicotine molecule by molecule across the epidermis into the subdermal capillary bed.

The obvious strength of the nicotine patch is that the patient has to apply it only once per day. The nicotine patch delivers only a preprogrammed nicotine blood level over the course of the 16- or 24-hour day, depending on the patch type. With nicotine polacrylax, the patient has to be using enough pieces per day. The average is about 1 piece per hour or about 16 pieces per day. The advantage of nicotine polacrylax is this: If a smoker or exsmoker goes into a high-risk situation (i.e., has a strong urge to smoke), he/she can increase the blood nicotine level by chewing more gum. Some smokers have an oral sensory need and require a combination of the two treatments.

Dose-response relationships are important in designing treatment specifically to meet patient needs, and they are common in many other areas of pharmacotherapeutics. One study involving nicotine polacrylax looked at patients that were screened and divided into low-dependency and high-dependency groups. Throughout the 2 years of treatment and followup, the sustained continuous abstinence was always higher in the group that had started with the 2-mg. dose versus a placebo. At the end of the 2-year period, there was a 30-percent sustained abstinence in the group that started out with 2 mg. of

nicotine polacrylax versus 10 percent in the placebo group. A similar relationship occurred with highly nicotine-dependent smokers. The sustained abstinence in the group that started out with the 4-mg. dose was always higher than that of the group that received the 2-mg. dose with almost a fourfold increase in sustained abstinence at the end of 2 years. The higher the nicotine dependency level, the higher the dose of replacement medication needed in treatment. High-dependency smokers were assigned randomly to one of four treatment conditions involving 2-mg. and 4-mg. nicotine polacrylex versus a placebo. Sixty-five percent of the group that received 4 mg. of polacrylax sustained 1 month of abstinence versus 25 percent of the group that received a placebo as well as the 2-mg. dose.

A nicotine patch study conducted used a randomized double-blind placebo control trial involving 220 healthy men and women. They received nicotine patches for 3 months, with a 6-week tapering-off period. There was no group counseling, no behavioral modification, and no psychological counseling. Subjects were given a self-help audiobook designed by the American Academy of Family Physicians and were instructed to use it to develop an action plan in the 2-week preparation period before their target quit date. For all smokers starting treatment, those receiving the active nicotine patch during the first 3 months of treatment showed statistically higher abstinence rates than the group receiving a placebo. In contrast, when these people stopped using the patch, the risk of relapse rose to 30 percent. The tapering-off phase of 3 weeks on a one-third reduction patch and 3 weeks on a two-thirds reduction patch is not very useful. Researchers cannot continue to use the treatment paradigm that one size fits all in treating smokers. The growing body of data indicates that treatment must be individualized.

Speaker: Karen Sees, D.O.

A long-held belief in the substance abuse treatment community has been that it is too difficult to treat all addictions at the same time. More information has been gathered on the association between substance use and cigarette smoking in the past several years. Studies done in the 1980s found that a relapse to tobacco use did not appear to lead to a relapse to alcohol use but a relapse to alcohol use did lead to a relapse to tobacco use. Another study found that alcoholics who stopped smoking stayed sober much longer than alcoholics who continued to smoke cigarettes. In one study, nonsmoking substance abusers relapsed less often and also had longer periods of time before they relapsed back to whatever their main drugs of abuse were. Various concurrent substance abuse treatments were studied, and it was found that those patients assigned to treatment with smoking cessation had longer periods of sobriety from their primary drugs of abuse and stayed in treatment longer. It was hypothesized that there is something in smoking cessation that, in fact, may help in maintaining sobriety from other drugs. Many treatment providers advise smokers attempting to quit use of their primary drugs to continue smoking while doing so. Advice about smoking and health through literature or simple advice from someone produces only a minimal chance of quitting smoking; however, if this advice is linked to cigarette smoking-related health problems that the patient is experiencing, then the smoking cessation increases to 20 to 40 percent.

Numerous factors must be considered in treating nicotine dependence among patients with a history of other psychoactive substance use disorders or other chemical dependencies. The psychoactive effects of nicotine and the use of tobacco products producing an addiction are well known. Health concerns are increased greatly in people who drink alcohol heavily and smoke cigarettes. There is a 35-fold increase in oral pharyngeal cancer, lung cancer, and esophageal cancer in someone who drinks and smokes. Additive health effects occur when using cocaine or heroin and smoking cigarettes. There are many triggers and cues in using drugs, especially when other smokable drugs are involved. Consequently, unless one quits using both drugs at the same time, there is a strong possibility of relapse.

In the general population, 32 percent of all men and 27 percent of all women smoke. In the substance abusing-population, more women than men smoke. However, the desire to stop also may be in part a function of what a person's other drugs of choice are. Other trends found in looking at the data include the following: Caucasians tend to smoke more than other ethnic groups, smokers tend to be less educated, and the less educated a smoker is the less likely he/she will want to quit.

Questions, Answers, and Comments

Comment: Looking at the pharmacological effect of nicotine and thinking of it as a stimulant, it fits into a nice opponent process model. A person who has a slightly dysphoric mood when he/she uses nicotine will find it more reinforcing, use it more, and become more dependent. As he/she withdraws, his/her mood becomes more dysphoric and perhaps eventually will trigger a depressive state.

Comment: Differential diagnosis is important when looking at nicotine-dependent persons.

Comment: In treating depressed patients, there needs to be knowledge about nicotine dependence because the ideologies and treatment aspects are intertwined. In conducting nicotine-dependence treatment, the treatment of the population needs to be adjusted, depending on its particular problems. If using nicotine replacement therapies, adjusting the dose is critical.

Are different patches better than others? In looking at the Nicoderm data, Habitrol data, and Nicotrol data, the results at similar time points in treatment are strikingly similar. The Nicotrol trials did not use group counseling, whereas the Nicoderm and Habitrol trials used a very intensive 6- to 12-week weekly group counseling component for the behavioral side. In the Nicotrol patch trials, compared with the Nicoderm trials, the treatment results are virtually the same, implying that use of the nicotine patch and a more minimal behavioral intervention treatment package can achieve similar results. The Nicotrol patch is different in nicotine pharmacokinetics delivery. Even if the patch is left on for 24 hours, it still has delivered about 90 percent of its nicotine within the first 16 hours. Nicoderm was designed to have zero order kinetics, delivering a constant level of nicotine throughout the day. This means that when the smoker is asleep, his/her blood nicotine level is stable, whereas with Nicotrol, the blood level decreases during the night.

RS07. Applications of Relapse Prevention to Addicted Populations: Problems, Prospects, and Promises

Moderator: Arthur MacNeil Horton, Jr., Ed.D.
Speakers: Terence Gorski, M.A., C.A.C.
Benjamin Lewis, Ph.D.
Delinda Mercer, M.S.
Rafaela Robles, Ed.D.
July 16, 4:30 p.m.-6:30 p.m.

Speaker: Arthur MacNeil Horton, Jr., Ed.D.

On average, approximately 75 percent of the people who receive treatment for their addictions relapse after approximately 6 months. The development of relapse prevention was geared toward lowering this percentage. The main areas focused on during the development of a relapse prevention theory were the behavioral, cognitive, and effective factors that have been known to lead to relapse in substance abuse. Lapses in substance abuse (i.e., a single episode of drug use) and relapses into substance abuse (i.e., full returns to substance abuse) are distinguished within the relapse prevention theory.

Speaker: Terence Gorski, M.A., C.A.C.

The Center for Applied Sciences (CENAPS) has been developing a relapse prevention model since the early 1970s. The primary focus of this model is recovery and relapse prevention. Within the model there is a smaller clinical model, which embodies a field of knowledge or theory. This clinical model is taught to patients and clinicians who wish to pass it onto patients. There is also a program structure, which acts as a delivery system for all of the information.

People who relapse into chemical dependency are taught that relapse is a biopsychosocial condition. The reason relapse is considered a biopsychosocial condition is because patients tend to have different physical, psychological, and social symptoms that are associated with their individual dependencies. One area that clinicians need to look at prior to treatment is the level at which their patients' brains have been damaged by excessive drug and alcohol use. It has been determined that about 33 percent of all the chemically and alcohol dependent clients involved in CENAPS suffer from cognitive impairments that are serious enough to block the effects normally achieved through cognitive and affective therapy. Another 33 percent of these patients have been impaired to

the point where stressful days will cause them to not respond well to therapy. The last 33 percent suffer from only mild to minimal impairment and have been seen to have a relatively high rate of success.

Chemical- and alcohol-induced brain impairment have been seen to alter many patients' thinking patterns. This phenomenon, which often leads to irrational talking or behavior, is commonly referred to as addictive thinking. One event that often results from a person's addictive thinking is that he/she argues that it is everyone's right to be able to drink or use drugs, regardless of the consequences. Addictive emotional management strategies also are often developed by chemically dependent people. These are ways in which people simply repress the feelings that may otherwise bother them. This often continues until the pressures build up and become too much for a person to handle. This buildup of pressure often leads to relapse into drug or alcohol use, which in turn leads to a strong feeling of guilt. This guilt more often than not causes the person to begin repressing his/her feelings again. Once this repression begins, the whole cycle tends to repeat itself.

Personality disorganization—which includes a person's deeply rooted habits of thinking, feeling, and acting in certain ways—often acts as a defense mechanism that subconsciously protects the way in which a person feels about his/her drug and/or alcohol use. Social and lifestyle problems (i.e., difficulties related to employment and relationships) also commonly result from personality disorganization. Guided self-assessment techniques are crucial to a person's recovery from this problem: It does not make any difference if a counselor can define a person's problem if that person does not also recognize the problem.

Once a person recognizes his/her drug and/or alcohol problem, an evaluation needs to be conducted to determine the extent to which that person's brain, personality, and lifestyle have been disrupted. Once these determinations have been made, a suitable treatment strategy can be developed. CENAPS has produced a developmental model of recovery for use by treatment workers that includes the following six stages: (1) transition, in which the client is encouraged to admit his/her addiction; (2) stabilization, in which the client becomes "clean and sober" but realizes that he/she cannot function without the drugs or alcohol; (3) early recovery, in which the treatment focuses on changing the client's addictive thoughts, feelings, and behaviors; (4) middle recovery, in which the treatment focuses on repairing the client's lifestyle through the identification and fixing of things that were "broken" by the client's drug or alcohol use; (5) late recovery, in which the client, through the help of counselors, begins to develop a more productive and healthy lifestyle; and (6) maintenance, which encompasses a period of growth and development in which the client is now ready to live a "normal" lifestyle. This recovery model enables clients to assess themselves with respect to determining where they are in their individual recovery.

Studies at CENAPS have found that there is a strong connection between clients' different personality and lifestyle problems with drug and alcohol abuse relapse. In order for relapse to be avoided, treatment workers must focus more of their attention on the underlying issues that actually lead to relapse instead of simply working on the superficial aspects of recovery. Warning sign identification is a process in which treatment providers work with patients in developing a list of relapse warning signs that the clients can periodically refer to when experiencing certain difficulties or temptations toward relapse. There are four different levels involved in the development of this list of warning signs: (1) the situation level, (2) the thinking level, (3) the feeling level, and (4) the action-urge level. These four levels basically cover the entire process that might lead a client toward relapse. For instance, a particular situation might cause a client to think about drugs or alcohol, which in turn might lead to certain feelings that ultimately result in the urge to carry out certain actions. Helping a client recognize and positively deal with the various warning signs that often lead to the progression of these levels is another important step in a client's recovery. With the help of cognitive rehearsals, guided imagery, and role-playing, CENAPS works toward helping clients develop different strategies that they can use when encountering difficult or tempting situations.

During relapse-early intervention training, clients are asked what they would do if they started using drugs and alcohol again and, in response to this, are requested to develop self-intervention strategies. Clients also are

asked to determine what other people can do to intervene. To help in answering this question, the friends and family of the clients are asked to participate in support groups that work toward the development of external intervention strategies. These support groups also are designed to help lower the rates of low consequence relapse, commonly referred to as "lapses."

Speaker: Benjamin Lewis, Ph.D.

A 5-year controlled clinical trial study, which randomly assigns clients in blocks as opposed to on an individual basis, is being conducted at both the Marathon House Incorporated in Providence, Rhode Island, and the Spectrum Addiction Services in Westboro, Massachusetts. The Marathon House is a traditional therapeutic community (TC), whereas the Spectrum Addiction Services has shifted from a TC to more of a short-term residential program. The issues being addressed in this study are treatment effectiveness, HIV prevention, retention, and drug and HIV risk reduction.

The Marathon House's clients are assigned to either a 6- or 12-month TC program, depending on their individual needs. The Spectrum Addiction Services, on the other hand, randomly assigns blocks of clients to either a 90- or 180-day relapse prevention/health education program. Followup procedures are performed 3 months after discharge and 18 months after admission into the programs. An 80-percent compliance rate toward the use of hair analysis testing has been seen among the clients involved in the followup procedures. A behavioral risk assessment, a motivational scale, and a number of other self-efficacy tools are looked at within the study.

Relapse prevention training can greatly affect treatment effectiveness and recovering addicts' outcomes. The important question to keep in mind when looking at the efficacy of relapse prevention is as follows: For whom is relapse prevention appropriate, in what settings, and at what point in the recovery continuum? Care providers' knowledge of relapse and the relapse process tend to greatly effect the production of new programs. The three main areas of knowledge concerning relapse can be categorized as (1) the parameters of relapse, (2) relapse rates, and (3) variables to relapse.

There is an urgent need to develop a universal set of definitions that can be used by clinicians, practitioners, and researchers to better address the issue of what relapse and recovery actually mean. All too often, the definition of what is meant by relapse or recovery is swayed by the particular treatment modality that is being applied or the different treatment workers that are employed by the various treatment programs. The theoretical model of addiction that many care providers understand, along with their views on relapse and recovery, helps to determine the type of treatment modalities they use. A substantial amount of disagreement has occurred between the treatment and research fields as to whether relapse means that a client has returned to his/her primary drug of choice or if the use of a secondary drug also qualifies. A return to the use of a primary drug of choice on the part of a recovering addict has implications, more often than not, to cause that person to return to a state of drug abuse. Studies also have shown that the use of secondary drugs also can lead to a number of complications in terms of a person returning to drug abuse. In working toward remedying the problem of posttreatment drug use, the issue of what period of use (i.e., daily, a specified period, or any level of use) qualifies as relapse must first be addressed. In other words, should a lapse from recovery actually be viewed as a relapse or simply a slight fall from grace? Some studies on opioid and heavy alcohol use suggest that lapses do not, in fact, lead to abuse but, instead, have been known to act as valuable causative learning experiences. The relationship between subsequent and baseline use also needs to be defined more accurately. More accurate verification tools need to be developed by treatment practitioners for use in better determining lapse and relapse on the part of recovering addicts. Hair analysis testing has been found to be effective in determining what substances a person has used within a 90-day period.

A number of variables must be considered during the implementation of an individual treatment model, including (1) the different things that have happened to a client before he/she entered treatment, (2) the things that happened once the client was in treatment, and (3) the things that happen to the client after treatment. Relapse prevention techniques can be successful in not only working toward lowering the rates of posttreatment drug use but also the amount of high-risk behavior that can lead to the contraction of HIV/AIDS.

Issues that need to be addressed include the following: (1) the amount of sobriety required for relapse prevention training, (2) the length of time that a client should be in treatment before he/she is introduced to relapse prevention training, and (3) the extent to which relapse prevention can affect a client's sexual tendencies with regard to reducing his/her risk for contracting the HIV virus. There has been some disagreement among treatment providers as to whether or not sexual risk behavior is an issue that should be addressed within the drug abuse treatment field. A controversial issue that might lead to a vast improvement in terms of the number of drug-related HIV cases is whether or not treatment programs are willing to begin teaching that nonintravenous drug use is preferable to intravenous drug use.

Different treatment providers also have tried to determine the level of learning capability that clients need in order to participate effectively in relapse prevention. Speculation also has been raised concerning the rate at which clients can learn within a relapse prevention atmosphere when they are forced to be there. Learning capabilities can alter depending on a client's choice of drugs. Cocaine addicts, for instance, tend to have lower knowledge retention capabilities as compared to many other types of drug addicts. Different staff characteristics also must be considered for their effects on relapse prevention techniques. There is an ongoing question regarding whether or not staff, who are trained in stressing abstinence, are qualified to provide relapse prevention training. And, if in fact they are qualified, whether this training should be in the form of group or individualized training. Another issue that needs to be addressed is whether relapse prevention can and should be applied to people who are actively using drugs. A followup consideration to this issue might be whether or not some clients possess certain characteristics that render them unfit or inapplicable to the services offered in relapse prevention.

Speaker: Delinda Mercer, M.S.

Through funding provided by NIDA, the treatment research unit at the University of Pennsylvania is conducting an abstinence-oriented, cocaine psychotherapy study. This multisite clinical trial compares three psychosocial treatments for primary cocaine dependence. The majority of the population involved in this outpatient clinical trial study tend to be socioeconomically disadvantaged urban dwellers. Of the total trial population, 86 percent are African-American and 14 percent are Caucasian. In order to obtain 35 people who were able to be randomized within the study, approximately 175 people needed to be screened. The two main requirements for clients to be eligible to be randomized in the study were that they needed to remain clean of drugs and in the study for approximately 4 weeks. The employed/nonemployed ratio of the study participants is about 50/50. Nearly all of them smoke, as opposed to snort, cocaine.

A number of the clients in this study are polydrug users; however, cocaine is always their primary drug of choice. They also often tend to have no visible dual diagnosis. The socioeconomic state of the clients involved in the study differs among the four sites. Two of the sites work primarily with people who are fairly economically stable, whereas the other two sites work with people who are not. This difference in socioeconomic stability among the clients will help in determining which treatments are most effective for treating which people. In general, however, the more socioeconomically disadvantaged a person is, the more difficult it is to treat that person.

The basic definition of relapse prevention is "never again using drugs after abstinence has been reached." One problem that has occurred continuously in the program for cocaine addicts is premature dropout. About 50 percent of the people who enter this program drop out prior to randomization. This dropout more often than not leads to relapse. The services offered prior to randomization are significantly more intense as compared to those services following randomization. These services generally refer to daily urinalysis testing, greater rate of addictions counseling, and various skill-building practices. Two individual therapy sessions also are attended every week. These sessions vary in presentation; they can be either psychoeducational, relapse prevention oriented, or 12-Step oriented. Over a 6-month period of addiction treatment, about 70 percent of the initial population drops out. A self-report study on why people drop out of the program has revealed that the only two significant reasons for dropping out are (1) the client feels that he/she is doing better or (2) the client has relapsed. Basically all of

the early dropouts (people who left prior to 6 months) relapsed. This fact would point toward the need to keep people in treatment for a longer period of time.

Relapse is thought to occur long before a person resumes use of his/her drug of choice. Due to this belief, steps are taken during the individual and group therapy sessions to advise the clients as to the relapse warning signs to look for and avoid. Alternative coping skills and other methods of dealing with relapse warning signs are gradually taught to the clients as they continue with the program. One coping skill that has been seen to be effective in helping people deal with temptation is the development of positive social and family supports. Primary medical care, access to vocational counseling, welfare and medical assistance, and information of HIV risks are all services that are offered within the program. A four-stage model is used to deliver these skills to the clients. The four stages are as follows: (1) motivation counseling, (2) early recovery/early establishment of abstinence, (3) maintaining abstinence or relapse prevention, and (4) advanced recovery.

There appears to be a growing need for more treatment services that focus primarily on female clients because it is this population that has exhibited a disproportionately high dropout rate. Temporary psychiatric consequences of cocaine use must begin to be recognized in dual diagnosis and treated appropriately. In general, either inpatient or intensive outpatient programs should be applied to those people who are suffering from severe cases of drug and alcohol addiction. The average outpatient programs have been seen to be not as effective in treating these people as compared to inpatient programs. The most important thing that needs to be accomplished is the development of more successful strategies for keeping both men and women in treatment for longer periods of time.

Speaker: Rafaela Robles, Ed.D.

A 5-year prevention/intervention study was funded by NIDA and developed for use in a treatment system in San Juan, Puerto Rico. A total of 40 percent of the drug abusers in Puerto Rico who enter into a 20-day detoxification program leave prematurely. Only 50 percent of the people who complete the 20-day detoxification program actually continue on in treatment, and 47.9 percent of these people who continue treatment leave before they reach a 6-month plateau. Studies have found that 70 percent of the current injecting drug users in Puerto Rico have been in treatment at least twice. The NIDA-funded prevention/intervention study prides itself on providing an atmosphere for recovering addicts that is free from social conflicts, stressors, pressures, and prejudice. The theoretical model of social integration that is the underlying basis of this study makes the assumption that recovering addicts become integrated into the drug addiction network. Some of the many areas that need to be stressed in order to bring about a lowering or abstinence from drug use on the part of these people are the building or acquirement of positive and supportive friends, family, work conditions, and environments. Recovering addicts must be gradually taught, through long and tedious methods, how to again be good fathers, friends, and upstanding community members.

Recovering addicts who participate in these types of studies must be reminded that they may experience various forms of physical and psychological pain and distress. A sense of not belonging or being out of place among the people associated with the treatment community often is felt by recovering addicts. A fear of not having the skills necessary to function adequately in a sober community is another fear that many recovering addicts experience. Since these fears are fairly common, treatment programs need to focus a sufficient amount of their energies on addressing these problems.

A detoxification period is the first stage in the NIDA-sponsored project. Information also is given to the recovering addicts concerning the possibilities of relapse and the warning signs leading to this. Detoxification periods are often not long enough to cover the difficult tasks of not only getting a person clean of drugs but also dealing with the issues surrounding relapse. Due to this fact, a continuum of care on the part of recovering addicts is imperative for the full recovery of these people. Not surprisingly, the percentage of recovering addicts who turn back to drug use is much higher among those people who return directly to the community as opposed to those who have a continuum of care.

The second stage of the NIDA-funded project is a period of social integration. Some issues focused on during this stage are diet, positive

relationships, self-help groups, and methods aimed at helping for a smooth reintegration into the family and community. The recovering addicts are assigned to various control groups based on purely randomized methods.

Family intervention is one of the main goals of the entire recovery process. The success of this type of intervention depends on a two-way chain of information in which family members begin to learn better ways of dealing and helping with the problems that the recovering addict may be experiencing. Family intervention also focuses on helping to teach the role which the recovering addict is to play within his/her family. Patience by both the family members and the recovering addicts is key during this period of recovery because the family intervention process is an extremely slow and trying one.

Success in this project greatly depends on the integrity of the personnel, the relevance of the information that is collected, the work of the project's anthropologist, and the personality of the staff.

Questions, Answers, and Comments

The word "lapse" is often frowned upon in the treatment community. What word is generally used in place of it? "Lapse" is not a good word to use when addressing patients because it can instill a sense of confidence within these people which can lead them to have a false sense of security if and when they decide to use a small amount of alcohol or drugs. Instead of placing a particular word on a person's decision to have a small fall backward in terms of their recovering, it is suggested that the consequences surrounding relapse be stressed more thoroughly. The level of danger associated to a person's relapse can be determined based on the duration of use, frequency of use, and the danger of consequence. Instead of referring to these episodes as lapses, it might be better to refer to them as short-term, low-consequence relapses. Whatever these episodes are called, they need to be addressed very delicately so that they do not develop into a full-blown relapse.

What are some of the differences between the powerlessness model and the relapse prevention model? There does not seem to be a clear-cut distinction between the two. Although these two different models do not have a clear-cut distinction, they are in fact quite closely related. In programs that are relatively new, however, treatment workers may not be able to see the same similarities that more "seasoned" workers may be able to see.

RS08. Update on Drugs—Prescription Drugs

Moderator: Dorynne Czechowicz, M.D.
Speakers: Shibani Ray-Mazumder, Sc.D.
Sidney Schnoll, M.D., Ph.D.
Bonnie Baird Wilford, M.S.
July 15, 1:15 p.m.-2:45 p.m.

Speaker: Shibani Ray-Mazumder, Sc.D.

Two formerly NIDA-sponsored surveys specifically deal with the problem of prescription drug abuse: (1) the National Household Survey on Drug Abuse (NHSDA) and (2) the Drug Abuse Warning Network (DAWN). These two surveys, which were formerly sponsored by NIDA, were transferred to SAMHSA this past year. NHSDA staff interview people about drug use, demographics, lifestyle, perceptions of risk, and any other important factors associated with drug abuse. The 1991 survey was the first of its kind to include self-reported information obtained within Alaskan and Hawaiian households, as well as households located on military bases. The only people not included in this particular survey were incarcerated people and homeless people not living in shelters.

Before an informative discussion can be conducted concerning the problem of prescription drug abuse, a working definition of what this problem involves needs to be stated. Prescription drug abuse can be defined simply as "using any prescribed drug in such a way that goes against the following: (1) the amount recommended, (2) how often the drug should be taken, and/or (3) the prescribed use." In the event that a drug is taken by someone other than the person for whom the prescription was written also can be grounds for abuse. The four major categories of abused prescription drugs are (1) sedatives, (2) analgesics, (3) tranquilizers, and (4) stimulants.

The 1991 NHSDA revealed some very interesting drug prevalence rates. Of the people surveyed, 37 percent reported using illicit drugs at some point in their lives, and 6 percent admitted to using illicit drugs currently (within the past month). Of all the drugs used, marijuana was the most popular, with a 33-percent rate of lifetime use and a 5-percent rate of current use. Prescription

drug use came in at a distant second, with a 12.5-percent rate of lifetime use and a 1.6-percent rate of current use. Finally, cocaine measured a close third, with an 11.5-percent rate of lifetime use and a 0.09-percent rate of current use. Of all the prescription drugs reported, sedatives were the most popular, with a 7-percent rate of lifetime prescription drug abuse. The remaining three abused prescription drug categories had lifetime use rates of 6 percent, 5.6 percent, and 4.3 percent, respectively.

Higher rates of lifetime prescription drug abuse were detected among people between the ages of 18 and 34. However, the highest levels of current prescription abuse included not only 18- to 34-year-olds but also included 12- to 17-year-olds. The 18- to 25-year-olds have experienced a gradual decrease in prescription drug abuse since 1979. Unfortunately, no real changes have been seen among any of the other age groups in this area. Regarding male-to-female prevalence rates, males exhibited a 13.4-percent rate of lifetime prescription drug abuse, compared to an 11.7-percent rate for females. In comparing prescription drug abuse between Caucasians and African-Americans, Caucasians displayed a 13.5-percent rate of lifetime prescription drug abuse, compared to a predominately lower use rate of 8.7 percent among African-Americans. Other interesting data worth mentioning include increased prescription drug abuse in the western States and higher rates of overall use (16.3 percent) among people with some college education. Finally, there is a 24-percent rate of lifetime prescription drug abuse among the Nation's unemployed and a 4.1-percent rate of prescription drug abuse in the past month.

Ongoing DAWN studies have allowed data to be collected from hospitals located in 21 metropolitan areas. In the emergency room data for 1991, 133,217 drug abuse episodes were reported. Within these episodes, 221,114 drug mentions (there can be many mentions in each episode) have been accumulated. Information for this survey is collected from patients ages 6 and older, and alcohol is listed only as a drug mention if it is used in conjunction with other drugs.

Medical examiners' data from 1991 have been tabulated and include information from 130 participating medical examiner facilities in 27 metropolitan areas. It was found that within the 6,601 reported drug abuse deaths, there were 15,576 drug mentions. On further review, it was determined that prescription drugs were responsible for between 60 and 70 percent of the drug abuse-related deaths reported by medical examiners and drug-related emergency room visits. (However, these statistics may include accidental overdoses and suicides.) DAWN studies have pointed toward tranquilizers, sedatives, and nonnarcotic analgesics as being the main drug indicators implicated in suicides. In fact, drugs included in these categories constitute between 67 and 77 percent of the mentions in conjunction with reported suicide cases. Implementation of some sort of national or statewide "prescription drug abuse surveillance system" is needed in order to determine what percentage of the drugs being prescribed are being misused or abused.

Speaker: Bonnie Baird Wilford, M.S.

Prescription drug abuse became a national problem in 1980, with the discovery of the widespread use of amphetamines by long-distance truck drivers. Subsequently, the Carter Administration sponsored a conference on the topic and policymakers became more interested in the problem. In response, the American Medical Association brought the public and private sectors together to address the problem of prescription drug abuse. Before this problem can be addressed at the level needed to successfully combat it, prescription drug abuse must be viewed and incorporated into the overall picture of drug abuse. Initially, policymakers examined supply-side solutions to the problem, but this approach proved only slightly effective.

A wide array of policies on prescription drug abuse and distribution exists. International treaties dating back to 1912 regulate the scheduling and distribution of prescription drugs. Many Federal laws, dating back to the Harrison Narcotics Act in the early 20th century, attempted to accomplish the same objectives as the aforementioned international treaties. The Omnibus Act of 1970 placed 50 different Federal regulations on the prescribing and dispensing of drugs. The point that needs to be recognized is that despite the international and national regulations and laws, the problem of prescription drug abuse has not been solved. Each State has the ability to regulate its own drug prescription and distribution laws. The medicaid claims data have been found to be

one of the most effective methods of detecting abuse problems from one region to another.

Two prescription drug regulatory mechanisms have gained exposure in attempting to prevent future increases in the Nation's prescription drug abuse problem. The first is the Triplicate Program, which requires all doctors prescribing any of the Schedule Three analgesics to fill out a State-provided form that outlines the particular drug needs of individual patients. Each doctor then acts as his/her own data entry person, cutting out a "middle man" to do data entry. This hopefully will lead to the recording of more accurate information. The second approach involves the Diversion Investigation Units and consists of using specialized police enforcement groups that focus primarily on the problems surrounding prescription drug abuse. This specialized police force also could inadvertently help with the Nation's overall drug problem, since criminal prescription drug abusers usually also abuse either alcohol and/or illicit drugs.

The reasons why prescription drug abuse still seems to be a problem within this country, despite programs such as the aforementioned, include the following: (1) the public perception that prescription drug abuse is a new and growing problem based on highly publicized but isolated cases of prescription drug abuse; (2) the attitude that there is a "War on Drugs" instead of on just abuse, thereby making any use of drugs—even legitimate medical use—suspect and unacceptable; (3) the lack of understanding that exists throughout the country as to what addiction really is, which makes some people's use of prescription drugs seem more problematic than it actually is; (4) the public expectation that governmental programs can eliminate risk associated with prescription drug abuse, thereby driving the level of the problem to a higher degree than actually exists; and (5) cost concerns.

ARCOS, a Drug Enforcement Administration (DEA) data base that tracks prescription drugs at the retail level, constitutes a relatively new development in drug control and, through data collection, helps determine (1) what amount of drugs are being used and (2) how many different drugs are being used. This process can help in determining the percentage of legitimate to illegal drug use. A system similar to a nationwide credit card machine procedure should be developed to review which drugs are being used and prescribed throughout the country. Some questions exist about whether the country's current policies on prescription drug use actually address all the issues of prevention, education, intervention, and law enforcement. Often programs are federally funded at the expense of other equally important programs. For the time being, money being used for data collection should be transferred into the treatment field. When implementing programs and passing new laws and regulations, the concept of "social algebra" needs to be considered. "Social algebra" involves taking into account the social losses that would come about as a result of social gains—for example, the number of legitimate patients who would remain in pain and in need of medicine if morphine use is outlawed in an attempt to lower the number of morphine addicts.

A universal definition of what prescription drug abuse involves should be agreed on within the entire therapeutic community. Once this definition is clear, determining which prevention and treatment methods are most effective for different drug-abusing populations will be easier.

Speaker: Sidney Schnoll, M.D., Ph.D.

Less than 1 percent of the average medical school education is devoted to substance abuse and addiction. Generally, many doctors' first experience with prescribing drugs occurs within inpatient settings under the guidance of either students not much older than themselves or interns who merely have a secondhand-working knowledge themselves. Consequently, a large percentage of the Nation's doctors' expertise in prescribing drugs results from (1) reading drug brochures, which often do not provide the needed information, and (2) trial and error. One problem of a typical doctor is prescribing unneeded medicine simply to console worried patients. This practice—in conjunction with underprescribing, which dates back to the Harrison Narcotic Act of 1914—creates a noteworthy problem within the Nation's medical community. There are courses on how to effectively learn the art of appropriately prescribing therapeutically useful medications, including Dr. Sidney Schnoll's 2-day program, which consists of lectures, computer simulation, simulated patients, and discussion time. The course also teaches physicians new methods of managing their patients' pain.

Pain has been found to be the number-one complaint of patients. A recent study of 198 emergency department patients who were injured and in pain revealed that 56 percent had no analgesia and only 14 percent of them received analgesia within 1 hour of their arrival at the hospital. Fear of using pain-killing medications that fall under the addictive narcotic grouping is fairly common among physicians. Studies have shown that less than 0.1 percent of the patients who receive narcotics for their pain actually become addicted to narcotics. Therefore, many patients continuing to seek medications, or increased dosages of their medications, may not be addicted but may have been given inadequate medication to begin with and are in need of a stronger one. This can be described broadly as "pseudoaddiction," which is appropriate medication-seeking behavior to relieve pain. Some of these patients may be drug dependent but not addicted. Some common precursors to pain that physicians need to be aware of include anxiety, depression, and stress at home. If acute pain problems are not addressed when they first surface, they can easily develop into chronic problems that are more difficult to treat. Therefore, medical schools should place more emphasis on teaching the best methods for treating pain.

RS09. Update on Drugs—Anabolic Steroids

Moderator: Lynda Erinoff, Ph.D.
Speakers: Michael Bahrke, Ph.D.
Charles Yesalis, Ph.D.
July 17, 8:15 a.m.-9:45 a.m.

Speaker: Charles Yesalis, Ph.D.

Anabolic steroids can be defined simply as synthetic versions of the male sex hormone, testosterone. The 1991 National Household Survey on Drug Abuse (NHSDA), which conducted 32,000 interviews of people ages 12 and up, included questions on steroid use. Based on these data, experts estimate that anywhere from several hundred thousand to over 1 million people in the United States use steroids. (Steroids, however, are not the only type of performance-enhancing drug being used in the United States.) The first national study that included data on steroid use was conducted in 1988 among high school seniors; about 6.5 percent reported using steroids at least once in their lives. About 40 percent of the students interviewed admitted five or more cycles (6- to 12-week periods) of steroid use within their lifetimes. In 1993 estimates indicated that somewhere between 4 and 12 percent of male high school seniors and between 0.5 and 2 percent of female high school seniors have used steroids sometime in their lives. While very little is known about the extent of use among the adult population, evidence points to an increase in the amount of overall steroid use among high school students since 1960.

Many misconceptions exist regarding the effects of long-term steroid use. Some of the known psychiatric side effects reported to be associated with prolonged use include increases in irritability, hostility, anger, aggression, and psychological dependence, as well as depression associated with withdrawal.

Analysis of 1991 NHSDA data indicated that steroid users have higher levels of alcohol, tobacco, and illicit drug use than people who refrain from using steroids. This survey also indicated that over one-half of the steroid users in this country are over the age of 26; therefore, efforts being made to deter steroid use should no longer be focused only on the young. Crime rates for steroid users have been noted as higher than those for non-steroid users: 80 percent of steroid users interviewed in the 1991 NHSDA admitted to committing a property crime within the last year, compared to only 27 percent of non-users who admitted to the same crime. In addition, 83 percent of steroid users reported an act of physical aggression within the past year, compared to only 38 percent of non-users who reported the same kind of act. Generally, steroids are taken for one of the following two reasons: (1) to look better or (2) to win/succeed in athletics. The belief that steroids are mood altering at the time they are administered is a very common and widespread misconception among the general public. There is an urgent need for improved cross-sectional and/or case studies that can be used as more reliable and accurate indicators of the levels of national steroid use.

Speaker: Michael Bahrke, Ph.D.

Currently an ethnographic study is being conducted on the use of steroids in the Chicago area. About 25 percent of the interviews have been administered. This is a 3-year, $1.8 million, NIDA-funded project that began early in 1992. On completion of this project, 400 interviews will have been conducted. Of the 400 interviewees, 300 will

be steroid users and 100 will be nonusers. Two hundred of the users will be male, and 100 will be female. Of the 100 nonusers, 67 will be male and 33 will be female.

The project interviews are broken down into life-history focused questions and past steroid use. The research goals and objectives of this project are as follows: (1) to determine the risk factors of long-term steroid use (i.e., both the physical and mental health hazards), (2) to determine patterns of steroid distribution and the effects that legislation has had on this (i.e., how adding steroids to the Controlled Substance Act has affected anabolic steroid use and distribution), and (3) to determine the relationship of steroids to violence.

Preliminary findings have revealed that most people who use steroids (1) tend to compete in some sort of contest, such as athletic events; (2) want to reach their absolute maximum level of potential in body building, weight lifting, or power lifting; or (3) have a need to build up their bodies for occupational reasons, such as with male dancers or strippers. It also has been found that marijuana use is popular among steroid users, since this drug both increases appetite, which leads to weight gain, and acts as a relaxing agent after workouts. Data also indicate fairly high rates of physical and sexual abuse victimization among people who use steroids. In addition, childhood feelings of inadequacy often can lead to adult steroid use.

Questions, Answers, and Comments

Have their been any studies that investigated the cancer-causing effects and other long-term health risks of steroid use? Unfortunately, the long-term health risks of these drugs really cannot be specified. They are not big "killer" drugs, although they do pose health risks to users.

If mortality is not the main problem facing steroid users, what are some of the harmful effects of these drugs? A large number of steroids being used are black-market drugs; consequently, many may have impurities. The risk of contracting AIDS and other contagious diseases, such as hepatitis, is always high when needle- and or vial-sharing occurs among steroid users. Use of steroids also has been known to "stunt" growth when taken by adolescents (e.g., a person with the genetic potential to be 6 feet, 2 inches tall could instead end up being a very muscular 5 feet, 5 inches tall). Widespread cases of scarring and acne also have been evident among long-term steroid users. Steroid abuse is associated with adverse effects on behavior, including increased incidences of violence, aggression, and psychiatric syndromes including psychotic reactions.

RS10. Drugs in the Workplace—Research Issues

Moderator: M. Beth Babeckl, M.A.
Speakers: Terry Blum, Ph.D.
Donna Bush, Ph.D.
Richard Lennox, Ph.D.
Stephen Salyards, Ph.D.
Robert Stephenson II, M.P.H.
July 17, 8:15 a.m.-9:45 a.m.

Speaker: Donna Bush, Ph.D.

Following a presidential executive order made in 1986 (Executive Order No. 12564), which mandated a drug-free Federal workplace, mandatory guidelines for Federal workplace drug-testing programs were published in the *Federal Register*. The National Laboratory Certification Program was established to ensure the accuracy and reliability of urine drug test results of Federal and federally regulated employees. When a program requires urine testing, a specimen must be collected and then sent to a laboratory for accurate and reliable testing. A medical review officer interprets all results. If the result is positive, as verified by the medical review officer, then the employee assistance program may be involved in followup actions with the donor or employee client.

The National Laboratory Certification Program challenges laboratories performing the urine drug testing by proficiency-testing the analytical, qualitative, and quantitative capabilities of the labs and submitting urine specimens for the labs to analyze. Labs are inspected every 6 months by three trained DHHS inspectors to enable DHHS to determine the labs' compliance with the requirements of the mandatory guidelines. Urine drug testing by these DHHS-certified laboratories has become the "gold standard" for urine drug testing. The key for this drug testing is accuracy and reliability.

Drug testing begins with the collection of urine specimens that come with a chain-of-custody form which accompanies each specimen to the lab. All testing is performed under a chain of custody. Each specimen comes from a collection site via

secured means to a laboratory. If the specimen is forensically sound, it is stored in a limited-access area. When the urine is tested, an aliquot, or small portion, is retrieved for an initial immunoassay test. If the result is negative, it is reported, at that time, to the medical review officer. If the test is presumably positive, a fresh aliquot is taken through the confirmation process and a result is determined. If this second result is positive, the specimen is secured and stored frozen. This positive result then is reported to the medical review officer.

The initial test of a urine specimen is an immunoassay test required by Federal guidelines; it is a biochemical test that recognizes the three-dimensional chemical structure of any drug present in the urine. This test is based on the concepts of immunology regarding the mammalian immune systems and is very applicable to rapid analysis. The test relies on the fact that an antibody binds to the chemical present from a drug, recognizing the three-dimensional structure and signaling a presumably positive result. This is a good screen to determine the presence or absence of a possible drug metabolite in the urine. A second specimen is then needed to confirm this presence.

Urine contains anilide and other waste products. When testing urine for the presence of drugs, the anilide needs to be isolated. The process of chromatography separates the drugs based on physicochemical properties. Next, the process of mass spectrometry fingerprints each drug. This technique is part of the gold-standard process. Analytical considerations must be examined when testing any biological fluid. Dual chemical theory, immunoacetate, and gastrometography all aid in biological fluid analysis. There is a very sound foundation for testing in the workplace. As techniques develop in the future, these three test aspects must be considered.

Speaker: Robert Stephenson II, M.P.H.

In the third quarter of 1992, 10 quarters' worth of data from a variety of labs were compiled. These data provide the results of tests from one quarter to another, comparing types of clients, regions, and positive results. "Watchlists," a computer process, was used to examine the changes for statistical difference from one period of time to another. The subjects included the various industries of agriculture, construction, transportation, wholesale, retail, and public administration. Ninety-five percent of all specimens provided information on what industry they were from, with transportation organizations comprising 35 percent of all testing. Cocaine and marijuana had the highest confirmation rates. The results of opiates, PCP, and amphetamines were skeptical; the decisions of these results are based only on the initial screening of acetates.

For the future, the Department of Transportation has appended a management information system (MIS) to the mandatory testing system, which will provide information on about 8 million employees in the regulated industries described above. These data will compare data from the criminal justice system, provide a DHHS confirmation rate, and show potential conflicts. Different criteria and the consistency of testing will be developed as an alternative. Alcohol will be tested for in the future. Different specimens will include hair, saliva, and sweat. Screening affirmation is a powerful tool, knowing that there are other specimen options. A Centers for Disease Control and Prevention program is being conducted to validate the quality of assays from this particular subset of Americans.

Speaker: Richard Lennox, Ph.D.

There are several issues to be addressed in the private sector (as opposed to the public sector) when considering various treatments for an employee who has been detected as a drug abuser. Recent health care reform agenda strikes at the core of the need to establish methods and protocols for understanding the cost-effectiveness of various treatment types. There are many issues including the cost of treatment, the lack of standardization, and what counts as treatment for the future. The field is resistant to providing evidence of cost-effectiveness in treatment. This will possibly affect the provision of treatment, with services being reduced and the private sector limiting the provision of services that do not appear to be cost-effective. The industry needs to emphasize more and better treatment in a cost-effective way.

Health care utilization patterns look at limited kinds of outcomes that are economic in nature, called the cost-offset paradigm. If the initiation of alcohol or substance abuse treatment reduces subsequent health care utilization, a real savings can offset the cost

of treatment. This paradigm is vague in that it does not specify the nature of costs reduced. A more serious problem for this cost-offset paradigm is that the costs of treatment are never a part of the equation.

A study was done of a large midwestern manufacturing firm that is self-insured and has a liberal drug and alcohol policy with unlimited coverage for drug and alcohol abuse. The data have been used to assess the cost offsets as they relate to alcohol abuse. When compared to a matched control group of nonalcohol abusers, the alcohol abusers had higher costs in general for pretreatment. These costs decreased immediately following the initiation of treatment, to the point of converging with the control group of nonabusing subjects. This control group was not a nontreatment control group and was inadequate in terms of determining a causal link between treatment and reduction.

Another study, identified as ICD9304, of 480 drug abuse patients or drug dependents in all categories was completed. Of the total number of investigations from 1980 to 1987, 265 occurred for people under the age of 20.

Other diagnoses that determine indirect costs offset by effective treatment are drug abuse, alcohol abuse, mental illness, and severe medical illness. Severe medical illness cannot be treated effectively by simple alcohol dependency treatment, although there is some spread of effect of treatment across alcohol abuse and somewhat for mental illness. These conditions co-occur frequently in most drug abuse populations. The issue remains of what to expect in terms of offsets for these various other disorders.

In one analysis, patients treated in a 2-year period from a nonabusing control group, between the second and third year of pretreatment, cost $175 per month for the first year of treatment, up to $322 per month for the second year of treatment, and as much as $544 per month for the first year of posttreatment. The second year posttreatment costs dropped significantly. In comparing males to females, there is no significant cost difference, but when comparing age groups, the older group's costs were higher than the younger group's.

In the very near future, the value of drug abuse treatment across a variety of continuums will be looked at more closely. Health care utilization is only one of many reasonable outcomes. As treatment is shown to be effective, health care costs should be reduced over the long term.

Speaker: Terry Blum, Ph.D.

It is important to think of a drug abuse problem in the same way as any other kind of problem that employees might have. If this belief is part of human resource practice, treatment of drug problems could be more effective. Human resources are the most expensive and least managed resources. How drug programming might be effective in an organization requires an understanding of the larger resource management system. Understanding that drug prevention programs are part of a larger human resource management context, there will be more effective drug abuse prevention in the workplace. Many workplaces consider drug abuse an illegal framework, often seeking the advice of lawyers. Worksites often lose the potential skill of well-trained human resource managers because of this attitude.

When the War on Drugs was announced in 1986, one-half of the workforce was working full time and there were very few drug testing programs. Through suggestion and minimal regulation, there has been a proliferation of drug testing throughout the private sector. The public policy regarding drug testing should state that the private sector has to have a wide range of prevention and intervention available for all employees, not just those in safety-sensitive positions. In terms of public policy, the larger societal effects need to be kept in mind.

A study based on a national sample of employed people shows that there is a consensus that alcohol and drug problems are medical issues that should and could be successfully treated. There is also some agreement that employers still want to treat these problems with punishment as well. While there is agreement that drug testing should be used to help employees, there is disagreement regarding the exclusion of drug abusers. These results show that the public does not differentiate between alcohol and drugs, but that policies and work settings often do, leading to the exclusion of drug abusers while those with alcohol problems are helped. The American public does not separate drug and alcohol abuse to the same extent as public and private policymakers.

Another study of 342 worksites in Georgia showed that the more turnover there was in

these work environments, the less likely there was to be preemployment screening, Employee Assistance Programs (EAPs), and cause for drug screening. If there was more unemployment at a worksite, there was more drug testing. In industries of core economic sectors, employees are more likely to have an EAP instead of just drug testing. The manufacturing and transportation industries have more drug testing but fewer EAPs.

In another study of managers and supervisors and the factors that influence the use of EAPs, it was found that it was possible to change the attitudes someone has toward an EAP so that he/she will have a propensity to use this program. Variables that change this effect are making people (1) feel the EAP is more accessible, (2) feel support from their management of these programs, and (3) trust the EAP.

It is necessary to provide followup of supervisory training and orientation about drug and alcohol abuse. There must be continual implementation and a changed cognitive knowledge about these programs.

Another study about the employee assistance referral process explains a variety of situations. Different referrals are those that come from supervisory documented routes or supervisory influences. African-Americans are more likely and women are less likely to experience a bureaucratic referral based on job performance criteria. The racial relationship disappears when job performance issues are controlled. There is racial and gender disparity in workplace programming. Between 4 and 5 percent of employees use an EAP each year, and about 1 percent use the program for an alcohol or drug problem.

There are several variables related to health care cost containment. The more African-American employees there are, the less employees are involved in EAPs. Further, when there is little EAP development, there are fewer EAP or health promotion prevention activities. In terms of drug testing, human resources managers' perceptions are as follows: Drug abuse has a greater impact on the productive performance of African-Americans in the workplace than other racial/ethnic groups; the more women there are in the workplace, the less the drug abuse problem; and the lower the education or salaries of employees, the greater the impact of the EAP.

Despite NIDA guidelines showing tests can be done well, only 82 percent of worksites with 200 or more employees are using confirmation procedures. Confirmation is much less in smaller workplaces, rural workplaces, and places with a higher percentage of African-American employees. The overall positive rates are greater for places with more African-American employees, but this could be the result of the lack of confirmation. People are terminated as a matter of policy for first offenses at smaller workplaces that have more African-American employees or are in manufacturing settings. The termination rates are lower when there is an EAP. There needs to be comprehensive programs that are coordinated and well integrated in workplaces. There is a need for continued care, prevention, assistance, and treatment. Access to treatment is becoming more and more limited. One-fourth of private treatment centers have closed in one research project. There also may be a lack of diversity of treatment, such as the lack of treatment geared toward women from a wide range of cultural backgrounds. As more programs close and as more piecemeal programs are encouraged, the societal benefits of drug testing will decline. There is a need for a comprehensive program that includes assistance, makes treatment and followup services available, and is "human" as well as competitive in a global market.

Speaker: Stephen Salyards, Ph.D.

In 1987 the U.S. Postal Service was looking at the possibility of screening all applicants for drug use. At the time, there was little information to defend this proposed policy against legal challenges. There also was no national policy in place for applicant drug screening. The idea came about to screen U.S. Postal Service applicants for drugs and put them through the usual selection procedures of ability tests; performance tests; and checking of employment histories, criminal histories, and medical histories. The U.S. Postal Service would then hire them and keep the drug test results completely confidential, tracking these people through time.

Employees were categorized according to their level of education completed, and drug test results were recorded. Employees completing high school or at least 2 years of college had much lower rates of positive drug test results than employees who did not complete high school. Drinkers and smokers

had much higher positive results. In general, younger applicants, African-Americans, and males all tended to have higher rates of positive drug tests.

The first outcome of data showed no relationship between drug test results and voluntarily leaving the company. In comparing firing rates versus performance actions, there was a very strong relationship between getting fired and positive drug test results and absenteeism among U.S. Postal Service employees. The percentage of absenteeism was calculated as a ratio of absenteeism to scheduled work hours, excluding vacation and annual time, but including sick leave and unofficial leave. In terms of absenteeism differences, by June 1989, there would have been a $52 million cost savings had drug-positive applicants been screened out. By June 1991 the difference increased and the cost savings were more in the range of $105 million. Fourteen percent of the positives were referred by themselves or by management staff to an EAP, versus about 6 percent who were not referred. Overall, applicants who tested positive for drugs and were later hired were 2.7 times more likely to be referred to an EAP. Those testing positive for alcohol use were 3.5 times as likely to be referred to an EAP. Employees who tested positive for illicit drugs or poly-drug abuse and were later hired were 5.7 times as likely to be referred for drug-related problems. Thirty-seven percent of the positives had been disciplined one or more times during this 3-year test period. The biggest difference by type of infractions was for attendance. Not only did employees not show up, but they also had to be disciplined more often for their drug or alcohol problems. Employees with positive results were disciplined for conduct-related infractions at a higher rate than those who had negative drug test results.

Another study looked at the number of medical claims, the dollar amount of the claims, and whether the claims were related to a drug-related diagnosis. In a median test splitting the group in halves according to the frequency of claims, those with positive drug tests were 1.7 times more likely to have a high number of claims. Among those testing positive for drugs, the average claim was $487 per year, versus $260 per year for those with negative drug test results. Those testing positive for drugs were about 3.4 times as likely to file claims for drug and alcohol abuse than those testing negative for drugs.

There are a number of implications employers should take into account when considering applicant drug testing as a human resources intervention. There is an enormous cost savings in terms of reduced absenteeism, turnover, and disciplinary actions. In terms of EAP workload, the drug test results are related to later problems with drugs and alcohol. The recommendation was that the U.S. Postal Service could not afford to not screen applicants for drug use. This research is only the beginning, and factors such as drug use that affect job performance are not known and have not been measured. Most employers assume that since their competitors are testing applicants for drug use, they should too, but whether this decision is rational and cost-effective is questionable.

Questions, Answers, and Comments

Looking at the quality of data and longitudinal value of the data, has the U.S. Postal Service been asked to provide any information to a health care reform group in providing good quality analysis in work-based programs? What if an applicant was notified of a positive drug test result—could this person be tracked, treated and eventually allowed to reapply? When looking at the issue of exclusion versus inclusion, are they sharing the same destiny? The U.S. Postal Service wants to know what can be gained from screening applicants, such as whether this person is going to show up for work or have poor job performance. The U.S. Postal Service wants to share its results but is reluctant because of legal implications and criticism.

Is there anyone familiar with any studies on the effectiveness of the more generic prevention techniques? If there is an EAP in the worksite, then there will most likely be other prevention activities, education alternatives, policy changes, and nonsmoking policies.

What is the status of using sweat for testing? Sweat is a continuation of the kinds of testing mediums there are with drugs. When applying sweat patches to the various parts of the scalp, there were large boluses of the drug being introduced into the hair through the scalp. The testing of sweat is not yet accurate or reliable.

Comment: All workplaces do not test in the same way, which implies a need for national reform on drug-testing legislation.

RS11. Outcomes of Children of Substance Abusers

Moderator: Loretta Finnegan, M.D.
Speakers: Dan Griffith, Ph.D.
Stephen Kandall, M.D.
Linda Mayes, M.D.
July 16, 2:30 p.m.-4:00 p.m.

Speaker: Loretta Finnegan, M.D.

Many myths and misunderstandings exist concerning fetal damage from maternal drug use and the effects of these drugs on the newborn infant and the child. Subsequently, there has been a rush to judgment without adequate information.

All psychoactive drugs move easily from the mother to the fetus, and the pharmacological effects of these drugs must be considered along with the many other issues that impact infant and child outcomes, including related obstetrical complications. These outcomes, particularly in preterm infants, are discussed below. The United States compares unfavorably with other industrialized nations concerning infant mortality, which is caused primarily by birth defects, low birth rates, and Sudden Infant Death Syndrome (SIDS). Japan has the lowest infant mortality rates.

Infants exposed to alcohol are at risk for Fetal Alcohol Syndrome. However, researchers continue to delineate to the potential effects of cocaine and heroin on infants. More scientific, methodological studies on infant outcomes are needed to replace the anecdotal information. Researchers must reach beyond the knowledge that infants who are exposed to drugs have some kind of biological vulnerability. Knowledge must be gained about the effects of the environment and its impact in later years. For instance, important issues that must be considered include (1) whether the mother is in recovery, (2) the mother's past home-life conditions, and (3) the history of child abuse and adult abuse in the mother's life.

Speaker: Stephen Kandall, M.D.

Little is known about the extent and scope of interuterine exposure to drugs. This is illustrated by the attempt to estimate the number of drug-exposed infants in 1987 and 1988. The estimates of this number from five large studies range from 12,600 to 375,000. Unfortunately, the press usually sensationalizes the issue by using the highest figure available. Also, most neonatal outcome studies are based on a select part of the spectrum of drug exposure, namely those mothers and infants who fall into additional risk categories.

What is known about fetal welfare in terms of opiates? Many studies show that methadone maintenance reduces perinatal morbidity and mortality, which is attributed to fetal stability under the influence of monitored methadone dosing and the provision of prenatal care. Methadone also appears to contribute to improved fetal body growth and head circumference, as compared with the effects of heroin. In one study, daily doses of 80 mg. of methadone restored infants' birth weights to those of the control group. No congenital malformations are known to occur following exposure to opiates.

Opiate abstinence syndrome occurs in about two-thirds of heroin-exposed infants and about four-fifths of methadone-exposed infants. The syndrome has been divided into the following four major groups of signs and symptoms: (1) central nervous system signs, such as irritability, tremors, high-pitched crying, and neuromuscular coordination; (2) gastrointestinal signs, such as vomiting and diarrhea; (3) respiratory signs, such as rapid and deep breathing or apnea; and (4) autonomic system signs, such as fever, sweating, and tearing. If untreated, opiate abstinence syndrome demonstrates a significant morbidity for the infant. Early studies of heroin abstinence were associated with mortality rates between 34 and 93 percent. Today, with prompt recognition and treatment, there should be no incidences of infant mortality as a result of neonatal abstinence. Because of the pharmokinetic differences of heroin and methadone, the management of methadone abstinence is more difficult. Heroin abstinence usually begins within the first 3 days of life, whereas methadone maintenance abstinence may appear later, be biphasic, or worsen in the second week after birth. Some researchers have found that lower methadone dosages in the third trimester may reduce the severity of abstinence in the infant. In one study, the severity of methadone abstinence was affected most by the rate of fall in the infant's blood level between days 1 and 4 after birth. In addition, findings indicated that premature infants show fewer withdrawal signs than term infants, but the reason for this remains unclear. Furthermore, study findings have shown that seizures associated with abstinence occur in about 1 percent of heroin-exposed infants and in about 5 percent of

methadone-exposed infants; however, infants with these seizures were found to be functioning normally by the end of their first year.

In treating opiate abstinence syndrome, replacement opiates are recommended, such as Paragoric, which has been shown to reduce symptoms. Breast-feeding among women who are maintained on methadone is not contraindicated if they are not using other drugs and are HIV negative. During pregnancy, methadone maintenance is definitely preferable to street-drug use. The relatively minor disadvantage in caring for the methadone-exposed infant is more than offset by the marked improvement in maternal health and fetal well-being. However, data are needed concerning the specifics of methadone management during pregnancy. Careful tapering during pregnancy is feasible for some women; however, most programs do not change drug regimens during pregnancy for a number of reasons. Studies support the administration of higher dosages of methadone during the first trimester to promote fetal growth and then providing lower dosages during the third trimester to minimize neonatal withdrawal; but this paradigm may be suitable for only some methadone-maintained women.

The typical cocaine-exposed infant is not similar to those portrayed by the media. Most studies show reduced weight and head circumference among cocaine-exposed infants, which is similar to the results of heroin exposure but occurs via a different mechanism. Cocaine-exposed infants do not show true abstinence but neurotoxicity, which is expressed through mild symptoms generally requiring no treatment. Studies concerning malformations are controversial. It also is important to note that the available studies have been conducted with infants who were at high risk for poor outcome. Breast-feeding is contraindicated because cocaine passes into breast milk and consequently may cause direct neurotoxicity.

Recently studies have been conducted on the relationship between maternal drug use and SIDS, which is the leading cause of death among infants between the ages of 1 month and 1 year in the United States. A few studies, along with anecdotal information, indicate that maternal drug use may lead to SIDS. A large study was just completed on SIDS which, after correcting for high-risk variables, demonstrated that maternal use of heroin, methadone, and cocaine are associated with an increased rate of SIDS.

CSAT's improvement protocols should provide helpful and valuable information on the issues of assessing and treating drug-exposed newborns.

Speaker: Linda Mayes, M.D.

During the past 5 years, an increasing number of children who have been exposed prenatally to cocaine and crack-cocaine have reached school-age. Due to the scarcity of published studies on the problem, however, firm conclusions cannot be made about the specific effects of prenatal cocaine exposure on early development. However, hypotheses can be refined about central areas for study and possible interventions for children and their families.

It is important to review the various levels at which drugs may affect infant outcome. Until recently, most research has focused on the effects of cocaine on the developing fetal brain and on behavioral expression, but research needs to be conducted on other levels. Other areas that need to be examined are as follows: first, the effects of cocaine on fetal growth, which may be expressed through cocaine's more general effect of reducing placental blood flow, causing fetal undernutrition and hypoxia; second, cocaine's overall effect on maternal health, which increases the risk of impaired fetal outcome; and third, the psychological factors that lead an adult to substance abuse, since these factors may have genetic implications for the child, such as inheriting attention deficit disorder.

Additionally, many postnatal areas of research warrant greater attention. Ongoing brain development may be affected adversely during the infant's first year of growth by passive exposure to drugs in the home. Similarly, the effect of crack-cocaine on norepinephrine levels and thus on metabolic rates poses a far greater risk for the infant's failure to thrive.

Postnatal drug use affects the caregiving environment for infants on at least two levels. First, adult substance abusers are less capable of responding to their children's needs, and the lifestyles commonly associated with drug use, such as prostitution and violence, may create a chaotic and neglectful environment for children. Secondly, there is risk of genetic contribution of maternal

neuropsychiatric disorders. For example, depression in the adult has a well-studied effect on the child's early development. None of these levels of prenatal or postnatal effects of cocaine use is more operative than another. Also, a prenatal genetic effect may increase a child's vulnerability to postnatal exposure to drug use and a chaotic environment. Thus, it is important to examine multiple aspects of any substance-using family and a child's functioning and environment, as well as to consider the cumulative effects of maternal drug use and the environment in which a child is raised.

As studies have become more specific and sophisticated, measures of overall competency have failed to show any differences between cocaine-exposed and non-cocaine-exposed infants. Such findings have required a reevaluation of earlier concerns about global developmental delay in cocaine-exposed children. Studies also have shown the insensitivity of measures, such as the Bayley, to the types of clinical problems displayed by many cocaine-exposed children. Therefore, more specific measures of early developmental functioning are needed, rather than more global measures of developmental competency.

Studies have revealed the following four major domains in which the influences of drug abuse are manifested: (1) recognition memory, (2) visual habituation, (3) language development, and (4) capacity for symbolic play. It must be pointed out that these studies involve mild to moderate impairments, and at most, each study is represented by two studies with cohorts having mixed drug exposure. These domains reflect links with the central monoaminergic systems. Among drug-exposed children, studies also have explored impaired parent-child interactions; diminished exploratory capacities; impaired attachment; and increased exposure to violence, abuse, and neglect. A central question for researchers is whether the incidence of multidetermined and socially imbedded problems—such as problems with language or symbolic play among drug-exposed children—is different than among children from dysfunctional families or multirisk families not affected by substance abuse.

In the first year of life, specific measures of attention and habituation are predictive of later cognitive outcomes. For example, in a recent study, a significant number of cocaine-exposed infants could not attend to novel stimuli and became irritable. At the same time, many of the drug-exposed infants showed responses similar to those of non-cocaine-exposed infants. Thus, the problem appears to lie with reactivity. When cocaine-exposed infants are able to attend and focus, differences do not occur in measures of attention or early information processing. Attention levels and reactivity to novelty thus warrant further study. Additionally, impairments in these domains have important implications for later school performance.

Many sources of individual variation exist in the domain of language development. Cocaine-abusing mothers may be less likely to perform tasks, such as naming of objects, that support language development in their children. Only one published study has specifically examined language in drug-exposed children, and this study suggests a delay in both receptive and expressive language. Therefore, substance abuse treatment programs servicing their patients' children should include speech and language courses.

In another study, drug-exposed children were significantly less likely to engage in imaginary play than nondrug-exposed children, and their play was very disorganized and poorly modulated. This finding suggests that interventions should focus on how long and how often the children play, both of which have important implications for their performance in school.

The most methodologically problematic area in studying the effect of in utero cocaine exposure concerns parent-child interaction. The previously mentioned domains are contextualized within this one. Substance-abusing parents' difficulties in caring for their children are evidenced by the increased rate of child abuse and neglect in such families. Ample evidence substantiate the verbal and physical violence that many children and mothers suffer as witnesses and victims on an almost daily basis. Yet researchers have not addressed the influence of these events on parenting abilities or the children's modulation of aggression and development of capabilities of empathy. Two studies have demonstrated the increased incidence of impaired, distorted attachments in substance-abusing families, which reflect dysfunctions in parenting, as well as how difficult some drug-exposed children can be

to raise. It is important to remember that children in substance-abusing families often are raised not just by their parents but by siblings, other relatives, or foster care for indefinite time periods. Assumptions have been made that this type of caregiving has deleterious effects; however, scant data exist about the patterns of caregiving among substance-abusing families.

Looking to the future, there are several areas of ongoing, much needed, and potentially fruitful research. First, researchers are examining reactivity, persistence, attention regulation, and the stability of such capacities between infancy and the second and third years of life. Second, researchers are focusing on language and communication and their relationship to the risks and cumulative effects of drug exposure for these children. A third area of research involves the direct observation of parent-child interaction. Fourth, and perhaps most pressing, is the study of the effects of chronic exposure to violence on children's capacity for empathy and mediating aggression.

Each of these research areas points to related areas of intervention. First, language-intensive services need to be provided for preschool-age children. Second, it should be ensured that children enter some kind of preschool program, such as Head Start. Third, in addition to substance abuse treatment, interventions should model appropriate parenting skills and address other parenting concerns. Fourth, more attendance should be made to the levels of abuse and violence among substance-abusing families. Fifth, more readily available pediatric care is needed to address the lack of immunizations, poor nutrition, and overall poor health care among children of substance abusers. Sixth, it is likely that children may benefit more from group interventions than individual attention. Training for professionals working with children of substance abusers should address all of these areas.

These types of interventions are not new, but they should be integrated into substance abuse treatment programs that serve mothers and, more broadly, adults who are trying to parent children while they struggle with addiction.

Speaker: Dan Griffith, Ph.D.

Unfortunately, little is known about the long-term outcomes of drug-exposed children. However, many parallels exist among research findings on alcohol, marijuana, cocaine, and other drugs, as well as on the more general variables affecting high-risk children, such as low birth weight and poverty.

Thus far, research on illicit drugs has focused on a very narrow segment of the population, which includes chronic, long-term substance-abusing women from poor urban areas who are receiving treatment. Little is known about lighter users, those who can afford private treatment, or those who are not receiving treatment. Therefore, one must be careful about making generalizations regarding research findings in this area.

Many inconsistencies exist in the research on women substance abusers and their children, primarily among studies concerning light use of alcohol and drugs. It is likely that drugs create biological vulnerability in some of the exposed children, and their environment then influences the exacerbation or amelioration of the vulnerability. For instance, Sam Roff's transactional model of reproductive casualty and the additive nature of risk is accurate in its assessment of high-risk children.

Research on substance-abusing women and their children is difficult due to the significant differences among cocaine users, other drug users, and nonusers. Despite these contrasts, however, some studies have revealed no differences in general developmental milestones among the children of these groups of parents. A huge difference is evident, however, among the children in later years, apparently due to poverty, not drugs. It is possible that effects are not seen in the early years partly due to the insensitivity of the Bayley, but also because researchers focus mainly on poor women, and poverty may mask the subtle effects of the drugs. A few studies on alcohol have taken this methodological issue into consideration. One study found that children of middle-class women who drank moderately (i.e., an average of two drinks a day during pregnancy) generally had lower IQs than children of nonusers. Another similar study, conducted at the same time using women in poverty, showed no IQ differences between the groups. Thus, it is important that researchers carefully document such influential factors as poverty. One also must keep in mind that this test population, unlike the general population of drug-exposed children, includes motivated women volunteering for

treatment and children receiving interventions at early ages.

The effects of drugs in early studies may elude researchers because the drugs may cause subtle damage to the nervous system, which affects skills that do not develop until children get older. Some recent research supports this possibility. Global measures reveal few differences, but more specific measures, such as language, show the effects of drug use. Researchers must be careful—particularly in studying users who abuse many drugs—not to overinterpret data. It is important to consider how much of the substances were used, how often, which drugs, and other subtle conditions that influence research results. In some studies, for example, cocaine proves to be a significant predictor, but it is not the most important factor. Virtually all of the children in one study stayed with one stable caregiver since shortly after birth; about one-third remained with their biological and still drug-using mothers, another one-third received care from their biological but drug-free mothers, and the other one-third were placed with drug-free foster relatives. According to this environmental breakdown, biological vulnerability coupled with a drug-using environment increases the risk of problems such as language difficulties. But, despite biological vulnerability, a drug-free environment seems to decrease the incidence of language problems among the children. Thus, more research that examines these complex variables needs to be conducted.

Finally, there are clinical barriers to accurate research in this field. Drug-exposed children have been found to be consistently harder to test, due for instance to easy over stimulation. The issue of low threshold is important to interventions with children. It should be pointed out, however, that the problems evident in drug-exposed children are similar to those of other high-risk children. Even if group statistics indicate that drugs are related to particular problems, one must be careful not to jump to that same conclusion with each individual child.

Questions, Answers, and Comments

What are the views of elementary or preschool teachers about this issue? Preschool teachers seem to see children with more language and behavioral problems, and the teachers tend to attribute these problems to drug exposure, an assumption that is a methodological problem. It is very risky to automatically equate these kinds of problems with drug exposure.

Teachers across the country voice similar complaints about their students. However, most of the information that teachers receive about drug-exposed children comes from the media, which has professed that all drug-exposed children are damaged and hyperaggressive. Consequently, teachers may tend to treat drug-exposed children differently and contribute to this self-fulfilled prophecy. This stereotype of drug-exposed children will remain a problem until more and better research is conducted in this area. Also, the increasing number of children with problems could be attributed to the increase in children in poverty or without homes. Although little systematic data are available about the effects that living in poverty and around violence have on children, one project in New York has revealed the enormous significance of children's exposure to violence. Teachers must be cautioned about the preliminary nature of these findings, which the media often sensationalize. Efforts are being made to convert terminology from "at risk" to "at promise."

Could clarification be provided concerning the recommendation regarding tapering methadone dosage during the third trimester? Is it appropriate for only a small population of women? There is a conflict in the literature concerning the dose of methadone given late in pregnancy and the outcomes. Although there appears to be a general association between the amount of methadone and the severity of withdrawal, it is not a predictable phenomenon.

In the era of HIV/AIDS, one has to look at methadone in a different fashion, since the benefits far outweigh the risks of methadone treatment during pregnancy. Although around 60 to 70 percent of the infants in these studies show withdrawal, the effects of withdrawal do not appear to be significant. In fact, the children seem to be doing well. If methadone treatment is accompanied with comprehensive prenatal care, the result

tends to be healthy children, along with healthy recovering mothers.

The science indicates that fetal growth, birth weight, and head circumference can be optimized with higher doses in the first trimester. It also indicates that a lesser amount of abstinence can be achieved through a lower dose during the third trimester. These findings support the tapering of the dosage throughout pregnancy. Of course the mother should not resume to using street drugs during the methadone treatment. Hence, this type of tapering treatment seems applicable mainly to well-motivated women who will abide by the regimen.

Perhaps Dr. Kandall was mistaken in referring to the first trimester, since fetal growth occurs mainly in the last two trimesters. His studies show that it appears advantageous to the fetus for the mother to remain on methadone for a long time during pregnancy. Dr. Mary Jeanne Kreek also has shown that it may be helpful to increase the dose of methadone during the third trimester. Consequently, it is difficult to know what is the best treatment.

All of those caveats are well taken and should be conveyed to practitioners, but treatment through tapering dosages should be one therapeutic option for well-motivated women who want to be taken off the medication. To clarify this point, in 1976 the only relationship found was with the first trimester dosage. This finding coincides with research showing that the impact of heroin and methadone resides with cell number, which is determined in the first trimester.

While methadone is a cornerstone of drug treatment, one should not deny women who want the option of getting off of it. Tapering women off methadone during pregnancy is not an overall recommendation, but it should be a feasible option.

How does the placement of children in many forms of foster care impact on the evaluation of their outcome in relation to their prenatal exposure? Clinical data show that multiple experiences of loss do not benefit the children. However, little research actually documents the effects of multiple placements on children. Multiple placements likely exacerbate problems for high-risk children who already have a low threshold for frequent transitions.

The media's contention that drug-exposed children are difficult to care for has limited the number of foster parents willing to provide that care. Also, there appear to be few programs to train caregivers of drug-exposed children. Some studies have been conducted on the injurious effects of multiple placements on children.

Comment: To summarize, the research available on the outcomes of substance abuse on children is not conclusive, but ongoing projects funded by NIDA and other agencies are looking at these issues with appropriate methodologies. In addition, the Perinatal 20 research demonstration projects are providing followup on children to examine the impact of comprehensive care with specific interventions for the children. Lastly, several Government agencies—including NIDA; the Administration on Children, Youth and Families; CSAT; and the National Institute on Child Health and Human Development—are working together to examine all the variables during pregnancy and up to about age 6. We may not have all the answers, but hopefully treatment professionals will appreciate the importance of incorporating a treatment component for the children, as well as the mothers. These children are our future generation, and if we help them, hopefully they will not have to address these same problems.

RS12. Genetics and Drug Abuse

Moderator: Roy Pickens, Ph.D.
Speakers: Michele LaBuda, Ph.D.
Kathleen Merikangas, Ph.D.
George Uhl, Ph.D.
July 16, 8:30 a.m.-10:00 a.m.

Speaker: Michele LaBuda, Ph.D.

The following results come from studies aimed at discovering whether drug abuse clusters within families and, if so, whether this commonality is due to genetic factors. If genetic factors do influence the risk for drug abuse, it would be expected that family members of drug abusers would demonstrate an increased risk and be affected more often by drug abuse. Two recent large-scale studies looked at families of individuals abusing opioids, cocaine, and sedatives. These studies have not yet been published, but some results are available. Although few studies of this sort have been conducted, similar research has occurred with alcohol abusers and their families.

The two studies involved drug abusers and their immediate family members. In the first study, cited by Marin, the rate of drug abuse among relatives of drug abusers ranged from 4 to 13 percent. A control group was not established. However, in comparison to general population estimates of drug abuse, it appears that an increased risk for illicit drug abuse does exist within such families. In the family study published by Bruce Rounsaville, Kathleen Merikangas, and their colleagues, results indicated a six-fold increase in the rate of drug abuse among primary family members of opioid abusers as compared to families in a control group. While these studies point to a clustering of cases of drug abuse within families, they do not provide clues as to whether the commonality is due to genetic or environmental factors or both. For instance, the large increase of drug abuse risk in the second study could be due to methodological factors, such as the populations targeted or the type of diagnostic study used.

Traditionally in the study of behavioral disorders, researchers have used two methods to determine genetic and/or environmental influences on behavior: twin and adoption studies. In the substance abuse field, only three significant twin studies and one adoption study have been conducted. Two of the three twin studies are, as indicated earlier, so recent that their results have not been published yet. In twin studies, researchers contrast identical twins (with the same genetic makeup) and fraternal twins (who share about one-half of the same genes). If a greater resemblance is found among identical twins, the resemblance can be attributed to greater genetic similarities. It is hoped that converging evidence will be found across methods to give researchers confidence in making a conclusion about the role of genetic factors in drug abuse.

Roy Pickens' twin study of alcohol abuse, conducted in Minnesota, also provided data on drug abuse. In cases where the first twin was a drug abuser (of sedatives, stimulants, analgesics, hallucinogens, or cannabis), researchers looked for a specific concordance rate for use of the same drug in the other twin. In each instance, identical twins resembled each other more closely than did fraternal twins. The other two twin studies had similar results. Goldberg et al. found significant differences between identical and fraternal twins, indicating that genetic factors were involved. Grove et al. looked at identical twins who were separated at birth and thus shared genes but not the same environmental factors. In assessing the twins for drug abuse 30 or 40 years after separation, the researchers found a concordance rate of about 40 percent (i.e., if the first twin abused drugs, then 40 percent of the time the second twin did as well). These data imply that the risk for drug abuse among individuals sharing genes is 40 percent higher than among the general population; thus, genetic factors appear important in the onset of drug abuse. Another small twin study on prescription drug usage also found some twin resemblance regarding use.

The only relevant adoption study, conducted by Cataray et al. in Iowa, provides some information on the rates of substance abuse among the biological and adoptive relatives of drug abusers. An increased risk of drug abuse is expected (1) among biological relatives if genetic factors are important and (2) among adoptive family members if environmental factors are important. Although drug abuse was not specifically assessed in biological and adoptive parents, data on risk of alcoholism indicated that a genetic transmission of vulnerability to substance abuse can occur.

These same research methods also provide information about nongenetic familial or environmental factors involved in substance abuse. First, in the twin studies, identical twin concordance is much less than unity, so it seems obvious that many other factors besides genetics are involved in drug abuse. Second, twins who grew up together are more alike than those who were separated at birth, a result that is consistent with the belief that common environmental factors contribute to drug abuse within families. Sibling/adoptive studies also provide evidence that intrafamilial environmental factors are related to substance abuse. Two sibling studies of opioid addicts and cocaine addicts looked at influences besides the presence of an affected sibling, such as peer influence and experimentation with drugs. Also, the adoption study found evidence concerning the influencing effect on substance abuse of disruption within the adoptive family environment, such as death or divorce.

The Addiction Research Center is planning a study on identical twins who are discordant for drug use or for drug of choice. This is an example of how the methodology of a family

genetic study can look at both genetics and environment. Similarly, there are other methods beyond family, twin, and adoption studies for examining the genetic basis of behaviors such as drug abuse. For instance, segregation analysis looks at patterns of transmission within a family and tries to assess the likelihood of alternative modes of genetic transmission (i.e., whether a single gene has a large effect or whether many genes create an additive effect). This method has not yet been applied to families of drug abusers, but at least two such studies have been conducted with alcoholics. Second, linkage analysis and association studies are ways to pinpoint areas on chromosomes that may be related to individuals' vulnerability to substance abuse.

Lastly, genetic factors operate at many levels; there are many ways to see differences between individuals with regard to drug abuse. The differences may be caused by genetic factors, environmental factors, or both. Likely focuses of studies on this issue include exposure to drugs, initial use, the transition from initial to regular use or addiction, and the effects on metabolism. It is very important to consider exactly what a study design will show. Genetics influences certain types of personalities that might predispose some individuals to use drugs. This finding may demonstrate a genetic basis for drug abuse but does not necessarily imply that one gene directly causes drug abuse.

Although fewer family genetic research studies have been conducted on drug abuse than on alcoholism, converging evidence from twin and adoption studies suggests that a genetic basis for illicit drug abuse does exist. Researchers must keep in mind designs that focus on the impact of genetic influence at different levels and that measure people's genetic relatedness and environmental factors, such as family conflict.

Speaker: George Uhl, Ph.D.

There are possible predispositions to using addictive substances. Researchers are trying to determine which paradigms might be used in upcoming decades to identify individual genes that could contribute to genetic vulnerability to drug abuse. In one paradigm, looking at chromosome number 21 for the kinds of disorders that fit segregation analysis in family patterns exhibiting Mendelian inheritance, one can determine the location of the gene for familial ALS (amyotrophic lateral sclerosis). Individuals inheriting one particular allele on the chromosome will get this neurodegenerative disorder. The transmission of substance abuse does not fit this kind of classic paradigm. Most disorders that affect people, in fact, are contributed to by many different genes, rather than a single one, as well as by environmental factors. Such a model better fits the possible factors involved in substance abuse. A chromosome piece has different genetic markers that reveal the function of a particular spot on the chromosome. Because chromosomes break and recombine infrequently in a particular family, several DNA markers are transmitted in families along with, of course, their function. When a number of genes may contribute to a behavior or vulnerability, research becomes more difficult. It is important to find different approaches to use the increasing density of genetic markers at chromosome loci. These kinds of studies will become an increasing part of substance abuse literature.

In finding the location for familial ALS on the chromosome, researchers used a linkage study of how one of the markers cosegregated with the disease phenotype. Thus, in an individual family, these markers were moving from father to son with the disease phenotype. These classical approaches become more difficult as more genes and environmental factors are involved. Modeling studies by Eliot Gershon suggest the need to find a linkage in cases of increasing heterogeneity, number of genes involved in the disorder, and environmental influence—all of which are larger for linkage studies than for allelic association studies. Instead of looking at affected pedigrees only, allelic association studies compare the frequencies of a specific gene in related individuals who have the disorder with frequencies in the control populations. Association studies are better able to detect heterogeneity or the influence of more than one gene. For instance, an association approach was used to examine the dopamine D2 receptor's involvement in substance abuse, not just among families with multigenerations but also among populations of drug abusers compared with populations of individuals who do not abuse addictive substances.

These studies are challenging because of the complicated patterns of inheritance. From a geneticist's point of view, the environmental impact of drug abuse is manifested as a

reduction in penetrance. Even individuals with all the predisposing genes do not necessarily abuse drugs or become addicted. However, the ability to identify vulnerabilities, if not causalities, facilitates the development of interventions to stop drug problems from occurring. It is likely that substance abuse is caused by multiple independent genes that interact with environmental influences. Each gene identified is unlikely to have strong predictive powers itself for substance abuse. It is unlikely that the certainty that exists in other genetic studies can exist on the individual level. But on a population basis, and as more genes are identified, panels of vulnerability-inducing genes can be identified and targeted and help guide interventions in groups of individuals.

In presenting an example of this approach, it must be cautioned that the data are controversial but likely to represent the kind of paradigm increasingly used in the field. These studies are made possible because of the development of polymorphic markers—in this case on each side of the dopamine D2 receptor gene. The markers provided, in an association study context, the ability to ask whether specific genotypes at this locus were identified with substance-abusing populations in greater frequency than in control populations. It is not surprising that in looking for genes with small effect and with much environmental noise, not all studies would agree. An examination of 300 to 400 polysubstance abusers showed fairly consistently across studies that there is a higher frequency of specific gene markers at the dopamine D2 receptor locus in substance abusers than in control individuals. These results have statistical significance. Furthermore, when combining the number of different studies looking at alcoholism and substance abuse or just those examining substance abusers, highly statistically significant differences occur between abusers and control groups. There is a significant, although not very large or predictive, enhanced vulnerability.

Results from these studies are tempered by technical considerations about how markers are linked to a possible disease-causing allele. The data are still controversial. The modest effect size and large amount of environmental noise raise skepticism. But the bulk of data indicates that this gene may contribute modestly to substance abuse vulnerability. It is likely that a number of different genes with modest effects are producing an additive effect. This does not mean clinicians can predict an individual's substance abuse vulnerability based on this gene, nor can reliable tests for insurance risks be conducted. As increasing numbers of genes that contribute to vulnerabilities are identified, researchers can better understand the genetic influence of vulnerability to drug abuse. Predictability in group vulnerabilities may become possible and facilitate the targeting of behavioral and pharmacological interventions at particular populations without necessarily stigmatizing individuals.

Speaker: Kathleen Merikangas, Ph.D.

In trying to determine the genetic factors that clearly appear to exist in the transmission of alcoholism, it is helpful to look at patterns of transmission in families. A sample pedigree helps illustrate common patterns. As an example, as part of a family study, an alcoholic individual was identified and his relatives, including spouse, former spouse, children, parents, siblings, and in-laws, were identified and systematically examined. Interviews with relatives were conducted independently to avoid the bias that might turn up with the knowledge that alcoholism appeared in the family. Interviews also were conducted with families in which alcoholism was not a problem. In this example, as with many other cases, the alcoholic's spouse had depression. The majority of female spouses of alcoholics were found to have depression or anxiety disorders. Also, since a history of divorce typically exists among alcoholics, the researcher interviewed the alcoholic's former spouse and children. (Often former spouses will not talk to researchers.) It turned out that the former spouse's father had a history of alcoholism, another common occurrence. Women married to alcoholics may have a history of alcoholism in their own families. The researcher also found that the current spouse's mother had an anxiety disorder, while her father showed no major conditions. The alcoholic's mother suffered from manic depression, and his sister was alcoholic. The man's oldest son had abused drugs, and his oldest daughter had bipolar depression. In examining these circumstances, it is unclear whether the son's drug abuse was a manifestation of the same underlying factors as those affecting his father. The generation growing up in the 1960s was much more exposed to drugs, whereas the father's generation was more exposed to alcohol. Thus,

there was not an equivalent level of exposure to drugs in the family, and genetic transmission became hard to judge. Researchers are better able to test alcohol transmission, which has common exposure across the generations.

These kinds of disorders are very common in the general population. For instance, one out of every six males has a history of alcohol abuse, about 20 percent of the population has met the criteria for one or more anxiety disorders in their lifetimes, and about 12 percent of the general population has suffered from depression. Thus, it is difficult to determine whether the existence of such disorders in one family is to be expected based on general population prevalence or whether the disorders are due to underlying factors in the family. Researchers must check patterns in the community of comorbidity within individuals and families before drawing conclusions about what disorders may run in families. Other studies have focused on the specificity of choice of drugs, particularly cocaine, opioids, alcohol, and marijuana. Index cases with these conditions have been selected and the children in these cases are being examined for any specificity in their choice of drugs to help determine what is transmitted in families.

In these kinds of families, which are not atypical, researchers disagree about who should be counted as an affected individual in genetic analysis (e.g., alcoholics and manic depressives). The pedigree could involve transmission of manic depression, which then may lead to alcohol use rather than alcohol use primarily. Researchers must solve these kinds of problems even before studying the patterns of transmission.

Tables from the Epidemiologic Catchment Area (ECA) study show the comorbidity of alcoholism and other psychiatric disorders in the ECA and the comorbidity of drug abuse and other psychiatric disorders. In a survey of 30,000 individuals in the general population at five major sites (from a book by Dr. Lee Robins and Darryl Regier), individuals who met criteria for alcoholism were examined for other disorders. The prevalence ratio was about 20 percent of alcoholics with a secondary condition compared to nonalcoholics who had the condition. Thus, alcoholism is strongly associated with an antisocial personality. Mania, a key feature of bipolar depression, showed a high association with alcoholism among the general population. Drug abuse and dependence also are highly associated. Around 80 to 90 percent of cocaine abusers also meet the criteria for alcoholism. Alcohol brings down the high induced by cocaine, a state similar to mania. In addition, there is a strong association with schizophrenia. Finally, the study also found an increased association between alcoholism and panic disorders, but not major depression, counter to expectations. The same kinds of patterns of associated disorders emerge with drug abuse.

In family studies, researchers select families with substance abuse and, by investigating them, determine which disorders run in the families and in what combinations. Researchers must use these data to untangle the mechanisms for associations as well as to look at the disorders that children express even before exposure to alcohol or drugs to conclude whether a self-medication model exists. If it is shown that these are premorbid conditions—that children use alcohol to minimize the symptoms—then intervention to prevent drug and alcohol abuse should occur.

It has been found that anxiety disorders and affective disorders in adulthood are associated with both alcoholism and drug abuse. Specific to drug abuse, however, are childhood anxiety disorders, except for social phobia. These disorders are increased in the offspring of people who abuse drugs. Conduct disorder and attention deficit disorder also are increased in the children of substance abusers. In addition to these specific associations, children of substance abusers have more severe expressions of these disorders. Researchers now are following these children to find out which children prefer alcohol and which prefer drugs. Then, interventions can be planned to address the problem and to look at patterns to examine how genes are involved in transmission.

Questions, Answers, and Comments

Comment: It was noted that DSM-III (*Diagnostic and Statistical Manual,* third edition) or DSM-III-R (*Diagnostic and Statistical Manual,* revised third edition) criteria are used for the most part in family, twin, and adoption studies to diagnose drug abuse and/or dependence. One participant suggested the inclusion of alcohol in examining substance abuse in the family of the drug user since children might choose alcohol just to be different from their parents. It was

noted that the relationship of research on alcohol with research on other drug abuse is still an open issue. Most researchers want to separate the behaviors at this point. Both types of substances are reinforcing; thus, it might not be reasonable to distinguish between them. But for now it is preferable to look just at other drug use and not alcohol use in families.

Comment: Even though many reward-reinforcement circuit similarities exist between alcohol and drugs, the genetic bases of alcoholism and drug abuse may differ. Several bits of data support this contention, including the family studies of Shirley Hill et al. and Marin. Although there may be some common genetic basis, they do not appear to be identical.

Comment: Alcohol dependence can be found intergenerationally among families of alcoholics. There is a distinct difference between dependence on and abuse of alcohol. There is an equal amount of alcohol abuse among children of alcoholics and children of nonalcoholics. However, children of alcoholics demonstrate an increased rate of dependence on alcohol. The dependence or craving seems to be transmitted.

TREATMENT

RS13. MATCHING PATIENTS AND TREATMENTS

Moderator: A. Thomas McLellan, Ph.D.
Speakers: Barbara Havassy, Ph.D.
Robert Hubbard, Ph.D.
Respondent: Linda Lewis, M.A.
July 15, 10:30 a.m.-12:00 p.m.

Speaker: A. Thomas McLellan, Ph.D.

The most difficult aspect of outcome research is probably matching patients to the appropriate treatments. In order to make an appropriate treatment match possible, there is (1) a need for more than one kind of treatment program in order to make comparisons between one treatment method to another and (2) a need for multidimensional patients that are noticeably different in their overall treatment outcomes. Although various programs offer patients different services, they should be relatively equal in their level of effectiveness. Treatment effectiveness often can be measured by the relationship between the initial patient characteristics sighted during the patient-to-treatment matching period and the point to which these characteristics have been addressed within the final treatment outcomes. The four basic methods of matching are (1) inpatient to outpatient (setting differentials); (2) matching of patients to different programs within a setting; (3) component matching within a program and within a setting; and (4) matching of patients to different therapists within a component, program, and setting.

The Addiction Severity Index (ASI) is a method of determining the problems patients are experiencing and to what degree they are suffering from these problems. The problems most often noted are medical, employment, alcohol, drug, legal, family, and psychiatric. Due to this wide array of problems, treatment programs must focus not only on drugs and alcohol but also on the other problems that surface during the initial patient evaluation.

Speaker: Barbara Havassy, Ph.D.

A matching study, encompassing six private treatment programs in the San Francisco, California area, reviewed the outcomes of numerous cocaine dependents that had attended either inpatient or outpatient programs. The first 3 weeks of all the programs were similar in that they were devoted to baseline assessment of the incoming patients' needs. The various treatments consisted of basic 12-Step systems. Medical detoxification units also were provided for those patients in need, whether inpatient or outpatient. The maximum stay of any patient enrolled in an inpatient treatment program was 28 days. However, people enrolled in outpatient programs were in treatment from between 6 to 26 weeks. In both kinds of treatment, drug use was detected through urinalysis. Of the 1,262 people studied, 550 were assigned and actually entered treatment; of these 550, 450 completed their baseline assessments. The qualifications necessary for completing the baseline assessments to enter the programs were the following: (1) the patient could not have been in any other kind of treatment 90 days prior to entering this program and (2) the patient had to possess two or more symptoms associated with the DSM-III-R (*Diagnostic and Statistical Manual*, revised third edition) criteria for cocaine dependence. Ninety-three percent of the participants met these two requirements. Another interesting statistic, which was not a program requirement, was that 63 percent of the participants were

employed full or part time. This information was obtained from a Cocaine Screening Questionnaire, a program-developed interview.

On qualifying for treatment, each patient participated in a Treatment Assignment Measure (TAM), a measuring tool/interview for determining the severity of an individual's cocaine use. Based on the results of these interviews, patients then were assigned to an appropriate treatment program. To determine each individual's severity of cocaine use, the TAM interviews focused and scored on the following primary areas of interest: employment status, legal status, family relationships, recovery environment, alcohol and other drug use history, and psychological status. The people that scored in the low range of the TAM interview (i.e., less severe problems) were assigned to outpatient programs. The people that scored in the middle range of the TAM interview were assigned to either outpatient or shorter term inpatient programs. The people that scored in the high range of the TAM interview (i.e., more severe problems) were assigned to inpatient programs. The interview results revealed that 342 people were able to be matched to a program and 108 were not. The reasons for not matching these 108 people were either financial, employment, or insurance problems. Of the 342 people that were matched, 68 percent were assigned to inpatient programs, and 32 percent were assigned to outpatient programs. Only 91 percent of the inpatient assignments were accepted; consequently, only 57 percent were matched to treatment programs successfully. The outpatient assignments gained a 42-percent acceptance rate, bringing their final match rate to 43 percent. The overall acceptance rates for inpatient assignments were higher than the outpatient assignments. This is due largely to the fact that many participants come to treatment with a preconceived notion about what type of treatment would best suit them. Despite the differential in the number of inpatient/outpatient assignments, there are a number of hybrid cases. These hybrid cases simply refer to patients that begin their treatments in either inpatient or outpatient care and consequently switch to the other before they are through. For an unknown reason, higher abstinence rates (25 percent) are detected among the outpatient participants.

Speaker: Robert Hubbard, Ph.D.

An epidemiological study of 120 programs nationwide currently is under way. Thus far, 92,000 clients from methadone maintenance, long-term residential, and short-term chemical dependency programs have been studied. The study consists of an initial 3-hour assessment interview, followed by four 90-minute interviews conducted at 1-, 3-, 6-, and 12- month intervals. These interviews are designed to determine the level of services being received by clients.

Within a large portion of this country's community-based programs, matching patients to treatment is based simply on the availability of services. After assessing client needs, programs should alter their individual constructs in order to address these needs instead of having clients change their approaches to entering programs. Accessibility is also a noteworthy problem. Treatment programs should be able to easily access their clients' past treatment histories, including what services they have received and/or programs in which they have participated. Once treatment workers have obtained all the needed information, they should make a decision about what type of treatment they deem appropriate for each individual client. After this decision has been made, treatment workers should stick to it wholeheartedly. Personal preferences, insurance factors, and the criminal justice system too often dictate the clients' treatment settings.

Careful screening and assessment practices must be broadened, and a universal language must be implemented to permit accessibility when trying to locate a client's treatment history records. Treatment programs need to learn how to better match their services not only at the initial assessment of a client but also throughout the individual's many "recovery phases." One way of working toward this goal is by training the clinical staff better so they are able to easily identify all the problems facing different clients. The four basic models that clinical staff can use when matching services to clients include the following: community services, recruitment services, counseling services, and special services. The ratings given to most programs after 3 months of attempting to provide the above-mentioned services are fairly low for both methadone maintenance and short-term inpatient programs and only a little bit higher for the long-term residential

programs. Due to this fact, it would seem that there is much room for improvement.

Questions, Answers, and Comments

Comment: Unfortunately, treatment has come to mean basically just counseling, while the other known aspects of treatment are seen simply as extras. The factors that usually lead to the matching of clients to treatment programs have been the clients' level of dysfunction and the severity of the clients' problems. The following question must be addressed: What length of stay is appropriate for what level of drug problem severity?

Were the modalities associated with length of stay considered during the various mentioned programs' attempts to improve their patient-to-treatment matching skills? Generally, at the beginning of a patient's stay, the length at which he/she may continue on is not taken into account because this factor depends on so many other different issues. As time goes on and the various needs of patients surface, individual lengths of stay can be determined accordingly. Length of stay is actually a secondary factor to address when the services offered during an individual's stay are not sufficient in dealing with the areas of need.

What can a small, community-based treatment program do in the area of implementing patient-to-treatment matching practices if indepth research studies are not within the budget? The three most simple and least costly methods of attaining this goal include the following: asking patients upon entering programs what their particular problems are; performing followup meetings with a sample of the patients to see if the patients feel they are receiving the necessary services to address their individual problems; and conducting outcome evaluations of patient-to-program success.

Is it the development of new modalities, new inpatient/outpatient methods of care continuum, or new services within any of these areas that stimulates the greatest level of care improvement within any given treatment program? The services within the modalities and the degree to which these services can and will be continued are what produce the most positive results.

Do racial or cultural differences have any effect on program outcomes in terms of individual patient success rates? The predictors to outcome generally have been the same for all of the programs for African-American, Caucasian, and Hispanic patients. However, some groups of people obviously need some special attention in order to be successful within their given programs (e.g., pregnant women, people who cannot speak English, etc.).

Are there any factors, motivational or other, that lead to longer lengths of stay on the part of the patients? It is hard to determine any particular factors—with the exception of a court order—that lead patients into staying in treatment longer.

RS14. Dual Diagnosis and Drug Abuse Treatment

Moderator: Bruce Rounsaville, M.D.
Speakers: David McDuff, M.D.
Richard Ries, M.D.
Respondent: Charles Thiessen, M.A.
July 16, 10:15 a.m.-11:45 a.m.

Speaker: Bruce Rounsaville, M.D.

Using data on cocaine and opiate abusers in New Haven, as well as treatment-seeking alcoholics in Hartford, one can dispel concerns that some people have about treating depression and anxiety disorders among drug abusers. Such concerns are common among substance abuse professionals when they are encouraged to try to treat depression or to consider pharmacological solutions for psychological problems. Medications are not solutions to psychological problems. However, the dual diagnosis/multiple disorder approach, which is consistent with the official diagnostic nomenclature of the World Health Organization and DSM-IV (*Diagnostic and Statistical Manual,* fourth edition), is useful in its consideration of substance abuse problems, depression, schizophrenia, and other disorders. This approach views these disorders as separate conditions that may interact with one another as well as with other health problems, such as pneumonia. The recognition of these separate but possibly interacting disorders is worthwhile and not necessarily contradictory. It is important that clinicians treat all of these issues together rather than, for instance, concentrating solely on substance abuse issues while ignoring a depression disorder that remains symptomatic and problematic.

Dozens of studies using modern diagnostic methods have indicated that dual diagnosis

is more the rule than the exception. Studies of groups of drug abusers in treatment found high rates of many disorders, particularly anxiety, depression, antisocial personality, and polysubstance abuse. Likewise, studies with mental patients show that substantial numbers, ranging from 20 to 60 percent, have current substance abuse disorders, including abuse of cocaine and marijuana. Community surveys show that if a person has any one disorder, such as substance abuse, he/she is more likely to have another disorder, such as an anxiety problem. Clinicians are trained as specialists, but data show that they must work as generalists. They cannot treat one disorder and assume that the others will simply go away with time.

When using DSM-III-R (*Diagnostic and Statistical Manual*, revised third edition) or other strict criteria to assess lifetime disorders among treatment-seeking opioid addicts, cocaine abusers, and alcoholics, one of the primary problems found is depression. About 1 in every 18 to 20 individuals in the general population will have had an episode of major depression at some time in their lives, with 2 to 3 percent having current depression. However, more than one-half of opioid addicts, 30 percent of cocaine abusers, and 38 percent of alcoholics will have had a major depression episode. About 10 to 20 percent of alcohol and drug abusers experience depression. Other disorders are more frequently found among drug abusers than the general population. While about 2.1 percent of the general population meets the criteria for antisocial personality (which is popularly perceived as associated with drug abusers), using restrictive criteria, 26 percent of opioid addicts, 15 to 20 percent of cocaine abusers, and 41 percent of alcoholics suffer from the disorder. In considering comorbid alcoholism, about 33 percent of opioid addicts and 60 percent of cocaine abusers meet the lifetime criteria for alcohol as well as opioid addiction or cocaine abuse. Conversely, 43 percent of alcoholics in detoxification or treatment meet the criteria for abusing other substances. Thus, it is imperative that clinicians be prepared for patients' multitude of problems.

Anxiety disorders also are common among alcohol and drug abusers, including simple phobias or schizophrenia. There typically is no significant difference in the frequency of schizophrenia or bipolar disorders between treatment-seeking drug abusers and the general population. People with full-blown manic depressive illnesses typically are not seen in a nondual diagnosis or nonspecialty treatment facility, since they will seek a more specialized program for treatment of their condition. Studies have found that these disorders are significant. For instance, the presence of depression and anxiety confer a poorer prognosis. Interviews with significant other informants indicate that the observed psychiatric problems are symptomatic of true disorders rather than just overreported attention-seeking behavior. Symptom patterns indicate that the depression among drug abusers and nondrug abusers is similar. Furthermore, the identification of depression can have prognostic significance, even though the depression associated with drug abusers tends to wax and wane and thus may not appear as classically severe. Also, the diagnosis of depression tends to run in the families of depressed drug abusers.

In considering treatments for comorbid anxiety and depression, systematic clinical trials have provided evidence that formal psychotherapy seems more effective with depressed cocaine and opioid abusers than with abusers who are not depressed. Nondepressed patients can receive regular counseling, whereas depressed patients seem to need more intense psychotherapy. The most common and effective pharmacological treatment for depression is antidepressants. Evidence shows that depression among heroin users can be treated effectively with antidepressants. However, little evidence is available on antidepressants' effects with cocaine abusers. Early studies on alcoholism showed that antidepressants did not seem to treat depression effectively. But in those studies, depression was not well defined and thus may have been alcohol induced. It later was found that alcohol interferes with the metabolism of tricyclic antidepressants, so patients probably were receiving too low a dose of the antidepressant(s). There is some evidence that anxious alcoholics respond well to buspirone, a nonaddictive antianxiety agent.

There are many challenges in diagnosing comorbid disorders in drug users. For instance, most treatable disorders can be mimicked by drug withdrawal states during intoxication and from chronic use of drugs. There are several approaches to determining which disorders will go away with or without specific treatment (in the process of detoxifi-

cation) and which disorders require targeted treatment. First, clinicians may be conservative and not address a possible psychiatric condition until it has been present a lengthy time (i.e., 6 weeks) during which the patient is drug free. However, clinicians should wait only about 2 weeks to avoid the risk of missing clinically relevant syndromes. Further, inpatient stays are becoming shorter at programs, so even if the strategy involves waiting 14 days before making a diagnosis and providing treatment, the patient may have left the program already. Outpatient treatment then is difficult because few patients can remain drug free for 6 weeks. Thus, it appears more effective to use a shorter time window for deciding to treat comorbidity.

Second, clinicians could consider diagnosing comorbid disorders if the condition appears to have been present in the patient prior to drug abuse. However, it is difficult to determine whether the psychiatric condition existed first, since drug abuse likely started many years ago; many patients, in fact, hardly have any history of being drug free. Regardless of which condition occurred first, the comorbidity causes poorer prognosis and increased risk of relapse. Third, the symptoms can be treated regardless of their relation to substance abuse, but this approach rarely is used. Finally, clinicians can decide to address symptoms only if they occurred during periods of increased use or during periods of discontinuation of use.

Some arguments can be made against treating comorbid disorders. For instance, the reliability of diagnosing depression in drug abusers is slightly worse than diagnosing depression in nondrug abusers. However, there is only 10- to 15-percent less reliability, not a substantial difference. Some people also argue that diagnosed depression is substance induced. But many substance-induced depressions can be protractive. Also, with new pharmacotherapies, there is relatively low risk of overdosing and developing adverse drug interactions.

It is important to consider the time range within which depression should be diagnosed among people abusing various drugs. Individuals using alcohol and sedatives, which are very neurotoxic drugs, should be "detoxed" before clinicians consider the users' depression too seriously. Patients using heroin, which is not a depressant drug, should not have to be drug free before a diagnosis of depression can be made. With abusers of cocaine and stimulants, the use of antidepressants even early in treatment can be worthwhile.

To summarize, rates of such disorders as depression, anxiety, and antisocial personality are very high among treatment-seeking, drug-abusing populations. Clinicians cannot act simply as specialists and ignore these disorders. Methods are available for reliably diagnosing and treating the disorders, and patients usually respond to regular treatment.

Speaker: David McDuff, M.D.

The substance abuse system has been able to expand the capability of its inpatient and outpatient programs simply by adding 4 to 12 hours per week of psychiatric consultation with staff at all levels in treatment. In 1990 a group of addiction psychiatrists at the University of Maryland collected data systematically for 1 year from consultation work with three programs: (1) a publicly funded program with 60 beds in inner-city Baltimore, (2) a private program in the suburbs, and (3) a Veterans' Administration (VA) program. At the time, each offered 28-day rehabilitation. About 20 percent of admitted patients in the first two programs were seen by an addiction psychiatric consultant. The comparable VA numbers were lower because a psychiatrist already was on staff. Most patients were young men. Results indicated that about 20 to 25 percent of patients in inpatient or rehabilitation settings can benefit from active clinical consultation with an addictions psychiatrist, including followups. Furthermore, about 10 to 20 percent are likely to benefit from outpatient consultation. The most common diagnoses made were for mood and anxiety disorders. Data from the VA program were not consistent, because consultants saw only the most difficult cases.

During this time a NIDA-funded study that used structured clinical interviews (the Structured Clinical Interview for DSM-III-R and the Addiction Severity Index [ASI]) was introduced into the public program, so information was being derived from both clinicians and researchers with essentially the same findings. By this time, the public program was admitting psychotic patients from some of the State psychiatric facilities, thus creating useful information on the typical composite scores for public, private,

inpatient, and outpatient treatment programs.

In determining how to make the psychiatric diagnoses most relevant to patients' recovery work, several developmental models of recovery seem helpful. In particular, Terence Gorski's model of recovery has proven operationally to work well, and both treatment providers and patients liked the approach. (Stephanie Brown's model also is noteworthy.) The Gorski recovery process is broken down into stages with accompanying tasks which must be mastered at each stage. During the pretreatment stage, the patient either does not want to stop or cannot stop using drugs. It is important to identify the person's current stage of recovery, diagnose any psychiatric problems with respect to the stage of recovery, and then integrate recommendations into the recovery program. In stabilization, the task is for the individual to stop using drugs. Some patients cannot stop their drug use. If an individual can remain abstinent for 60 days or more outside a treatment program, then he/she should be considered able to stop using drugs. Staying abstinent is a different issue that requires that the individual develop a level of comfort with abstinence. This perspective, considering the stage of recovery, seems to make the task easier for patients.

In considering how psychiatric diagnoses contribute to clinical issues that block recovery, the concept of denial is used broadly, not simply as an unconscious psychological defense mechanism. Denial, as defined in a recent *Journal of the American Medical Association* article, consists of any thought patterns, behavioral sets, or interpretation of emotional states that are designed to reduce the person's awareness of his/her accountability for a problem. Denial is the most common barrier to recovery progress. The person will not or cannot stop his/her drug use. Often a barrier to stopping is clinical model mismatch. In the *Journal of Substance Abuse Treatment,* Brower and colleagues discussed various clinical models used in addiction treatment. Often staff use one model, while patients have a different point of view regarding the methods to be used. Consultants often must negotiate these differences to counter the mismatch that may have occurred. For instance, during the first 24 hours of consulting, the consultant usually addresses behavioral problems that impede recovery.

Marlatt and others have identified a number of common relapse triggers, which occur most often in the stage during which individuals are trying to become comfortable with remaining abstinent. The psychiatric diagnosis is extremely significant in this respect, because depression or anxiety disorders impede the feelings of comfort that are necessary to stay abstinent. Common relapse triggers include continued use of other mood-altering drugs, interpersonal conflict, and social pressures. Conditioned craving can trigger relapse; when an individual returns to a social setting in which conditioned cues are very prevalent, relapse can occur.

The proposed approach is to send addiction-trained psychiatrists into substance abuse treatment programs to try translating psychiatric practice into relevant recommendations within a recovery plan. This approach has received a positive reaction thus far from clinicians. As a derivative, an approach has been developed that includes brief psychotherapy during a rehabilitation program.

Speaker: Richard Ries, M.D.

There are various kinds of approaches to dual diagnosis when treating more severe and combined psychiatric and addiction disorders. In looking at chemical dependency and psychiatric spectrums ranging from low to high severity, one can develop a quadrant depicting interactions so that the world of dual diagnosis patients is divided into four squares. Such categorization can be important in planning treatment. For instance, high-severity psychiatric disorders are found mostly in the mental health treatment spectrum, whereas high-severity addiction disorders mostly are found in the chemical dependency treatment area. Most people probably fall in the range of high chemical dependency treatment needs and low to moderate psychiatric disorders, such as depression or personality disorders.

This presentation also concerns a program developed to treat people with psychiatric problems of high severity, such as schizophrenia, bipolar disorder, or recurrent depression with either low or high chemical dependency disorders. The Harborview program for the mentally ill, chemically affected (MICA) focuses on individuals with a definite mental illness and either low or

high addiction severities. The program treats about 330 chronically mentally ill outpatients; employs 3 psychiatrists and 15 case managers; and involves medical treatment, treatment of intoxication or withdrawal, psychological therapy, and social programs. The program has a higher density of African-Americans and Native Americans and a lower density of Asian-Americans and Latinos than exist in the Seattle population overall. Almost all program participants have been hospitalized, and most are diagnosed as schizophrenic or bipolar. The program involves phases of treatment somewhat similar to those of the Gorski recovery model. About 50 percent of patients are in the "pre-phase" and their mental illness and drug or alcohol use is still out of control. They are barely engaged in treatment, but case managers attempt to control damage, stabilize the persons, and motivate them for recovery. Interventions at this time include case management as well as managing patients' money to keep them from spending it on drugs. In Phase 1, the program offers group therapy and one-on-one psychotherapy. This stage involves a structured, integrated mental health and addiction treatment group focusing on denial and acceptance of illness and trying to engage patients in the treatment process. Most people in this phase have 0 to 3 months of sobriety and are engaged in some kind of psychiatric treatment. Many of them still are using drugs or alcohol. Only 7 percent of the patients are in Phase 2, having established sobriety and begun working actively on recovering. The program serves people who range from low to high severity, with a significant number on the higher end, as would be expected in such a program. If a chemical dependency unit suddenly is ordered by the State to become a dual disorder unit, which will happen increasingly in the future, it may be difficult to adjust to treating people with severe psychiatric disorders. Programs must be built, staffed, and funded to treat the patients they admit. About one-half of the Harborview MICA patients virtually are unable to take care of their daily needs and need help paying their rent, obtaining food, and performing other activities.

Another significant issue in addiction and mental health treatment is compliance with treatment. Many people who work in straight addiction treatment agencies say that only 50 percent of individuals who arrive for their first appointment return for their second appointment. Long-term patients often must be "chased down" to comply with their treatment. To what degree do the patients have the autonomy to return for treatment on their own? Do staff enable patients' dysfunctions by doing too much for them, or is such action necessary to ensure that the individuals receive proper treatment? It seems important to assist some individuals in such an enabling manner at least for some period of time. About 40 percent of the program's patients are compliant only about 40 percent of the time. In starting to treat patients with moderate or severe dual disorders, case management and compliance become more and more important. Otherwise, some patients simply will keep getting sick, continue going to the emergency room and hospital, and never stabilize.

There are compliant patients in the program as well. Surprisingly, although a large number of patients are using drugs everyday or every other day, about 100 of the mentally ill patients have been abstinent for more than 6 weeks, and about 40 have maintained sobriety for about 1 year. This information is case manager generated, with the use of one form to assess the patient's degree of substance use, degree of psychiatric symptoms, degree of compliance with treatment, and degree of dysfunction. Every 3 months the case managers take one afternoon to rate their entire caseloads. The ratings then are used to determine where patients fit in the various phases and what treatment needs exist.

Questions, Answers, and Comments

An emerging concern in dual disorder programs is whether clients are being harmed by treatment. Common errors include mistaking transient symptoms for primary psychiatric or substance abuse disorders and blaming clients for noncompliance and discharging them prematurely. What factors are most important for providers to be aware of to avoid such mistakes and reduce the risk for harm? Also, what questions should consumers and referents ask when shopping for dual disorder services? One qualifying factor for admission for severe mental health treatment, and thus for the Harborview program, is frequent admissions to hospitals. However, frequent admissions to hospitals do not necessarily indicate the presence of a primary mental disorder. Many people are admitted to the program who abuse drugs or

alcohol and have antisocial personality disorders; such persons usually have been diagnosed with something like atypical bipolar disorder. The program probably rediagnoses about 5 percent of its patients out of treatment around 3 months after admittance. It is difficult to "undiagnose" someone. Dealings need to be improved with the antisocial primary drug abuse patients who need more confrontation. One harm may be the enabling of ongoing antisocial behaviors among persons who should not be in psychiatric-based dual disorder treatment but instead should be managed more in a typical chemical dependency treatment environment.

Also, when providing consultation to residents of a homeless shelter, it became obvious that one cannot be as aggressive or confrontive with a mentally ill substance abuser as with a primary substance abuser. Harm can be done by being too aggressive in demands for abstinence in too short a time period. Furthermore, addiction-trained psychiatrists are very helpful additions to treatment programs and can reduce the risk of harm.

Drug abuse treatment should be tailored to individuals depending on the severity of their psychopathology. Patients with disorders such as depression, in which they are temporarily in a disabled state, can benefit from a specific diagnosis and treatment. There should be more than a one-time psychiatric consultation, however, to monitor their progress. People with schizophrenia or bipolar disorders, on the other hand, are more disabled and need a less confrontational approach. People with antisocial personality disorders need less of a specific diagnosis than an assessment of how their behaviors can change.

Relevant questions for consumers concern staffing patterns of the unit and the orientation of the patient population. For instance, for severe problems, staff should have high sophistication, particularly at the nursing staff level, in dealing with extreme behaviors. Also, consumers should ask providers about targeted symptoms, what changes should occur, and what side effects and dangers are likely.

Should one automatically assume that for someone with depression who is using cocaine, the major motivation for the cocaine use is self-medication? Although in some surveys it has been shown that individuals with depression are more likely than nondepressed individuals to try cocaine, this is not a common scenario. The effects of cocaine, in fact, mimic some of the symptoms of depression, such as paranoia. Even if some disorders are substance induced, it still may be worthwhile to treat them.

Many people who abuse cocaine and often mix it with alcohol are more likely to be misdiagnosed with bipolar disorder. Anybody who uses cocaine over time experiences psychotic symptoms. In a recent issue of *Psychiatric Clinics of North America*, an article on dual disorders summarizes circumstances in which patients might go to either serial treatment, parallel treatment, or integrative treatment.

Since psychiatric diagnosis is only one among several problems that a substance abuser may bring into treatment, why are clinicians singling it out to the extent that they are creating dual diagnostic units, implying that psychiatric diagnosis has special status? There are two good reasons to single out psychiatric diagnosis. First, data show that psychiatric condition is the best predictor of poor prognosis. Second, many of the disorders are treatable. In comparison to giving people housing, psychiatric treatment is fairly accessible to a large number of people. Severity of dependence does not predict treatment outcome very well. Sometimes psychiatric treatment is relatively easy and is fairly cost-effective. Often addiction treatment professionals are better at treating most personality disorders than most psychiatrists and mental health workers.

RS15. Relapse and Relapse Prevention: The Why and How of It

Moderator: Arthur MacNelli Horton, Jr., Ed.D.
Speakers: Sharon Hall, Ph.D.
G. Alan Marlatt, Ph.D.
Saul Shiffman, Ph.D.
Respondent: Valera Jackson, M.S.
July 15, 3:00 p.m.-4:30 p.m.

Speaker: G. Alan Marlatt, Ph.D.

A study of the cognitive behavioral model of relapse and relapse prevention found that similar relapse curves have been demonstrated for different addictive behaviors. A classic study by William Hunt and colleagues, for example, found that two-thirds of the sample violated an absolute abstinence requirement within the first 90 days after treatment. The similarity in the relapse

curves suggests that there may be something in common about relapse that runs across different kinds of behaviors, such as biological or personality commonalities. Psychological and behavioral commonalities also seem significant, since common triggers push people into relapse.

Within the field, different definitions of relapse are used in the context of various theoretical models. For instance, the "moral model" places responsibility on the client for being addicted and for making change; thus, relapse is viewed as immoral, weak behavior. The "disease model" stipulates that addiction is a disease, that addicted people cannot be held responsible for the development of the disorder, and that treatment is necessary to change addictive behavior. Most 12-Step programs adhere to the disease model. The "biopsychosocial habit model," or "compensatory model," does not blame addicted people but does maintain that they can take responsibility for changing their behavior, either on their own or through treatment. The "spiritual model" points out that relapse and the literature are out of touch with a higher power. One project, discussed below, adheres most strongly to the biopsychosocial habit model and examines the learning factors involved in changing drug behavior.

This cognitive behavior model examines the moment of relapse or a person's first use of drugs after treatment and how the person reacts to the lapse. If the individual copes effectively with the situation, then it is hopeful that as similar situations continue to occur, there will be an overall decreased possibility of relapse. But the individual may react negatively and feel a decreased sense of self-efficacy along with very positive expectations of drug use. Not everyone who lapses continues into complete relapse, however. Thus, it is critical that programs try to restrengthen clients' motivation and sense of efficacy. While proximal psychosocial factors are emphasized, it is important to note that many distal factors in the person's social and physical environment also may be critical.

In studies conducted in Seattle, Washington, different high-risk situations for relapse were found to be common across samples of alcoholics, smokers, and addicts. One study, using retrospective interviews, looked at whether relapse occurred when the person was alone or with other people. A significant interpersonal factor that often is found in these situations is a negative emotional state, such as anger, depression, or loneliness. Such conditions were found to be more significant at the time of relapse than were negative physical withdrawal rates. Interpersonal conflict and social pressure were the other two main triggers identified. Certain questionnaires, such as the Inventory of Drinking Situations, developed at the Addiction Research Foundation in Toronto, provide an indication of a person's vulnerability and needs for extra strengthening to prevent relapse. However, problems do exist with using retrospective accounts about relapse, such as when people give erroneous reasons for relapse.

Keeping in mind the stages associated with relapse, it is important to identify process-based intervention strategies (e.g., by identifying specific high-risk situations and determining the best ways to handle them, such as with coping strategies and information on long-term consequences). Some projects use a contingency contracting approach or the provision of reminder cards, detailing what a person should do in the event of relapse. If possible, interventions should be individualized as much as possible.

Relapse prevention has two main facets. First, programs can attempt the prevention of initial lapses through individual self-management training. However, current research does not reveal relapse prevention to be any more effective in maintaining abstinence than other programs. For example, a University of Washington study on alcoholics did not reveal more abstinence among alcoholics who had received relapse training. The alcoholics, however, showed less serious relapses and remained in aftercare treatment for a longer time. It is important to support people even if they have lapsed but not completely relapsed. Some treatment centers have relapse groups to provide social support. Second, it must be remembered that relapse is a process. It should not be considered necessarily as a negative outcome. Even if people lapse temporarily, they still may recover fully.

Speaker: Sharon Hall, Ph.D.

A line of research, entitled "Relapse to Abused Drugs," has received funding from NIDA to examine variables that predict relapse across different drugs of addiction. This research includes a three-drug study that examined variables which predict relapse in alcoholics, opioid addicts, and

cigarette smokers and a study that focused on the same variables in cocaine treatment patients. (A parallel study looking at relapse to needle use among stable methadone patients has been completed but data are not available.) In both studies, a battery of measures was used with patients still in treatment. Upon discharge they were tested weekly for up to 12 weeks. In the first study, they were followed until they returned to daily use. In the second study, cocaine patients were studied for as long as possible.

Variables examined in the study included demographic factors, treatment history, withdrawal symptoms, major life events, daily life events, drug use, and social support. Psychopathology also was studied among the cocaine abusers. Definitions were developed for slip and relapse. "Slip" referred to a single use of a problem drug after a period of nonuse; "relapse" was defined as a return to daily use for 4 consecutive days. Three variables showed up consistently in findings across the drugs. First, commitment to abstinence was an important factor in determining which patients would succeed. In these two studies, this variable was assessed with a measure, developed by Alan Marlatt, that asked patients to endorse one of six abstinence goals. The subjects that endorsed a goal of total abstinence were less likely to slip after treatment than any of the others. One implication of this finding is that the people who do best are those who endorse their programs' goals, especially complete abstinence. Another implication is that the endorsement of the goal of total abstinence actually could correlate with some other variable. Clinically, at least, this attitude is worth encouraging among clients.

The second variable is related to clients' levels of stress prior to relapse. Usually relapse data are collected retrospectively, after patients have resumed using drugs. In these studies, however, data were collected both before and after relapse. Across the drugs, using retrospective data, a high correlation was found between negative moods and relapse. Using prospective data (i.e., examining client moods from interviews 1 week before relapse), only a relationship between abstinence and positive moods was found. (This connection also was found with the retrospective data.) It could be that the stressors that lead to relapse are those that occur just prior to the lapse, and a week-to-week study may not detect that occurrence. Also, the relationship between stress and relapse could be illusory (i.e., after people relapse, they describe the conditions leading to the lapse differently than they actually were). The lapse itself could cause more stress, too. Based on this information, it appears that researchers should begin to focus more on the significance of positive moods and dispositional optimism in addition to stress-linked variables.

Third, social support (e.g., social integration, perceived support, and support for abstinence) was found consistently across the drugs to relate to relapse. The most consistent finding concerned social integration. High social integration predicted abstinence across all drug categories in the three-drug study. Those clients with the least social integration were most likely to relapse. In the study with cocaine abusers, social support predicted abstinence only among Caucasian individuals, so perhaps the measure's applicability needs to be expanded in some ways.

Speaker: Saul Shiffman, Ph.D.

Researchers at the University of Pittsburgh have been studying the critical situations, or crises, during which relapse often occurs. Retrospective data are not very reliable in assessing these situations, so other study designs are being developed. The University of Pittsburgh developed a computer for clients to carry with them and use to report episodes conducive to smoking relapse.

The relapse process has been found to be very similar across various types of addictions. It is likely to occur, for example, in several types of key situations. First, relapse often happens at parties, when individuals are not experiencing stress but are around other people using substances, especially alcohol. The use of one drug, such as alcohol, may promote cravings for another drug. Also, situations that arouse negative emotions are conducive to relapse. People often will cope with anger or depression by lapsing into drug use. Thus, programs should assess depression and history of depression in patients to indicate their vulnerability to such a condition in the future. In one study, more than one-half of the relapse situations were attributed to stress. The next leading variable included association with other drug users. Although clients in this sample used computers to document their relapse episodes, the data still were retrospective to a certain degree. However, since the patients

also were measuring stress on a daily basis, prospective data were obtained. It was found that individuals who relapsed to drug use, in this case tobacco, typically had reported a high level of stress the day before.

Once individuals have been drawn into the temptation of drug use, they still have opportunities to react positively through various coping strategies. The strategies can be as simple as leaving the room when in a difficult situation or remembering the negative effects of using drugs. Dramatic effects of coping also have been found. For instance, individuals who do anything to cope with a risky situation have 15-times greater odds of resisting relapse than those who do nothing. The combination of cognitive and behavioral coping has an even stronger effect. Thus, it is important that clients develop coping strategies, even very simple ones.

Questions, Answers, and Comments

Were any differences based on gender or color found concerning relapse probabilities and the influences of stressors? No gender differences were found in these studies. The only cultural difference found concerned the apparent effect of social support in Dr. Hall's study with cocaine abusers, which may be due to the measure's lack of sensitivity to social support structures in the African-American community.

Comment: The alcohol treatment literature does not support the idea that the longer the inpatient treatment phase, the lower the rate of relapse. It is difficult for many people to leave the sheltered environment of the treatment center for their communities, in which drug use often is very common. Thus, programs should try to integrate aftercare followup into the environment in which lapses are occurring.

Comment: More work needs to be done on measures sensitive to the Hispanic community (i.e., concerning social support). A good resource on this subject is Lasao Perezstable at the University of California's Department of Internal Medicine.

Comment: Relapse rates tend to be highest within the first 90 days after treatment. It may be helpful to consider relapse episodes as mistakes while the person learns new strategies for coping with stress.

Comment: People who lapse even during treatment should not automatically be terminated from treatment. They should be provided additional assistance or some other form of support. Inpatient treatment must be adjusted. It isolates patients into a drug-free, stress-free world, so they do not always learn how to cope with the stresses they encounter in the "real world."

Comment: Researchers should look more at the short-term/long-term course of the relapse process (e.g., initial motivation and social support). Many questions still require further study.

Comment: More studies are needed on such issues as whether people who can continue controlled drinking have less physical dependence than others or whether they just have different goals. Many people who enter programs that initially encourage controlled drinking, rather then complete abstinence as a goal, eventually do become abstinent. Thus, it may be easier to recruit people into programs that have similar initial goals.

Comment: Studies with young adults who are heavy drinkers have found a significant positive impact of exercise and relaxation training. Increasingly, exercise and general lifestyle approaches are becoming acceptable alternatives to drug treatment programs.

RS16. Drug Abuse-Associated Medical Problems and Their Impact on Daily Life

Moderator: William Grace, Ph.D.
Speakers: Allen Heinemann, Ph.D.
Jeffrey Kreutzer, Ph.D.
David Portee, M.D.
Respondent: Darleen Yuna, R.N., M.Ed., C.A.D.C.
July 15, 4:45 p.m.-6:15 p.m.

Speaker: David Portee, M.D.

Disabilities due to stroke are among the most common disabilities evaluated and treated by physiatrists (specialists in physical medicine and rehabilitation). In addition, one of the more difficult issues that physiatrists try to address is pain control. Little research has been conducted on cocaine-related strokes and their rehabilitation, but it is an important area of study.

"Stroke" is defined as the sudden onset of neurological deficits resulting from the interruption of the blood supply to the brain and the tissues served by the vessel involved. In the general population, two main categories of strokes exist: (1) ischemic, when the blood stops flowing to certain areas, and (2) hemor-

rhagic, when an actual bleed occurs somewhere within the brain tissue. Most strokes occur in the older population and are ischemic. Although hemorrhagic strokes initially are more lethal, after survival of the initial onslaught, the prognosis usually is more promising. Strokes in the younger population are uncommon: Only about 4 percent of strokes occur in individuals under age 45. In one 10-year study of young people who suffered strokes, usually hemorrhagic, the most common risk factor was cigarette smoking, followed by recreational drug abuse and hypertension.

Stroke syndromes of either the left or right hemispheres of the brain may involve cognitive dysfunction, bladder discontinence, difficulty with vision, and affective disorders. There are unique aspects of each hemisphere however. Individuals in which the stroke affects the right hemisphere suffer left-sided weakness, tend to be impulsive and disorganized, and demonstrate poor judgment and lack of insight. Individuals with left-sided strokes suffer right-sided weakness but are able to learn from their mistakes and observations and are more cautious. Also, they are more prone to post-stroke depression.

Cocaine can cause a number of neurological problems, such as seizures, headaches, and transient loss of sensation and other functions. The cause of stroke is not clear among cocaine abusers but does not appear to result from a direct insult on the blood vessel wall by the cocaine itself. Cocaine causes vasoconstriction of blood vessels; increased platelet aggregation; cardiac emboli (blood clots); and aneurysm rupture, which tends to be in the middle cerebral artery distribution and in the frontal lobe, so that strokes resulting from cocaine use frequently involve the left and right hemispheres more than other parts of the neural axis and occur within 6 to 72 hours of onset of the last use of cocaine.

The type of stroke suffered depends on the type of cocaine used. For instance, crack-cocaine leads to hemorrhagic strokes as often as ischemic ones. Intranasal abusers tend to have hemorrhagic strokes twice as often as they have ischemic strokes, whereas intravenous users almost exclusively have hemorrhagic strokes. After the stroke, the patient usually undergoes three phases of abstinence while in treatment. Lasting from 9 hours to 4 days, the first stage is characterized by agitation, depression, and high cocaine craving. During this time, a rehabilitation unit determines whether the patient is a candidate for admission. The evaluators must understand, however, that this is a temporary phase and should not interfere with the rehabilitation process. The second phase lasts about 10 weeks and is characterized by anxiety and high cocaine craving. This period generally coincides with the rehabilitation stay and first part of the outpatient program. The rehabilitation unit should understand that these patients may have more problems depending on which hemisphere was affected. A diagnosis should be made early (i.e., to treat depression) if evident. Medications could include tricyclic antidepressants. Monoamine oxidase inhibitors probably should be avoided due to their association with hypertension. If the stroke affected the right hemisphere, the patient likely would exhibit impulse control problems, poor judgment, and an inability to learn from mistakes and, therefore, could be a behavioral problem in the rehabilitation unit. Lasting an indefinite length of time, the third stage is characterized by further depression and poor judgment.

Cocaine abusers may suffer two major types of pain, nonmalignant and malignant. Nonmalignant pain includes mechanical back pain, muscular pain, and similar ailments and can be treated with medications other than opioids (such as aspirin) or with physical therapy. Any strong medications, even mild narcotics, should be administered with caution and for only brief periods of time to a substance abuser actively abusing drugs. Sufferers from malignant pain, such as that due to cancer, should be referred to a pain control program for cohesive pain management. Program patients include drug-free patients, those on methadone, and active abusers. The first two types of patients should be treated like patients with no history of drug abuse.

The World Health Organization has an analgesic approach to pain control, starting with a nonopioid, escalating to mild to moderate opioids, and then, if necessary, moving to moderate to strong opioids. Clinicians often worry that the administration of a medication such as codeine to a nonaddicted individual will cause addiction, but this happens only rarely. However, in the substance-abusing patient, there is more of a risk of relapse after the administration of

pain medication. If such a patient is monitored carefully, however, the dosage of opioids can be escalated as necessary with few side effects until the pain is controlled. Stress could cause relapse, as could aberrant drug abuse. An active abuser with malignant pain presents a problem, and it is critical that his/her drug abuse behavior be addressed.

Speaker: Jeffrey Kreutzer, Ph.D.

Most traumatic brain injuries occur to individuals between the ages of 26 and 32. About 80 percent of these individuals are male, and most of the accidents are alcohol related. It is unclear how often cocaine and other drugs also are involved. A 1982 University of Virginia study showed that about 25 percent of people admitted with traumatic brain injuries have two times or more the legal limit for intoxication. One study conducted about 2 years ago demonstrated that 66 percent of clients in vocational rehabilitation services at the Medical College of Virginia indicated that they were heavy alcohol abusers prior to their injury.

The Level 1 Trauma Center in Richmond, Virginia, can serve patients from the first 3 weeks after admission with intensive care treatment, a neurosurgical unit, and rehabilitation. Most patients are discharged 1 to 3 months after injury and face long-term problems, such as depression and unemployment. Consequently, most drug problems occur after people are discharged from the rehabilitation program. Although many people with traumatic brain injury abuse drugs before and after the injury, it is important to recognize that the abuse may result from their sometimes severe depression, aggression, and intense frustration. Aggression sometimes exists preinjury, but aggression often is directly linked to the injury. Individuals with traumatic head injuries also face family problems, intellectual problems, and self-awareness problems. For instance, a frontal lobe injury could make someone unaware even of his/her substance abuse problem. Substance abuse is only 1 of about 20 to 30 problems that those in the traumatic brain injury field must address.

Substance abuse workers sometimes work with abusers in denial. Similarly, with brain injury patients, it is important to convince them to stop drinking, since they perceive drinking as one of the few pleasures left to them. However, alcohol use could exacerbate their current problems and lead to additional ones. For instance, many clients take medications for seizures, depression, and anxiety; these types of medications often cause the users to become very slow, and alcohol and drug use make them slower. Unfortunately, some methods used by rehabilitation workers to help individuals become more independent actually place them at greater risk for substance abuse. For instance, a patient who is helped to live independently might fall back into alcohol abuse more easily while living alone than while living with someone in a support network. Thus, ongoing assessment is very important. Although some people criticize self-report questionnaires, they can be helpful, along with interviews, in monitoring clients. It is important to monitor social, vocational, and academic behavior. People with substance abuse problems have six times the rate of absenteeism from work, and absenteeism is a behavior that can facilitate the identification of rehabilitation clients with substance abuse problems.

Based on information from a data base on 1,000 patients with brain injuries occurring over the last 7 years, the only factor found to predict people at risk for head injury is preinjury alcohol and drug abuse. Some theories contend that drinking or drug use tends to begin after injury, but most patients were abusing substances before injury. Clients in substance abuse educational programs often become defensive and feel that warnings about alcohol and drugs are impertinent to their rehabilitation program. Such individuals are at great risk for substance abuse. People whose social events or families revolve around alcohol also are at great risk, even if they say they do not drink.

Because many commonalities exist between research on substance abuse and brain injury and their treatment, substance abuse workers should work in rehabilitation programs, and rehabilitation workers should work more closely with those in the substance abuse field when discharging patients. For instance, rehabilitation experts should be able to refer at-risk clients to accessible substance abuse centers. Also, since many people with brain injuries experience memory problems, more written materials should be available to them for reference. Furthermore, individuals with brain injury may suffer from comprehension problems; therefore, these patients should be asked to paraphrase information they are given to ensure they understand it. Although these

individuals need long-term followup and support, funding is inadequate since it is mostly budgeted for inpatient services. Followup is the weakest area in medical rehabilitation and perhaps in substance abuse rehabilitation. Finally, although confrontation may work with persons with substance abuse problems, it does not work with brain injury patients.

The medical community is just starting to understand the relationship between brain injury and substance abuse problems. Substance abuse is a common problem in rehabilitation for people with medical problems. Now is a critical time for further research into this area.

Speaker: Allen Heinemann, Ph.D.

The prevalence of alcohol-related problems in persons who suffer traumatic spinal cord injury (SCI) and permanent physical disabilities is a compelling issue in physical medicine and rehabilitation. Alcohol abuse often contributes to the onset of disabilities and then undermines rehabilitation outcomes.

The prevalence of intoxication at SCI onset has been the subject of many studies. O'Donnell reported a two-third rate of use at SCI onset, with about the same percent resuming drinking during rehabilitation hospitalization. Other studies show a range varying from 17 to 50 percent. It appears that impaired judgment due to alcohol use leads to increased risk-taking behavior, which in turn leads to injuries. The prevalence of alcohol use following initial care for traumatic disability has been reported in several recent studies. One study by Johnson in Wisconsin found twice the rate of heavy drinking in people with SCI undergoing vocational rehabilitation compared to the general population. Another study examined the prevalence of intoxication at SCI onset in 88 cases at admission to an SCI center. Forty-seven of these patients participated in an ongoing study of drug use. Eighty-five percent of this sample was male, and the age range was 14 to 60 years. The majority of participants were Caucasian. The most frequent cause of injury was road and traffic crashes. Findings also indicated that greater than 50 mg. per deciliter of seromethanol was the most frequent substance in 40 percent of the cases, followed by cocaine (14 percent), cannabinoids (8 percent), benzodiazepines (5 percent), and opiates (4 percent). In 35 percent of the sample, evidence of substances with abuse potential was detected. Sixty-two percent had either seromethanol greater than 50 mg. per deciliter or a urine analysis positive for illicit drugs. However, when asked directly, only 42 percent reported being intoxicated.

In examining the substance abuse histories of 103 people with recent SCI injuries, it was found that, generally, lifetime exposure to and recent use of substances with abuse potential was greater among this sample than in a similar sample of the general population using the National Household Survey on Drug Abuse (NHSDA). The SCI sample of 18- to 25-year-olds had significantly greater exposure to amphetamines, marijuana, cocaine, and hallucinogens. The SCI group of individuals over age 26 reported greater exposure to narcotics, analgesics, and tranquilizers than did the national sample. Reports of recent substance use in the last 6 months was significantly greater than the NHSDA sample for alcohol, amphetamines, marijuana, cocaine, and hallucinogens for 18- to 25-year-olds and for tobacco, alcohol, amphetamines, and marijuana for the older group.

Results suggest that intoxication at the onset of SCI is a marker for preinjury substance use. Thus, it is important to screen for substance abuse in people who incur such an injury. While substance use does not necessarily constitute abuse or result in injuries, it is important to understand the context and motives for use.

Researchers also looked at substance use over time and at activity patterns during inpatient rehabilitation. Patients were asked to describe their activities using the Activity Patterns Indicator. The frequency and quantity of alcohol use was recorded separately for weekdays and weekends. A family history of alcoholism was reported by 29 percent of participating patients. Persons who reported drinking more often and whose drinking resulted in problems before their injury were more likely to have been drinking when the injury occurred. As expected, family histories of drinking problems were related to many of the reported drinking problems. It also was found that persons who drank before the injury and reported more family drinking problems also reported more drinking problems for themselves. Also, those with more problems spent less time in productive activities, such as rehabilitation therapies. This finding is disturb-

ing, since rehabilitation activities are important in helping make the transition out of the hospital successful.

Substance use is a concern even for young, able-bodied persons, with peak use occurring at times of critical social and vocational commitments and often having lifelong effects. For SCI persons, who already face many barriers, alcohol and drugs can provide an immediate and appealing means of gratification. To try to determine changes in drinking patterns before and after injury, a followup study was conducted of the data reported previously. Over the last 5 years, almost 150 people were assessed on 5 occasions, from immediately after injury to 30 months after injury. Light, moderate, and heavy drinkers—along with abstainers—were included in the sample. From before injury to 18 months afterward, most abstainers remained abstinent, and only a few became light drinkers. About one-third of the heavy drinkers continued drinking heavily, whereas others became moderate drinkers or abstained from drinking. The pattern for light and moderate drinkers was intermediate. Thus, spinal injury does not lead to a cessation of alcohol or drug problems, but such injury causes some users to cut back. Following injury, few people begin to have drinking problems for the first time.

In examining psychological outcomes, one important aspect of well-being is a sense of being valued by and connected to other people, quantified as perceived social support. Eighteen months after injury, abstainers who had histories of having drinking problems reported low social support from friends, whereas drinkers at various levels perceived equivalent support from their families and varying support from friends. These results were unexpected. It is important to remember that perceptions of support are not the same as actual depth of social networks.

In addition, the study examined the relationship between changes in employment status, substance use, depression, and disability acceptance in 100 individuals. Twenty-one percent were employed at the same status an average of 13 years after injury, while 16 percent reported increased job status, 23 percent became employed, 18 percent became unemployed, and 22 percent remained unemployed. Employed individuals were less likely to use drugs. People who were using prescription drugs (i.e., for pain) were more depressed and less accepting of their disability. Although it is difficult to pinpoint the cause-and-effect relationship between substance abuse and employment, clinicians should explore the association, since vocational outcomes certainly could be effected by substance use.

A prevention program was developed that attempts to integrate alcohol and drug abuse concerns in injury prevention efforts for able-bodied adolescents. National model programs, such as Think First and Safe Kids, should incorporate these issues even more than the programs currently do. Also, rehabilitation staff should be trained on chemical dependence issues and referral sources. A packet of prevention materials has been developed that addresses spinal injury and brain injury—including challenges, risks, and resources—and includes articles from the literature. The packet can be ordered from the Rehabilitation Institute of Chicago (RIC) through Mary Schmidt, RIC's substance abuse prevention specialist.

Questions, Answers, and Comments

How do staff deal with the problems of patients with right-sided cerebral vascular accidents with impulsivity and oppositional behavior? Often neuropsychologists are brought in to do an evaluation and make recommendations, such as behavior modification. Each case is treated individually.

Do patients who want drug and alcohol treatment have difficulty with access? The cost of medical problems related to catastrophic illnesses contributes to difficulties in obtaining funding for more postacute issues. Many insurance companies will not pay for substance abuse treatment. The two greatest obstacles are finances and motivation. Although many programs are free, patients often do not utilize them. CSAP funds a center in Washington, D.C., that is an excellent resource for prevention materials and awareness issues (for information, call 202/737-2700).

Often drug abuse treatment centers do not get acute rehabilitation patients but are more likely to admit people who have been in automobile accidents or who have gunshot wounds. However, it seems like it could be helpful to have guideline questions for clients, such as whether they have ever been knocked unconscious. What are some of the questions that should be asked, and would they be helpful? Loss of consciousness, other major

trauma, and fractures are obvious areas to ask new clients questions about. It is usually obvious, even with a general question about medical background, if a person has suffered a stroke. A review of the literature on homicide and assault shows that at least 50 percent of those involved in such acts were drinking. One sees patterns such as the husband drinking and beating the wife or getting into fights. A clear link exists between drinking and all sorts of traumatic injuries. When an assault has occurred, clinicians should look for substance abuse problems and determine whether head injuries were incurred.

RS17. Medications in Drug Abuse Treatment

Moderator: Charles Grudzinskas, Ph.D.
Speakers: Anna Rose Childress, Ph.D.
Frank Vocci, Ph.D.
Respondent: Michael Hayes, M.D.
July 16, 8:30 a.m.-10:00 a.m.

Speaker: Charles Grudzinskas, Ph.D.

NIDA's Medications Development Division (MDD) focuses on the three main factors that trigger drug abuse-seeking behavior. The first is a set of modulating variables, such as the pharmacotherapeutic history of an individual as well as his/her genetic and behavioral makeup. The second focuses on the positive effects that will result from drug use (i.e., stimulation and relaxation). The third consists of cue effects that tempt and cause people to crave drugs. These three factors are the main components considered when attempts are made to produce new medications.

The concept of NIDA's MDD originated with Congressman Silvio Conte in 1988, and the Division was officially created in 1990. MDD's four primary goals are (1) identify new medications, (2) evaluate new medications, (3) develop new medications, and (4) achieve approval for new medications. The many groups involved in helping MDD to ensure the safety and effectiveness of new medications are the FDA, the academic community, the Drug Enforcement Administration, SAMHSA, and the Office of National Drug Control Policy. In order to fully ensure the clinical safety and effectiveness of a newly developed drug, it must first undergo an average of 3 years of clinical testing, which generally costs between $20 million and $30 million.

The identification and development of new medications stem from various sources, including natural products, plant extracts, ocean extracts, and synthetic chemistry. In addition to the identification and development of these various materials, the practice of improving existing medications also plays an important role in the field of medications development. Following long periods of animal safety testing, as well as other types of testing, new drugs are evaluated in human clinical trials. During these trials, answers to questions concerning what the drug does to the body and what the body does with the drug are sought. This is known as Phase 1 of medications development. Phase 2 consists of tests aimed at determining activity and the proper dose levels. Phase 3 is devoted to offering worldwide proof of the effectiveness of the medication, as well as the positive and negative consequences of its use. This final phase is directed toward generating sufficient data to gain approval from the FDA.

Nicotine and alcohol abuse are two areas for which NIDA's MDD does not try to develop treatments. This is due in large part to the fact that the pharmaceutical field has been assuming this role through the development of such products as the nicotine patch, and NIAAA has as its mission the research of alcoholism and alcohol abuse. Inhalants, analgesics, marijuana, and other similarly abused drugs also are not cited for medications treatment development. The majority of the focus throughout the past 2½ years has been the production of medications that would be useful in helping to treat opiate, crack-cocaine, and amphetamine abuse because these drug abuses are the major vector of AIDS transmission among drug abusers.

NIDA's MDD has implemented a cocaine treatment drug discovery program that is devoted to improving drug abuse treatment through the production of the following four types of medications: (1) medications that would combat or destroy the "high" caused by certain drugs (e.g., opiates, crack-cocaine, or amphetamines) as soon as they enter a user's body; (2) a medication that would act as a barrier when the aforementioned high-producing drugs attempt to cross the user's blood/brain barrier; (3) a medication that focuses primarily on the neurotransmitters in the brain, which produce dopamine, the agent that causes the feeling of euphoria in a user; and (4) a medication

that can get to the root of why an addict feels a craving for a certain drug and then treat or block that craving accordingly.

It is imperative that antiaddiction medications be used in unison with behavioral modification techniques. One without the other will not produce a maximum level of success. Before deciding what formula (i.e., behavioral modification methods and medication dosages) to use when treating an addict, the addict's level of addiction must first be defined. Different combinations of care will be applied to users in either a "binge, crash, or withdrawal" phase of addiction.

Betty Tai and Peter Bridge, from NIDA's MDD, are working on finding methods of accurately determining drug abuse clients' backgrounds in order to include those factors in treatment. The extent to which a person is using drugs is especially important in developing the proper treatment approach. Dual diagnosis is also a strong factor to consider. The discovery that drug abuse clients are suffering from more than one disorder is becoming more and more common. Disorders that are among the more frequently diagnosed range from multiple drug abuses to various mental problems (e.g., depression and schizophrenia).

Speaker: Anna Rose Childress, Ph.D.

A large number of substance abuse patients attribute their relapse to craving triggered by exposure to drug-related cues. Craving can occur at any time, whether it is 2 weeks or 20 weeks following full detoxification. Some common triggers for craving on the part of recovering addicts include seeing paraphernalia on the street, seeing drug-using locations or people with whom they used drugs, and receiving money on a particular day. It is important to address drug-craving in treatment of a recovering addict because it can lead to drug-seeking, even in well-motivated patients.

In Dr. Childress' work, craving and arousal to cocaine-related cues were recorded in a laboratory setting. To simulate real-world drug-use situations, the addicts were exposed to videotapes of "buying" and "selling" cocaine and were asked to handle actual paraphernalia, including a white powder resembling cocaine. During and following exposure to these cues, each addict's reactivity was recorded. One commonly observed response was that the addict's fingertips would become cold, indicating a state of arousal. A drop in galvanic skin resistance also commonly occurred among the addicts who observed these videos and handled the paraphernalia. Finally, a rise in the heartbeat, which sometimes triggered a sporadic change in respiratory functions, often came about. Increased cocaine-craving was the most commonly observed subjective response to cocaine cues, confirming patients' anecdotal reports.

These studies were conducted to develop a set of cues that could be used by personnel attempting to measure the problem of cocaine cue reactivity. Initial treatment studies featuring passive repeated exposure to these cues demonstrated a benefit in treatment retention and in reduced cocaine use, but patients still sometimes experienced craving and arousal to cues that could not be easily simulated in the lab or clinic.

To improve this initial approach, patients are now taught a number of tools or methods of combating the craving urges triggered by drug-related cues. These strategies include a variety of behavioral techniques, including a planned delay before acting on a craving, having an alternative behavior planned for this delay period, and systematic relaxation to counter arousal. Other techniques include a recording of positive/negative craving consequences, which instructs the recovering addict to list the three most negative consequences that would result if he/she were to relapse to cocaine use and the three most positive consequences of not acting on craving. Negative imagery is used to encourage the recovering addicts to remember their worst period of addiction. These images then can work as a kind of scare tactic. Recovering addicts can be reminded that, if they resume their drug habits, they could very easily regress to their worst state of addiction. Comparatively, positive imagery can be used as an incentive to stay off drugs. Recovering addicts are asked to describe their best times and then continually are reminded that those times can continue if they remain drug free. Finally, cognitive therapy techniques have been designed to help recovering addicts analyze the variational thoughts ("I can do just a little cocaine") that they have during a craving episode. A reactivity assessment is done not only at the beginning and end of an addict's stay, but also in the middle of his/her recovery. These reactivity assessments are helpful in the area of analyzing brain imagery in terms of a patient's brain neuro-

chemistry and blood flow patterns, which have been known to change during periods of drug-craving.

Cue reactivity techniques have been used in two additional ways: (1) to assess the possible benefit of anticraving medications (e.g., amantadine) and to study the brain correlates of craving with the use of brain imaging techniques, such as PET and SPECT scans. The overall goal of this portion of the research program is to develop better treatments for drug craving by understanding its brain substates.

Speaker: Frank Vocci, Ph.D.

Within the brains of all mammals there is a reward system, which is actually a neuroanatomical pathway. This pathway can be stimulated electrically to provide pleasure within the recipient. The various drugs of abuse stimulate this reward system in one way or another. This stimulation can be cited as one of the main reasons people try and continue to use drugs. A shift from the emphasizing of the effects of drug use to the reasons or conditions leading to drug use is occurring within the treatment field. Different methods of combating the cravings for drugs are being developed by the health field. One such method is the previously mentioned practice of cue extinction, which attempts to teach various preventive measures that recovering addicts can use when tempted by different cues to use drugs. Innovations have been made in the area of being able to identify and repeat certain memory tracks in the brain. The glutamate system, which is an excitatory amino acid that interacts through glutamate receptors (categorized primarily as an NMDA receptor), plays a very important role in the process of instilling memory tracks within recovering addicts. This process of trying to fight drug abuse by entering the memory system may be a very important step toward improving treatment methods.

The above-mentioned reward system is a dopamine-centered system that may be at the core of many addicts' drug-abusing problems. A drug discovery program at MDD is attempting to pinpoint the effects of cocaine on a user's dopamine-based reward system. This program is using the following behavioral tests to accomplish this goal: (1) locomotor activity in rodents, (2) cocaine drug discrimination, and (3) cocaine self-administration in animals.

Clinical trial-based surveys are being used to measure the amount of cocaine-seeking behavior being exhibited within the cocaine abuse community. These surveys center on the level of craving being felt by the recovering addicts on a day-to-day basis. Urine samples also are taken three times per week in order to monitor the amounts of cocaine being used. It is recommended that participants in the clinical trials be seen as often as possible in order to raise program retention rates. This is very important because high numbers of cocaine users tend to drop out of their respective programs within the first month. Medication development is being sought in this area in order to help increase retention.

A program conducted by Dr. John Ball helped determine the methadone dosage levels needed to effectively treat various stages of intravenous drug addiction. While many patients are helped with doses in the 30- to 50-mg. range, Tom Payte and Liz Khuri believe that doses of 80 mg. and above may be needed to suppress opiate use in some individuals.

An epidemiologic study conducted in Sweden looked at a large number of treated and untreated heroin addicts. Methadone had a strong effect on the mortality rates of this group of people. The yearly observed death rate, as compared to the number of deaths that are expected to occur within any given year, was 63 percent higher for untreated heroin addicts. This death rate was recorded before the AIDS epidemic really hit Sweden. The death rate for the methadone-treated heroin addicts is sufficiently lower than that of the untreated ones.

Medicinal chemists are hoping to develop additional agonist medications that can be used in place of methadone to treat opiate addiction. The ideal agonist medication would be one that performs a function similar to that of methadone but is able to last longer. Studies on the use of partial agonist medications also are being conducted in order to test their efficacy in treating opiate abusers with low to moderate levels of dependence. One of the main benefits of using partial agonists is that they do not produce dependence to the extent that full agonists do.

A number of nonopiate-based medications also are being developed in order to treat the various withdrawal symptoms experienced by recovering addicts. Future medication devel-

opments are going to focus on the production of medications that interact with the different opiate systems in order to gain a certain amount of therapeutic advantage. LAAM is one medication that will hopefully be used much the same way as methadone. LAAM not only provides the same shield from withdrawal symptoms that methadone does, but it also takes longer for its effects to occur. Once the effects occur, they last for a longer time than those of methadone. Another positive characteristic of LAAM is that its effects take a very long time to develop when injected, as opposed to when taken orally. This would suggest that LAAM someday may be distributed and used as take-home doses.

Questions, Answers, and Comments

Why does it take so much longer for LAAM to take effect when injected as compared to oral administration? LAAM is converted into more active substances by the liver. When a person takes the drug orally, it has to pass through the liver. This makes LAAM's oral activity occur within hours. When injected it takes much longer for a higher level to be generated in the liver.

Comment: Methadone helps to reduce the number of drug-related overdoses and the number of violent and medical-related deaths.

Comment: It does not seem likely that LAAM will ever replace methadone. Instead, it is hopeful that in the future there will be a number of medicinal agents that physicians can choose from based on the needs and levels of abuse experienced by their patients.

RS18. The Effectiveness of Methadone Maintenance Treatment: Special Consideration for Pregnancy and the Prevention of HIV Infection

Moderator: James Cooper, M.D.
Speakers: Lawrence Brown, Jr., M.D., M.P.H.
Karol Kaltenbach, Ph.D.
Respondent: Frank Satterfield
July 17, 8:15 a.m.-9:45 a.m.

Speaker: Karol Kaltenbach, Ph.D.

Methadone maintenance has been used for narcotic dependent women since the early 1970s. One benefit of using methadone maintenance for pregnant women is that high levels of opioid presence in the blood of both the mother and fetus can be avoided. Another benefit is that lowered cases of repeat withdrawal within the fetus are experienced. Loretta Finnegan, creator of the Family Center, developed a model on comprehensive methadone maintenance treatment for pregnant women. This treatment model is based on the "one-stop shopping" theory. The Family Center comprehensive methadone maintenance model, which also includes prenatal care, has been successful in lowering the number of obstetrical and fetal complications, in utero growth retardations, and prenatal morbidity and mortality rates.

The overall maternal nutritional practices also have improved as a result of this prenatal-included, methadone maintenance model. HIV risk also has experienced a reduction, due in large part to a lowered rate of needle use. Psychosocial rehabilitation, which is helpful in the preparation for childbirth, is more of a possibility for women when participating in the comprehensive services provided by the Family Center.

Pregnant women who abuse drugs are considered to be at a higher level of risk as compared to other women. This can be attributed to the complications that often accompany alcohol and other drug use. A relatively common occurrence among drug-using pregnant women and their physicians is mistaking normal pregnancy symptoms (e.g., fatigue, headaches, nausea, vomiting, cramps, etc.) for actual withdrawal symptoms. This type of false diagnosis often leads to increased drug use on the part of the pregnant woman because she thinks she is experiencing withdrawal. This increased use has the potential to cause great harm to both the mother and the unborn fetus. High levels of drug use during pregnancy can result in a wide variety of obstetrical and medical complications depending on the method of administration of the drugs (intravenous or nonintravenous), the amount of withdrawal experienced by the mother when drug supplies run low, and whether problems are identified through the help of prenatal care.

The area that sees the greatest number of complications due to a lack of prenatal care is obstetrics. Delays in treating commonly occurring obstetrical problems often occur because some women have the tendency either to avoid entering medical facilities because the women view these facilities as

threatening or deny the actual existence of a problem. Infections are the most predominant kind of medical complication associated with drug use during pregnancy. If an infection remains undiscovered throughout the entire gestation period of a pregnant woman, it can cause serious health damage for both the mother and her unborn fetus. This is just one of the many reasons for getting women into prenatal care programs early in their pregnancies.

In many cases, methadone maintenance is not effective enough to be the one and only cure-all method for treating drug-abusing pregnant women. Instead, many women's problems are severe enough that they need methadone maintenance programs that are paired with both prenatal care and psychosocial counseling. With the help of these three methods of treatment, medical complications gradually will be identified and treated earlier in women's pregnancies, thus lowering the infant morbidity and mortality rates.

Small doses of methadone given to women prior to pregnancy are generally sufficient in treating them after they become pregnant, although pregnancy alters the metabolism of methadone. Opioid-dependent women who have not undergone methadone maintenance treatment prior to pregnancy should seek treatment within a hospital setting. The purpose of the hospital stay, which averages 2 to 3 days, is to evaluate both the woman's prenatal status and level of methadone maintenance needed. Initial hospital dosages of methadone range between 10 and 20 mg., depending on the severity of an individual's opioid addiction. A followup assessment of the initial dose effectiveness determines whether future dosages should be increased or decreased. A large number of women require a 30- to 40-mg. dose increase as their pregnancies advance. The average daily dosage for women in this program is 45 mg.

Federal regulations emphasize that methadone dose distribution needs to be held to the lowest effective amounts when treating opioid-dependent women (note that the Federal regulations specify using the methadone dosages that are the most effective as opposed to simply the lowest). The lowest and most effective dosages tend to range anywhere from 35 to 80 milligrams per day. The following four factors should be considered when determining the proper dose for the patient: (1) duration of patient's addiction, (2) duration of patient's methadone maintenance treatment, (3) patient's metabolic rates, and (4) patient's use of certain interactive drugs (e.g., anticonvulsive medications).

Withdrawing pregnant women from methadone maintenance for one reason or another during the first 14 weeks of gestation is discouraged due to the risk of induced abortion. This also is not recommended after the 32nd week of pregnancy because fetal stress can result. If it is decided to withdraw a woman from methadone maintenance it should be done only with the consent and guidance of a trained and qualified perinatal physician. Entering the woman into a perinatal facility where she and her unborn fetus can be monitored for dangerous stress levels also is strongly urged.

High rates of neonatal abstinence are seen in infants that experience the effects of prenatal heroin or methadone use by their mothers. Between a 60- and 70-percent rate of neonatal abstinence has been recorded in this program for infants whose mothers used either heroin or methadone during pregnancy. Neonatal abstinence generally can be defined as an infant disorder that promotes and causes symptoms that focus on the central nervous system. Hyperirritability as well as gastrointestinal problems are also common among infants suffering from neonatal abstinence. Although these symptoms can occur immediately or take many days or even weeks, the average length of time for all of the symptoms to surface is 72 hours. The factors determining the rate and degree to which the infants experience abstinence are the following: types of substances used by the mother, timing of dose before delivery, difficulty level in labor, amounts of anesthesia and analgesic used during labor, maturity and nutrition of the infant, and whether or not any intrinsic diseases are detected in the infant.

The use of an abstinence scoring system, such as the one developed by Loretta Finnegan, is recommended for the purpose of evaluating and assessing the onset, progression, and diminution of abstinence symptoms in an objective manner. A study conducted from 1976 to 1977 by Austria and Madden suggested a correlation between the severity of withdrawal and the methadone dosage levels. However, many other researchers and studies do not agree with this belief.

Programs must be comprehensive in nature in order to best treat the many problems facing the numerous opioid-addicted pregnant women. Some of the issues that must be addressed are problems dealing with domestic violence, support, the acquisition of food, housing, AIDS prevention/counseling, and child care. The services provided by the treatment programs should place more emphasis on ending drug use, building up clients' positive options and resources that they can turn to in times of need, the improvement of relationships (both family and interpersonal), and curbing of the tendency toward negative social behavior.

Speaker: Lawrence Brown, Jr., M.D., M.P.H.

It is common for physicians to be skeptical of methadone maintenance and to want to prescribe the lowest, not the most effective, dosages. Physicians are concerned about the uncertainties associated with methadone maintenance when, in fact, there are similar and as many uncertainties in other aspects of medicine. The use of controlled clinical trials is relatively minimal in all of medicine, so methadone maintenance should not be singled out for skepticism.

The idea behind methadone maintenance is that if a dose is effective in treating a patient, then that patient will not be tempted to use any other drugs (or at least no injection drugs). In connection with this theory, patients hopefully also will be less likely to participate in the activities that might lead to HIV transmission (e.g., needle-sharing).

There have been many studies conducted that help prove that different drugs of abuse have varying effects on the immune system. The main problem facing the clinical community is that the effects exhibited vary greatly from one patient to another. Clinical studies often only focus on control groups when collecting their data—but in the world outside the clinic, there is a vast array of problems that need to be addressed.

A recent NIDA-sponsored technical review, which was held June 30 through July 1, focused on HIV, women, and children. One presenter at this conference addressed the various social and health factors related to HIV infection among women and children. This study looked at a number of women in New York who were on medicaid and the factors influencing their utilization of medical services. Among other discoveries, it was found that women in this study who were treated with methadone maintenance better utilized medical services as compared to women not treated with methadone maintenance. Therefore, it is possible that one of the benefits of methadone maintenance may be the greater attention given by health care providers to patients.

Another study by Dr. Ball compared different treatment programs in three parts of the United States. Patient and provider characteristics were the primary areas of focus within this study. Followup data on patients that had been interviewed by the programs 4 years earlier also were collected. Similar to the aforementioned study, this study indicated that people thoroughly involved in methadone maintenance are less likely to become involved in other types of drug use (especially intravenous drug use).

Still another study in New York associated HIV infection with duration of drug use, duration of drug treatment, and the dosage level of methadone. It was found that people who receive higher doses of methadone for their drug problems actually tended to have lower rates of HIV infection. This finding would suggest the importance of increased methadone maintenance attendance and the need for effective methadone dose distribution.

A University of Pennsylvania investigation revealed that baseline infection rates were noticeably higher for people not already in treatment. This is yet another reason for stressing the importance of recruiting more drug-using people into some type of methadone maintenance treatment facility. This is especially true for intravenous drug users, who are among the groups at risk of contracting HIV infection.

Questions, Answers, and Comments

Are there any effective methods for providing prenatal care at actual methadone maintenance programs that are not hospital based? Although it can be done onsite, it is quite costly to hire private obstetricians to come work at these facilities. The practice of combining the services provided by methadone maintenance programs and hospitals is not only less costly but also probably just as effective as onsite treatment. This is partly dependent on the assumption that programs' outpatient facilities are nearby.

Comment: Women that are using methadone but no other drugs are encouraged to breast

feed their infants—unless, of course, they are HIV positive. Despite this encouragement, few women actually decide to breast feed.

Comment: Drug-using pregnant women admitted into a hospital for stabilization should be treated within the obstetrical unit as opposed to the detoxification department.

Comment: Housing is one of the most important factors keeping women in treatment.

In regard to the fact that illicit cocaine use is a predominant problem within many methadone maintenance programs, is it felt that methadone maintenance has any kind of positive effect on people who abuse cocaine? Yes, some studies show that the number of people using cocaine while in methadone maintenance programs actually does decrease with time. The reason for this would seem to be that, as methadone works to curb a client's appetite for opiates, it also may work toward lowering that person's want or need for cocaine. A number of studies are in progress that are attempting to help in the production of drugs that might be used concurrently to work against both opioid and cocaine dependence (e.g., buprenorphine).

What can be done on the part of treatment clinicians to update the country's way of looking at drug abuse treatment and the use of methadone maintenance? Individual work must be applied to each and every community by the most experienced clinicians. This process will be a very slow one, but it has the potential to cause some change gradually.

Is it better to strive for rigidity or flexibility when attempting to develop a program's policy on positive drug testing? The answer to this question relies on both the program's philosophy on drug use and the level of receptiveness exhibited by the patient toward treatment.

Are there any noteworthy differences in the rates of success found through methadone replacement or methadone maintenance? Very different attitudes surrounding the effectiveness of methadone replacement and methadone maintenance can be seen, depending on what community is examined. Effectiveness really depends on the patient—what works for one person may not work for another.

RS19. Behavioral Treatments for Drug Dependence

Moderator: Lisa Simon Onken, Ph.D.
Speakers: Kathleen Carroll, Ph.D.
Stephen Higgins, Ph.D.
G. Alan Marlatt, Ph.D.
Respondent: Peter Hayden
July 16, 4:30 p.m.-6:00 p.m.

Speaker: Stephen Higgins, Ph.D.

Researchers have been studying the Community Reinforcement Approach (CRA), an outpatient comprehensive behavioral therapy used thus far for people suffering from cocaine dependence and alcoholism. CRA provides effective treatment for both disorders, either alone or in combination. About one-half of individuals dependent on cocaine also are dependent on alcohol, and many more abuse alcohol.

In the CRA system, treatment workers do the following: detect cocaine use and/or abstinence from use through periodic urinalysis monitoring; provide positive reinforcement in multiple aspects of an individual's life (e.g., interpersonal, recreational, and vocational) to individuals who have abstained from cocaine use; withhold reinforcement if it is found that an individual has used cocaine; and increase the density of reinforcement available to individuals from nondrug sources so that, when these individuals move beyond treatment, other forms of support compete with the reinforcement effects of drugs.

Treatment is delivered through CRA over the course of 24 weeks. For the first 12 weeks, urinalysis monitoring is conducted three times each week, and counseling sessions are held twice per week. During the final 12 weeks of the program, urinalysis testing occurs two times each week, and counseling sessions are held once per week. After the 6-month program is completed, clients are checked periodically (i.e., for drug use through random urinalysis testing and for general progress).

Initially in CRA, it was determined that positive reinforcers would be given to strengthen individuals' abilities to remain abstinent until more naturalistic lifestyle changes occurred. Therefore, each time an individual has a negative urinalysis test, the client receives a voucher. These vouchers, which increase in value with every consecutive negative urinalysis test, can be used

to purchase retail items. Thus, clients have an incentive not to use cocaine, because if they test positive, the value of their vouchers returns to the lowest initial value. All purchases are made through clinic staff. In addition, the CRA program provides reciprocal relationship counseling for clients' nonabusing spouses, romantic partners, or other significant persons, such as close relatives. Reciprocal relationship counseling involves education in positive communication skills and mutual reinforcement of positive changes in each person's behavior, with the hope that the client will receive meaningful rewards from the relationship instead of from drugs. A behavioral contract is developed in which the significant other asks for cocaine abstinence from the client, and the client requests that the significant other do something positive, such as provide praise, as a reward for abstinence. Staff contact the significant other after each urinalysis test.

Another aspect of CRA is functional analysis, in which staff teach clients how to identify and avoid factors in their environment, such as high-risk situations, that increase the likelihood that the clients will use cocaine. This approach also encourages clients to recognize and spend more time in low-risk situations and to obtain the "benefits" they derived from cocaine from other, more positive sources. Priority also is given to furthering clients' educations or helping them obtain jobs. Furthermore, clients are encouraged to engage in drug-free recreational and social activities without their drug-abusing friends. Additionally, the clinic conducts monitored antabuse therapy for clients who are alcohol-dependent or drink abusively. Some research studies indicate that if individuals who abuse both alcohol and cocaine are able to abstain from alcohol, reduction in cocaine use also is likely to occur.

Research findings based on studies of CRA indicate that the approach has been effective. In one study involving clients randomly assigned either to the CRA clinic or to standard outpatient treatment, 68 percent of the clients receiving the CRA behavioral treatment completed the entire program, whereas only 11 percent in standard outpatient treatment remained until completion. While about 60 percent of clients in each group initially tested negative for cocaine in a single week, that percentage increased in the CRA group and decreased in the standard group. Furthermore, the positive effect of the vouchers lasted even after they were removed as an incentive after week 12 of the CRA treatment.

In another study, some clients were randomly assigned to receive the entire behavioral treatment, including the vouchers, while others received the treatment protocol without the vouchers. (After the 13th week, the vouchers were no longer offered; hence, all clients were treated the same at that point.) Seventy-five percent of the clients who received vouchers completed the CRA program, while only 42 percent of the clients not rewarded under the voucher system completed the program. Only 11 percent of the clients receiving standard outpatient treatment completed the program. Additionally, about 60 percent of the clients who received vouchers were able to abstain from cocaine use for at least 8 of the 24 weeks during treatment, whereas only 25 percent in the group not receiving vouchers abstained from cocaine use for at least 8 weeks.

These findings indicate that several elements of CRA, not just the voucher system, are effective in cocaine abuse treatment. CRA therapy both with and without vouchers is more effective than standard outpatient treatment. Thus, the use of a systematic incentive program involving social support, education about drug-free recreation, vocational support, and monitored antabuse therapy appears to be very helpful in initiating drug abstinence.

Speaker: Kathleen Carroll, Ph.D.

Relapse prevention is a type of cognitive-behavioral therapy that helps individuals identify and cope with high-risk situations. Different relapse prevention approaches have been developed for various types of drug abusers and alcoholics. One approach to relapse prevention for cocaine abusers involves an individualized, 12- to 16-week outpatient treatment program focused primarily on achieving abstinence and preventing relapse by both teaching productive coping strategies and determining how to reduce exposure to cocaine and cocaine cues. Early in treatment, it is very difficult for clients to tolerate even the sight of cocaine or cocaine users, but later they are helped to cope with these and other difficult situations. One way in which this is done is by initially reducing the patients' access to money (e.g., by having close relatives or significant others at least temporarily control the clients' finances until the clients are

more stable), since many cocaine users associate money with drugs. The relapse prevention program also works on strategies to foster personal motivation to stop using cocaine (e.g., by encouraging clients to list on a card the benefits of abstaining from cocaine use). Self-monitoring of cravings and of high-risk situations also is very important among cocaine abusers. Therapists spend a large amount of time addressing their clients' cocaine cravings, from determining exactly how clients crave cocaine to helping them cope with cocaine cues.

The therapy consists of three main sets of treatment strategies. The first strategy focuses on clients' behavioral patterns, the second strategy concerns identifying cognitive processes that lead clients toward high-risk situations and encouraging clients to think carefully through such things as preparation for emergencies, and the third strategy focuses on developing behavioral alternatives to cocaine use (e.g., pursuing meaningful activities and building worthwhile relationships). Staff use a homework sheet for each treatment session, covering the session topic and practice exercises to help clients master the skills needed to abstain from cocaine use.

One study examining this relapse prevention approach focused on inner-city cocaine addicts at a cocaine clinic that already had been using short-term interpersonal psychotherapy (IPT). The study consisted of a 12-week randomized clinical trial comparing individualized relapse prevention with IPT. The study found that individuals treated with relapse prevention tended to stay in treatment almost twice as long as those treated with IPT. People treated with relapse prevention consistently did better than those undergoing IPT, with nearly double the rates of abstinence. In comparing clients' initial levels of substance use, the two treatments had approximately equal effects at low levels of severity; however, at high levels of severity, individuals receiving IPT did not have positive outcomes, whereas those receiving relapse prevention services did well. Apparently the additional structure and skills obtained in relapse prevention services are very helpful to individuals with high rates of cocaine use.

Another recently completed study examined treatment results of cocaine abusers treated with relapse prevention and those treated with a relatively new drug for cocaine abuse called desipramine. Both groups received psychotherapy, either through relapse prevention or, less intensively, through clinical management. The outcome of the study indicated no substantial differences in the treatment approaches: Clients in both treatment groups improved in terms of their psychological well-being and decreased cocaine use. However, when looking at the baseline severity of clients' cocaine use, clinical management produced more positive effects at low severity levels, whereas relapse prevention appeared to be the most beneficial treatment at high severity levels. Also, at high levels of depression, only relapse prevention was shown to help decrease cocaine use and improve other conditions among clients. A followup study of clients at 1, 3, 6, and 12 months after treatment showed a higher level of success among those clients treated with relapse prevention. Relapse prevention seems to teach people skills that they can apply to other parts of their lives.

Speaker: G. Alan Marlatt, Ph.D.

NIAAA has been engaged in research on a secondary approach to the prevention of binge drinking (i.e., five or more drinks per occasion) among young adults. This is a very important concern, since alcohol-related death is the leading cause of death among this population. The approach discussed in this session primarily concerns alcohol abuse (repeated use of alcohol in hazardous situations for 1 or more months), rather than actual alcoholism, and is similar to the approach known in Europe as harm reduction (in England it is referred to as harm minimization). The approach is designed to reduce the harm of ongoing drug or alcohol activities, based on a continuum model of harm presented by the Institute of Medicine in 1990. The Institute noted that, while many programs existed for alcohol dependence, the much larger number of people with mild to moderate alcohol problems might respond to brief interventions designed to reduce the risk of drinking.

Former Surgeon General Antonia Novello proclaimed binge drinking to be a major health problem because of its association with accidents, aggression, date rape, vandalism, and other problems. Binge drinking usually involves drinking to the point of intoxication. Research suggests that many young adults will not continue binge drinking as they grow older, but studies are being conducted on the relationship between binge

drinking and subsequent dependence. While research indicates that males seem to drink more than females, additional studies are investigating such factors as family history; genetic disposition; early adolescent behavioral disorders; and living environment, such as fraternity houses for students.

Although abstinence is the goal for young adults, it may be unrealistic. The harm reduction model provides a middle-road alternative by suggesting that people can make small changes in their knowledge, awareness, and skills and reduce their level of alcohol abuse. An NIAAA 5-year study known as Lifestyle '94 focuses on students first assessed in high school who are expected to graduate from college in 1994. The entire population of the University of Washington's freshman class (4,250 students) was administered a screening questionnaire assessing their level of drinking in high school and a number of risk factors. Of the 2,152 students who completed the questionnaire, 450 (about one-half males and one-half females) were selected based on a high risk for alcohol problems. Fifteen percent of these people reported that either their father, mother, or both parents had drinking problems. Forty-five percent also reported a history of conduct disorder. The 450 students were randomly assigned to a treatment group or to a nontreatment control group. Also, 150 people were randomly chosen from the freshman class, regardless of level of risk, for a natural history control group.

The group chosen to receive treatment received a stepped-care series of interventions patterned on the treatment of borderline hypertension. The series began with the most minimal treatment that might work, which in this study consisted of motivational interviewing. In a nonconfrontational manner, a staff member reviewed students' drinking rates, risk factors, and potential problems. The majority of the students were "precontemplators"—they did not think that their binge drinking was problematic. Therefore, the staff encouraged the students to enter a contemplation stage, in which they would think more carefully about their drinking behaviors, followed by an action stage, in which the students would follow specific advice about altering their drinking patterns. Students who already had been determined to be alcohol dependent (about 15 students) skipped the stepped care but were provided with individual counseling and referrals. Research staff followed the 450 students every 6 months. The stepped-care options were continued for students who did not respond as well as the majority to the initial step; these students moved to other options, such as a self-help manual or participation in a group educational class. The control group also was assessed every 6 months.

Two years after the motivational interviews and stepped-care interventions were conducted, research results indicated that the control groups showed improvements consistent with normal maturation, whereas a quicker response rate occurred among individuals receiving the secondary prevention program. Furthermore, the treatment group showed more significant improvements in alcohol-related problems than did the control group. The study currently is examining many other variables, but data are not yet available.

The method employed in this study is consistent with the harm reduction approach. The goal or precondition of abstinence may present a barrier to many young people seeking some kind of help; consequently, the harm reduction approach may bring down this barrier by suggesting that gradual changes, with abstinence as the ideal but not mandatory goal, are beneficial. As a continuum model, this approach progresses from excess through moderation to, ideally, abstinence. Any steps toward decreased risks are steps in the right direction.

Questions, Answers, and Comments

In recognizing that abstinence is not a realistic goal for a 14-year-old who has been using alcohol, how can the harm reduction method be sold, particularly in States in which methods like Alcoholics Anonymous are well regarded? Abstinence still is the best goal for the treatment of dependence; however, because alcohol is the most widely used substance among young people, safe use may be a more realistic goal. One can talk about both goals and recognize both as acceptable. The main opposition has come from parent groups, who think that the harm reduction method has encouraged underage drinking. Young people are going to drink; therefore, the challenge is to encourage them to do it more safely.

In terms of prevention, has the impact of alcohol advertisement on young people been studied? In the NIAAA study, students discussed the manipulative methods of

advertisements. Such discourse should be part of any prevention program.

In addition to engaging clients' significant others, does the CRA program incorporate into its treatment other community members, such as church groups? The CRA program does not do that, but it is a good idea if done in a systematic way, especially in large urban areas.

In examining the success rates of participants in the individualized relapse prevention treatment, was the significance of participants' educational levels studied? Yes, but education was not found to predict a client's success or lack of success. Other studies have found a connection however. The most predictive factor of success during followup was whether the client had attained a substantial period of abstinence during treatment.

Can group incentives and small fines for drug use be used effectively in drug treatment, with participants deciding together how the fund from fines should be used? In research with children, group contingencies have been shown to be effective, but no such work has occurred in the area of illicit drug abuse. It may be more helpful to use more positive reinforcement than imposing fines. Clients feel very good about success and even small measures of recognition of success. On average, the voucher system used in the CRA program has cost about $3 per day in incentives.

RS20. Residential Treatment, Day Treatment, and Therapeutic Communities

Moderator: George DeLeon, Ph.D.
Speakers: Benjamin Lewis, Ph.D.
Jerome Platt, Ph.D.
Respondent: Lynn Nicholson
July 17, 11:15 a.m.-12:45 p.m.

Speaker: Benjamin Lewis, Ph.D.

For a treatment program to be successful, it needs to address some or all of the following: behavioral risk, depression, self-esteem, self-efficacy, client satisfaction, motivational scales, and instruments such as the Addiction Severity Index and the Diagnostic Interview Schedule. A recent study on the effectiveness of increased treatment duration was based on information obtained from 710 participants. The participants were asked to undergo a 15-month program with followup at 3 months postdischarge, 12 months postadmission, and at periodic times thereafter. The main purpose for conducting the study was to examine treatment duration as well as the differences across programs between relapse prevention and therapeutic community approaches and how they impact on HIV risk reduction. The study includes process evaluation.

One important facet needed for success in both treatment strata was the rate of retention over given periods of time. The smallest time period measured—after 14 days—yielded the highest retention rate at 82 percent. The retention rate after 30 days was 80 percent. After 40 days the retention rate dropped to 74 percent. And after 80 days the retention rate had fallen to a low of 33 percent. The completion rates were equal for both the participants that were retained in treatment for 30 days and those that stayed for 80 days. Receptiveness to the particular program modalities was very high. An average of 94 percent of the clients were willing to participate in the program without changing anything about it.

With regard to the followup meetings, focus groups were implemented to provide clients with an opportunity to voice their feelings concerning what they were and were not comfortable with answering. Constant juggling of the followup schedule proved that off-hour meeting times were the most successful in attracting attendees. In-jail interviewing also took place for those incarcerated clients. These interviews were identical to those performed in the treatment facilities, with the exception of hair analysis testing, which was not permitted due to scissor regulations in the jail. These aforementioned techniques have led to an increase in overall followup rates. There are two main reasons for the recent upsurge in the use of hair analysis testing. The first is that hair analysis testing can be used as a method of validating self-reports. The second reason is that hair analysis testing makes the detection of drug use over a long period of time feasible.

Speaker: Jerome Platt, Ph.D.

It is not widely known that cocaine addiction and problems stemming from its use have surpassed heroin addiction and its problems. Despite this high rate of addiction, there are very few treatments available that are capable of effectively dissuading addicts from discontinuing their use. In attempting to

create a program that stimulated the highest degree of positive outcomes within groups of cocaine users, the following four treatment components were considered: (1) cognitive, (2) cognitive-behavioral, (3) skills training, and (4) pharmacological interventions.

In the early 1950s, Dr. Zwirling and his associates found psychiatric day treatment to be more effective than both traditional inpatient and outpatient treatments. Almost every study and program using psychiatric day treatment has experienced success. These successful programs generally are nonmedically based, run by the government (State or county), incorporate a social rehabilitation model, do not have overnight treatment, have an abundance of coordinated and comprehensive forms of treatment, and involve clients' significant others in treatment.

Cocaine users tend to be highly disruptive, possess a general lack of competency and skills, and devote a large portion of their lives to searching for drugs. The main key to treating these disturbed individuals successfully is by gaining a certain degree of control over their lives and constructively filling their time. Psychiatric day treatment provides an environment that focuses on making more time available for treatment. It also works toward generally improving the clients' lives through the teaching of everyday positive reinforcement tools. These programs are not passive and are based on active intervention methods that address the various clients' needs. One imperative aspect to the success of any such program is regular client attendance. Relapse into drug use commonly is known to occur when a person has too much leisure time. Regular attendance at treatment programs is an easy way to avoid this problem.

The main question that all studies should seek to answer is whether contingency management, employment of skilled treatment workers, and increased amounts of time spent in treatment actually lead to improved outcomes and retention rates.

A 12-week intervention outpatient program is under way. The first 3 weeks of the program consist of three weekly 1½- to 2-hour meetings. The next 6 weeks follow a two-meeting-per-week schedule for approximately the same amount of time. The last 3 weeks include one meeting per week, which primarily focuses on gathering followup information. Those clients who remain in treatment and hold positive employment positions tend to have the lowest rate of cocaine relapse. One important goal of this program is to instill a number of positive skills—interpersonal, employment, relapse prevention, and mental—in the clients to help them reduce the environmental temptations that often fuel their inner cravings for drugs. One odd finding is that depression has been discovered to be a beneficial characteristic in helping keep clients in treatment. This is assuming that the depression is both detected and properly dealt with. High anxiety, on the other hand, has been found to be a barrier to treatment retention. If a person feels pressure or discomfort, he/she probably will not remain in that treatment environment. The study also found that people are more likely to show up at their initial meeting when their appointment is as close as possible to their telephone contact. The less time people have to wait before coming into the treatment facility, the better the chance is that they will attend.

Speaker: George De Leon, Ph.D.

The sense of community, as opposed to the actual services offered, is the distinguishing trait when applying the "therapeutic model" to different populations. The use of "community" is one of the most effective tools with which to change the negative behaviors illustrated by many drug users. Community can be exhibited in a number of different ways. For example, heightening the roles of the participants in the programs and showing an intense interest in membership feedback can have very beneficial effects. The presence of role models within the suggested program groups (e.g., eating, working, meeting, etc.) has propagated the use of positive, shared values among the clients. The above-mentioned program groups need to be structurally based systems that allow for the use of open communication, which then can be used for sharing ideas and strengthening positive relationships. The primary goal of any treatment program should be to train clients regarding the necessary skills that will allow them to make a successful transition to a drug-free, productive lifestyle.

The following items, as well as the previously mentioned keys to success, should be incorporated into every therapeutic community program/model that wishes to be thoroughly effective: peer encounter groups, work (used as a therapeutic and educational tool), structured days, recovery and value

strengthening, development and learning in stages, awareness training, emotional growth, and emphasis on individualism and separateness outside the treatment facility.

There are three main issues that need to be addressed by practitioners if further advances are to be made in the area of treatment. The first is to have a better understanding of the differences that exist between clients. Secondly, better client-to-treatment matching is needed. Finally, more care needs to be placed on the practitioners' decisions to send clients on to the next level of treatment. Some clients do not advance as quickly as others, and therefore these people may need to undergo longer durations of treatment at lower intensity levels than their faster advancing counterparts.

Questions, Answers, and Comments

What percentage of the people that claim they have not been using drugs come up positive for drug use through hair analysis testing? Cocaine users, who claimed to have been presently using, generally were backed up by their hair analyses testing.

Comment: The relapse prevention program generally tries to identify and teach methods of avoiding situations that may lead to drug relapse on the part of the clients.

Why does Dr. Lewis' 710-client program have higher rates of retention as compared to the average program? That particular study only deals with heroin users, while most similar studies tend to incorporate dually diagnosed and polydrug-abusing clients into treatment. The overall followup rates for these types of programs range from 85 to 93 percent and are rising all the time.

Do recruitment and retention rates experience any ill effects due to the gradual increase of demands placed on the clients? The longer clients seem to stay in treatment, the better they are able to meet the increasing demands put on them. The reason for this is that they gradually build the arsenal of weapons needed to combat or meet these demands. Assuming that the demands placed on clients are only increased in conjunction with teaching or providing the resources needed to meet those demands, then the recruitment and retention rates really are not affected.

Comment: The three components of standard treatment—mental health, alcoholism, and drug abuse—are listed by descending order according to the amount of programs offered nationwide. Drug abuse treatment, although presently at the bottom of the list, slowly seems to be gaining attention and the needed State and Federal funding.

RS21. ADOLESCENT DIAGNOSTIC ASSESSMENT

Moderator: Elizabeth Rahdert, Ph.D.
Speakers: David Metzger, Ph.D.
Kenneth Winters, Ph.D.
Respondent: M. Yolanda Nolan, M.S.W.
July 16, 1:15 p.m.-2:45 p.m.

Speaker: Elizabeth Rahdert, Ph.D.

In examining and purchasing screening and diagnostic instruments for use in practice, research, and program evaluation, consumers should look for several important characteristics. Screening tools determine the presence or absence of a specific problem and should be easy to administer, answer, score, and interpret. Diagnostic instruments describe in detail an individual's problem; usually require a professional for administration, scoring, and interpretation as well as an adequate amount of time to conduct; and demand complex responses from clients. A consumer's list of diagnostic and screening tools was reviewed along with a checklist of characteristics for use in examining each clinical tool: utility, objectivity, reliability, validity, objectivity, cultural sensitivity, cost-efficiency, and of course the fact of whether or not the particular instrument was designed specifically for use with adolescents.

Speaker: David Metzger, Ph.D.

The Problem Severity Index (PSI) was developed for use with adolescents involved in the juvenile justice system. A later modified version, the Adolescent Problem Severity Index (APSI), was developed for use in noncriminal justice settings. The APSI is an indepth assessment tool that employs an interview format to help nonclinicians determine the areas of functioning in which an adolescent is having problems and whether the problems are related to substance abuse.

A growing number of tools are available to assess adolescents and their substance use, and consumers should review these tools very carefully before purchasing them. Some instruments are simple and may be completed by pencil after careful instruction, while others involve personal interviews, so

programs must consider whether staff have the time and capability to administer a test that they are considering using. Many tools are modeled after adult assessment tools (i.e., several closely approximate the Addiction Severity Index), so programs also should consider whether they want instruments that are more specifically developed for adolescents. Furthermore, it is important to understand the obstacles that may arise in administering tests to adolescents (e.g., they may be very reluctant to be assessed; those with normal, developmental limitations may have difficulty expressing their thoughts clearly; or those with abnormal developmental problems may not respond appropriately to questions). Thus, adolescents often may need assistance clarifying their thoughts and responses. Finally, language and cultural barriers make assessment especially challenging with adolescents, who often describe drugs or situations using terminology that varies with age or geographical location.

About 5 years ago, researchers at the University of Pennsylvania began developing the PSI and APSI with the aim of having a diagnostic tool that would feed directly into a treatment planning process by giving interviewers a clear idea of appropriate interventions. It was thought that adolescents should not be categorized by severity ratings without suggestions for interventions. Line staff without sophisticated clinical work, such as probation officers and personnel in noncriminal justice settings, also needed to be able to complete the instrument. The instrument was developed as interview-based to gather detailed information, challenge inconsistencies in responses, and enable the interviewer to assess a respondent's honesty. It initially was hoped that the tool would determine with 20 simple questions the severity of adolescents' substance use problems, but the instrument's developers gradually realized that a more indepth approach was needed to assess other issues and areas of functioning besides actual substance use. Furthermore, a structured tool was desired that could be applied consistently, yield objective measures, and produce automated administrative and clinical reports.

The three main components for the APSI's administration process include the interview format, a manual, and software that produces a data base with automated reporting features. The test contains questions about the adolescent's involvement with the juvenile court system and police, the stability of the family situation, school attendance and performance, work history, personal skills, medical history, indicators of emotional distress, use of specific substances, high-risk sexual behaviors, and history of physical and sexual abuse. Parents usually are not present during the last two sections of the interview. Each section on the ASPI generates two types of quantitative scores: (1) a mathematical compilation of the number of different risk factors in that section and (2) an intervention severity rating, which is the most important information on a day-to-day basis. The interviewer decides, based on items in the sections, whether and how urgently any particular intervention is warranted. Thus, interviewers are required to process the information that they hear and make assessments of the need for further intervention.

It appears that the instrument has been successful on several levels. Feedback has been positive and helpful for future revisions. Sixty-seven counties throughout Pennsylvania currently use the instrument. Responses to the instruments' questions have been found to correlate with other measures of adolescents' behavior. Some preliminary data are available.

Speaker: Kenneth Winters, Ph.D.

Assessment can be difficult and perhaps lead to the wrong conclusions if conducted with preconceived perceptions and assumptions. Standardized tools improve objectivity in assessment. Since 1985 the number of tools available in the adolescent drug assessment field has increased dramatically; however, having so many assessment tools available is confusing. Several recently completed large scale reviews critically evaluated available adolescent assessment instruments concerning factors such as ease of administration, cost, and content. When consumers are investigating an instrument, they should consider whether it actually predicts what they as clinicians want to predict and whether it will produce data related to clinical decisions that must be made. Also, they should check on the adequacy and appropriateness of the norms. Furthermore, computerized data based on group statistics, while valuable, should be used with caution and not automatically assumed to be more valid than subjective, clinical intuitions and

evidence. Standardized assessment is not always best for every client.

The Minnesota Chemical Dependence Adolescent Assessment Package has developed three instruments: (1) the Personal Experience Screening Questionnaire (PESQ), (2) the Personal Experience Inventory (PEI), and (3) the Adolescent Diagnostic Interview (ADI). They were designed to be user friendly and helpful for clinicians—not necessarily for researchers; however, research versions are available. Most of the tools were developed with the philosophy that no matter what drug a client uses, the dimensions and form of treatment are relatively similar (a notion subject to much debate).

Only the PESQ is used at the screening level. Both the PEI and the ADI assist with problem identification and description, treatment planning, and case management. The former is a paper and pencil instrument, while the latter two use structured interview formats. The PESQ includes 40 items, covering drug abuse problem severity, frequency and onset, physical and sexual abuse, and other areas. It attempts to measure invalid response tendencies, too. It costs about $1 per test and can be scored easily and immediately. The ADI is based on the DSM-III-R *(Diagnostic and Statistics Manual*, revised third edition), and appears to correspond also to the DSM-IV *(Diagnostic and Statistics Manual*, fourth edition). It usually takes about 1 hour to complete, and it assesses the criteria for substance abuse disorders and psychosocial functioning. The ADI includes screens for eight psychiatric disorders. The instrument costs about $6 and must be scored by hand.

The PEI, a very expensive and good instrument, includes a detailed computerized report and 33 scale scores, with both drug clinic- and school-normed scores. Ten scales relate directly to problem severity, centering on adolescents' behavioral and psychological involvement with drugs. Five scales measure "good and bad faking" tendencies; the former includes defensiveness and denial of problems, and the latter includes exaggeration of symptoms, which occurs fairly often among juvenile criminal justice clients. The test may be administered by paper and pencil or by computer, and it can be scored either directly on the administrator's personal computer or by sending the test to California via mail or FAX for scoring at a cost of $9 to $10 per test. The test does not measure factors such as quantity of illicit drug use, coexisting mental disorders, and tobacco use. The PESQ and PEI have been tested in diverse settings, including with non-Caucasian samples, but the relatively new ADI has not been validated as much as the other two. Research staff are in the process of comparing the publisher's norms with recent data and will revise norms as needed.

Results from one of the PEI scales indicated that teenagers go through five stages as they become addicted, starting with social use and progressing to use due to psychological benefit. When youth reached this latter stage, the rate of diagnosis and referral to treatment increased. The final stages involve physiological signs of addiction and loss of control, at which point the base rate for receiving treatment referral recommendation was in the 90th percentile. Most adolescents at this stage received diagnoses of dependence. This progression is similar to the adult stages of alcoholism.

Predictive validity is an important factor in evaluating tests. The PESQ is used to predict adolescents' need for further assessment. The comparison of PESQ results with independent ratings of the need for further assessment revealed a hit rate of 87 percent. Hit rates typically should be in the 80th- or 90th-percentile range. If a measure's hit rate does not reach the 90th percentile, programs should be careful not to overrely on the test. The ADI was found to have significant predictive validity in diagnosing alcohol abuse. And the PEI, which was designed to predict adolescents' need for chemical dependency treatment, made the same assessment as an individual clinician 85 percent of the time. The test had a hit rate of 81 percent in assessing whether clients needed intensive inpatient or outpatient services.

The reliability of the PEI across ethnic groups is holding up well. Other validity tests, though, still are necessary to further validate norms, which were based largely on Caucasian samples. Revisions in language and content, for example, may be needed in order to make the instrument appropriate for diverse groups.

Research staff are planning on conducting expanded validity and content analyses for ethnically diverse samples and on field-testing non-English versions. They also are examining the ADI in terms of DSM-IV and

are developing parent versions and scales to supplement the existing PEI.

Questions, Answers, and Comments

Despite the availability of many adolescent assessment instruments, several problematic issues need to be addressed. For instance, computerized inventories sometimes are not effective for a variety of reasons. Many children play with the computer and do not answer the questions seriously, thus the test responses are not valid. Also, many children cannot read or understand the questions, or they have learning differences and difficulties. Assessment tools do not appear to address learning problems despite the fact that there seems to be a strong correlation between such difficulties and severe substance abuse problems. In addition, many children in inner-city programs do not follow the stages described by Dr. Metzger (i.e., they are introduced to drugs after they start selling them, not via a social entrance). Finally, assessments do not seem to be very useful without family input, separately and with the adolescents, to screen out exaggerated responses and supplement other information. How can these many issues be addressed further? Although self-report tests are easy to administer and score, many problems (e.g., children's reading levels) do remain. Some questions may be read aloud, but if children have been screened for their reading level and have demonstrated difficulty understanding an instrument, it should not be used. Assessments via interviews may be more successful. The computer tests appear to have been successful overall, but the barriers presented by children not using them correctly should be investigated further. No approach is without its strengths and weaknesses. Self-administered questionnaires have a valuable role in assessing adolescents, but they certainly have limitations. Data obtained from adolescents taking tests inappropriately should not be used. Consumers who have doubts about tests they are considering buying first should ask publishers to send free samples to try.

After screening, what factors might identify the best time at which to administer the more intensive, comprehensive assessment? Screening is conducted prior to a diagnostic assessment in order to identify what needs to be done with a more thorough exam (i.e., problem areas to address). Adolescents should be screened as soon as possible in a situation in which the most information can be obtained. Then intake workers may rule out certain problem areas for possible assessment with more costly diagnostic procedures. Also, the quality of rapport between the client and intake worker is important to consider. Clients respond more honestly if they trust the person conducting the assessment. Furthermore, it should be remembered that treatment most often is based not on a specific diagnosis, but on an adolescent's immediate behaviors, which may be diagnosed at a later date.

It is important to obtain as much information from instrument publishers as possible to determine the appropriateness of their instruments for a specific clientele (e.g., based on age or cultural issues). Normative issues such as these must be considered in the development of an instrument. How have the instruments discussed in this session been developed in this way? Good ways of assessing the validity and reliability of the APSI and PSI are being explored continuously. One problem in this process, however, is the difficulty in identifying a standard against which to compare responses. For instance, composite scores were compared with the PESQ with high rates of agreement, but it is possible that clients simply lied on both tests. The most important evidence of a good measure is whether it actually predicts anything in an adolescent's future, such as participation in treatment, success in treatment, and performance in school. Such studies require longer term assessments than have been done thus far. In considering the use of norm-based tests, consumers should make sure that the test did not use all adolescents of all age groups as the standard for comparison with clients. Norm-based tests should be broken down at least by age and gender for comparative, interpretative purposes. Tests that are criterion-based might not have to be categorized in this way (e.g., age), but they still should be examined carefully for the appropriateness of their questions.

RS22. FAMILY-BASED TREATMENT FOR ADOLESCENTS

Moderator: Elizabeth Rahdert, Ph.D.
Speakers: Scott Henggeler, Ph.D.
Howard Liddle, Ed.D.
Respondent: Mary Thomas, M.S.
July 15, 3:00 p.m.-4:30 p.m.

Speaker: Howard Liddle, Ed.D.

Technology transfer and the relevance of research for clinical work are at the heart of substance abuse work. This work is located at the intersection of many activities, including research, clinical practice, clinical model development, and policy. In the following pages, six themes will be discussed that exemplify these concepts.

First, integration and interaction are important not only in technology transfer but also in other areas of the substance abuse field. For example, individuals working in the treatment and prevention fields are collaborating and working more closely together, as are those in individual and family therapy, drug abuse and psychotherapy, and developmental psychology and clinical treatment. It is increasingly evident how research informs practice and practice informs research. Furthermore, clinical models are beginning to integrate sensitivities to the culture, class, and gender of individuals needing assistance more deeply. Advocates of individual treatment for teenagers that includes developing teenagers' skills are now more likely to work with family therapists in treating youth. Finally, the family-preservation or home-based treatment movement and family therapy are merging. Only recently have specialties like family therapy begun to appreciate the power of home-based treatment. Fositive, new results from these integrations take time but are in progress.

Second, although the idea that families are important may be intuitive, it is important to reemphasize that treatment should focus both on the individual adolescent and his/her peer relationships and on the family's role in the adolescent's life. The family performs different socializing functions in the adolescent's life than the peer group, and understanding these differences enables clinicians to give each the proper amount of attention. Much literature currently exists on this topic.

Third, treatment models do exist, and treatment manuals have been developed by clinicians who (1) work with adolescents and their families and (2) appreciate the difficulties and complexities of that work. The manuals address treatment methods as well as the intersections between treatment systems. Numerous studies also exist that address difficult populations and the multiple systems involved in treating such populations, as well as studies in community settings with many types of therapists.

Fourth, family interventions do work. However, the term "family interventions" does not truly capture the kind of work that clinicians currently do. It is hard to label goals (e.g., "Do clinicians try to change the adolescent, the family, the school, and the probation system?"). A complex interplay of goals and interventions takes place in varying situations. Further, knowledge is beginning to increase about the intersection of outcome and process research. In the past, researchers tended to look at final outcomes, whereas process research permits researchers to learn more about the mechanism of change, the interactions between the clinician and adolescent, and what skills make a client want to return.

Fifth, attitude is a critical concept in adolescent treatment. The more long term and chronic the problem is, the more a clinician is in danger of feeling hopeless and despair about an adolescent. For instance, a family may no longer consider itself a family (that attitude can become contagious), or an adolescent may feel that his/her family will not change and that he/she has no hope for the future. Thus, in interventions and therapy, clinicians must be able to deal with this feeling of helplessness and fight catching that feeling themselves.

Lastly, it is important to consider the context in which clinicians make assessments and provide treatment. Assessment involves locating the family in the context of the multiple systems in which it naturally exists. Individuals are biopsychosocial organisms who act independently, yet who are connected to many other systems. With this in mind, clinicians must treat an adolescent as a whole and see him/her, as well as the parents, alone for part of the treatment. With this one-on-one treatment, it is possible to see the adolescents and parents in relation to other systems. Such a vision guides clinicians everyday in considering goals in treat-

ment, with whom they should speak, and the approach that should be used.

Speaker: Scott Henggeler, Ph.D.

The thrust of work in the past has been to develop a clinically effective treatment program for serious antisocial behavior in adolescents. After a decade of focusing on treatment programs for violent, chronic, and juvenile sex offenders, in the past year work has begun with substance-abusing delinquents. The approach is called "family preservation," which uses multisystemic therapy. It is important to note that family preservation is not a treatment but is a model of service delivery—the treatment is the multisystemic therapy.

This model, a theory of social ecology, is a broad systems perspective that views adolescents as embedded in a family system and the family system as embedded in larger social networks, including peer, school, neighborhood, and church systems. Work in this area is aimed at these extrafamilial systems as well as at the family system. Thus, the key assumptions of the family preservation theory are that adolescents are embedded in multiple systems that have direct and indirect influences on behavior and that behavior is reciprocal and bidirectional in nature.

Extensive literature exists in the field of delinquency, with studies that model how multiple determinants factor into delinquent behavior. For instance, a researcher at the University of Chicago highlighted three influential factors that can predict antisocial behavior—prior delinquency, association with deviant peers, and family and school problems. Emerging literature in substance abuse demonstrates similar parameters in addition to the fact that substance abuse also is multideterminate, and for every individual, these determinants may differ. Clear treatment implications follow; in other words, an effective treatment must have the flexibility to deal with the multiple systems. It is imperative to have therapists who can address multiple causes of a problem in a flexible, comprehensive way, often drawing on the strengths of the individual systems.

The family preservation model has been in use for many years. In fact, it was used 15 years ago before it was known as a theory. When few adolescents were showing up for a treatment study on juvenile offenders, therapists were asked to search out clients, and then the wealth of information and positive results acquired from home-based work were realized. At about the same time, the family preservation model was developing in the social work field as a method for keeping abused and neglected adolescents in their homes. The first aspect of this model includes the direct delivery of services in the clinic, traditional mental health services, the home, and the community. Family preservation, or one-stop shopping, tries to address any barrier to effective outcomes; therefore, therapists must be well-trained generalists. A team approach is taken to providing these services, for example, each therapist has met every family being treated by the other therapists at least once. A very low staff-to-client ratio exists, and staff are available 24 hours per day, 7 days per week. Traditional services provide contact every couple of weeks, whereas family preservation therapists contact clients as often as needed, sometimes up to eight times per week. Traditionally, treatment outcome is the responsibility of the client and family, but this perspective holds that the responsibility lies with the therapist, supervisor, and—ultimately—the researcher. However, the therapists cannot be held responsible without providing them with the training, resources, and support to deal with difficult situations. Usually, case management involves a brokerage of services, but in family preservation the goal is to provide all services (with few exceptions).

With family preservation, there is a decreasing association with deviant peers, increasing association with prosocial peers (e.g., sports, church, and civic activities), an improvement in school performance, increasing engagement in recreational activities, and an improvement in family-community relations (e.g., increasing parent involvement in the schools). Therapists should be charismatic but not try to work magic; it is the parents and the adolescent who must make the changes.

In the project, more than one-half of the clients were violent offenders with an average age of 15. To enter the project, adolescents had to be violent or chronic offenders and at high risk for incarceration. The project's goals are to reduce the rates of criminal activities, reduce the costs of services, reduce the amount of time in out-of-home placement, and preserve family integrity. Family preservation was found to be more effective than usual services in meeting

each goal. For example, family preservation clients spend an average of 73 fewer days in the year following treatment in out-of-home placement than those who have traditional treatment.

A 2.4-year followup was conducted using the survival analysis statistical technique, which usually is used in medicine but adapts well to recidivism. At Day 1, 100 percent of the clients were "alive." A graph of the recidivism rate reveals that after 1 year, approximately 73 percent of adolescents in the control condition were rearrested, while approximately 42 percent of adolescents in family preservation were rearrested. This was the first evidence of a long-term treatment effect among youth with serious antisocial behavior. The results of this study lead to the conclusion that the family preservation method, using multisystemic therapy, is more effective than traditional services in reducing criminal activity, less expensive, and more ethical in maintaining family integrity.

In addition, 4½-year followup data from another study of 200 chronic offenders randomly assigned to treatment conditions (i.e., multisystemic family preservation as opposed to individual counseling) show the positive effects of home-based, multisystem interventions. Dropouts from the treatment group showed a higher recidivism rate than those who remained. Based on this information, a study will begin in fall 1993 on the effects of dosage and the integration of community volunteers. On the other hand, recidivism among dropouts and nondropouts in individual therapy does not differ; of course, individuals who had neither type of treatment had a very high recidivism rate.

Family preservation treatment is very different from the homebuilders' model, where treatment involves cognitive behavioral interventions plus social support. In addition, all evaluations of this model to date show that effects disappear after 6 to 9 months, and no difference occurs compared to traditional treatment. The family preservation model was effective because the known causes of delinquency were targeted, including family and peer relations and school performance. The homebuilders' model targets the family system, but it does not try to change other things like peer relations. Also, family preservation treatment was shown to be successful because it occurred in the youth's natural environment, which increases the probability of long-term outcomes. Therapists were well trained and supportive, and much attention was devoted to developing positive interagency relations, such as with school officials.

With regard to peer relations, family preservation therapists do all they can to discourage youth's association with problem peers. Many of the youth need support and assistance to integrate into a new positive peer group—this change is very important to the effectiveness of the youth's treatment.

A study in Charleston has been going on for 14 months that currently consists of 38 juvenile offenders who meet the DSM-III-R *(Diagnostic and Statistical Manual,* revised third edition), criteria for substance abuse. Nineteen are in a control group, and 19 are receiving family preservation treatment. Postevaluations have been collected on 8 adolescents, and in 3 months, there should be postdata on at least 36 adolescents. Preliminary results show one rearrest and zero out-of-home placements among adolescents receiving family preservation treatment and six rearrests and six out-of-home placements among adolescents in the control group. Posttest data over a 4-month period on 4 adolescents from each group show 7 self-reported crimes among adolescents in family-preservation treatment and 51 self-reported crimes among those in the control group. Further, three out of the four experimental youth reported abstinence versus one youth in the control group. Although these are very preliminary results, they are exciting and have implications for health care reform by showing the need for family-based and community-based treatment. Again, the project's goal is to change the adolescents' ecology.

Questions, Answers, and Comments

Should drug abuse professionals continue to provide inpatient treatment, and if so, how does multi-system therapy fit into the continuum of care? No controlled clinical trials have shown that residential or inpatient treatment of serious psychiatric problems, delinquency, or substance abuse are better than any other treatment or no treatment at all. However, 75 percent of children's mental health dollars fund residential and inpatient treatment. A large amount of money is made on such services, and tremendous vested interest has developed in them despite the fact that some studies have demonstrated

negative effects from them. Still, it is possible that health care reform may move those dollars and reinvest them into community-based projects.

Are offenders who appear to have a hereditary link to their substance abuse illness faring worse in comparison with youth who do not seem to have such a hereditary link? There are not enough data to answer that question. Biological contributions do seem to be very important and should be studied further. It is possible that biological interventions, such as minor tranquilizers for anxiety, may become important parts of treatment.

How can legislators and others be convinced of the benefits of outpatient services over inpatient treatment? Legislators should become convinced of the benefits of outpatient treatment because of its cost-effectiveness—as rates of violent behavior increase, the current answer of simply incarcerating offenders for longer periods of time is extraordinarily expensive.

Comment: The family-based treatment movement is changing the field and clinical sensibility, even though it is not easy. Researchers and clinicians are excited about such findings as they try to make a difference in adolescents' lives. The whole training and delivery system needs to change. Clinicians and others in the field may obtain training manuals and keep abreast of findings by being on pertinent publishers' mailing lists and corresponding with researchers and other workers in the field.

Comment: With the growing movement toward family preservation treatment, many child and adolescent therapists already have moved out of mental health centers and into schools or family preservation projects. For instance, there is a major push in South Carolina to move services and therapists out of centers (which frequently have high no-show rates) and into the communities, where they can provide more direct, comprehensive interventions. It is hoped that medicaid compensation for such services will increase.

What kinds of strategies can be used to encourage adolescents to change their behavior and to associate more with prosocial peers? First it is important to convince both the adolescent and parents that this social change is imperative in the adolescent's life. If the adolescent resists this assertion, then parents must be persuaded to discourage their child's association with antisocial peer groups by setting curfews and other restrictions and by facilitating his/her involvement with other groups, such as sports teams. The therapist's relationship with the parents should be distinct from his/her relationship with the adolescent. It is important for therapists to speak directly to adolescents, be on their side, and help them recognize and accept behaviors they should change.

RS23. Specialized Treatment for Pregnant and Parenting Teenagers

Moderator: Elizabeth Rahdert, Ph.D.
Speakers: Tiffany Field, Ph.D.
James A. Hall, Ph.D.
Respondent: Mildred Colon-Sandino, A.C.B.S.W.
July 16, 10:15 a.m.-11:45 a.m.

Speaker: Tiffany Field, Ph.D.

The NIDA-supported research grant program at the University of Miami focuses on teenage girls who have used drugs and alcohol during pregnancy. For the young women who have so far enrolled in the program, marijuana has been the primary drug of choice, with alcohol use viewed as a secondary problem. For some of the young women deemed eligible due to their prior pregnancy and drug use behavior, their drug-related problems were deemed too severe to allow them enrollment into the program. Some of these young women were placed in jail programs or, if they were not involved in the criminal justice system, were admitted into an inpatient program at the hospital.

The main method of recruiting these adolescents into the program has been through the use of an intensive interview conducted on the day of delivery. The interview is composed of a number of questions that refer to the patient's drug use history and family background. A key to increasing the rate of recruitment into the program is to ensure the mother of the confidentiality that will be maintained throughout the interview process.

Following enrollment into the program, the first step is to enter the teenage mother in school so that she can earn her GED (general equivalency diploma) and/or learn job skills. This later will enable the teenager to obtain and maintain a job that will gain her the needed income to support herself and her infant. A day-care facility is provided for the

infant while the mother attends the high school classes. This facility offers other services, including massage therapy for the infant, physical therapy exercises for the mother, mother-infant interaction sessions during nonschool hours, and preventive childhood accident training.

The program schedule is made up of a 4-month schedule in which the mother fulfills her high school requirements. This then is followed by a 6-month period consisting of biweekly sessions between the mother and the program staff. During the initial 4-month period, the mother's mornings normally are spent attending high school classes or studying for GED exams. Vocational counseling classes also are available. In addition to the classes, 2 to 4 weeks are spent working in the infant nursery, where the mother learns how to better handle/interact with her infant. The program afternoons are spent in the treatment facility, where the mother can participate in any of the following activities: socializing, cooking (which is a stepping stone to teaching proper diet and nutritional habits), drug rehabilitation sessions, social skills training, parenting classes, tutoring, aerobics, relaxation therapy, and occasional offsite cultural and recreational outings.

A token economy is employed within the structure of the program to reward positive behaviors that occur when the mother is participating in any one of the various components of the program. Tokens that are earned can be used to buy things the mother likes. In contrast, tokens can be taken away if the mother exhibits negative behaviors during any of the program activities. An electronic monitoring beeper system is used when the mother is outside the treatment facility as a way to check that she is not experiencing any problems or difficulties. Random urine screens are conducted throughout the month to check for drug use and pregnancy status. One hundred tokens are awarded to a mother whose urine screen reveals no drug use, and 90 tokens are given when the pregnancy test is negative.

Also offered during the program are job-seeking skills training that involves areas such as résumé building and interview practice. Results of the program indicate that mothers who receive job training have higher rates of program completion, lower rates of continued drug use, fewer repeat pregnancies, higher rates of GED completion or high school graduation, and larger numbers of job offers as compared to those mothers who do not take job training. A 60-percent success rate has been experienced within this program.

Speaker: James A. Hall, Ph.D.

A NIDA-supported research project in San Diego assesses the efficacy of the Positive Adolescent Life Skills (PALS) Program, a drug treatment program designed for teenage pregnant and parenting girls between 14 and 19 years old. Mexican-American and African-American adolescents make up the majority of young women enrolled in the program. Among these participants, "gateway" drugs, such as alcohol and marijuana, are the drugs of choice, although a majority of the participants report quitting or reducing drug use when they discovered they were pregnant, with higher rates of drug use found among the nonpregnant "parenting" girls.

The PALS Program consists of a 1-day-per-week outpatient program, with skills training, a Facts-of-Life class, case management, and medical care making up the main components of the program. The medical care component consists of two clinical services: (1) standard medical treatment for all program participants and (2) obstetrical services for the mothers-to-be.

Problemsolving and social skills training make up the main activities in the PALS Program. Social skills training encourages the girls to determine their positive and negative role models and to learn how to "say no" to drug use and high-risk sexual behavior. And most importantly, these teenagers find out how to seek more information, decline assertively, provide reasons, and describe to themselves a better plan when confronted by a potentially dangerous situation.

The Facts-of-Life class consists of a 16-week course that answers questions related to issues such as sexual activity and birth control. The main components of the case management program are needs assessment/monitoring, treatment planning, referral to community services, crisis intervention, and advocacy.

Although the PALS Program provides a certain degree of punishment for negative behavior, a point system was developed in order to reward the girls for positive partici-

pation within any or all components of the PALS Program. Outcomes occur when the pregnant or parenting teenager shows indications of possessing more positive social support and improved problemsolving skills; when she can handle criticism in an assertive, constructive manner; and when she avoids high-risk sexual activity and decreases the degree to which she depends on negative rather than positive social support.

Questions, Answers, and Comments

Are there any real behavioral traits to be aware of that would indicate a tendency toward future drug abuse on the part of pregnant teenagers who are involved in various treatment programs? The data obtained through the PALS Program suggest that there is not any set pattern or cure-all method for predicting the factors responsible for future drug use.

Are any special methods or techniques used within these two programs (the University of Miami program and the PALS Program) in regard to addressing the many cultural differences of the teen participants? There have been no culturally based barriers to treating the participants. Despite not citing any differences between the various ethnic groups, there is a difference in the way in which one racial group acted toward another. The best example of this can be seen when all of the participants of the PALS project are assembled in one room; three categories of people congregate: (1) African-Americans (on one side of the room), (2) Caucasians (in the middle), and (3) Hispanics (on the other side).

How is the issue of childhood sexual and physical abuse being addressed within both programs? In the University of Miami program, the only way in which any progress is made toward curbing the trends of physical and sexual abuse of the participants is to report their abusers to the proper authorities. Another method which reaps some success in terms of lowering the abuse cases is to threaten the participants with termination from the program if they continue to live with the people who are abusing them.

What alternatives are there for communities that may want to set up a similar program but do not have the same number of resources at their disposal? The University of Miami program was unable to start until the program's innovators received funding from NIDA. It is therefore sometimes a question of which resources can be acquired from outside help when attempting to implement programs in needy communities.

In regard to the University of Miami program, is there a fear that the girls, upon leaving the relatively safe and unrealistic program environment, will fall back into an unsafe lifestyle? This is a primary concern of every program worker. The best way to combat such an unfortunate turn of events is to help ensure that each and every girl's safety is secure before they leave the program. This generally is done by helping them settle into safe and stable living conditions.

Where in the PALS Program is the issue of HIV/AIDS addressed? The Facts-of-Life class is devoted to this subject.

Comment: The male component needs to be included in more of the programs in terms of the educational factors that lead to such occurrences as teen pregnancy and the contraction of HIV/AIDS. More programs should begin to include the partner of the pregnant girl so that he not only sees what role he needs to play in her life but also so that they gradually learn how to avoid the numerous dangers and problems facing them.

RS24. Women's Assessment Procedures

Moderator: Paul Marques, Ph.D.
Speakers: Elizabeth Brown, M.D.
Karol Kaltenbach, Ph.D.
Respondent: Janice Ford Griffin
July 15, 10:30 a.m.-12:00 p.m.

Speaker: Elizabeth Brown, M.D.

Studies of substance abuse treatment require accurate assessments of drug use history. There are numerous important assessment areas in addition to actual substance use in the context of the New Beginnings program, which operates in conjunction with a neighborhood health center in a high drug use area of Boston. New Beginnings provides medical care; substance abuse treatment support; and a series of services especially designed for women, such as parenting support, legal advocacy, and a child activities center. As a NIDA research demonstration project, New Beginnings uses assessment tools to examine outcomes of the interventions.

Women coming into treatment present a different set of problems than do men. Most treatment programs originally were developed to serve primarily men, so assessment procedures were directed at substance abuse among men. For instance, most questions on the widely used Addiction Severity Index (ASI) have addressed problems more specific to men, such as criminal behavior, but many have limited relevance to women. In order to be more gender specific, a new series of questions exclusively for women has been added to the ASI.

The characteristics of the patients being served influence the types of assessments that should be conducted. Among the first 58 pregnant women in the New Beginnings program, the average age was 27. In contrast, the average age of men in drug treatment is in the mid- to late thirties. Pregnancy usually serves as the woman's primary motivation for entering treatment because she is concerned about her baby's health. Staff face the challenge of convincing a woman that she needs treatment just as much as her fetus. Often women believe that programs are only for their babies and not for the women as well; thus, the highest dropout rate occurs at the time of birth. It is useful, therefore, to develop a woman's self-esteem so she recognizes that she deserves treatment as an individual.

Seventy-eight percent of New Beginnings' delivery population is African-American, and virtually all of the women are single or separated. Many live with a partner but only in a temporary arrangement. The women have a mean of four prior pregnancies and two live births. The high rate of spontaneous abortions indicates the dangerous level of illness in the women (e.g., hypertension or diabetes). Thus, a medical assessment protocol is needed upon admission of pregnant women in treatment programs, covering factors such as family risk, medical problems prior to pregnancy, and risks associated with pregnancy loss. Also, programs should have a well-developed linkage with a primary care/obstetric provider. The women's average age at first pregnancy is 18; thus, their average four prior pregnancies occurred over a 10-year span.

A woman generally is motivated to enter treatment by the time of her fourth pregnancy because she does not have custody of her other children and realizes that unless she enters treatment, she may not be permitted to keep her newborn. This situation creates a dilemma for treatment staff. Most States have child abuse reporting laws that require all health care providers to report a suspicion of child abuse or neglect. These laws supersede Federal confidentiality statutes for drug treatment programs, so staff must report to child protective services a woman who delivers but still is using drugs. This requirement conflicts with staff's confidentiality commitment. Thus, staff must inform a woman of this procedure, assess the woman's prior and current parenting capacity, and help her learn parenting skills. New Beginnings expected a decrease in the number of children entering foster care, but the opposite occurred due to the mandate to report mothers' drug use. In its first 6 months, New Beginnings was known on the streets as "the baby snatchers." Only after women had been in treatment and then regained custody of their babies did the program's reputation turn around and recruitment become easier.

The mean educational level of women in New Beginnings is 11 years of school, but their reading level has been determined through assessment to be at the sixth-grade level. Thus, staff have had to present information orally or in very simple written language. New Beginnings started a GED (general equivalency diploma) program in the treatment center, and even women with a high school diploma participate in the program to improve their reading ability. Also, it is important at intake to assess physical and sexual abuse. However, it is equally important not to raise sensitive issues that staff cannot handle immediately. For instance, it is irresponsible to raise such troubling issues among women who, through random assignment, face a delay in treatment. Thus, New Beginnings staff do not ask detailed questions about prior abuse but do assess abuse during the pregnancy. Even at intake, with interviewers who are strangers, 47 percent of women have discussed current abuse. After women begin to know staff better, 85 percent have admitted that they currently are suffering physical and sexual abuse. For most women, programs cannot treat substance abuse problems without first addressing physical and sexual abuse issues.

Finally, in a 20-year-old study from Michigan, 76 percent of women under 30 entering treatment came from families in which alcohol was abused in the home. And, even 20

years ago, 50 percent of women entered treatment with a history of drug use in the home, and one-third admitted being physically or sexually abused. In current scenarios, alcohol use has lessened and drug use has remained substantial. It is important now to assess sexually transmitted diseases, including AIDS, and other infectious diseases—all of which are on the rise.

To accurately assess substance abuse, both self-reports and objective measures appear to be useful. A study at Boston City Hospital on women presenting for prenatal care assessed substance abuse through interviews at intake and delivery, along with three periodic urine samples. Some women reported substance use but had negative urine tests, some reported substance use and had positive urines, and others reported no substance use but had positive urines. Assessment should involve both self-reports and urine samples to attain an accurate picture of the problem.

Speaker: Karol Kaltenbach, Ph.D.

A cardinal rule in assessment is to ensure that instruments are valid and reliable, but this presents a challenge in the assessment of substance-abusing women. One cannot assume that measures with good psychometric properties are adequate for assessments of this population. For instance, the ASI is widely used but also widely criticized as inappropriate for women. In general, a new movement appears to be occurring in the area of instrumentation to develop more appropriate measures. A further area of concern involves deciding who is appropriate to administer the instruments. In research demonstration projects, it is helpful—but sometimes difficult—for research and clinical staff to work together while maintaining the integrity of the research. For instance, it is difficult to determine whether clinical or research staff should administer questions concerning sensitive clinical issues. It may be useful for a research staff person to administer instruments but have a clinician available to attend to related emotional issues.

An additional concern in assessment regards when instruments should be administered. Sometimes the timetable for assessment may be at odds with a woman's progress in clinical treatment. One cannot assume that a valid instrument always will yield valid information. For instance, in obtaining intensive abuse histories, the ASI was too intensive at first and thus was modified for early assessment. Programs must ensure that assessment questions do not set a woman back in her treatment progress.

One of the Perinatal 20 Projects—the Cocaine, Pregnancy, and Progeny Project—has been examining the effectiveness of residential treatment as compared to outpatient treatment for cocaine-using women. The project aims to improve safe and healthy pregnancies and perinatal outcomes. Extensive maternal and infant assessments are conducted, and most items are administered at intake and at different points in the woman's pregnancy. Staff for this and other Perinatal 20 Projects felt pressured to use the ASI in order to have some comparable data across the projects, yet most projects also felt that the ASI was not appropriate for women and was not yielding very meaningful information; thus, the instrument was modified. A psychosocial history was developed to extend the scope of the ASI, adding quantitative and qualitative assessments that are specific to the needs of women, including medical aspects of pregnancy, caregiving history, child care and living situations, relationship with the father of the child, and victimization history. These additions are included in the module of the new training tape that NIDA is developing on the ASI.

The Cocaine, Pregnancy, and Progeny Project used this modified ASI, along with the Beck Depression Inventory, a stress checklist, and a self-reported abuse questionnaire. It is important to remember that stress is specific to the assessed population. The project also uses the Everyday Stressors Index developed by Hall in 1985 particularly for low-income women. Additionally, a social support interview format was developed using the 1983 Social Network Inventory from Weinrub and Wolf and the Social Network Assessment to measure information on women's help with child care, satisfaction with support, and nature of emotional support. The Internal Control Index measures locus of control and was chosen for use with both male and female African-Americans of heterogeneous education and socioeconomic levels.

Above all, it is important to conduct assessments with compassion and respect for mothers and their children and to provide an

environment to support their recovery progress.

Speaker: Paul Marques, Ph.D.

This study, beginning in 1989, examined treatment outcome differences among postpartum, drug-abusing women in Prince George's County, Maryland. Despite much controversy at the time over the use of hair testing as an outcome measure, the possible benefits of such a method motivated the program during the first 6 months to try using hair samples from mothers and their infants to determine the joint presence of drug levels. In this study, mothers had an average age of 27 years, and infants averaged 74 days old at the time of hair sampling. The results were good, and hair collection was continued on all 160 mother-infant pairs; mother hair samples were collected every 4 months for 2 years.

The data indicated that among women who had been positively identified through urine testing for cocaine use, 99 percent tested positive for cocaine 3 to 6 weeks later using hair samples, and 93 percent of their infants also were found to be cocaine positive. Looking at cocaine metabolite (or the parent compound cocaine), however, the hit rates were considerably lower when again using the same sample of women who had tested positive for cocaine use a few weeks earlier. These results are interesting but do not confirm the reliability of hair testing as a quantitative outcome measure, which is necessary if it will be useful for research. The researchers also found by examining hair samples of a mother and infant exposed to the same blood supply that the correlation was 0.52. When restricting the sample to only hairs determined to be in good condition, the correlation was 0.62. The condition of the mother's hair is an important determinant of whether it is reliable as a quantitative outcome measure. These findings strengthen the case for quantitative accuracy. A paper recently was published on this issue in the *American Journal of Drug and Alcohol Abuse.*

Callahan in Seattle also recently published a study in the *Journal of Pediatrics* that reported a 0.72 correlation between a sample of mothers' and their infants' hair. This is a strong correlation, and with adjustments, approximately the same magnitude of effect was found in the Callahan and Marques data sets. Thus, hair testing does seem to be a useful outcome measure under certain circumstances. One study also found a correlation of 0.4 between positive testing for cocaine by urinalysis and by hair analysis, which also is reasonably supportive of the reliability of hair testing. Also, using self-reported scales (an assessment of use in the past 30 days) was positively but weakly correlated to the amount of cocaine found both in urine and hair. Therefore, if it is accepted that hair testing for cocaine is a quantifiable measure, it can be used to assess infants' third trimester in-utero exposure to cocaine and to determine the relative decline of cocaine use among adult groups receiving treatment. For instance, one study of 56 women, using hair samples at 4 and 8 months after intake, revealed a decline in cocaine abuse on a group basis. There is too much error to have confidence in any one sample, but as a group outcome measure, hair testing is very useful.

Questions, Answers, and Comments

To what extent does the assessment procedure present a barrier to gaining access to treatment? It is extremely important to consider whether a lengthy assessment process poses a barrier to treatment for women and whether women will be receptive to the process. It may be helpful, for instance, to be accommodating to women by providing lunch for them and their children during assessment. Also, it should be remembered that women are not required to participate in the research in order to receive treatment; thus, assessment does not necessarily pose a barrier to access services.

Furthermore, it is very important for research staff to be honest with patients and to inform them of the reasons for and significance of the research. Patients often respond positively to this approach because they realize that they may be contributing to important developments in treatment. Additionally, research needs should be tied into therapy whenever possible. For instance, in New Beginnings, urine testing of women was conducted not only to attain research data but to help women understand and deal with relapse issues. Thus, the tests were perceived not as punishment but as a service and, therefore, as less threatening and invasive.

Attention to the history of physical and sexual abuse during a woman's current pregnancy should not minimize the impact of

early childrearing practices of the woman's parents. The patterns that people show as adults are determined in the first few years of their upbringing. Thus, is it important to gather this kind of information from patients? Certainly such information is critical; however, it should be attained only when treatment is subsequently available.

What are the two most important facts that researchers would most like the community to understand? The patient's history of physical and sexual abuse and the family's history of substance abuse are critical. Additionally, it should be remembered that relapse is part of recovery; treatment is a process, not a single intervention. People must recognize that treatment intervention outcomes cannot be measured only 1 month after the onset of treatment—and not all successes are measured by abstinence.

How do researchers control for research bias? If a funding source sets up criteria for funding, these criteria must be met in order to receive the money. Funding sources must be educated to ask the right questions so that they request useful information. Researchers may ask the questions requested by the funders and then add on other questions they feel are important. People fund projects to gain information that is in their best interest to have. Researchers must be careful with the inferences made from their data. The knowledge base in the drug field is fairly tentative.

What cost factors are associated with hair analysis? Few laboratories are available to analyze hair samples. Hair sent to a commercial lab in Santa Monica, California, was analyzed at a rate of $45 per sample. This cost at first seems high compared to urinalysis testing. However, costs even out when one considers the reduction in personnel costs for staff taking hair samples every 4 months as opposed to urine samples every 2 or 3 days. Also, women do not find providing hair samples to be as demeaning as urine samples, and the hair sample does seem to be a reasonably good quantitative measure in the aggregate.

RS25. Women's Treatment Approaches: A Clinical Perspective

Moderator: Loretta Finnegan, M.D.
Speakers: Elizabeth Brown, M.D.
Shirley Coletti
Irma Strantz, Ph.D.
July 17, 11:15 a.m.-12:45 p.m.

Speaker: Loretta Finnegan, M.D.

The 3 speakers for this session were principal investigators for 3 of the 20 NIDA-research demonstration projects conducted in 17 cities across the country during 1989 and 1990. NIDA funded these projects because of the perceived need to learn more about treating pregnant, drug-addicted women. The senior adviser on women's issues in NIDA's Office of the Director advises on issues related to women, pregnant women, and children, as well as fosters interest in these and related issues.

When women began using a significantly greater amount of cocaine in the late 1980s, concern initially centered on the drug's effect on the women's children before concern focused on the women themselves. It is important to recognize the complex nature of addiction, specifically for women. The cycle of addiction includes illicit and licit drug use along with the multiple medical and obstetrical complications related to addiction. In addition, one must consider other issues, such as comorbidity, physical and sexual abuse, legal and socioeconomic concerns, lack of employment, and number of dependents. A multidisciplinary clinical approach is needed to address the many factors of addiction.

Speaker: Elizabeth Brown, M.D.

New Beginnings, a neighborhood-based, day treatment program, is one of the Perinatal 20 evaluation grants funded by NIDA. Working in association with a neighborhood health center that is operated from Boston City Hospital, New Beginnings offers comprehensive one-stop services to pregnant women, including drug treatment, prenatal and postpartum medical care, pediatric care for newborns and other children, and parenting education. The program aims to help women abstain from drug use and maintain recovery, as well as teach women about pregnancy and how to enjoy life in settings different than the women generally are used to. The program employs culturally appropriate staff for the targeted population.

New Beginnings involves a study composed of a randomized trial between a treatment group, which receives New Beginnings' services, and a comparison group, which receives general substance abuse treatment and other services at Boston City Hospital. The women in the treatment group, who voluntarily come into New Beginnings for treatment, are generally between 26 and 27 years of age, which is slightly older than the pregnant women admitted to Boston City Hospital. The women in the treatment group are predominantly African-American, single or separated, have an average of four previous pregnancies, and have an average of two living children. The women have a high incidence of sexually transmitted diseases and pregnancy, as well as a large number of complications from medical conditions that have a high prevalence among African-Americans, such as hypertension. More than 80 percent of the women have been abused physically or sexually. On average, the women have completed 11 years of school.

The program provides drug-free counseling. The women at New Beginnings primarily use cocaine. Opiate-dependent women who are admitted may be maintained on methadone.

Many pregnancy losses among substance-abusing women are preventable and are related to underlying, untreated medical conditions. However, women who receive prenatal care tend not to lose their babies. Substance-abusing women typically experience their first pregnancy at age 18 and tend to seek treatment on an average of 18 years after their first pregnancy. Many women do not seek treatment earlier because they want to keep their children and fear that if they admit to using drugs, child protective services will take their children away. Therefore, many of these women keep trying to get pregnant with the hope that their drug use will remain undetected.

Approximately 40 percent of the women in the treatment sample currently are being physically or sexually abused; consequently, treatment strategies also must take into account the women's risk of harm and how that risk affects their chances for relapse. Individuals working in treatment must learn about the many circumstances that influence a person's use of drugs.

The hypothesis for the randomized trial conducted at New Beginnings was that a day treatment program would result in (1) decreased drug use, (2) increased retention in drug treatment, (3) improved perinatal outcomes, and (4) improved parenting skills. It was important that the outcome measures examine not only abstinence and outcome but also harm reduction. For instance, women may not stop using drugs, but they may decrease their drug use; thus, relapse may be considered part of the recovery process. Women's decreased and more controlled use of drugs will lead to a reduction in the harmful outcomes from drug use. Research projects should have realistic outcomes and not overlook positive results other than complete abstinence.

In the New Beginnings study, several harm-reduction strategies were examined. For example, the study examined the outcomes of pregnancy, such as differences in birth weights and the outcomes of children evaluated by the Bayley Scales of Infant Development in the first 2 years of life. Children in both the treatment and comparison groups showed similar results on this measure.

In assessing parenting skills, it is helpful to use new strategies that examine behavioral assessments. For instance, at Children's Hospital in Boston, a face-to-face assessment is conducted during the first 6 months of life, observing how each baby reacts to his/her mother's actions and facial expressions. In addition, the mothers' actions are examined and the mothers are told to act "normally" around their infants. Substance-using mothers often consider it normal to act aggressively toward their infants, such as poking them to get a reaction. When the infants typically react adversely to this type of behavior, it reinforces the mothers' perceptions that their children don't love them. Women who are not involved in drug use, however, act more lovingly toward their infants. This kind of study provides better information about parenting and parent education than gross, global, and/or functional assessments.

Finally, the NCAST and the Caldwell Home Scale have been used. The first, a feeding and teaching scale, investigates a mother's ability to teach her child tasks, while the second examines the quality of the home environment for rearing a child. The results of the Home Scale improve greatly after women have been in the program 1 year, as they put their newly acquired parenting skills to use. Furthermore, the Home Scale appears to be the best predictor of school

performance and the best way to measure the environmental impact on learning.

Speaker: Shirley Coletti

Operation PAR (Parental Awareness and Responsibility), a multimodality addiction service program in St. Petersburg, Florida, currently is the recipient of funds from 47 sources. It speaks sadly for the state of the art of drug abuse treatment that so much time must be spent seeking funds. It is important to point out that demonstration project funding has time limits. For example, these projects have 3 or 5 years to prove that they are effective, but often they then are not in a position to continue funding and operating on their own. Until the drug abuse field moves beyond this method of funding, the whole industry will be in a state of disarray.

Community-based organizations will not go very far unless they become learning laboratories for researchers and themselves. Since 1973 Operation PAR has provided a traditional therapeutic community with 125 beds for men and women. However, because few women initially entered the program, Operation PAR developed a special therapeutic community for drug-abusing mothers who had left treatment early to be with their children. It was discovered that the length of time mothers would spend in treatment depended on their relationship with other social service workers, who often posed the threat of taking the women's children from them. More and more, women were delivering drug-exposed children. Consequently, Operation PAR developed resources to meet the women's needs, and a proposal was submitted to NIDA to examine the retention of women in treatment when they have children.

According to data from 1988, women dropped out of the long-term residential treatment at a much faster rate than men. It was difficult for women to find care for their children, and often when a mother appeared to be recovering (after a short time in treatment), the relative or individual who was caring for her children usually pressured her to resume her parenting duties immediately. As a result, PAR Village, a therapeutic community, was developed and consists of 14 houses where mothers and their children live together. While the children receive developmental day care, the mothers receive treatment and parenting skills training and work in PAR industries to learn job skills. To be eligible to live in PAR Village, also known as TC Plus, women must be cocaine dependent, age 18 or older, and have one or two children age 10 or under.

As part of a research study, Operation PAR screened women and made random assignments either to PAR Village or to standard residential treatment (without their children). The study observed women in both groups after 18 months of treatment, with followup at 2, 6, and 12 months. The results upheld the hypothesis that having both the mother and child in the program would improve treatment retention. Data show that employment and transportation continue to be among the greatest barriers to success for this population of women following treatment. Operation PAR has developed a full-range continuum of services. With the realization that returning to violent, drug-ridden communities poses great risks to women just coming out of treatment, Operation PAR also obtained a 43-unit apartment building in order to offer mothers drug-free housing after treatment. In renovating these apartments and those for PAR village, Operation PAR relied on work provided by the residents and support from local corporations. Consequently, the apartments have been cost-effective. Drug-free housing must become an integral part of the continuum of care for women to succeed outside treatment.

Cocaine-abusing women have a high risk of relapse for a number of reasons. Of the women in Operation PAR, 79 percent have experienced prior treatment failure, usually at 28- to 30-day treatment programs; 64 percent are high school dropouts; 76 percent have poor work skills; 82 percent have a criminal record; most have at least one child; 92 percent have multiple sexual partners; and 93 percent are single parents. A relatively high percentage of women in PAR Village have custody of their children during treatment and by the time they leave the program most obtain custody. However, women in the standard residency program who do not have custody of their children must participate in special State-mandated activities, such as seeking employment after they leave the program, in order to win custody.

The program has changed drastically from a traditional therapeutic community to one specializing in women's needs and reintegrat-

ing their spouses or partners into treatment. Again, it is critically important that programs offer to serve as a laboratory for researchers in the field in order to explore and share new ideas and approaches.

Speaker: Irma Strantz, Ph.D.

The Uhuru Family Research Project is a collaborative effort conducted in Los Angeles, California, between the University of Southern California, the Watts Health Foundation, the Los Angeles County Department of Children Services, and the South Central Los Angeles Regional Center for Developmental Disabilities. Uhuru means "freedom" in Swahili. The research centers on an intensive 6-month day treatment program for drug abusers. The research subjects are women who have (1) been reported to the county child protective services agency after giving birth to drug-exposed infants and (2) either voluntarily or by court order entered drug treatment to receive custody of their infants.

The research project aims to develop and refine, over time, a day treatment model for these women; evaluate the model's effectiveness as compared to outpatient drug treatment; and explore the relationships among the client characteristics, the level of treatment, and outcomes over an 18-month treatment and followup period. The project is trying to determine (1) the critical components of the day treatment model, (2) for whom this treatment is most effective, and (3) what impact client variables have on predicting treatment compliance and short- and long-term outcomes. Upon referral, subjects are assigned randomly to either the intensive day treatment or the traditional outpatient programs. Basic services at each site include the following: social and health assessment, individual and group counseling, Narcotics Anonymous, random urine toxicology screening, case management, parenting education, and alumni activities. The outpatient treatment consists of 1 to 2 hours of services Monday through Friday, whereas the day treatment program provides 6 hours of services 7 days per week. Infants attend the day treatment program with their mothers twice a week.

The day treatment program represents a multipronged, cognitive behavioral approach to women with drug dependency and focuses on women's psychosocial needs, particularly regarding empowerment. The clients receive 4 hours per week of education on drug abuse, recovery, relapse prevention, managing internal and external triggers, interpersonal skills, AIDS awareness, family planning, housing, and other topics—many of which also are addressed in group counseling. The study found that mothers often do not know how to care for their children—a pediatric nurse specialist now provides 4 weeks of training and education to parents on infant development. The entire parent education class consists of a 12-week curriculum, focusing on the social learning process and effective approaches to discipline. Completion of this training program is mandatory for women in the day treatment program, who also may participate in self-help groups, family counseling, self-improvement activities, and vocational assessments. This approach is based on research demonstrating that effective treatment for cocaine abusers includes a structured treatment program, individualized treatment plans, small counselor caseloads, daily individual or group counseling, support for abstinence, life skills, empowerment training, and family involvement in the treatment process.

Data from this project are collected in several ways, including client interviews, developmental assessments of infants, infant and family risk assessments, and other in-treatment data from records or the women themselves. Several well-established instruments are used, including the following: the Coping Strategies Inventory, which reflects at least seven dimensions of coping; the Sareson Social Support Questionnaire, which looks at the respondent's perception of available social support; and the Social Provision Scale, which assesses six social functions that may be obtained from relationships with others.

Data currently exist on 180 women who enrolled in the project. Most of the enrollees are African-American women, with an average age of 30 and an average of 3.6 children. More than one-half of the enrollees have at least a high school education, but 72 percent were unemployed prior to pregnancy. Ninety percent have used cocaine regularly. During the initial years of the project, the client retention rate was lower than expected, with 47.8 percent of day treatment clients and 14.3 percent of outpatient clients graduating from the 6-month program. The most frequently reported barriers to staying in treatment were related more often to personal

decisions than to program restraints or practical problems.

Most of the women have a small ring of social support, primarily consisting of family members. Deficits in perceived family support occurred mainly when the women were emotionally upset. Graduates of the program usually have a larger support group, partially reflecting treatment contacts such as counselors. Also, the women generally improved both their coping strategies and use of social support. While the intensive day treatment model is demanding in both time and effort, it is more rewarding to participants.

Questions, Answers, and Comments

Comment: Of particular concern right now is the rapid increase of HIV among women. Also, many studies show that women on drugs are more often abused, depressed, and in need of long-term treatment than are men. More studies are looking at these kinds of gender differences in drug abuse research. To address these issues, services for women must be provided in a compassionate, persistent, and comprehensive manner. Addiction services need multidisciplinary providers working toward the same goal of helping the women recover. Comprehensive services are needed to address the multitude of issues related to women and address these problems during the many stages of a woman's lifecycle. These issues must be examined in a scientific manner in order to make sound clinical decisions and influence public policy.

Comment: Ongoing gynecological examinations for women are important but usually not offered in most drug treatment programs. The high rate of sexual activity with multiple partners among many of the women could lead to many health problems, such as cancer of the cervix. Most cocaine users also are cigarette smokers, and much of the birthweight discrepancy among cocaine-using mothers actually could be attributed to nicotine exposure. Thus, the long-term adverse health habits that accompany the drug lifestyle must be studied and more longitudinal studies must be funded.

Comment: The issue of HIV and crack-cocaine use with multiple partners is relevant to geographical location. For instance, in New York City, the highest risk factor for HIV infection in women is crack-cocaine use associated with multiple sexual partners, but in Boston, women are not as involved in prostitution at crack houses.

Comment: In a program in New York City, funded by the Child Welfare Administration, mostly older women with several children have been coming in for treatment. These women are successful in the program, not so much in order to keep custody of their children but because they are tired of the lives they have been leading. The younger women are not as prepared to give up their drugs. Many studies on addiction treatment have shown that the length of time in treatment correlates with successful outcomes. Prior treatment experience is an important component in the success of current treatment. Thus, the challenge is to provide younger women with treatment experience early in their addiction.

Comment: Most of the high-risk units in the Uhuru Family Research Project are for women who have been reported for the first time for giving birth to a drug-exposed infant. At this point, no correlation has been found between the length of stay in treatment and the age of the mother. However, court-ordered mothers have been harder to engage and keep in treatment.

RS26. Treatment for Pregnant and Postpartum Women and Their Infants

Moderator: Loretta Finnegan, M.D.
Speakers: Shirley Coletti
Karol Kaltenbach, Ph.D.
Sidney Schnoll, M.D., Ph.D.
July 16, 8:30 a.m.—10:00 a.m.

Speaker: Loretta Finnegan, M.D.

During 1989 and 1990, NIDA funded a total of 20 research demonstration projects to examine the nuances of care of pregnant, drug-dependent women. The projects exist in 17 cities throughout the country. In June 1994 NIDA will hold a conference to present project findings. In providing care for pregnant, drug-dependent women, it is important to combine primary care, substance abuse treatment, mental health services, and HIV/AIDS services. Consequently, many individuals must be involved in that care, encompassing, for instance, a "vital dozen": (1) general medical doctor, (2) psychiatrist, (3) obstetrician, (4) gynecologist, (5) pharmacist, (6) nurse, (7) counselor, (8) social worker, (9) child development specialist,

(10) child protection worker, (11) legal consultant, and (12) outreach worker.

Speaker: Karol Kaltenbach, Ph.D.

During the past 20 years, a treatment model for pregnant, substance-abusing women has been in development. In particular, new strategies are being identified for pregnant, cocaine-abusing women. The research demonstration project "Cocaine, Pregnancy and Progeny" evaluates the efficacy of residential treatment compared with outpatient treatment for pregnant, cocaine-dependent women. The program offers a drug-free, supportive environment for cocaine-dependent, pregnant women and their children for up to 2 years, in addition to long-term treatment, such as vocational and educational training, to help integrate the women into the community. Data on the program will be analyzed and presented in 1994.

A biopsychosocial therapeutic treatment strategy with group and individual therapy at the core is used in both the outpatient and residential treatment models. All other services are provided within this therapeutic context, including biological and physiological services, such as obstetric, pediatric, medical, and psychiatric care.

Too often clinicians overlook the significance of each service for this target population. For instance, in addition to intensive therapeutic treatment, women need assistance with life skills management, problemsolving techniques, and parenting skills. "Survival management," or attendance to basic needs—such as housing, food, and clothing—are imperative upon admission to the program. In fact, housing has been shown to be one of the most critical variables associated with retention and success in treatment. Thus, this program's examination of the effectiveness of residential care is very significant. The program also maintains a food and clothing bank in order to meet the participants' basic needs, at least temporarily. In addition, staff act as social service liaisons for the women with both the judicial system and DHHS.

To meet the residential program criteria, women must be pregnant upon admission and have one or two children under age 5. Since few of the women actually have custody of their children, who may be with foster care or kinship foster care, the program tries to reunite the family. For instance, during the first year the program provides a safe environment in which the children may visit their mothers and the mothers can learn caring skills. The program also is working on providing gender-specific treatment based on sociological considerations, social class, racially and culturally sensitive issues, and frequent social dependency of women and its impact on their decisions.

Another program goal is the optimal development of the women's children. In addition to meeting the primary needs of obstetric and medical care for newborns, program services are designed to improve relationships between mothers and their children. During the newborn period, mothers are shown how to adapt their behavior to their infants' cues, to develop care-giving strategies, and to participate in well-baby care and immunization programs. A pediatric nurse advocate spends time at the residential program and conducts home visits for outpatient women. In both the outpatient and residential programs, parent-child centers staffed by early childhood specialists provide educational intervention services for mothers and children, including child-focused and parent-child group interventions. A parent support group also is conducted by one of the therapists and an early childhood specialist.

Speaker: Sidney Schnoll, M.D., Ph.D.

The program presented in this session both challenges and supports the existing mythology of the field. The program is primarily an outpatient program that also offers supervised transitional housing for women, child care, and transportation, all of which are critical to successful treatment. The program has encountered unexpected problems in the provision of child care because of failure to account for the women's large number of children. Once the women enter treatment, they regain custody of their children. This has caused an overload in the child care center to the point where some women have not been admitted to the program because of lack of room for their children. Similarly, the unexpected increase in the number of children has overcrowded the program's van service. Thus, other programs should be made aware of these potential problems.

The program's research design includes two identical services delivered by the same staff, with one group limited to 5 months of treatment and the other group self-paced for up to

18 months. Data also are being collected on "treatment rejectors" (i.e., women who were identified with problems that qualified them for admission but who rejected treatment). For instance, it was found that within 6 months of identifying the treatment rejectors, 90 percent of them were incarcerated. Consequently, such women ultimately end up costing society a large amount of money if not treated.

Most of the women in treatment have a high rate of sexually transmitted diseases (with HIV likely to follow). Ninety percent of the women are susceptible to psychiatric disorders, primarily cluster B, including borderline antisocial personality, and 25 percent of them are depressed at the time of admission. The average IQ is 85, with 25 percent of the women being mildly or moderately mentally retarded. Most of the women live in dangerous, high-crime neighborhoods, virtually all are single at the time of admission, and about 5 percent have been married. Most of the women have not finished high school or been employed.

Several forthcoming papers include data from retention studies conducted on the program. For instance, preliminary results show that older women tend to stay in treatment longer than younger women; almost all of the younger women leave the program within 4 months, indicating the possible need for different service models for this population. Also, data show that women who enter the program during their first trimester of pregnancy stay in treatment much longer than women who enter during the second or third trimester or postpartum. While the program admits women up to 6 months' postpartum, the women may not feel as motivated to stay in treatment at that point. Additionally, women living in the transitional housing stay in treatment for a much longer period. And, although the mythology in the field dictates that women must be willing to enter the program voluntarily, data indicate that women with legal problems stay in the program longer than women without legal problems. Thus, appropriate use of legal coercion may be helpful in getting women to enter and stay in treatment. Another finding, with great funding implications, is that the more treatment women have had, the more likely they are to stay in treatment. Outcomes still are unclear, but retention at least seems to be affected positively, possibly due to women's increased age and maturation.

Differences in retention figures initially were found among treatment groups. Upon admission to the program, women were randomly assigned to either the self-paced program, which required a minimum stay of 8 months, or to the time-limited program, which had a maximum stay of 5 months. When it was found that women assigned to the self-paced program perceived themselves as "sicker" than the other women because they had been assigned a longer treatment time, the minimum time in the self-paced treatment program was changed to 5 months in order to be consistent with the time-limited treatment's minimum stay requirement. Subsequently, retention results evened out among the groups.

Contrary to common perception, it was found that antisocial personality disorder is not as negative a factor in the treatment of women as it is with men. Also, the presence of Axis I or Axis II disorders, low IQ, or depression did not appear to have an effect on retention, contrary to expectations. Consequently, these data indicate that different programs may be needed for women, since women appear to respond differently than men to some factors and treatments.

Speaker: Shirley Coletti

PAR Village in St. Petersburg, Florida, was constructed using 14 houses that the county had planned to demolish for a road. County officials were persuaded to donate the houses to Operation PAR and to donate $350,000 to move the houses onto the program's property, adjacent to an existing therapeutic community that occasionally had treated pregnant women. Operation PAR already had been providing detoxification services, day treatment, outpatient care, and aftercare. PAR Village was developed to offer a highly specialized residential component for women and their children and is now raising numerous children. NIDA research is currently being conducted to examine the retention of women in treatment when their children are with them as compared to the retention of women in treatment without their children. In the study design, women may enter the standard treatment center (TC) or TC Plus (PAR Village) for 18 months. Followup is conducted at 2, 6, and 12 months. Most treatment centers were developed years ago for male, criminal justice populations; however, it has become apparent that gender-specific treatment with

other services, such as medical, vocational, and educational components, are needed for women and their children.

At PAR Village, family case management staff identify, assess, and manage cases, as well as refer women. Each month the staff manage the cases of at least 100 women and their children (the women have an average of three to four children) and simultaneously handle 30 new assessments. Many of the women in the program are dually diagnosed: (1) they are survivors of rape, incest, or family violence and (2) they have low educational and vocational skills. Also, most of the women live in dangerous environments with inadequate support systems. Although PAR Village offers a 148-bed residential program, the women still face the problem of a shortage of treatment beds and child care. Unfortunately, Medicaid pays for expensive, inpatient, 28-day "miracle" programs that often do not help women, but it does not pay for long-term residential programs, which seem to be more effective.

Pregnant women are priority clients for PAR Village, partly because of State mandates and partly due to program policy. The faster that one responds to pregnant women who are using drugs or alcohol, the more likely that services will benefit both the mothers and their children. Outcomes are far more positive when women receive treatment within 48 hours of referral. Due to prioritization, however, many women have to wait for services. Although efforts are made during this time to help the women through home visits and other contacts in safe places, patients eventually suffer from limited staff and resources. When women have to wait for treatment, positive outcomes are greatly diminished. Housing and transportation are perhaps the two most important aspects in the continuum of care for women. It is difficult both to locate and to bring into treatment some of the women who keep moving from home to home. Staff try to maintain patient contact in order to give women the opportunity to learn to trust and bond to staff and to involve them in prevention and pretreatment services.

Although ideally treatment on demand should be made available, more funds are needed. Also, once demonstration projects are completed, money must be channelled into programs that have been shown to be effective. Many women are appropriate for Operation PAR's day treatment, which is highly successful in meeting many of their needs. The developmental day care center for mothers of both types of treatment is very supportive and educational, providing both GED (general equivalency diploma) and vocational training.

The NIDA research conducted at PAR Village shows that allowing women to enter treatment with their children improves retention. The whole person, including the diverse aspects of the person's life, must be treated. It cannot be expected that all the women involved in the program will have common knowledge and skills. For instance, many of the women in treatment did not understand how to read a thermometer, and 72 percent of them had never had a driver's license. Driving lessons are now offered so that the women can acquire the ability to transport themselves.

Women must feel comfortable in treatment. Staff must be trained with a philosophy of professional caring. The more engaged women are in treatment, the better the prognosis for their success.

Questions, Answers, and Comments

How do you explain the process of random assignment to women in treatment, who might be upset when they are not assigned to the preferred treatment, such as PAR Village? Random assignment is a difficult task. The principal investigator for PAR Village is extremely understanding and has assisted in maintaining the integrity of the science. At first the research did not seem worth the trouble of randomly assigning women to one of the two treatments. Protocol was modified to allow women to bring their children in during inpatient treatment two to three times a week. After 3 years of random assignment for the research, the program now makes nonrandom assignments. Despite the trouble involved in random assignment, without such a procedure neither the science nor the money would have been available to the facility.

At another program, clinical staff tried to subvert random assignment efforts, so their activities had to be monitored. Unfortunately, some staff members had to be terminated because of their problems with the process. It is difficult for people to understand the rigorous needs of research. However, without random assignment, the research data are meaningless.

How has Florida's aggressive prosecution of pregnant, drug-abusing women impacted Operation PAR, and how do programs provide culturally sensitive services for African-American women? Operation PAR is very culturally sensitive. About 80 to 85 percent of the women in treatment are African-American; therefore, the program has many minority staff members and provides extensive training in cultural sensitivity. Florida's aggressive policy was more problematic for the prosecutor than for Operation PAR. The State's attorney was cofounder of Operation PAR, and he was committed to both helping the women and upholding the law. The policy seems to be less aggressive now; many hospitals have stopped identifying and testing drug-abusing, pregnant women, and officials are attempting to work within a middle ground. In Virginia, legislators who had written the law about drug-abusing women's culpability with regard to their children wrote to a judge stating that they never intended the law to include in utero delivery, and the judge threw related cases out. Thus, individuals concerned about such aggressive policies may look for cooperation from State legislators.

It is important to keep in mind that the treatment model, as well as the organization itself, must be culturally sensitive. Resources on this issue include two publications on cultural sensitivity developed by CSAP (call 301-443-0365) and a compendium of State laws developed by Lewin-ICF, a NIDA contractor. CSAP's Perinatal Resource Center can be contacted for these publications.

Are there other solutions to random assignment? Currently much debate exists on the necessity of random assignment. It is probably one of the cleanest processes for scientific research. An AB washout design could be used, in which all patients are assigned to one treatment, then participate in a washout period with treatment as usual, and then are assigned to another treatment. More difficult methods also exist. It would be best to talk with a biostatistics professional about current, effective techniques without random assignment.

What kind of uncertainty is necessary to do a random design study? There is little efficacy about anything right now. Most of the field is built on myths that have become dogma; therefore, it is important to step back and determine whether certain kinds of treatments really are effective. However, there is much resistance to this process in the field. Nonetheless, the efficacy of random assignment needs to be examined, and random assignment must be used to gather information and help make decisions about other treatment models. It is a difficult process that should begin immediately. Otherwise, problems from managed care will occur.

RS27. Aftercare and Relapse Prevention

Moderator: Barry Brown, Ph.D.
Speakers: Sherilynn Spear, Ph.D.
Fred Zackon, M.Ed.
Respondent: Stephen Bartz
July 16, 2:30 p.m.—4:00 p.m.

Speaker: Sherilynn Spear, Ph.D.

Numerous issues need to be considered when designing aftercare programs for chemically dependent adolescents, particularly in how to sustain gains made in primary treatment once the adolescents return to their home communities. Not much is known about posttreatment functioning of adolescents or of their patterns and rates of relapse following treatment. A common view of aftercare is that it focuses on helping adolescents make the transition from participating in primary treatment to functioning drug free in the community. Generic tasks in making that transition include increasing the effectiveness of adolescents' functioning in the community and helping them to build a social support network.

A NIDA-funded study followed 117 adolescents (two-thirds were male) for 1 year after they completed a 30- to 35-day residential treatment program. Data sources included clinical files, random urine screens, as well as interviews with the adolescents and at least one parent four times during the year. The participants' average age was 15, and 80 to 90 percent of the adolescents lived in households with someone who was either chemically dependent or a heavy drug user. Most of the adolescents said that they used drugs most frequently at home or at school. Within the first day of their return to school following treatment, many reported that they were offered drugs. Thus, findings indicate that adolescents face enormous difficulties in trying to remain drug free and in developing a strong social support network. Also, other problems in addition to drug use, such as physical and sexual abuse or psychiatric

disorders, often persist after treatment. Therefore, aftercare must attend to the same range of problem behaviors as treatment programs.

Ninety-two percent of the adolescents in the study used drugs at least once in the first year after treatment, while 62.2 percent of the adolescents (41 percent of the girls and 75 percent of the boys) returned to their pretreatment usage levels (i.e., weekly or multiweekly use). Another study, conducted by Sandra Brown, found that 56 percent of the adolescents returned to their pretreatment levels of use within 6 months of exiting treatment. It was found that the time of greatest risk for relapse was during the first 3 months after treatment. Thirty-four percent of the adolescents dependent only on alcohol returned to pretreatment levels of use, whereas 74 percent of marijuana-dependent adolescents resumed use at pretreatment levels.

Research staff attempted to find pretreatment variables that could help in the early identification of adolescents at the greatest risk for returning to pretreatment use levels. Among girls, those characteristics included a history of delinquency, pretreatment drug use in three or more different situations, and a family history of alcohol abuse. For boys, the predictive characteristics included a history of drug-related arrests, a pretreatment level of drug use of four or more times a week, and the choice of cocaine as the first drug of use. Although these data are preliminary, they should encourage practitioners to recognize that they are working with a very heterogenous group of people, and that girls and boys may require different approaches.

It is encouraging to note that of the 62 percent of adolescents who returned to pretreatment levels of drug use, 34 percent only used drugs at that level for a short time period and then decreased their use to periodic instances or abstinence. This pattern is similar to the adult relapse process. Recovery may not involve linear progress and may include intermittent periods of heavy use.

These data lead to several implications for aftercare programs. First, fairly intensive aftercare services should be provided to adolescents for the first 3 months after treatment, and at least some aftercare should be available throughout the first 6 months. Second, clinicians may want to reconsider their policies and interventions in light of findings with regard to posttreatment drug use. For instance, agencies that restrict services from individuals who keep or resume using drugs may want to rethink such a policy. Third, program staff should consider how these relapse patterns should impact program design and how both clinicians and adolescents should be prepared to handle such patterns. Fourth, practitioners should recognize that drug use occurs in the context of many other problems and that, therefore, aftercare program designs must be as complex as treatment program designs. Finally, it is critical to link adolescents to support networks that will help them continue the recovery process despite being in drug-using environments, such as their homes or home communities.

Speaker: Fred Zackon, M.Ed.

When the Recovery Training and Self-Help (RTSH) model was begun at the Harvard University School of Public Health in the early 1980s, it proved important to bring together as many well-recovered individuals (i.e., drug free for 2 to 3 years) as possible to examine critical issues in their experiences. Based on the experiences of these individuals, a tentative paradigm may be constructed that indicates aspects of a "fulfilled recovery" (i.e., the state of being free of addictive behavior and leading a normal lifestyle). There may be a risk of relapse for people who have achieved a fulfilled recovery, but they are as recovered as the real world allows people to think of recovery.

The following eight major factors typically are found in a fulfilled recovery:

1. *Commitment.*—The individual is committed through action, not just enthusiasm or desperation, to leading a functional lifestyle (i.e., by taking even simple but concrete steps to accomplish what he/she wants to do).

2. *Spiritual centeredness.*—The individual feels a part of something greater than himself/herself, whether it be God, a moral code, a political cause, or some other entity.

3. *Daily routine.*—The individual has learned to be concerned with basic daily concerns, such as being punctual.

4. *Mainstream socialization.*—The individual is comfortable with the world at large, not just with a recovery group. He/she can

share information about himself/herself in regard to other issues besides recovery.

5. *Goal-directedness.*—The individual is able, at some point and to some extent, to let go of social supports (i.e., the need for constant reaffirmation from others.) He/she is able to move in a chosen direction beyond the first steps of recovery.

6. *Reenjoyment.*—The individual is able to derive pleasure from everyday activities, not just from drug use. He/she has learned to develop skill-based sources of satisfaction.

7. *Deactivation.*—The individual has experienced a significant reduction in craving drugs, triggered by internal and external cues. He/she can deal with crises and stresses without having the physical reaction of desiring drugs.

8. *Self-reintegration.*—The individual feels that recovery is a way of life, that it is a blessing, not a burden. He/she can talk about the past without dwelling on it with regret.

All of these aspects are interrelated. Listening to recovered people and learning from their experiences can provide important information about aftercare issues and ways to think about relapse prevention.

Speaker: Barry Brown, Ph.D.

As relatively recent phenomena, relapse prevention and aftercare have now become acceptable kinds of interventions to study. Still, impediments exist to initiating relapse prevention and aftercare programs. First, there remains limited development of aftercare programs. Second, the prevailing philosophy that drug use is a chronic relapsing disorder suggests to both clients and staff the inevitability of posttreatment failure and the futility of aftercare programming. Nonetheless, a study by Dr. Dwayne Simpson has shown that 18 percent of individuals discharged from drug treatment never return to drug use or the criminal justice system without need of further treatment. Researchers have shown that other individuals recover without the benefit of treatment. Thus, there is no justification and there is considerable harm in insisting that drug use is a chronic relapsing disorder.

There is an enormous need to improve community supports for drug-free living, such as changing expectations of and increasing assistance from families, employers, and school personnel. Programs also should work to develop peer groups for drug-free social support. Studies have shown that adolescents are more likely to remain drug free if they have a peer group available that avoids drug use and antisocial behaviors.

With the threat of AIDS, the need for relapse prevention and aftercare strategies has never been greater in the field of drug abuse treatment. Professionals in the field have a special responsibility to develop extended aftercare programs for individuals leaving drug abuse treatment and the criminal justice system. To help posttreatment people handle the stresses and pressures to which they are exposed outside of treatment, aftercare programs should be set up in the community, with such services as case management, crisis counseling, and community mobilization of support, including church groups and athletic organizations. Aftercare has enormous potential in providing assistance in a tapered fashion to former drug abuse clients in order to help them, as well as protect members of their communities.

Questions, Answers, and Comments

Are any statistics available on the percentage of people who complete primary treatment but never make it to aftercare? Data do not seem to be available on this matter. It also is unclear how much of an effort aftercare programs make to engage treatment dropouts, but such efforts are necessary. It seems reasonable to believe that these individuals have made some commitment to behavior change if they entered a treatment program in the first place, but some researchers have decided that the treatment program is not the route to that change. It may be useful to come up with a developmental perspective on recovery that defines the markers in progress toward recovery. Also, it could be worthwhile for programs gradually to expose clients to the community, that is, to mainstream them in a continuous process, not one marked by distinct boundaries.

Is the RTSH manual appropriate for lower functioning clients? The RTSH manual is not just for higher functioning people, but it does have a strong cognitive component and requires complex thinking. It is mainly for adults, and it foresees a developmental

recovery track into adulthood, not just one aiming toward adulthood.

Why is the term "aftercare" still used and not just considered one of many levels of treatment? Calling this type of service "aftercare" is an artifact of the past. Many people think that so-called aftercare should be considered an intermediary step in the recovery process.

Has Dr. Spear's project studied the relationship between family functioning at intake or at discharge and outcome? Data collection was completed in May, but independent measures of family functioning are not available. Some indicators of family histories of use were recorded, such as the level of family participation during the treatment phase. This is a complex area that needs further investigation; however, data are available from studies. For instance, Macro, a research firm, conducted a study several years ago which found that positive outcomes were associated with greater evidence of family support. In fact, a greater number of community variables should be studied for their relation to outcome.

Is there a model for training substance abuse counselors effectively to help their clients in the community? It does not appear that such models currently exist. Manuals should be written on this important issue, and strategies should be tested for their efficacy. In Southeast Asia, however, where community seems to be valued more strongly, models have been developed to address community factors. It may be helpful for programs to look within their own locales and see if Asian community groups in the United States may be involved in modeling community support and training for staff. Furthermore, a NIDA monograph on case management that came out in 1990 also may be a helpful resource.

Why do organizations such as Alcoholics Anonymous and Narcotics Anonymous not receive more attention in the discussion of relapse prevention and aftercare? These groups certainly are very important, but it also is important to address what they miss in their services. For some people, the 12-Step fellowships provide sufficient aftercare; other people, however, need more specialized services. It is true that the fellowships generally do not get their due from professionals who often are invested in other forms of treatment. The 12-Step programs should be used more frequently in aftercare programs—for example, programs should invite the 12-Step groups into their existing facilities for meetings.

It is difficult to convince many people, especially politicians, of the importance of spending money on services such as aftercare. Besides the schooling aspects of aftercare, what other aspects are good selling points for its services? Whereas 12-Step programs take in all people at all levels of recovery, so-called aftercare programs are intended for people with common needs at a particular point in recovery. These people need and should receive the expertise and specialization that aftercare programs can provide. The 12-Step programs cannot do everything. Data increasingly show that rigorous and systematic programs can reduce relapse, so these data should be shared with the public.

RS28. Effective Case Management Methods With Drug Addicts: Research-Based Approaches

Moderator: Arthur MacNeill Horton, Jr., Ed.D.
Speakers: Douglas Anglin, Ph.D.
Peter Bokos, Ph.D.
Steven Martin, M.A.
Harvey Siegal, Ph.D.
Respondent: Janet Lerner, D.S.W.
July 17, 11:15 a.m.-12:45 p.m.

Speaker: Peter Bokos, Ph.D.

Interventions, an organization based in Chicago, Illinois, operates 15 to 18 programs in the city. One program is a central intake unit based on a triage methodology that refers approximately 8,000 people annually. To investigate impediments to bringing clients into treatment, a case management model was examined for its effectiveness in delivering services. The study discussed here aimed to determine whether case management can (1) enable clients to access treatment more quickly, (2) improve treatment retention among clients, (3) facilitate clients' ability to meet counseling goals, (4) more effectively reduce AIDS risk behavior, and (5) enable clients to complete treatment more efficiently and effectively. The study also analyzed the cost-effectiveness of case management.

The literature documents five core functions of various case management models: (1) assessment, (2) planning, (3) linking, (4) monitoring, and (5) followup. In addition, case managers provide advocacy for their clients. Using these core functions, Interventions' staff developed a problemsolving case

management model, in which the case manager and the client assess the client's current situation, determine the client's goals, develop a plan of action, review resources for the client, link the client with these resources, and monitor the client's progress. Overall, the three primary stages of case management are as follows: (1) treatment initiation, admission, and engagement; (2) treatment retention and completion; and, (3) maintenance of recovery.

The sample for this study was 70-percent male and 85-percent African-American and had an average age of 41. All subjects used intravenous drugs and had 10 or more years of addiction history. The most frequently used drugs were alcohol, marijuana, cocaine, and opiates. The clients averaged three previous treatment experiences and multiple problems. Counselors and case managers addressed several access barriers, including lack of space and treatment locations; clients' inability to pay for treatment; difficulty contacting clients by telephone; lack of documentation, such as social security cards; and comorbidity factors. The case managers attempted to reduce these barriers by paying for initial care, transportation tokens, housing deposits, and other necessities. Essentially the case managers tried to do whatever was required in order to engage clients in treatment.

On average, case-managed clients took 18 days to enter treatment, while non-case-managed clients (i.e., the control group) took 87 days. The former group also remained in treatment six times as long as the control group. Furthermore, clients in the case-managed group were more likely to stay out of jail and reduced their opioid, cocaine, and marijuana abuse. (Preliminary data indicate no differences between the groups in their use of alcohol.)

Speaker: Steven Martin, M.A.

A valuable resource on case management is NIDA Monograph No. 127, which details case management strategies for use in drug treatment.

The program described here, the Assertive Community Treatment (ACT) for High Risk Parolees, operates in Delaware and involves a case management model for criminal justice clients, particularly those in the Delaware prison system who have histories of drug use or risky sexual behavior placing them at high risk for HIV infection. Criminal justice clients face a number of problems in addition to those faced by drug users and are in particular need of case management services. The linkage of clients with treatment, as well as with resources to help them find employment, begin educational or vocational programs, and reestablish home ties, is very important. The Delaware program is based on assertive community treatment, or assertive case management, a strategy that emerged in the early 1970s in the mental health field and that encourages counselors to be proactive and aggressive in helping clients deal with problems. The similarities between drug users and chronically mentally ill individuals suggested the value of similar approaches in their treatment. Both groups require a variety of services to rehabilitate them. An assertive continuity of care appears to be an appropriate treatment methodology for substance abusers, particularly ones who also are coming out of the criminal justice system and who are not likely to be self-starters in treatment.

Clients in the Delaware project, or the ACT for High Risk Parolees, were required to have a previous history of chronic drug use that placed them at risk for HIV infection. Northeast Treatment Centers, based in Philadelphia, Pennsylvania, provided the treatment and case management services for the clients. The design for the ACT program included five stages over a period of 6 months: (1) intake evaluation and assessment; (2) intensive drug treatment, including group counseling and family assessment therapy; (3) group counseling and life skills training; (4) relapse prevention; and (5) case management services to facilitate the clients' transitions into normal community life. Parolees with histories of high-risk behaviors were randomly assigned on release from prison to either the ACT project or conventional parole. Program staff also conducted interviews with the sample 1 year after completion of the program. Approximately 456 subjects completed the baseline interviews, and 258 subjects (114 in ACT and 144 in the comparison group) also completed the 6-month followup interview.

Preliminary findings from this study were reported in the January 1993 issue of the *Journal of Drug Issues*. Analyses of the data have continued since that time, controlling for a number of covariates, in order to determine whether any differences occurred between the two groups' rates of relapse, recidivism, and risky sex behaviors. The

study controlled for age, gender, ethnicity, past history of drug use, past treatment history, previous arrest record, and length of time in treatment. (Many individuals in the comparison group may have received treatment on their own, sometimes more intensive than treatment in the ACT program.) Controlling for these factors, the ACT parolees were found to be no less likely than the comparison group to relapse to any illegal drug use or to be rearrested. However, they were less likely to relapse to injection drug use or to engage in unprotected sex.

Several problems occurred in the implementation of the Delaware project. First, it was funded under a Federal research demonstration project, with such restrictions as voluntary participation, which severely impacted client retention. Many clients never made contact with the project staff, failed to engage fully in the program, or dropped out. Another difficulty concerned the random assignment of clients to the program. Some inmates who wanted to participate in the ACT program were assigned to regular parole and vice versa. Finally, the intervention turned out to be less assertive than originally expected. ACT counselors and case managers were less willing to reach out to clients who, in some cases, were trying to avoid treatment and who occasionally scared the counselors.

Despite these limitations, the ACT program reduced injection drug use and HIV risk behaviors in a difficult treatment population. The analyses suggest that outpatient case management may not be ideal for primary treatment of new releasees with extensive histories of drug use, who have numerous problems compounding treatment issues. Long-term residential treatment may be more appropriate for this group. Assertive case management could be more effective as an aftercare approach following more intensive primary treatment. Also, case management, combined with legal sanctions mandating treatment, would be very beneficial as well.

Speaker: Harvey Siegal, Ph.D.

The concept of case management is a very exciting breakthrough in drug abuse treatment. The "strengths" model of case management discussed in this session, for example, can greatly enhance drug treatment.

NIDA's mandate in funding case management demonstration projects focused on increasing the number of treatment locations available and on strengthening the drug treatment process. Two fairly common problems affect drug treatment. First, many people withdraw early from drug treatment. Second, and more significantly, many people do not comply with treatment and stop making progress. Case management presented a way to deal with these problems. Voluminous literature exists on case management, but there is not much agreement on its scope. Some researchers consider case management as a process or method for ensuring that clients are provided with whatever services they need. Case management is a general focused, rather than narrow focused, intervention. Consequently, the "whole client" is addressed, rather than just the client's drug use.

Quite simply, case management seems to work well when it actually is in operation, but not when it stops. Gains made during case management among mentally ill people rapidly deteriorate when case management ends. Individuals who receive case management tend to benefit in terms of services accessed, more productive leisure time, more employment, and better overall adjustment. Furthermore, case management has been shown to work best with the most problematic cases, and it seems to facilitate the securing of more services for the client. Unfortunately, however, case management is difficult to evaluate.

The NIDA-funded case management model developed in Ohio primarily targeted Vietnam veterans addicted to cocaine and crack-cocaine. Many of these individuals had histories of extensive alcohol and marijuana use, but it was not until they began using cocaine and crack-cocaine that they seemed to lose control of their lives and sought treatment, which typically they could access only through the Veterans' Administration (VA) Medical Center. The case management program supplemented the services that they were receiving at the VA Medical Center.

This model used the "strengths perspective." Because the systemic application of case management is very new in the drug treatment field, most models have been derived from the mental health field. The strengths perspective, developed by Rapp and Chamberlain during the mid-1980s for individuals being deinstitutionalized from mental

health facilities, focuses on the positive aspects of the patients' lives, as well as the strengths and abilities they can use in their recovery and achievement of life goals. In the NIDA-funded project, this perspective was used in tandem with drug treatment. The case managers did not review their clients' medical records before meeting with their clients for the first time in order to facilitate unbiased meetings. Subsequently, the first two contacts focused on developing assessments of the clients' strengths. At the third or fourth meeting, the case managers helped the clients develop comprehensive plans focusing on achievable objectives in major life areas. Finally, for the 6-month tenure of treatment, the case managers helped the clients progress toward their goals.

Preliminary data indicate that this case management approach works. The research design involved the random assignment of clients entering the VA Medical Center drug program—with some restrictions such as an existing psychotic condition or overriding medical problems—to one of several treatment options, which included (1) regular drug treatment plus case management, (2) regular drug treatment, or (3) regular drug treatment plus pretreatment induction. Clients were assessed at 6, 12, and 18 months. As of July 1993 almost 400 people were in the study. Data suggest that case management appears to accomplish at least its intermediary objectives of meeting the clients' goals. In fact, clients overwhelmingly achieved the goals that they had developed in their first few meetings with their case managers.

In conclusion, the strengths model of case management was well accepted by the VA drug treatment program as an alternative to its previously used disease-based medical model. Both the case managers and the drug treatment staff worked well together, and the drug treatment patients positively accepted their case managers and the case management process. The strengths model proved to be understandable, acceptable, and implementable by a wide range of professionals who served as case managers.

Speaker: Douglas Anglin, Ph.D.

Despite its apparent success in many research demonstration projects, case management is not an easy process in "the real world." A case management design that currently is being used in Los Angeles, California, with high-risk narcotics addicts enrolled in a methadone maintenance program revealed that case management is applicable only in a general mode. It is important to keep in mind several points when trying to maximize the potential of a case management approach. In any geographical area in which a program may be established, there are several levels of available services, including the area's social services system external to the program, the area's treatment system, the program's array of services, the case manager or counselor, and the recipient of these services—the client. Unfortunately, at the top level, the social services system in many areas, and certainly in Los Angeles, is deteriorating. For instance, case managers have become exceedingly frustrated by clients' inability to receive the medical care that they need and by the fact that shelters are overflowing and low-cost housing is becoming less available. Valuable resources for both clients and case managers, such as the education system, are becoming more difficult to access. An equity problem exists in many social services systems: Case managers end up becoming service providers, but they have limited resources. Many people who do not have case managers advocating for them do not get the services they need. Therefore, while case management can upgrade the effectiveness of current resources, there is a ceiling to the potential benefits available until social services and treatment services are built up again. Thus, this is an important policy goal at the Federal, State, and county levels.

A case manager has more control at the program services level if the program provides a wide array of services. Although these services also are limited, program staff can set priorities based on different clients' needs. It also is important at this level to consider the cost-effectiveness of administering limited services and resources. It is important but difficult to impose cost-efficiency measures on case management.

When the first 200 clients admitted to the Los Angeles project did not demonstrate better retention than the control group, the staff surmised that the program had overwhelmed patients, particularly older entrenched addicts, with too large an array of services. However, depressed and younger clients appeared to benefit from the attention of this imposed support network. Therefore,

assessment and staging are important components in providing cost-effective services.

The intersection of program services and counselor characteristics in an area that requires further investigation. It seems that many professionals in drug abuse treatment services simply are not effective in their positions. A good therapist must be born and built by life experiences; even with training, some people should not be counselors. However, unions and grievances committees keep ineffective counselors on staff. While credentialing and licensing procedures may upgrade the pool of counselors who can manage counseling tasks, perhaps personality assessments could better assess counselors' qualifications.

In addition, clients who receive treatment over and over, with no positive effects, should be placed "on the backburner" of programs and checked periodically until they seem more receptive to treatment. Stringent Federal regulations may not provide enough clinical judgment and, for example, may mandate that these clients receive consistent services; nonetheless, these kinds of policies often detract services from other individuals who truly may benefit from them. The drug treatment system faces more strict regulations than other fields, such as medicine or psychotherapy, making cost-effectiveness difficult to achieve. Debate on such policy issues must continue.

Questions, Answers, and Comments

Have any of these research projects focused on the extended family system? The central intake program in Chicago is looking at about 13 life domains, one of which is family systems.

The Delaware project, which works with criminal justice clients, specifically looks at family circumstances. About 70 percent of the sample is single; therefore, the family primarily includes parents and siblings. Family therapy is offered in the treatment, and staff are studying the impact of family on treatment success.

In the Ohio study with Vietnam veterans, the goals and case management plans are client driven. Family systems are included in the plan if the client desires; otherwise, the issue is not addressed.

In the Los Angeles case management model, family information is obtained only from the subjects. However, if an addicted couple is interested, staff try to encourage them to participate in the program and randomly assign them to the experimental or control group. Sometimes the best action for clients involves separating them from a dysfunctional family.

What is the role of the family system in relapse? It depends on the individual case. Some families could be harmful and should be separated from the client, whereas other families are supportive and may help prevent relapse. Certainly it has been found that stressful incidences involving the family are associated with relapse. Sometimes programs can try to service family members (e.g., their mental problems such as depression) as a way to build support clients.

Please elaborate on the difficulty in evaluating case management programs. NIDA Monograph No. 127 is a good resource on this problem, as is a review of the evaluation of case management disseminated by the NIAAA. A careful process evaluation, describing interventions, is important, along with implementation analysis, staff analysis, and outcome analysis.

How was the strengths model of case management integrated into counseling? Case management and research staff spent considerable time orienting the counselors to the model and holding joint meetings. Some disagreements occurred—for example, the case managers viewed certain behaviors positively, while the counselors viewed them negatively. The case managers initially were perceived as enablers. The fact that many case managers were recovering addicts eased the relationship between the two staffs.

RS29. Improving Drug Abuse Treatment: Findings from NIDA's Research Demonstration Projects

Moderator: Frank Tims, Ph.D.
Speakers: George De Leon, Ph.D.
Jerome Platt, Ph.D.
Dwayne Simpson, Ph.D.
Respondent: Eric Bamford, C.A.C.
July 15, 1:15 p.m.—2:45 p.m.

Speaker: Dwayne Simpson, Ph.D.

The Drug Abuse Treatment for AIDS Risk Reduction (DATAR) demonstration project involves a collaboration between outpatient methadone programs in Dallas, Houston, and Corpus Christi, Texas, providing services for

approximately 1,000 heroin addicts. The DATAR project aims to gain an understanding of contributions to early stages of recovery. It uses a modification of the DARP model, which examined social functioning of clients, modality and retention, and participation and compliance in relation to post-treatment outcomes. The project examines the significance in the treatment process of the clients' social and psychological functioning, the influence of friends and families, and the clients' rapport with staff.

Three particular aspects of the DATAR project may be useful in improving other projects: (1) the measurement system used, (2) enhancements of counselor skills, and (3) the diverse manuals that staff have developed. First, the DATAR data collection system may be applicable to other projects. Most community-based programs face limitations, such as resources, staff experience, and available time. DATAR project staff use a behavior-based intake interview that replaces the normally used narrative forms, which are difficult for quantitative data collection. The DATAR project also uses a psychosocial form and scales that assess the clients' behavioral status, the clients' evaluation of the program, and the clients' interaction with the counselors, as well as measures the counselors' assessments of the clients' progress and the clients' termination from the project.

Second, DATAR's use of nodelink mapping to enhance the counselors' skills could be applicable to other projects. DATAR assumes that the counseling objectives focus on identifying and confronting the clients' problems and helping the clients change and that there are four conceptual stages in the counseling process: (1) engaging and orienting the clients, (2) defining and understanding the problems, (3) generating alternatives for choices, and (4) implementing behaviors. During this process, nodelink mapping enhances abstract and verbal communication, as well as improves cognitive retrieval, interpretation, and integration. Nodelink mapping is a visual representation system analogous to organizational charts and flowcharts and is characterized by nodes and links. "Nodes" are facts, feelings, thoughts, and actions, whereas "links" are directions and relationships. The nodelink maps have the following two primary uses: (1) as information maps to describe facts and (2) as process maps to describe feelings, actions, and thoughts. Studies have shown that the maps are effective in communicating (e.g., for lectures and training materials), enhancing learning, and enhancing the engagement of clients in treatment progress. Third, DATAR project staff have produced numerous helpful manuals and data collection forms for both new and experienced counselors. The manuals cover such areas as AIDS and HIV education training, relapse prevention training, assertiveness skills training for women, support networks and transition skills training, cognitive enhancement, and counseling. All of these manuals are available.

Speaker: Jerome Platt, Ph.D.

Cocaine treatment is problematic because no long-established interventions have been demonstrated and, therefore, it is difficult to create effective programs without empirical evidence on which to base them. One model of treatment for cocaine abusers was tested first on an outpatient basis and then on a partial hospitalization basis. This model brings together techniques that are important in addressing the problems that cocaine users bring to the treatment setting.

The most difficult task for cocaine abusers is the establishment of abstinence; therefore, the day treatment project focuses primarily on this goal through behavioral and cognitive behavioral interventions. Staff try to identify the elements of contingencies in users' daily lives and to teach competitive behaviors, such as basic and interpersonal skills and how to find employment, that will lead to more positive life directions. Relapse presents a major problem, primarily because users do not learn strategies for coping with drug problems, such as how to deal with peers, spare time, and failure. The day treatment program therefore employs problemsolving and skills training interventions and cognitive therapy to prevent relapse. These elements, along with appropriate pharmacological interventions, provide a strong model for maintaining people in treatment and improving their outcomes.

The literature shows that the longer people stay in treatment, the more likely it is that they will succeed in treatment. For instance, Dr. Dwayne Simpson has demonstrated this connection across a wide range of programs and problem behaviors. However, this assumption did not hold for cocaine-abusing methadone treatment patients, for whom the

length of time in treatment did not relate to better outcomes.

Data from the day treatment project for cocaine users indicated that, on the grossest level, the number of treatment sessions that clients attended related positively to abstinence. Research staff examined whether the relationship between abstinence for 4 or more weeks (verified through urine analysis) and the number of days of cocaine use was strong enough to predict outcome at 3 months. The number of treatment sessions attended was found to relate to primary cocaine users' drug-free outcome status, since outcomes of 74 percent of the cases could be predicted. Because treatment tenure does impact cocaine use in a primary cocaine-abusing population, treatment staff should make every effort to increase client attendance at treatment sessions by quickly identifying high-risk patients and actively encouraging their participation.

The study also examined the relationship between drug-free outcomes among methadone patients and both treatment tenure and the possession of a positive occupational role (i.e., job, school, or homemaking). Fifty-three percent of methadone clients who had spent a long time in treatment and who had positive occupational roles were cocaine free during the past month. Individually, each factor was associated with less treatment use in the past month, and together they had addictive effects.

These findings have the following two important implications: (1) it is critical that patients stay in treatment and attend sessions and (2) projects must increase efforts to provide clients with employment skills and opportunities for employment. A related area of concern was the high rate of people who did not show up for their first appointment if a long period of time had elapsed since contact was first made with them by telephone. Research conducted on this problem in the early 1970s concluded that people were more likely to attend their first treatment appointment if it was made 2 weeks after telephone contact rather than 4 weeks after contact. Thus, in the current study, it seemed important to assess again the correlation between the time of first contact/first appointment and actual attendance at the first appointment. Findings revealed that of all the variables on which data were collected during telephone contact, the only factor that predicted whether individuals would attend their appointment was the number of days it occurred after the telephone interview. For instance, if staff agreed to meet with someone on the same day of telephone contact, there was an 83-percent likelihood that the individual would attend. But if the appointment was 8 days later, the likelihood was reduced to 20 percent.

Based on this information, it appears highly critical that project staff decrease clients' waiting time between the initial telephone contact and the first project appointment. Also, projects must identify high-risk patients early and have crisis intervention counselors readily available on call to meet clients' needs at points of highest risk. Additionally, staff should involve significant others in treatment and clarify clients' reasons for entering treatment. The management of high-risk situations is the most serious problem facing treatment professionals. High-risk situations include the presence of cocaine or being offered cocaine, the availability of money, boredom and/or having nothing to do, the presence of alcohol, and the presence of depression. As professionals begin to apply these bits of information to treatment settings, they can improve, even incrementally, treatment attendance and outcome.

Speaker: George De Leon, Ph.D.

Passages is a day treatment model based on therapeutic community principles and practices and modified for dysfunctional methadone clients engaged in high-risk behavior. The Passages model centers on a recovery-stage notion (i.e., individuals move through stages in recovery). The model originally was designed to resemble a therapeutic community as closely as possible by bringing clients together for extended periods and insulating them from high-risk factors. The best that could be done in a methadone setting was the establishment of a day treatment model. Although there is a history of residential settings for treating clients, such programs have not undergone extensive evaluation. Because methadone patients normally will not go to residential treatment settings (they mainly receive pharmacological treatment), Passages introduced a recovery-oriented model with a therapeutic community methodology into a methadone setting. Passages aims not necessarily for a drug-free recovery but for recovery with stages of change. Methadone serves as a tool

or medicine in the recovery process. Passages helps clients determine how to deal with their lives once they receive their medicine.

Passages operates 5 days per week and is run essentially like a therapeutic community. Primarily, Passages uses the community to change clients' behaviors and attitudes with low-intensive, low-confrontational techniques. Passages has shown the efficacy of such a model and its replicability in a second setting. It remains to be seen whether it will run through a control trial.

Several difficulties were encountered in launching the model. It was first set up in two hospital-based methadone clinics, but the operation was not yet stable at the time, and it was difficult to coordinate the model with the hospital philosophy and operations (e.g., the psychoecological climate in a hospital-related clinic). The model next was launched in a unit separate from, but associated with, a free-standing methadone clinic. It is hoped that a version of the model next will be established directly in a clinic, not just as an addendum to one.

Despite the model's proven efficacy, a few problems surfaced. First, it was difficult to recruit clients because Passages is a high-demand, enhanced treatment model that requires an extensive time commitment from clients. Low recruitment impeded efforts to run a random controlled trial. Passages now operates with open (or naturalistic) recruitment, in which the growing reputation of the program creates its own dynamic, which serves in recruiting patients. The core program has attracting power. Subsequently, staff do not actively try to sell the program as much as they did previously. The second problem was that few methadone patients enter the program voluntarily; when they do, they do not attend sessions regularly. Clients exhibited erratic attendance early on, but this problem now seems to be abating.

Passages clients include both new admissions and long-standing methadone clients, all of whom are engaged in high-risk behavior and many of whom show psychological dysfunction and poor work histories. The program used open-trial data, comparing clients who entered Passages, regardless of how long they stayed, with a comparison group of individuals who did not enter Passages. Passages clients showed significantly better improvements than non-Passages clients, although the latter improved to some degree. Improvements occurred mainly in areas of injectable drug use, cocaine use, needle use, crime, and high-risk sexual behavior. A controlled trial will be conducted next.

Questions, Answers, and Comments

What specific steps are taken to engage the family members and friends of clients in the DATAR project? A 10-session group for advanced treatment clients reinforces recovery maintenance, improves social support networks, increases awareness of community self-help groups, improves communication, and improves coping and problemsolving skills.

Does DATAR address changes in high-risk sexual behavior? High-risk sexual behavior is assessed in treatment programs and in outreach efforts. Changing sexual behaviors is very difficult. The series of sessions is designed to improve women's assertiveness in addressing this problem.

In some States with no differential rate for reimbursement, a day treatment model for treating cocaine addiction is not cost-effective. Will the model work in a less intensive setting? If outpatient treatment is the lowest cost intervention and inpatient treatment is the highest, then day treatment provides an appropriate middle ground. It was proven to be efficacious and cost-effective with other populations besides drug abusers. But day treatment has not been adapted yet even by the psychiatric treatment community, and the drug community uses it infrequently.

Did any variables in personality profiles have a relationship to low engagement and retention rates among cocaine addicts? Such an analysis will be conducted. It appears, however, that no characteristics predicted engagement or retention rates. Behavioral measures have been more effective than personality measures in predicting addicts' treatment outcomes.

What can be said to a community to sell a model, such as the residential program for methadone treatment? There is a strong resistance to methadone treatment. New clinics should be based on advanced models. And program organizers should be armed with research-based data to convince communities of the program's importance.

Does the Passages program assess the need for primary health care and case management within its scope of activities? Passages

has a strong primary medical care orientation through its associated clinic. A good, sophisticated methadone clinic that adopts a drug-free component should have a sophisticated primary medical care capability.

What incentives were used to encourage continued participation in the day treatment program for cocaine addicts? The program used money as an incentive. It is difficult to find universally accepted reinforcers. While some researchers may consider money to be inappropriate as an incentive, it seems to be an effective incentive if it results in decreased drug use, as well as long-term monetary savings. The contingency management literature has demonstrated the effectiveness of using reinforcers. It is hoped that eventually behaviors, such as family-related issues and employment, will act as reinforcers. The DATAR project has used incentives—such as gas coupons, T-shirts, or items (such as a radio) that clients may want—and clients can gradually earn credits toward acquiring those rewards.

What are specific prescriptions for reshaping the attitudes of methadone patients entering day treatment regarding what is expected of them? Initially staff presented Passages as a general orientation to the clinic with mixed impact. Now that clients are in the program, client action plans facilitate the development of weekly specific goals for patients. Also, expectations are reinforced during group sessions.

How can a program meet all the needs of its clients? Programs should try to ensure that the fullest array of services is available in one setting. The broader the array of services, the better the treatment outcomes.

RS30. Drug Abuse Treatment Outcome Study (DATOS) Research

Moderator: Bennett Fletcher, Ph.D.
Speakers: Rose Etheridge, Ph.D.
Patrick Flynn, Ph.D.
Robert Hubbard, Ph.D.
James W. Luckey, Ph.D.
Respondent: Anne Hill, M.A.
July 15, 3:00 p.m.-4:30 p.m.

Speaker: Bennett Fletcher, Ph.D.

The Drug Abuse Treatment Outcome Study (DATOS) is a longitudinal perspective study that evaluates individuals coming into treatment programs within several modalities of methadone maintenance, including drug-free outpatient, long-term residential, and short-term inpatient. Data are collected through self-report interviews with program researchers and are corroborated through record reviews and urinalysis. Intake interviews, clinical interviews, and interim interviews are administered at 1, 3, and 6 months, respectively, and followup interviews are conducted 12 months after treatment. Current DATOS data include 10,000 intake interviews from 120 programs in 11 different cities. The five goals of DATOS are as follows: (1) to describe drug abuse treatment populations in terms of demographic characteristics, psychological variables, sociocultural variables, and treatment histories; (2) to characterize treatment modalities and treatments within those modalities; (3) to define the treatment process so that relationships between client treatment variables, treatment process variables, and nontreatment variables in outcomes can be identified; (4) to analyze treatment outcomes in order to evaluate treatment and cost-effectiveness and determine the relationship between treatment outcomes and important program treatment in client factors; and (5) to analyze the relationship between impairment and outcomes during and after treatment in order to determine whether impairment can be conceptualized, to relate that to outcomes, and then to use that as a variable in client matching as a means to determine how impairment affects treatment.

Speaker: Robert Hubbard, Ph.D.

DATOS is concerned with making a large-scale research study scientifically sound and useful to the treatment community. The current era is one in which good solid data are critical to making decisions about the future of treatment. Results need to be delivered to the provider and policy communities in ways that will lead to more effective treatment. Scientific studies must be illustrated without compromising the scientific principles and then be translated into information that is immediately useful to the provider community. Feedback on these issues is needed from the provider and policy communities for the purpose of in-depth analysis and in order to determine ways that this information can be provided for maximum benefit.

DATOS' three objectives are (1) to describe the abusers entering drug abuse treatment, (2) to describe the nature of treatment in the process in which change occurs, and (3) to

look at treatment outcomes in order to determine the comparative effectiveness of various treatment approaches and the contributions of various elements to that effectiveness. Indepth data were collected at various points in treatment, particularly at intake, by individuals specifically hired and trained for that purpose. Approximately 3 hours of intake data were collected for each individual who entered treatment. This is the most indepth data collection conducted from a sample of this magnitude. Individuals were followed during treatment at intervals of 1, 3, 6, and 12 months to determine what changes had occurred and what services were received for treatment. They then were interviewed after treatment termination.

DATOS is a longitudinal, prospective, clinical epidemiological study of treatment and client behavior in typical community-based programs. Currently DATOS is focusing on outpatient methadone maintenance to try to characterize these programs by the settings in which they operate. Evaluations are conducted on outpatient drug-free programs, the particular setting, who manages the program, and where clients come from in an effort to develop a better means of characterizing the treatment variations that might exist. For example, there are long-term residential programs, shorter therapeutic communities, other programs that are publicly funded, and long-term residential settings. The short-term inpatient or chemical dependency programs were not involved in the earlier studies.

Speakers: Patrick Flynn, Ph.D.

DATOS' client assessment and intake consist of two interviews. The purpose of these interviews is to determine the nature of client populations entering treatment in the four major modalities. Earlier studies have indicated that the clientele entering these modalities are distinctly different. Observations are based on (1) client characteristics in pretreatment behaviors of admission to the various modalities, (2) patterns of drug use and levels of impairment among clients, (3) the correlates of client behavior, (4) the factors that discriminate types of clients served by the modalities, and (5) the ways in which these clients compare with clients from earlier decades. The total intake process lasts about 3 hours. The instruments used are self-reported, highly structured interviews conducted face to face. Each interview consists of a comprehensive assessment covering multiple domains. Intake 1 covers demographics and background; education and training; admission; alcohol, tobacco, and drug use; mental health status; illegal involvement; employment; income and expenditures; drug and alcohol dependence; observations; and a short mental status examination. Intake 2, referred to as the clinical assessment, includes additional demographics and background, health, cognitive impairment, religiosity, anxiety, depression, sexual experiences, behavioral problems, psychological distress, motivation and readiness for treatment, as well as observations and a mini mental status exam. The intake contains modules from the diagnostic interview schedule or composite international diagnostic interview and are modules for antisocial personality, anxiety, and depression. Also included are items and scales from dimensional standardized measures, such as SCL 90 and the California Psychological Inventory. This allows the construction of a diagnosis but also looks at dimensional measures and other measures of psychiatric impairment.

Six different measures or criteria of cocaine use or dependence have been observed. Strong correspondence has been found between DSM-III-R *(Diagnostic and Statistical Manual*, revised third edition) dependence criteria, the primary problem drug, the drug of choice, weekly drug use in the past year, and history of daily drug use.

Transfer technology, such as how DATOS research will translate into practice and the types of new information or products that are coming out for clinical use, is emerging, such as the intake assessment instruments that were developed as an individual assessment profile. A computer-assisted program that generates a narrative report and client data system report also has been developed for this assessment.

Speaker: Rose Etheridge, Ph.D.

The angles of the treatment process study component are used to characterize the nature of the programs represented in DATOS sites within and across the four treatment modalities and to describe the treatment and services that the clients are receiving in these programs. DATOS also identifies the important cognitive and behavioral changes that occur in participants during the course of treatment and identifies the correlates of these changes and the

correlates with retention and other post-treatment outcomes. Treatment process measures have been expanded since earlier studies were conducted in the late 1970s and early 1980s. It is important to capture the treatment interventions used, the type and amount of treatment that clients are receiving, and the treatment changes that may be predictive of post-treatment outcome.

The measurements that DATOS uses encompass three basic levels. The first level consists of capturing the treatment structures and characteristics of the programs in terms of modality, organization of treatment and services, philosophic approaches, staffing, training, caseload, treatment quality, program quality, and internal milieu. The second level involves looking at external features that drive the way the treatment is organized and delivered. These features include Federal, State, and local policies; fiscal constraints; community support; and other political issues. Recruitment processes also are evaluated. DATOS describes treatment programs arranged through community organizations and agencies and views characteristics and philosophies of the providers, approaches to treatment, training skills, and caseload quality. The final level views the treatment plan as the organization and structure of treatment and as a mechanism by which treatment is transmitted to clients. Treatment providers want to see what the treatment planning process looks like, the elements of the treatment plan, and the degree of client involvement in the treatment planning process. The treatment stages also are examined both from the programs' and the clients' perspectives.

DATOS is capturing, from a structural viewpoint, the way that programs view the stages of treatment from detoxification to early treatment stabilization. Following these stages is a period of rehabilitation during which services are brought to bear, followed by a reentry relapse prevention continuing care phase. To capture the structural aspects of treatment, a self-administered questionnaire is used. Program directors, clinical supervisors, and program counselors are surveyed and questioned about basic treatment approaches, philosophies, characteristics of the client population served, perceived needs that clients present with policies, treatment activities and provided services, referral mechanisms, program financing and accreditation, issues that have affected the structure and delivery of treatment over the past several years, and any anticipated changes. A similar questionnaire developed to report how program policies work at the client level asks counselors about their backgrounds, treatment approaches and philosophies, and caseload size and mix. Another mechanism used to capture the structural aspects of treatment are site visits at the program level, which involve going to the programs and interviewing staff, counselors, and some clients in order to gather information on how treatment is delivered and structured, the kinds of activities provided, the kinds of elements viewed by the programs as critical to treatment, the kinds of treatment phases delivered, the kinds of phases of recovery that clients are expected to proceed through, the kinds of measures of success perceived as reasonable indicators of treatment progression, the ways in which programs view positive change during the treatment process, and the ways in which activities are linked in order to create those positive changes.

The most extensive measurement battery is conducted at the client level and researches what treatment was supposed to be provided versus what treatment the clients actually received. Other questions pertain to treatment access, how easy it was to get to treatment, what the treatment plan was, whether clients knew what the treatment was, and if they were involved in the treatment or if they agreed with the goals and types of services they received. They also are asked whether, in addition to receiving individual and group counseling, they received medical, psychological, family, legal, educational, vocational, or financial counseling; services for crisis events; or informal assistance. Clients are asked about the types of additional services they received from other programs and whether they accessed these services by referral from their initial programs or at their own initiative. Clients also are asked to indicate the topics discussed at individual and group sessions, the number of sessions held, the number of session links and days involved, the indicators of satisfaction with the treatment, and their need for particular services. The client interviews allow the accumulation of fairly sensitive measures of change over the course of treatment.

DATOS uses some of the same measures from the intake interview and measures them across time during the in-treatment period to try to capture medical, psycho-

logical, and other aspects of health and social functioning that might occur during the course of treatment. Information also is being obtained on drug and alcohol use, program retention, and other cognitive and behavioral changes. There are more experimental measures to capture some of the more subtle cognitive processes that may occur during the course of treatment. These measures are thought to have sound psychometric properties and seem to have a firm grounding in the literature. These measures may pinpoint analytically those types of client changes that may be associated with more long-term outcomes during the course of treatment and beyond. Self-concept is being measured along with self-efficacy or the clients' perceived ability to resist drug use in specific situations. Stage of change is being measured as a therapeutic alliance in the clients' bonds with the treatment providers, attempting to capture program milieu as a measure of change and perceived change events.

Preliminary findings from the client in-treatment interviews indicate that a critical point for retention was the 3- to 4-week period. Retention problems were particularly acute in the short-term inpatient modality. Less than 50 percent of the clients remained in treatment for more than 13 weeks. In the short-term inpatient modality, most clients stayed for 28 days or less and normally left at this time due to the treatment structure.

One hypothesis that needs to be tested is whether the changes in insurance coverage and other constraints are shortening the time that clients remain in treatment to the point that interventions look very different than they did 2 years ago. Since psychological services provided to clients seem quite low, the question arises of whether programs are getting less-impaired clients. One early analysis indicated that less than 50 percent of the clients actually were receiving the services that they reported needing. Thus, the next step of the program involves determining the amount of treatment being provided, and then following up with how this is related to retention during drug and alcohol abuse treatment.

Speaker: Robert Hubbard, Ph.D.

One of DATOS' unique features is its ability to track individuals into the community after treatment. The level of effort and cost of mounting a post-treatment followup study are tremendous. The only viable and credible way to follow individuals is through a large-scale scientific followup study. Two followup studies currently are being conducted. The first study asks DATOS clients to identify the levels of outcomes at 12 months after treatment and provide a comparison of the levels between pretreatment, in-treatment, and post-treatment and the factors that influence post-treatment outcomes. The second study is a post-treatment study of individuals in a variety of programs who were treated for cocaine abuse. DATOS is currently in the process of developing the data collection component for the adolescent phase of DATOS, which involves approximately 30 adolescent programs and 6,000 adolescents. The adolescent DATOS will follow the same design as the adult DATOS with its instrumentation geared toward adolescents and will include the same types of descriptions of the client population, such as following the clients through treatment and into the community after treatment. These outcome studies are most important for technology transfer.

Speaker: James W. Luckey, Ph.D.

The types of issues that treatment programs are interested in involve admission data about the clients they are serving, how the clients that are served match up with some implicit or explicit target population, the services that clients are receiving and how these services match up with the clients' needs, what happens to the clients during treatment, the lengths of patterns of retention or how long the clients stay in treatment, and when the clients actually graduate from treatment. DATOS provides information to organizations on the clients or patients they are serving. Many programs are interested in followup data but rely on researchers for the information.

Information provided to programs by DATOS includes relevant statistics—for example, almost 60 percent of the clients in treatment programs have less than a high school education, and only 20 percent of the clients are working, suggesting the need for educational and vocational services. If less than 2.5 percent of clients received these services, this would indicate a gap between what clients need and what they are receiving. One thing DATOS can provide is de facto normative data regarding what is going on in the drug treatment field. This information can help with admission data when comparing clients

in a particular program with the typical client. Another statistic compares the services provided with those provided by typical treatment programs. The same kind of analysis can be done with treatment process data by asking what services are offered, what percentage of clients receive these services, and how the program compares with other programs. Even though the statistics match up, there is a high percentage of homemakers in methadone maintenance and the potential need for child care services. DATOS is a large-scale study of treatment programs in which a rich array of data is being collected on a large number of clients, providing the opportunity for de facto normative data both on clients served and treatment services.

Questions, Answers, and Comments

How was the provider and policy community involved in the design of DATOS? Both the provider and policy community were involved in some of the earlier design and were involved heavily in the review process. Site visits are being made to these programs to understand what is going on in treatment to, in effect, minimize any disruptions to treatment and maximize the benefits. DATOS is getting involved in other studies where service enhancements and other types of research are being provided. There is a close interaction between the providers and research team in trying to generate cross-fertilization; they need to know what the key issues are in treatment, which can be found out from the clients in the programs.

How can information from DATOS help to empower communities in assisting people to take responsibility for their own behavior and treatment needs? Programs should use the service information provided and compare themselves against what DATOS is finding in their study sites. These organizations should use this information and aggressively direct their services where needed. Data provided by DATOS give an organization a kind of empowerment.

RS31. Treatment Alternatives for Criminal Justice Clients

Moderator: Lana Harrison, Ph.D.
Speakers: Peter Delaney, D.S.W.
James Inciardi, Ph.D.
Steve Magura, Ph.D.
Respondent: David Friedman, M.Ed., C.A.P.
July 16, 4:30 p.m.-6:00 p.m.

Speaker: Peter Delaney, D.S.W.

Two questions often asked of medical researchers and practitioners who are affiliated with the criminal justice system are (1) whether drug abuse treatment is effective and (2) how to change the public's negative perceptions about treatment. In general, the typical criminal justice system clients who are on drugs and enter some sort of treatment program tend to have better recovery results than do those clients who do not undergo any kind of treatment. Two NIDA-sponsored studies, the Drug Abuse Reporting Program (DARP) and the Treatment Outcomes Perspective Study, investigated treatment and its linkage to lower rates of illicit drug use and criminal behavior (e.g., theft and prostitution). The Drug Abuse Treatment Outcome Survey (DATOS) and a few smaller clinical studies, while working toward improving the effects that treatment actually has on decreasing illicit drug use and criminal activity, also are making attempts to increase clients' levels of social functioning and occupational status. Proper treatment techniques also can be important in reducing the AIDS risks experienced by many drug-using individuals.

One particular area in which drug abuse treatment experiences problems is in the way that it is viewed by the public. Relapse into drug abuse by treated abusers, for example, is seen as a failure on the part of the treatment provider. In reality, relapse is a very common part of the treatment and recovery process. Therefore, more energy needs to be spent educating the public on the factors associated with treatment and recovery from drug addiction. A three-level approach is needed to change society's perspective toward what treatment success actually means. First, better education about the chronic nature of relapse should be provided to constituents. Second, the results needed to consider a patient outcome successful should be looked at by both researchers and practitioners. Third, the ways in which treatment is being provided should be looked at, and current programs should determine if they

are adaptable to an ever-changing population. Treatment models that allow people to remain in their own communities while being treated for their addictions is one possible way that treatment may more adaptable.

Studies have shown that longer lengths of stay in treatment tend to reflect higher success rates. Improved patient-treatment matching and increased retention are two tools that could aid in keeping patients in treatment longer. The quality of treatment may need to be improved in order to increase patient retention rates. The measuring of various group skills that patients may or may not possess is a good indicator as to whether or not particular patients will be able to positively interact within a group treatment setting. Compulsory treatment is basically defined as using some type of tool in order to get someone who would not normally enter treatment to enter. One issue often raised pertains to the effectiveness of compulsory treatment for addicted individuals. Another factor to consider when looking at compulsory treatment is where the program is housed (e.g., in the criminal justice system, a treatment system, or an integrated system). Compulsory treatment often is seen in a criminal justice system, working in unison with a treatment system. Sanction implementation is another important issue that must be considered with regard to the policies surrounding patients who relapse. Studies show that the real key to success in compulsory treatment settings is the emphasis on long-term supervision. Defining a target group when designing a compulsory treatment program is also very important. After the target group is decided upon, the cost and benefits of treatment must be looked at. Legal protections and safeguards for patients are other important considerations. The linkage of compulsory treatment with other treatment systems is important for the avoidance of service repetition.

In order to get a patient more in touch with himself or herself, George DeLeon and Nancy Jainchill performed studies to determine how drug abuse treatment patients perceive themselves in terms of being addicts, the circumstances behind that reality, and the life options that patients feel they have in therapeutic communities (TCs). Treatment practitioners also should be reminded to stress to clients the importance of staying at their program and in treatment.

One key to patient retention is proper patient-to-treatment matching, which is affected by a number of factors. Doctors A. Thomas McLellan, Carl Leukefeld, and Roy Pickens have all stated that the therapeutic community does not have one foolproof method for determining the best treatment for each patient. The Individual Assessment Scale and a number of other scales, however, are able to match patients accurately to the various services that are offered within different treatment programs. The study of DATOS data has revealed that patients generally tend to receive more services in the medical area as opposed to social or familial services.

Speaker: James Inciardi, Ph.D.

TCs have been found to be the most appropriate form of treatment for incarcerated people. A three-stage model has been developed for therapeutic treatment communities within correctional/prison facilities. During the primary stage, this prison-based TC emphasizes personal growth through changing deviant behavior patterns. The secondary stage is a transitional TC work release program. This kind of TC should have a "family" setting that is separated from all of the surrounding negative influences. The normal rules and regulations present in a normal TC also should be strongly enforced in this kind of TC. The tertiary stage is the aftercare stage in which incarcerated people have completed their individual work release programs and are living again in the "free world" under the restrictions of their parole officers or some other form of supervision. Outpatient counseling and group therapy are two very important components to include in the aftercare program.

Within a maximum security prison located in Wilmington, Delaware, a prison-based TC known as the Key Program was set up for male inmates. This was the primary stage of care for those inmates who wanted help with their addiction problems. The secondary stage of the TC treatment program took the form of an in-prison, work-related TC known as the Crest Outreach Center. This work release TC, which is the first of its kind in the country, was designed to incorporate the secondary and tertiary stages into its program. A five-phase model outlines the treatment plan for a 6-month period. Phase 1 (about 2 weeks) includes entry, assessment, evaluation, and orientation into the program;

Phase 2 (about 6 to 10 weeks) focuses on involvement in the TC program; Phase 3 (about 5 weeks) is a continuation of Phase 2, with special emphasis placed on role modeling; Phase 4 focuses on preparation for employment through the promotion of educational skills; and Phase 5 is reentry into the community.

Upon entering the Key Program and 6 months after a client has been in the program, a number of assessment procedures are used to determine the client's drug-using behaviors and HIV risk behaviors. An 18-month followup assessment also is conducted. Of the 307 clients who took part in the Crest Outreach Center, 151 did not follow any kind of formal work release schedule. Thirty-four percent of these people were found to be drug free after the 6-month followup. Of the people who graduated from the Key Program but did not go on to participate in the Crest Outreach Program, 54.5 percent (or 24 people) were found to be drug free after the 6-month followup. And finally, 83 percent of the people who graduated from the Crest Outreach Program were found to be drug free after the 6-month followup.

Speaker: Steve Magura, Ph.D.

Jail and prison overcrowding is largely due to a steady increase in drug-related crime. During the mid-1980s, the AIDS epidemic reached very high proportions among injecting drug users. In New York City, 20 percent of all men arrested are heroin addicts. Nearly 40 percent of male injecting heroin users and 50 percent of female injecting heroin users are HIV positive.

Research identified the drug treatment facilities for the central jail at Rikers Island in New York City, since this correctional facility was the only one of its kind in the country that offered an in-house methadone maintenance program. This voluntary program, Project KEEP (Key Extended Entry Program), annually serves about 3,000 heroin-addicted men and women. Only the prisoners serving misdemeanor charges or sentences of under 1 year can participate in the program. Study participants are broken down into two basic groups: (1) people who had been in methadone maintenance programs at the time of their arrest and (2) people who were not in methadone maintenance programs at the time of their arrest but desired to be in one. Findings have indicated that about 80 percent of the inmates who have been in methadone maintenance programs before they were incarcerated returned to methadone maintenance on release from jail. This percentage constitutes about one-third of Project KEEP's participants. Of the other two-thirds of KEEP participants (i.e., those who have not been involved in methadone maintenance programs before being incarcerated), about one-half have turned to methadone maintenance on release.

The 5-month retention rates for people who entered methadone maintenance programs on being released from prison also differed. Of the people who had been involved in methadone maintenance before being incarcerated, about one-half remained in treatment. Of the people who had not been involved in methadone maintenance before incarceration, only about 20 percent remained in treatment.

Many changes need to come about in the criminal justice drug treatment system before any substantial improvements in treatment retention will be seen. The human services system (i.e., criminal justice, social services, vocational rehabilitation, and drug abuse treatment) could improve its methods of helping addicts make smoother transitions from jail to community settings. Incentive plans for inmates that grant early release from prison upon completing conditional drug abuse treatment programs not only might be a method of decreasing the drug abuse problem on the streets but also could address the problem of prison overcrowding. Developing plans to create safe and sober housing alternatives, job training, and legitimate work possibilities for those addicts wanting to improve their lifestyles could be strategic in curbing the familiar relapse percentages more favorably. Finally, due to the fact that the typical addict tends to be a multiple drug user or abuser, integrative drug treatment programs should be a topic of future focus.

Questions, Answers, and Comments

Was counseling or case management used in conjunction with methadone maintenance when treating any of the patients involved in the Rikers Island project? Advanced discharge planning methods were used by program counselors when treating 50 men and 50 women involved in the project. Followup procedures also were attempted but were unsuccessful due in part to the fact that

they were performed on a citywide basis, as opposed to being more sectionalized. Problems arose when the counselors tried to locate former patients. It was found that the majority of the patients had disregarded what they had been told in jail and reverted back to heroin use.

How is patient-to-treatment matching handled within a correctional facility that basically consists of one modality and where the patients are homogeneous? Patient participation in correctional-based programs is generally voluntary, so there is not really any patient-to-treatment matching that goes on, but there is always an abundance of people willing to participate.

Can anyone remark on the problem often encountered regarding the obstacles that tend to arise between the treatment system and the criminal justice system when new programs are being created? It is a give-and-take situation that exists between these two communities. The correctional system, however, tends to "come around" as it gradually realizes that the in-house TC is the safest and best-operated part of the entire prison system.

Has any research been conducted on second- and third-generation drug and alcohol abusers (both males and females) with regard to the transmission of abuse from one generation to the next? Few studies have addressed this issue, but it is obvious that there is a substantial amount of intergenerational transmission of substance abuse.

RS32. Valid and Reliable Drug Testing Techniques

Moderator: Joseph Autry III, M.D.
Speakers: Donna Bush, Ph.D
Edward Cone, Ph.D
Steven Helshman, Ph.D.
H. Chip Walls
Respondent: Gregory Plitt, M.S.
July 16, 10:15-11:45 a.m

Speaker: Donna Bush, Ph.D.

On September 15, 1986, Executive Order No. 12564 was issued, establishing a Federal Drug-Free Workplace Program. In July 1987, Public Law 100-71 was passed to support this effort. As part of this program to deter the use of illegal drugs, it was required that urine specimens from some Federal and federally regulated industry employees be tested for illegal drugs of abuse. On April 11, 1988, the "Mandatory Guidelines for Federal Workplace Drug Testing Programs" was published in the *Federal Register*, defining requirements of the Drug-Free Workplace Program. These guidelines included scientific and technical requirements for urine drug testing.

The National Laboratory Certification Program (NLCP) was subsequently established to assure the accuracy and reliability of urine drug test results. The drugs/metabolites for which urine may be tested under the Federal Drug-Free Workplace Program are as follows: marijuana metabolites, cocaine metabolites, opiate metabolites (morphine and codeine), phencyclidine, and amphetamines (methamphetamine and amphetamine).

Accuracy and reliability are two critical elements of the urine drug test. In order to assure the accuracy and reliability of test results, two separate and chemically different tests are used to determine the presence of drugs in the urine, with testing performed under a comprehensive blanket of quality control and quality assurance. Performance testing and onsite inspection of NLCP-certified laboratories also ensure compliance with Federal guidelines.

The initial test is performed on every urine specimen by immunoassay. When this initial test is negative, the result is reported as negative. When this initial test is presumptively positive for a tested drug, a portion of the specimen is additionally tested by gas chromatography/mass spectrometry to obtain a "fingerprint" of the drug/metabolite present in the urine. All laboratory results of urine drug tests are reported to a Medical Review Officer to determine any alternative medical explanation for a positive result.

Three essential components for drug testing any biological specimen are as follows: (1) accuracy and reliability of the analytical method(s), (2) the ability to interpret the drug test results, and (3) the applicability of the testing to the situation.

Speaker: Edward Cone, Ph.D.

Urine drug testing is currently the most objective and available method for determining the ingestion of illegal drugs. The window of detecting drug use is limited when using urine as the tested specimen. Two other specimens—saliva and hair—may be tested for drugs, and each have different

windows for detecting drug ingestion. The technologies for using these specimens to test for drugs is developing. Analytical studies concerning technical aspects of both saliva and hair-testing processes and the development of cutoff levels to assess the presence of drugs must be established.

The advantages to using saliva as a specimen for drug testing include the following: (1) saliva is easy to obtain; (2) the parent drug, not just metabolites, may be detected; (3) the presence of an active drug may indicate the potential for an ongoing drug effect at the time of testing; and (4) the drug concentration in the saliva more closely approximates the drug concentration in blood than would urine. Some of the disadvantages of using saliva as a drug-testing specimen are as follows: (1) the saliva may be contaminated by oral or nasal ingestion of the drug; (2) acidity of the saliva and the chemical nature of the drug ingested may complicate interpretation of drug concentrations found in the saliva; (3) some methods of collecting saliva samples may alter the acidity of the saliva and, therefore, the drug content; and (4) the detection window for determining the presence of drugs is short. Based on research to date, the correlation of saliva drug concentration with plasma concentrations and pharmacological drug effects, such as behavioral performance on the job, will be problematic.

Testing hair for drugs is a developing technique for detecting drug use. This specimen may be useful because it may provide a long-term window for drug detection. Other advantages to using hair as a drug-testing specimen include the following: (1) brief periods of abstinence may not alter test outcomes; (2) hair is easy to collect, handle, and store; (3) hair collection is considered less invasive than urine collection; and (4) "beating" the hair test may be more difficult. There are disadvantages, however, to hair testing: (1) it is a new science with few controlled clinical studies, (2) available data show recent drug use may not be detected, and (3) environmental contamination is of concern.

In summary, different physiological specimens, when accurately and reliably tested for drugs, can reveal a number of different things pertaining to drug use. Blood, for instance, is ideal for the detection of drug use over a short period of time. On the other hand, testing hair for drugs, if thoroughly researched, may be ideal for detecting drug use over a long period of time.

Speaker: H. Chip Walls

In order to determine the incidence and prevalence of maternal drug abuse and its developmental, psychological, and physical effects, research is required to develop and improve approaches for identifying neonates exposed to drugs in utero. Maternal admission of drug use may not always be obtained because of fear of the consequences to both mother and newborn. Even with maternal admission to drug use/abuse during pregnancy, the information volunteered may be inaccurate. In addition, drug testing an infant's urine poses several problems, including difficulty in collection and an extremely short window of detecting maternal drug use prior to birth.

Drug detection in meconium may be more sensitive as an indicator of maternal drug use during pregnancy. Meconium collection is simpler, more reliable, and noninvasive when compared to urine collection; however, the collection of meconium requires individualized attention of attending staff. Meconium is reported to have higher drug concentrations than maternal or fetal urine and may offer a longer time window for detection of in utero drug exposure. This may be due in part to the observation that meconium is first detected in fetal ileum at about 70 to 85 days of gestation.

Automated immunoassay techniques have been adapted to test meconium for the presence of drugs of abuse. Because of the nature of meconium, the specimens may require pretreatment. Analytical techniques have been successfully developed to confirm the presence of illegal drugs in the meconium.

Little is known about the placental transfer of drugs from mother to fetus and the pharmacology of drugs in the fetus. Many questions concerning the testing of meconium for drugs of abuse need to be answered, including issues regarding (1) pharmacokinetics and deposition of drugs/metabolites in utero and in meconium, (2) drug/metabolite stability in meconium, (3) identification of parent drug versus metabolite to detect fetal exposure to a particular drug, and (4) interpretation of drug concentrations in meconium from low-birthweight infants compared to term infants. Because of these unresolved issues, the interpretation of meconium data

as an index of fetal exposure to drugs of abuse is difficult. Advances are being made, however, in this area of drug detection with the help of basic and applied research.

Speaker: Steven Heishman, Ph.D.

A number of differences exist between the testing of physiological specimens for the presence of drugs and the testing of human performance to detect the presence of drugs Drug testing of a physiological specimen generally focuses on searching for an analytical endpoint, such as the chemical detection of a drug or its metabolite. Performance testing measures the effects a drug may have on an individual's behavior.

One disadvantage to performance testing is that acute, easily detectable behavioral effects of a drug may last only for a few hours. Performance testing may be focused on determining an individual's ability to perform certain tasks in the workplace. Difficulties with performance testing in the workplace include the fact that it may actually be difficult to isolate the cause of poor work performance. Poor performance in the workplace may be due to drug use, but it also may be due to fatigue or stress. Until better and more definitive methods of evaluating performance in the workplace are developed, random performance testing will not likely be a method routinely used to detect drug use in the workplace.

Future research development of performance tests should include tests to detect a number of different drugs and drug doses to establish dose-response curves. Such dose-response curves may allow assessment of degree of performance impairment as a result of drug dose.

In the design of research laboratory-based performance-testing programs, areas such as psychomotor skills and cognitive or thinking ability may be included. Measures of individual subjective response also may be included. Some questions that could be asked include the following: "How is the drug making you feel?" "How much of a drug effect do you feel?" "Are you experiencing good or bad drug effects?" Tests that focus on the physiological aspects of drug use also should be included, such as measuring heart rate, blood pressure, and body temperature.

One issue that arises is whether the tests that are being conducted in the controlled laboratory setting are actually representative of the tasks performed in the workplace. Three main areas of performance testing may be common to most workplaces: (1) visual attention, (2) cognitive skills, and (3) psychomotor (hand-eye coordination) skills. Much research needs to be conducted in order to answer the many questions surrounding the broad issue of performance testing in the workplace.

RS33. THE D.C. INITIATIVE: A FEDERAL/STATE RESEARCH PROJECT

Moderator: Gary Palsgrove
Speakers: Karst Besteman, M.S.W.
Jeffrey Hoffman, Ph.D.
Samuel Karson, Ph.D.
Respondent: David Mactas, M.A.
July 16, 4:30 p.m.—6:00 p.m.

Speaker: Gary Palsgrove

The D.C. Initiative is a collaborative project between NIDA, CSAT, and the District of Columbia government. It consists of a central intake diagnostic unit, two outpatient drug abuse units, and two residential units housing therapeutic community treatment programs.

The D.C. Initiative is funded under a cooperative agreement, because the public law that establishes the authority to issue grants requires grants to be used in situations in which "no substantial involvement is anticipated between the federal government and the recipient." A cooperative agreement on the other hand, requires "that substantial involvement is anticipated between the Federal Government and the recipient during the performance of the contemplated activities." The cooperation between the three grantees in the design and implementation of the D.C. Initiative is a result of using such a funding mechanism.

Speaker: Jeffrey Hoffman, Ph.D.

The central intake diagnostic unit works in conjunction with the Research Triangle Institute (RTI) and coordinates the core battery of instruments for the study. The unit conducts assessments and analyzes the data. This project compares standard and enhanced services in methadone outpatient and therapeutic community programs. As resources shrink, it is important to determine which interventions are effective.

The project is examining the following issues: the differences in treatment outcomes for

clients in standard and enhanced residential therapeutic treatment; the nature of comorbidity among clients seeking substance abuse treatment; the specific client characteristics that predict treatment outcome, relapse, and HIV risk behavior; the utility of a standardized intake instrument; and the cost of and cost-effectiveness of the various treatment interventions.

The Individual Assessment Profile (IAP) was developed primarily by RTI as a subset of the Drug Abuse Treatment Outcome Survey (DATOS) battery, a national drug and alcohol treatment outcome survey. It was designed to acquire data in Washington, D.C., for comparison with data from around the country and to provide research, clinical intake, and management information data. Reliability and validity testing are being conducted on the instrument, and staff are comparing self-reports for drug use with urine and hair analysis, along with other validity issues. An automated version of the IAP was developed, enabling the interviewer to input data into a computer during questioning and immediately afterward to produce a Client Data System report, a data file, and a narrative summary of the client's self-report in various categories. Thus far, the IAP has proven very useful.

At 3, 6, and 12 months after intake, and at 3 months after treatment, clients respond to a smaller version of the IAP. Also used are a Piatt reading test, the trailmaking test for gross neurological problems, the Beck Depression Inventory, the Milan Clinical Multiaxal Inventory, and the Structured Clinical Interview (SCID) for DSM-III-R (*Diagnostic and Statistical Manual*, revised third edition) for those in the therapeutic community.

As of June 30, 1993, the standard methadone treatment program had 449 clients enrolled. Most clients in the residential therapeutic communities come from the correctional system; about 70 percent are primarily cocaine users, while 30 percent mainly use heroin. Of the cocaine users, 85 percent primarily use crack-cocaine.

From the SCID diagnosis, 40 percent showed an Axis-I disorder, 70 percent showed an Axis-II disorder, and 80 percent showed one or two disorders, indicating high comorbidity in this population. Of the clients with Axis-I disorders, 30 percent experienced depression, 10 percent experienced anxiety, and 5 percent experienced an adjustment disorder. Of the clients with Axis-II disorders, 55 percent were antisocial, and 15 percent suffered from borderline disorders. Of the primary heroin users, 50 percent also used cocaine at least once a week. Of the cocaine users, 10 percent also used heroin regularly. Cocaine users were more likely than heroin users to use alcohol regularly. Only 15 percent of the cocaine users and 7 percent of the heroin users also regularly used marijuana during the past month. The D.C. Initiative is examining whether coaddictions differentially predict outcome.

People seeking treatment usually enter through the public system, such as central intake, or through the correctional system. The staff assign the clients into either the therapeutic community or methadone treatment, followed by random assignment into either a standard or enhanced modality. Heroin users entering treatment average age 39, whereas cocaine users average age 32. The heroin users have been addicts for an average of 18 years, versus an average of 7 years for the cocaine users. The individuals who have been addicted for a long time usually have been in treatment several times previously. This is a hardcore addiction population. The heroin users have stopped using heroin on an average of five times, whereas the cocaine users have stopped using cocaine on an average of three times. Seventy-two percent of the treatment population has no health insurance and, therefore, depends on publicly provided treatment, thereby emphasizing the need for cost studies.

The D.C. Initiative attempts to bridge the gap between research and practice. It is important to simplify instruments, methods, and implementations in order to have widespread applicability.

Speaker: Samuel Karson, Ph.D.

The residential part of the D.C. Initiative, provided at Second Genesis, has produced significant positive findings. The experimental facility is located on the campus of St. Elizabeth's Hospital, and the control facility is in downtown Washington, D.C. The experimental group receives 6 months of residential treatment and 6 months of aftercare, whereas the standard group receives 10 months of residential treatment and 2 months of aftercare. Furthermore, there is a patient-to-staff ratio of 4 to 1 in the experi-

mental facility and 7 to 1 in the control facility.

This presentation focuses on retention findings as well as 6-month test results with the Minnesota Multiphasic Personality Inventory (MMPI). The project uses a battery of three tests: the MMPI II, the 16 Personality Factors (PFs), and the Bender Visual Motor Gestalt Test. The MMPI recently was revised with improved standardization and less sexist language. The first two tests are the two most often used tests in the country, but they have been criticized for requiring a minimum eighth-grade reading level. The Bender Visual Motor Gestalt Test, generally the third most frequently used clinical test in the United States, does not require a minimum level of reading ability. This battery of three tests was administered by a psychometrician at each treatment facility to small groups of patients during the first week of admission and then within 2 weeks of the 6-month window.

The sample consisted of all clients who were admitted to Second Genesis from February 1992 through January 1993. About 72 percent of the sample were men and 28 percent were women. About 99 percent of the males were African-American, with an average age of 32. On average, the clients had completed 10 years of schooling, and 40 percent had a high school diploma or higher. Seventy-six percent were involved in the criminal justice system. A little more than one-half had been convicted of drug distribution charges, and the rest had been convicted of possessing drugs, as well as other crimes. Prior to admission, male patients averaged six felony arrests, three convictions, and 19 months' incarceration. Only 8 percent were married, 76 percent had never married, and 16 percent were divorced or separated. Nearly 70 percent primarily used cocaine or crack-cocaine, whereas 25 percent mainly used heroin and other opiates. About 40 percent reported that at least one of their parents abused drugs; this is a significant finding, since a recent study shows that family history of drug or alcohol abuse in an inner-city African-American sample often is associated with a history of physical and sexual abuse and psychological stress.

The female clients were similar to the male clients in the aforementioned socioeconomic variables, with an average age of 32 and an average of 11 years of schooling. Also, they used comparable types of drugs at similar rates and had similar marital status and parental history of drug use. It is important to know these characteristics in order to know to whom the findings may be generalized.

Clients in the experimental program, which has a larger staff than the control group and is located in an enhanced facility, had a slightly better retention rate after 6 months than the participants in the control program. After 6 months, the experimental program retained 75 percent of the residents, compared with 70 percent in the control program. At 10 months, 54 percent of the participants remained in the experimental program, compared with 42 percent in the control group. As of the time of the conference, 20 clients had completed the experimental program and 2 more were expected to graduate in July, producing a 39-percent completion rate. The completion rate of the control group by July was 22 percent. Staff are currently in the process of analyzing test data to determine whether the MMPI II scale and the 16 PF random scales successfully can predict early attrition from the Second Genesis treatment programs.

To determine whether random assignment actually worked in the research design, an analysis of variance was conducted on the MMPI II test scores at the beginning of treatment of male clients in the two facilities. No significant differences were found with either the MMPI II scale or the 16 PFs. Thus, the comparison of progress in treatment over 6 months appears valid.

When comparing test scores of clients in the experimental group at the beginning of treatment and 6 months later, all but two MMPI II variables changed—a surprising result, since usually such profiles are highly stable. Differences were found in areas such as clinical anxiety, depression, self-esteem, and feelings of alienation. It appears then that the experimental treatment program has been particularly successful in reducing severe psychopathology in clients. The typical DSM-III-R diagnosis of the male clients on Axis I was opioid or cocaine dependence. The Axis II diagnosis on about 50 percent of the clients typically was antisocial personality disorder. Similar comparisons made on the MMPI II for clients in the control group revealed 4 significant differences out of 13 comparisons in self-esteem, depression, anxiety, and alienation. Each of these four also was found in the experimen-

tal facility. Thus, these results are indicative of treatment improvement over the first 6 months in both groups in major facets of psychiatric symptomatology.

It is also important to examine the rate of change found between the two programs. Surprisingly, significant rates of change were found in two key MMPI-II scales, those which are pathanogmonic of alcohol and drug abusers and antisocial personality disorders. During 6 months of treatment, male clients in the experimental facility had almost three times the number of significant mean changes in MMPI-II test scores than did those in the control facility, possibly accounting for the somewhat better retention rates in the experimental facility. It should be noted that the accomplishments of the standard program were factored out to determine what effects, if any, were attributable to the program in the experimental facility.

Findings suggest that treatment at the experimental facility resulted in improved client personality changes. It remains to be seen whether these findings will be supported by the 16 PFs and Bender Gestalt tests.

Speaker: Karst Besteman, M.S.W.

The two outpatient clinics, which dispense methadone and are run by the Institutes for Behavior Resources, Inc., differ in several ways. The patient-to-staff ratio at the standard clinic is 40 to 1 and at the enhanced clinic is 20 to 1. The enhanced clinic offers specialty counseling services in such areas as vocation, wellness, AIDS prevention, community outreach, and psychiatric assessment, whereas patients in the standard clinic only receive these services through referral. The focus of this study was on client behavior in treatment. Clients were included in the sample after only one contact with the clinic. The sample was broken down into four groups, based on the amount of time clients spent in the clinic. Data presented here come from the standard clinic, as no data are yet available from the enhanced clinic.

Clinic staff dispensed initial medications varying from 34 mg. to 40 mg. (Detailed charts were reviewed for the following information.) Medication averages went up dramatically in the first and second months and then dropped as patients stayed in treatment. The staff did not tell patients their medication levels. Those patients who immediately dropped out of the program used the lowest amount of medical staff time (i.e., to acquire medication), whereas those patients who stayed in treatment the longest used more medical time during the initial period of treatment. Likewise, the early dropout group spent the least amount of time in individual counseling, whereas those who stayed the longest participated more in individual counseling. In addition, the amount of time clients spent in group counseling varied directly according to their length of stay in the project. Except for the group of early dropouts, findings showed an initial rapid increase in the number of minutes that clients spent in group counseling, a leveling off with the 2- and 5-month groups, and a continued expansion among those who stayed for 8 months. This extensive participation in group counseling was surprising.

Some studies have indicated that cocaine and crack-cocaine have been ruining outpatient clinics, and that methadone clinics are losing effectiveness because people using crack-cocaine and cocaine are hard to clean on an outpatient basis. However, except for the two groups that dropped out the earliest, patients who stayed in treatment beyond 2 months began producing urine tests showing the presence only of methadone. The rate of dirty urines was very low for an outpatient clinic. On a monthly basis, 30 to 35 percent of all urines were clean. When dirty urines for opiates exceeded dirty urines for cocaine, it usually was due to an unusually high number of admissions. Additionally, findings showed a reduction in clients' use of needles and needle-sharing, thus lowering the risk for HIV/AIDS.

Finally, research staff have tried to determine whether characteristics of the four groups may help predict which patients will drop out and which will stay in treatment. A significant connecting characteristic has not been found yet. However, patients who stay tend to be slightly older than those patients who drop out, and those patients who stay also tend to use crack-cocaine less frequently than individuals in the dropout group. However, heroin use is highest among patients who remain in treatment.

This project has tried to look at addiction in terms of the medical model of chronic diseases. Research shows that the initial levels of compliance among patients with chronic diseases are the strongest indicators of whether patients will comply with their

doctors' recommendations 2 years later. Similarly, data from the D.C. Initiative indicate that patient behavior, such as showing up for testing or counseling, after 2 to 4 weeks at the clinic is a strong indicator of whether the patient will remain in treatment. A simple overview of their participation, not a research instrument, is sufficient to determine patients' levels of compliance.

Questions, Answers, and Comments

What is the degree to which clients themselves can enhance the programs ? Is there any control against a client defining the level or frequency of care? To what extent is client satisfaction used in experimental and control conditions, and what is the correlation between reporting on client satisfaction and retention and outcome? Finally, is retention itself considered an outcome measure? In the outpatient clinics, retention is being considered an outcome. Also, clients are asked to complete a form concerning their reaction to the treatment they receive. In the residential program, no significant changes were found with the Rudolph Moos' Copes Test. Both staff and clients in the experimental facility were compared with those in the control facility. No significant data were found concerning staff perceptions and client satisfaction. Overall, the D.C. Initiative is examining retention as an outcome and is asking satisfaction questions in the ongoing interviews. Staff are planning to analyze the variability of services that clients access.

How does the D.C. Initiative define a graduate in the residential program? A graduate has completed all phases of the therapeutic community.

Is any followup conducted on patients after they graduate, such as how long they remain drug-free? Yes, but analysis of 3-month followup has just begun. Not enough people have graduated yet for extensive followup.

To what might the low rates of positive urines be attributed? The program is very aggressive with methadone treatment. As such, staff expect patients to stop using heroin rather quickly.

What characteristics are looked for in staff? People who are committed to doing the job. They do not have to be certified. Many counselors were picked from other programs around the city.

PREVENTION AND EPIDEMIOLOGY

RS34. PREVENTION RESEARCH EVALUATION

Moderator: William Bukoski, Ph.D.
Speakers: Gilbert Botvin, Ph.D.
Richard Clayton, Ph.D.
Richard Spoth, Ph.D.
July 15, 3:00 p.m.-4:30 p.m.

Speaker: Gilbert Botvin, Ph.D.

The majority of the country's prevention research has been conducted in school-based settings. The two most effective general prevention studies have taught resistance skills and generic personal and social skills. These programs can be taught separately or in conjunction with each other. One of the main goals of the resistance skills programs is to teach children the types of "pro-drug" pressures they will experience within their communities. The other primary goal of the average resistance skills program involves "correcting normative expectations," which simply means teaching children that substance use is not necessarily something that everyone is doing. The generic personal and social skills programs place more stress on teaching "life skills" such as problemsolving, decisionmaking, critical thinking, independent thinking, personal behavior-changing techniques, stress management, and anxiety-reduction techniques. Communication skills training is also a big part of the generic personal and social skills programs. Some examples of communication skills training would be the teaching of assertiveness skills, friend-building methods, and complimentary techniques.

It is important when teaching in any of these types of programs to perform not only posttests but also pretests in order to determine which results were obtained. Implementation fidelity must be considered when comparing control groups to the people who have undergone the prevention intervention. If the interventions are not complete, there will be no significant changes. The breakdown of prevention in many studies reflects the inadequacy of the prevention/intervention models as opposed to the prevention staff.

A randomized trial that began in 1985 studied the tobacco, alcohol, and marijuana use trends of children from 7th through 12th grades. The study's initial intervention looked at the trends of the children as seventh graders. Booster sessions later were

used when the children reached eighth and ninth grades. Finally, a followup study was conducted at the end of 12th grade. The results of the study, upon completing the followup, showed a 24-percent reduction in the number of "pack-a-day" smokers who underwent prevention/intervention skills enhancement training. Weekly marijuana use also declined by 35 percent. The number of once-per-week marijuana users who underwent prevention/intervention skills enhancement training declined by 45 percent, compared to those users from a similar group of children, which only declined by 24 percent subsequent to simply viewing and reading a number of educational videotapes and pamphlets. Daily marijuana use, on the other hand, declined by 61 percent for children who received prevention/intervention skills enhancement training, as compared to only 30 percent of those children who received only the benefits of independent, school-based videotapes and pamphlets. Finally, measurable alcohol use, which was considered to be two or more drunken episodes per month, had an overall decline of 45 percent.

Speaker: Richard Spoth, Ph.D.

The success rates of different programs depend largely on the participants' characteristics and environment as well as the way in which the particular programs are delivered. Project Family is a relatively new program developed by David Hawkins and Richard Catalano at the University of Washington as a longitudinal study on family skills building. Under Project Family, a family skills training program, entitled "Preparing for the Drug-Free Years," is presented to lower the likelihood of preadolescents using drugs as they get older. Parents are taught family management skills, and preadolescents are taught peer pressure resistance skills. The program is being delivered by the cooperative extension service in economically stressed counties in Iowa. Consumer research techniques are applied to evaluate factors influencing program participation in this population.

Project Family currently is in between its pilot stage and a clinical trial stage. Staff only recently have begun to analyze project data. The prevention program impact model is driven by three sets of empirically derived hypotheses. The first set focuses on the family-related causal mechanisms related to the causes of adolescent drug abuse. The second set concerns family change mechanisms designed to positively alter these causal processes. And the third set centers on processes governing family decisions to engage in program change activities. The development of these initial guiding hypotheses has laid the groundwork for later stages of the project.

Research at the University of Washington was complemented by two lines of research conducted at the Social and Behavior Research Center for Rural Health at Iowa State University. The first examined the economic stress effects on family processes affecting adolescent adjustment. The second examined the differential outcomes of prevention programs and the application of consumer research techniques to the evaluation of factors that influence the overall program participation rates.

The Social and Behavior Research Center developed the research methods being implemented in this program, such as family observational techniques. Stage 1 is the developmental work. Stage 2 involved a pilot test of the "Preparing for the Drug-Free Years" program, with 209 predominately low-income families that had at least one sixth- or seventh-grade child. Stage 3 will involve a clinical trial. Additionally, the center has begun evaluating culturally sensitive adaptations of its assessments to Native American populations.

Many significant findings came from three of the pilot stage studies on family differences and participation factors. These studies were conducted with one primary question in mind: How do specific program features differ in their appeal to parents? The five program characteristics perceived by parents to be most important were meeting time, facilitator background, program duration, program research base, and meeting location. A key finding of this study is the relatively high value that parents placed on program convenience factors. The reason that parents most often gave for not attending meetings was "not enough time." These findings have been applied to a variety of strategies for the improvement of program convenience, such as shorter travel distances to program sites and the provision of day care services.

Data from the study of preferred features of a prevention program were used to address a second question: What are the subgroupings of parents that could be expected to vary in response to program recruitment?

Parents showing a strong preference for drug abuse prevention content were willing to spend more program-related effort, and this subgroup reported a lack of preference for program elements that could be important in family focus prevention programs. This suggests the importance of helping parents to understand the role of all areas of relevant skills enhancement early in the program.

A third research question was as follows: Do recruitment strategies differing in the level of time commitment requested result in differing participation rates? A full participation strategy, which requested a commitment to participation in all program and program assessment activities, was used along with a time-limited strategy, which requested only an initial commitment to the in-home pretests. Significantly different pretest assessment rates occurred, with the latter strategy proving more successful. However, less of the pretest data obtained from this group would be usable in outcome evaluations because many of the parents did not complete a posttest. It also was found that almost 90 percent of the families that did attend the first session of the program also attended at least one other session.

The final stage of this program prevention impact model development, which is not yet complete, consists of an NIMH total population survey. This survey is aimed at all families that have fifth-graders who are attending any one of 33 schools within 19 rural Iowa communities. Information obtained through this survey is meant to help develop models describing variations in program participation attributable to factors such as perceived costs and benefits of prevention programs, prior program participation, and risk factor variables. The people deemed eligible to participate will then be assigned to one of the following three interventions: (1) Preparing for the Drug-Free Years program, (2) Multi-Component Skills Intervention, or (3) Minimal Contact Reading Materials Condition. Data from this clinical trial will facilitate a better understanding of how families differentially benefit from varied types of universal interventions.

Speaker: Richard Clayton, Ph.D.

The University of Kentucky Prevention Research Center is conducting a number of evaluations on such topics as school-based programs, community partnership, media approaches to prevention, the criminal justice system, marijuana cultivation and distribution, female drug use/abuse, and nicotine replacement strategies. The primary principle of this center focuses on the idea that prevention concerns the entire population regardless of one's age.

A Novelty Seeking Study is under way using rat and mice models to obtain information concerning the susceptibility of humans to drug abuse. The main factor considered when studying these rodent models is their sensation-seeking level, which—when multiplied—can be used to mimic similar reactions within humans. Sensation seeking is defined as a "general need for novel and complex experiences."

Another study focused on the design of different public service messages in order to better reach different levels of drug users. It has been found that high-sensation-seeking people tend to pay attention only to certain kinds of messages; therefore, high- and low-sensation messages have been developed. One way in which it was determined that different messages appeal to different people was through the help of a study that set up a living room environment within a laboratory. This was done in order to view participants' reactions to various messages as they watched television from within a comfortable environment, similar to that which they were used to at home.

A community trial study focusing primarily on 18- to 25-year-olds measured both television viewing habits and sensation-seeking levels. This trial, which lasted 5 months, actually used public service television time to air different messages in order to study the viewers' reactions. The reach and frequency rates of the messages were measured closely. The reach rates, which simply refer to how far out into the community the messages traveled, ranged from 59 to 85 percent. In all, five public service announcements (PSAs) were aired. Of these five, the following two had the greatest impact: (1) "Common," a PSA that used heavy metal music, quick action cuts, and high-sensation activities to gain the attention of its audience; and (2) "Wasted," a PSA that used heavy metal music and literal symbols associated with euphemisms for drug use (e.g., for "stoned," a person was shown being pelted with stones) to gain the attention of the audience.

A 5-year evaluation study of Project D.A.R.E. (Drug Abuse Resistance Education) in Lexington, Kentucky, began in the 1987-88

school year. The study conducted pretests for 2,000 randomly picked sixth-graders who attended the 23 schools assigned to the D.A.R.E project. Posttests later were conducted for these students when they reached the 10th grade. The study findings later were compared to those for a number of similar students who attended one of eight schools assigned to be the control group. The project was designed to help determine marijuana, alcohol, and tobacco use throughout the different stages of childhood. All the data obtained through this study pointed toward the fact that sensation-seeking is related to drug use.

It was found that the biggest predictor of tobacco, alcohol, and marijuana use throughout all stages of childhood was peer pressure. In connection with this finding, the second largest predictor of the various kinds of use was determined to be the number of friends who either smoked, drank, or used marijuana. It is imperative that sensation seeking be considered separately for each individual group in terms of tobacco, alcohol, and marijuana use.

Questions, Answers, and Comments

What tools were used when attempting to measure the levels of sensation seeking within different individuals? The Zuckerman Scale was the main measuring instrument used.

Were focus groups used within the consumer research studies? They were not used within the Family Project but were used in a previous study that looked at the problems associated with smoking cessation.

Is it imperative that life training programs alter their makeup in order to better suit one cultural community over another, or is a universal program a sufficient method of prevention? In New York, where there are over 160 cultural groups, the school-based interventions are generally universal in their approach toward prevention. Individualized treatment for each and every cultural group probably would be more effective, but in environments where this is not possible, there is still the possibility for success through the use of a universal system.

Comment: There is an overall need for an increase in the number of systematic intervention programs within the prevention field.

Have there been any individual randomization studies conducted, and how are minority groups persuaded into participating in these studies? Most school-based studies have not been conducted on the individual, randomized level due to a fear of contamination within the social environment. In terms of minority groups, the need for randomization has been seen as the key to participation regardless of what person or group is being studied.

RS35. Multicultural Aspects of Prevention Research Programs

Moderator: Arturo Cazares, M.D., M.P.H.
Speakers: Ford Kuramoto, Ph.D.
George McFarland, M.S.W.
Respondent: Judith Ward Dekle, A.C.S.W.
July 15, 1:15 p.m.-2:45 p.m.

Speaker: Ford Kuramoto, Ph.D.

The Asian and Pacific Islander population often is viewed as the "model" minority group. This and the many other stereotypes surrounding the Asian and Pacific Islander population need to be avoided in order to design the most effective prevention and intervention programs. Some of the factors that can lead Asian and Pacific Islander immigrants into using alcohol, tobacco, and other drugs after arriving in the United States include the environments in which they settle, levels of acculturation, socioeconomic status, education levels, biological and genetic makeup, and whether they are originally from rural or urban environments.

Some recent SAMHSA information (based on a reanalysis of the National Household Survey on Drug Abuse) on a sample of the U.S. Asian and Pacific Islander population revealed a low rate of drug abuse in comparison to many other cultural groups. However, these data were said to be not very "clean," indicating concerns regarding their accuracy. The California Attorney General's office has preliminary data from a recent study that points toward either a stable or declining rate of drug use among the majority of the State's high school students. Asian and Pacific Islander high school students, however, actually were found to have a rising rate of drug use.

In addition to the efforts being put forth on behalf of the Asian and Pacific Islander population in the continental United States (in terms of alcohol and other drug prevention/intervention), the six islands in the Pacific where 400,000 Pacific Islanders live (e.g., Guam and American Samoa) also should receive appropriate attention. Alco-

holism is prevalent throughout many of the Pacific Islands. Besides being one of the main health concerns facing these islands, alcoholism is also the primary substance abuse problem. Due to the very limited health care resources in the Pacific Islands, the growing problem of alcoholism is a major concern.

Opium use is also a fairly common problem for many Asian and Pacific Islanders who immigrate to the United States. Often a high level of misunderstanding exists on the part of many of these people—some of whom have been using opium for many years in their native countries—with respect to the United States' laws forbidding opium use. The public health effects of prolonged drug use are not generally understood by these people. The problem of youth gangs, which often involves violence as well as drug use and distribution, is also a growing concern, not only in the Asian and Pacific Islander communities but throughout the country.

In order to combat these growing problems, more research will be needed in areas such as the following: the successful adaptation of Asian and Pacific Islanders from their native countries into the United States, the education of Asian and Pacific Islander youth and their families, and the role of the church and temple on these communities.

Speaker: George McFarland, M.S.W.

To effectively deal with substance-abuse related issues, researchers and practitioners must stop working in isolation and must work toward the development of more cooperative professional relationships. Both practitioners and researchers must see research as a valuable strategy for improving the effectiveness of treatment.

The importance of race must be a critical variable in the testing of prevention and intervention research programs if researchers are to better understand both prevention science and the given subject population. The issue of race has not been adequately addressed. Race and cultural diversity must be given more consideration in the design of future treatment programs because, as racial differences and tensions are recognized and addressed, drug abuse treatment will become more relevant and effective. All kinds of social context issues must be examined in the entire context of drug abuse prevention. Researchers and practitioners need to begin to recognize diversities within all of the different communities and to use this as a framework for understanding drug use.

Researchers and practitioners should strive for more community-based intervention in order to obtain the most accurate results. The information gathered through community-based ethnographic studies should be thoroughly analyzed and applied when designing future programs.

Many African-Americans are distrustful of research, often because the objectives and benefits of studies are not explained to them. It is imperative that researchers take the responsibility for ensuring that the research results are communicated to the people who participate in such studies.

Sources of social support and self-affirmation are often not available to African-American youth. The bonding of families and schools can be a beneficial tool in working toward increased success of minorities, especially African-Americans. Diversity within schools and communities must be viewed as a strength, not a weakness. More positive role models must be found for the African-American community. More youth should be directed to look to their parents and certain peers when searching for someone to fill these roles, not to sports stars, as is frequently the case.

Speaker: Arturo Cazares, M.D., M.P.H.

The main component behind the development and testing of successful prevention and intervention research programs is an understanding of prevention science and the given subject population. Researchers and practitioners need to begin to recognize diversities within all of the different subject communities and to use these to their advantage. Researchers should strive for more community-based interventions in order to allow for the most accurate information when creating new programs. The information gathered through community-based ethnographic studies also should be analyzed accurately and applied when designing programs. The four general risk factor groups considered when developing effective prevention models are (1) individual, (2) family, (3) peer group, and (4) environment (e.g., school, neighborhood, and workplace).

Other factors that may contribute to the use or abuse of drugs are various family interactions, family history, ambivalent attitudes toward drugs, and a lack of parent-to-child

warmth and affection. The use of drugs by peers not only can lead to drug use but also can affect children's deviant behavior patterns, trigger negative social interactions, and cause shared pro-drug values and attitudes. Some community risk factors that contribute to the growing problem of drug use and abuse are the availability of alcohol and drugs, pro-drug social norms related to economic mobilization, social stress, and community disorganization.

The scientific literature and anecdotal information have shown that youth who become involved with drugs tend to have multiple and often serious problems. Youth and other vulnerable populations require targeted, coordinated prevention intervention services that are culturally responsive and designed for their specific problems and needs. The challenge to parents and educators today is to get actively involved in prevention: prevention to deter experimentation and prevention to interrupt patterns of involved drug use.

Questions, Answers, and Comments

What advice could be given to prevention practitioners who want to apply information from available research to populations or groups with whom that research was not originally applied? One must be careful not to transfer, inappropriately, research results from one population to another. For instance, biologically, some Asian and Pacific Islander groups have different reactions to certain types of medications than do other populations. Furthermore, because many Asian and Pacific Islanders are often hesitant to disclose the problems they are experiencing, research results with this population may be very different from results with other populations whose members are more willing to talk about themselves. The only logical suggestion would be to urge researchers and practitioners to be more aware of these problems.

What does the research suggest with regard to children who come from bicultural families (e.g., Caucasian fathers and African-American mothers, African-American fathers and Hispanic mothers, etc.)? Is there any danger in applying available research information to these children without doing any specialized research with them? This issue has not been a very substantial one, because if a child has one African-American parent and one Caucasian parent, that child is viewed as African-American by current-day society.

With other ethnic groups, such as Hispanics, it may be more of a problem. For instance, the Federal Government requires that studies categorize Hispanics under "black" or "white." Also, if, for instance, a child has a black parent and a Hispanic parent, the child may look black but likely will have grown up to some extent in a Hispanic culture. This creates a complex issue. How can it be addressed? That is a different scenario and certainly is significant. For instance, there is great diversity even within the Hispanic community. While people tend to want to generalize with minimal information, they must be careful not to do so. However, one problem is that inadequate funding often limits researchers in the number of questions they can ask, the number of variables they can consider and manipulate, and the level of understanding they can attain regarding the factors associated with the various problems the study populations may experience. Therefore, smaller, more specialized, and ethnographic-oriented studies need to be implemented in order to gain a better working knowledge of the different problems that surface on a daily basis.

Comment: The practice of grouping Hispanics under either African-American or Caucasian labels for Government research purposes is a problem that leads to the substantial growth of continued problems in terms of research inaccuracies.

RS36. Risk and Protective Factors in Adolescent Drug Use and Abuse

Moderator: Zili Amsel, Sc.D.
Speakers: Laurie Chassin, Ph.D.
Kevin Haggerty, M.S.W.
Ralph Tarter, Ph.D.
Respondent: George Hamilton, M.A., L.P.C.
July 15, 4:45 p.m.-6:15 p.m.

Speaker: Ralph Tarter, Ph.D.

The Center for Education and Drug Abuse is currently funded at $1 million per year by NIDA. The center tracks and identifies 10-year-old youth with high- and low-risk statuses and identifies the risk and protective factors that determine outcomes. These youth are characterized by biomedical, physiological, neurophysiological, genetic, psychological, cardiovascular, psychiatric, family interaction (captured on videotape),

and peer relationship factors. This characterization, along with a teacher report and environmental status reports, is compiled into a 28-hour evaluation.

One part of this evaluation addresses temperament properties. When viewed from a research perspective, temperament is evaluated on a sliding scale that ranges from high to low levels, with a fulcrum of normal activity. To focus on how temperament properties influence outcomes and—more specifically—the likelihood of substance abuse, one must view it in context with environmental variables. We know that similar temperament levels will influence children in diverse environments differently. This makes research difficult because of the dynamic interplay of the variables. The multivaried model presented allows one to view the high- and low-risk factors and the interaction between the child and the environment that promotes these risk factors.

Temperament properties are the building blocks of psychological development. They are the primary traits of the individual, are observable within the first 30 days of life, tend to be stable, have a high genetic influence, are measurable, and provide a developmental trajectory for the individual. Six of the traits among mammals have been identified by the Colorado Adoption Study and the New York Longitudinal Study: (1) emotionality, (2) sociability, (3) attention span, (4) soothability, (5) reaction to food, and (6) behavioral activity level.

Factors that produce severe or abusive behavior also can be determined by the level of behavioral activity, when viewed in context with social interaction. A conceptual model of behavioral activity can be viewed as a continuum ranging from high to low levels. Behavioral activity levels differ for males and females and breeds of animals, and the environmental context determines whether the behavior will be adaptive or maladaptive. A high level of behavioral activity in a child results in poor disciplinary practices, less maternal stimulation, roaming in the environment, and sensation seeking. Mapping the behavior of a child with a high level of behavioral activity can lead to a developmental trajectory resulting in substance abuse.

The data on behavioral activity levels show that community-dwelling sons of alcoholic parents tend to have higher behavioral activity levels than those of nonalcoholic parents. High behavioral activity levels, or difficult temperament, contribute to dysfunctional family status and later to the propensity for associating with negative peer groups. A study of ninety 16-year-old children, both males and females, shows that 30 percent of drug abuse severity is due to temperament severity. Results from this data also raise questions of social equity. For example, Euro-Americans are more likely to develop substance use problems than African-Americans and are more likely to receive treatment, while African-Americans are more likely to be placed in the judicial system. This is important because society tends to associate substance abuse with inner-city life, but this has not proved to be true. Males and females also are not shown to differ substantially in the amount of drug use.

In conclusion, when discussing the liability of good and bad outcomes, one must look at a multivaried conceptual model—one aspect of which is temperament. Temperament is measurable and dependent on environmental context. It can be ranked according to severity and can be used to target the magnitude of intervention. When working with drug abuse, one must view it as a symptom, and the intervention must apply to problem areas before focusing on the drug use.

Speaker: Laurie Chassin, Ph.D.

The Adolescent and Family Development Project focuses on substance use and abuse in children of alcoholics and the extent to which these children are at risk for using and abusing substances. The project seeks to identify those children at risk because of factors such as deficits in parenting control and support, self-regulation problems, and elevations of stress—which may lead to negative affective states and temperamental difference factors—and different results from drug and alcohol use and protective factors. The project achieves results by answering three questions: (1) Are children of alcoholics at higher risk for drug abuse? (2) What are the mediating processes that put these children at risk? and (3) What are the special links between parental alcoholism and child drug use and abuse?

The most recent wave of samples consists of community-dwelling children with an average age of 14.8. The study provides data outcome on their substance use and abuse during the past year. The children were

divided into three groups. The first group consisted of children with no history of parental alcoholism, the second group consisted of children with no history of past parental alcoholism, and the third group consisted of children with a history of persistent parental alcoholism. The children in Group 3 already have been identified at high risk for alcohol and drug use. In fact, 34 percent of the children in Group 3 have shown alcohol-related consequences and 18 percent have shown drug-related consequences. Of the children with a full-blown substance abuse problem, all but one of them is in Group 3. Group 2 has shown a lower prevalence for drug and alcohol use and abuse, but not as low as Group 1. When one focuses on the specificity of the project, one definitely can find examples, such as that the children diagnosed for depression are specifically related to alcoholic parents.

To identify the mediating mechanisms that put these children at risk, a technique was used—termed latent growth curve modeling—which helps determine etiology. This modeling procedure graphs a substance use slope, which helps predict the rate a child will accelerate his/her drug use over time and determine the chain of events related to parental alcoholism. This technique may not predict the onset of drug use when a child is among drug-using peers but will predict at what rate his/her drug use will accelerate. Though the model presented is multivaried, a direct correlation between a father's alcoholism and a child's attitude and reaction toward substance use and abuse is presented.

The protective factors shown for this population are those that limit the levels of drug use. For example, high levels of family organization, or a regular family schedule, will block the effects of parental alcoholism on the child. A high sense of perceived control also has surfaced as another strong protective factor. The use of negative peer examples was identified as a successful protective factor in Group 2, the past parental alcoholism group, but in no other. The services provided to alcoholic families by intervention programs may be a protective factor by producing recovery of an alcoholic parent or by increasing already available protective factors.

In addition, this project identified the need to focus on peer influence in intervention programs. While peer influence is not the most dominant factor, it does have an influence. It would be wise to be cautious about the use of negative peer examples in intervention programs when not coupled with successful peer examples. There is a definite need to continue studying the risk and protective factors in children of alcoholics due to the amount of information still lacking and to study these children over the course of time.

Speaker: Kevin Haggerty, M.S.W.

The 2-year Focus on Families project studies risk and relapse factors in parents who are participating in methadone treatment programs, and works to reduce the risk factors and increase the protective factors for their children. The current emphasis on prevention programs is to merge children with their families and to merge research with actual practice. The risk factors for this project required consistent longitudinal effects. Therefore, the risk factors targeted for children were family history of substance abuse, parental attitudes, family management, organization and discipline, alienation, early antisocial behavior patterns, and academic failure. The risk factors targeted for the parents on methadone were peer drug use, high stress lifestyle, family conflict, low family bonding, lack of nondrug leisure activities, and isolation. When these factors are combined with the results of the study, interesting comparative data emerge.

The initiation rates of substance abuse for the Focus on Families sample of 11- to 14-year-old children was compared to a national survey of secondary school students in eighth grade. While cigarette and alcohol statistics were balanced between the two groups, marijuana use was nearly twice as high and opiate use was five times as high in the Focus on Families sample than in the secondary school sample. Comparative behavior patterns between the groups showed the Focus on Families sample to be 6-percent higher than the secondary school students in suspension and expulsion, 15-percent higher in initiating fights, and 13-percent higher in police problem rates.

The emphasis of the project has been on parents who are already dedicated to recovery, and the intervention has been developed to provide norms for the family. To this end, Focus on Families conducted 33 sessions of clinic-based parent training sessions over 8 months combined with a home-based services component. When the

project began, three assumptions were made about those seeking treatment: (1) those seeking treatment are primarily parents, (2) addicted parents with high family management skills can do more than those with low family management skills, and (3) parents do not want their children to become substance abusers.

The best ways for parents to reduce the risk factors for their children is to eliminate substance use and increase family management skills. This can present a problem if not handled in a family context because of the likelihood of the children to rebel from increased parental involvement. Once in a family context, parents who have not acquired certain skills (e.g., refusal skills) must be taught parenting skills. The most successful approach to this so far has been teaching parents how to teach their children these same skills. These procedures eventually will be able to break the cycle of drug abuse from parent to child and end the parent's perceived inevitability of drug abuse for their children.

Questions, Answers, and Comments

How were you able to establish the direction of relationships between difficult temperament and family functioning? There is no clear way to determine whether family function or dysfunction comes first. We can only look at association.

Would it make sense to put children with a high behavioral activity level into an activity therapy intervention as opposed to other treatments? The community should provide an appropriate way for children to discharge energy, such as clubs, but in schools the children have no choice.

How many of the 10-year-old children studied with high behavioral activity levels developed a problematic outcome? Because temperament must be viewed in regard to environmental factors and outcomes must be viewed as dimensional variables of severity, it is difficult to determine exactly how many children develop a problematic outcome.

What is the relationship between gender and temperament? Do females with a high behavioral activity level have a higher propensity for bad outcomes? There is no difference in severity of problems according to gender. In a complex breakdown, different genders appear to produce different problems.

In the Adolescent and Family Development Project, how did you choose the second group of children? The parents of the children in Group 2 met lifetime diagnostic criteria for alcohol abuse. However, during the course of this study there was no amount of alcohol-related turbulence.

How does the gender of the child effect the outcomes in the Adolescent and Family Development Project? With such a young sample, the effects of gender are extremely minor.

What was the most common gender of the parents studied in the Adolescent and Family Development Project? This particular project focused solely on parental alcoholism in the fathers.

RS37. The Drugs and Violence Connection: Underlying Psychosocial Factors

Moderator: Mario De La Rosa, Ph.D.
Speakers: Richard Dembo, Ph.D.
Eloise Dunlap, Ph.D.
Barry Spunt, Ph.D.
Respondent: Ronald Brinn, M.A.
July 15, 1:15 p.m.-2:45 p.m.

Speaker: Richard Dembo, Ph.D.

One subset of data from a NIDA-funded longitudinal study examines ethnicity and its interactions with the selling and nonselling of drugs, substance use, and delinquent behavior. Programmatic implications involve determining the differential needs, if any, of African-American and Caucasian male youth who become involved in drug selling.

The data set presented is part of a two-way longitudinal study of a group of juvenile detainees who entered a regionally based detention center in Tampa, Florida, in late 1986 and early 1987. The youth were interviewed and tested (via urinalysis) at the time of the first interview and 1 year later. The first interview lasted 1 hour and 15 minutes and focused on self-reported delinquency, relationships with parents, self-image, substance use, relationships with peers, educational experience, psychosocial functioning, and urine test data. Approximately 89 percent of eligible youth were interviewed 1 year later. There were high interview success rates, as confidentiality was ensured and it was indicated that the data would be used to make more resources available for the community. A psychological assessment

and screening triage unit at the detention center already had been established, so fortunately, many of the youth knew and trusted the program. This work already has led to the creation of many new services in the community, as agencies have used the data to demonstrate the need for more services that could respond to youth's needs. Such a relationship shows how researchers can work with practitioners to derive more resources. The data from this study compare the similarities and differences among African-American and Caucasian male youth, particularly regarding the selling of cocaine. The data also reveal the correlates of this phenomenon among African-American and Caucasian sellers and nonsellers.

The study examined, in the year before the first interview and in the followup year, youth's reported selling of three categories of drugs—(1) marijuana, (2) cocaine, and (3) other hard drugs such as heroin or LSD. In the year preceding the interview, African-American male youth reported (in what is probably a conservative estimate) 32 sales, while Caucasian male youth reported 6 sales; however, Caucasian males sold more hard drugs than African-American males. In the followup period, African-American youth reported a higher rate of cocaine sales. At each threshold level of the frequency of reported sales, African-American male youth reported greater participation than Caucasian males. For example, 16 percent of the African-American youth and 3 percent of the Caucasian youth reported selling drugs 20 or more times before the first interview. In the followup interview, in response to the same question, 19 percent of African-Americans and 4 percent of the Caucasians reported selling drugs. Again, Caucasian males reported greater numbers of sales of hard drugs than African-American males.

The study also examined at both interview times the relationship between selling and not selling cocaine among African-American and Caucasian youth, the youth's self-reported drug use and urine results, and the youth's self-reported delinquency. The results are clear and consistent. There is a large difference between those who are selling drugs and those who are not selling drugs, relative to their use of other substances and self-reported delinquency. For example, in response to a question about youth's lifetime frequency of cocaine use (across 7 categories of frequencies from never to 200 times), among Caucasian male nonsellers, 45.1 percent reported use, and 92 percent of sellers reported use. Eight percent of African-American nonsellers reported use, and 43 percent of African-American sellers reported use.

The research found significant differences in drug use and delinquency between Caucasian and African-American males. For most of the drug and delinquency variables, Caucasian males have higher rates of involvement with drugs, with two exceptions—the use and sale of cocaine at the followup interview were higher among African-American males than Caucasian males. Otherwise, Caucasian male youth are more involved in these activities.

The research found that there are seller versus nonseller differences in terms of substance use and self-reported delinquency. It is apparent that in almost every variable of comparison, sellers are involved more seriously in substance use and delinquency than nonsellers. This constitutes high-risk involvement, with the associated commitment to a deviant lifestyle.

The research found that Caucasian male drug sellers have higher rates of lifetime-reported cocaine use than any other group. It also was found that more psychosociological difficulties and intrapersonal issues are associated with the deviant lifestyle of Caucasian drug-selling males. African-American youth most often have problems that are associated with social and contextual factors (i.e., more economically stressed environments). For example, African-American male youth contend with a higher rate of poverty than Caucasian male youth.

Thus, it appears that Caucasian male youth, especially sellers, would benefit from interventions providing intensive individual, group, and family counseling to understand and address the underlying issues related to their lifestyles. African-American male youth may benefit more from interventions that aim to elevate their educational and vocational skills and increase their stake and commitment to participating in mainstream society. Another study in Florida, with youth in two public housing developments, found that more than 96 percent of the crack-cocaine dealers in the community sold the drug to earn money because legal jobs paid too little. More than 70 percent of these youth said that the social popularity and status associated with selling crack-cocaine were a factor. But these youth still were

aware of the risks they faced, including violence, rejection, and falling into a material trap where they were increasingly unlikely to gain other employment or enhance their career chances and educational opportunities. This and other studies indicate that different strategies are needed to address the needs of various groups of youth, based on their backgrounds and circumstances. Many youth in the early stages of drug involvement are reachable, but as they become more committed to the drug lifestyle, it becomes less likely that they can turn themselves around.

Speaker: Eloise Dunlap, Ph.D.

Data presented here come from a paper entitled "Aggression, Violence, and Family Life," which examines the transmission of behaviors in households that abuse and sell crack-cocaine. The paper states that in drug-abusing families, children are deprived of the opportunity to use adults as resources to learn conventional behaviors. Instead, the children learn aggressive and violent behavior from their parents and other relatives. Children in drug-abusing families remain excluded from learning those skills needed to survive in social circles where drug use is not a critical activity. The children do not have parents to train and guide them and often have to fend for themselves. The core of many drug problems has its origins in aggression, violence, and drugs, which are products of the family systems in which children grow up.

The following data come from a NIDA-funded research project entitled "Natural History of Crack Distribution and Abuse," an ongoing ethnographic study of the structure, functioning, and economic aspects of crack-cocaine distribution in New York City, primarily in low-income, minority communities. It must be remembered that the available findings from the first 3 years of this research focus on only one segment of African-American family life and should not be generalized to all African-American families and communities. Drug users form no more than 15 percent of city populations. Families presented in these findings are not the norm, and they are not rare.

A family chart of the Jones family provides insight about family/kin systems that are not conducive to raising children conventionally and thus can lead to another generation of drug abusers. In this family, each generation is less attached to conventional behavior than the previous one. Much alcohol and substance abuse has occurred in the family line. For instance, in one family, the woman is not a heavy drug abuser, yet her husband and siblings are heavy alcohol abusers. The woman's son is a drug dealer and has three children by a woman who has three brothers who are drug dealers. The first generation of this family includes many heavy alcohol users, the next generation predominantly has heroin users, and the subsequent generation is involved in crack-cocaine. The alcohol-using generation provided for the emotional needs of family life, but in the generation of heroin users, one can begin to see forms of abuse. Finally, those in the crack-cocaine generation display no sense of responsibility for family life and have histories of substance abuse, violence, aggression, and neglect of offspring. These crack-cocaine users are heavily involved in the foster care and criminal justice systems, and their family members often sell drugs.

Adults and parents in each generation exhibit modeling and ongoing behavior patterns that train people to survive in a world where aggression and violence prevail. For instance, Latisha trained her daughter, Barbara, to become a street prostitute. Latisha had begun to exchange sex for money during high school, and she gave birth to Barbara at around age 15. Her father had told her to do her homework and stay in school, but neither he nor others actively encouraged her to do so. Likewise, Latisha displayed and passed this attitude on to her children. By the age of 13, Barbara was a prostitute; at age 14, she had a son by a 35-year-old customer, so she dropped out of school. All of this behavior was modeled for her. When Barbara got pregnant, Latisha told her that she should finish school, but Latisha did nothing to help her. Furthermore, Latisha grew up watching her parents heavily abuse alcohol, and Barbara grew up seeing her parents abuse heroin. Barbara hated heroin, but as she grew up she started snorting cocaine and smoking crack-cocaine. Thus, individuals in such households are socialized into general drug use; they do not necessarily use the drug that their parents used. Violence became part of Barbara's and Latisha's relationship. Shortly before Latisha's death, Barbara approached Latisha for money, but she did not have any. Barbara asked Latisha to obtain the money from her boyfriend, but he did not have any

either. An argument and fight broke out, and Barbara ended up stabbing her mother's boyfriend in the leg. At Latisha's funeral 1 month later, further aggression and threats of violence occurred.

There is significant psychological and emotional neglect in alcohol- and drug-abusing households, as evidenced in early participation in street life and early alcohol and drug use. Adults also alternate between hugging and kissing their children and cursing and beating them, the latter especially after drinking and using drugs. Mothers who are out on the street provide little or no emotional availability, love, or direction for their children. Furthermore, adults often use physical and sexual abuse as punishment. For instance, Latisha would punish her son by abusing his sexual organs.

Verbal aggression is another factor in drug-abusing families. Children are scolded and complimented with abusive language, such as "You gonna be a pretty bitch when you grow up." Jokes and serious talk fall into one another and can lead to misunderstandings and fights. Male/female relationships generally are defined by their sexual content, and love is shown through sharing of drugs, even though fighting also occurs over drugs. Overall, there is an inability to relate to each other respectfully.

Speaker: Barry Spunt, Ph.D.

The National Development and Research Institute, Inc. (NDRI), has been collecting detailed violent event and life history information from street drug abusers and incarcerated homicide offenders through NIDA-funded research. The NDRI studies were structured according to Paul Goldstein's tripartite model of the relationship between drugs and violence, which classifies the relationship into three categories. First, violence is considered psychopharmacological when it results from short- or long-term ingestion of specific substances by the perpetrator or victim of the violent event. Second, economic/compulsive violence occurs when the drug user feels compelled to participate in economically oriented violence, such as robbery, to support costly drug use. Third, systemic violence results from traditionally aggressive patterns of interaction within the system of drug distribution and use, such as turf wars and other disputes.

The first two studies, conducted between 1984 and 1988, examined the drugs/violence connection among street drug abusers living in or frequenting the lower east side of Manhattan. The aim of the first project, DRIVE (Drug-Related Involvement in Violent Episodes), was to learn about violent incidents in which drug abusers participated and whether the incidents were related to drug use. DRIVE studied violent perpetrations and victimizations of a sample of 152 males in the lower east side. A followup study, Fem-DRIVE, looked at the connection between drugs and violence among 133 female drug users and distributors in the lower east side. The project established an ethnographic field site in the community and conducted life history interviews in 3- to 5-hour sessions, focusing on respondents' drug use, dealing, treatment, health problems, and so forth. Respondents returned weekly for 8 weeks and reported on violent events that had occurred in the previous 7 days.

Findings showed that about one-half of the violent events reported by males and a little more than one-third of those reported by females were drug related. Among both groups, incidents of psychopharmacological violence were reported most frequently, followed by systemic and economic/compulsive violence. Also for both groups, alcohol was the substance most closely associated with psychopharmacological violence, whereas cocaine and heroin were most associated with systemic and economic/compulsive violence.

These findings suggest that common assumptions about street drug abusers may be slightly incorrect. For example, many people believe that a major threat to public safety is drug users' violent predatory acts to obtain money for drugs, yet this scenario occurred rarely in the samples relative to other types of violence. Also, it is commonly believed that public safety is endangered by people who are crazed due to drug use. However, violent events of this sort generally were due to drug abusers' use of alcohol, a legally obtainable substance.

In 1988 NDRI decided to look at the drugs/violence connection from another angle—that is, talking with people who committed violent acts and asking them about their drug use. NDRI focused on homicide (including murder and manslaughter), since it provided a small, manageable number of cases and also because perpetrators were more likely to be identified by

arrest than perpetrators of other violent crimes and thus were easily located for interviews. The NIDA-funded DREIM (Drug Relationships in Murder) Project was conducted between 1988 and 1991 and focused on homicides committed in New York State in 1984. A sample of 430 perpetrators was selected, and 2-hour interviews were conducted with 268 of the perpetrators at 37 New York State correctional facilities.

DREIM results were similar to those of the DRIVE and Fem-DRIVE projects. About one-half of the homicides were drug related, most of which were of the psycho- pharmacological kind, followed by systemic and economic/compulsive violence. Also, alcohol proved to be the substance most likely associated with psychopharmacological violence, while cocaine was most associated with systemic and economic/compulsive violence. Alcohol was the primary drug in one-half of the drug-related homicides, and cocaine was the primary drug in one-third.

In considering the methodological implications of these data, self-reports (interviews) were shown to be valid and reliable sources of information. Trained interviewers rated only 13 percent of respondents as seeming dishonest. Therefore, self-reports have greater utility than criminal justice records for elaborating on the drugs/homicide connection. It must be remembered that the DREIM sample was 97-percent male, as female homicides are fairly rare. Therefore, the NIDA-funded Fem-DREIM study to supplement DREIM research was begun in fall 1991. Interviews are being conducted with all the women currently incarcerated for homicide in New York State as well as some on parole in the New York City area. About 475 women are in the sample. Staff are conducting 2-hour, one-time interviews with the women on the same topics as well as on the topic of physical and sexual abuse. Thus far, 157 interviews have been completed, with the rest scheduled to be completed by fall 1993.

Results from the first 50 completed interviews indicate that female-perpetrated homicides are more complex than normally portrayed in the literature, which is based on official record data. Although it is commonly believed that most women kill in domestic disputes and/or because they are battered, the women in this study killed many different kinds of people for a variety of reasons. Adult intimates were victims in only 20 percent of the homicides, while 26 percent of the homicides occurred in the context of criminal activity such as robbery. Less than one-half of the homicides were drug related. About two-thirds of the drug-related homicides appeared to be psychopharmacological violence. Again, alcohol was the substance most likely to be connected to psychopharmacological events.

Three-fourths of the women had been regular users of some substance at some point in their lives prior to the homicide, and two-thirds had felt addicted to a substance, most likely cocaine. Forty percent of the entire sample had used powdered cocaine on a regular basis at some point in their lives, and about one-third had felt addicted to cocaine at some point.

This research likely will facilitate the identification of predisposing factors and of distinctions in homicides by women. It also should help professionals in the correctional, drug, and mental health fields to view female-perpetrated homicides in a less monolithic fashion and to enhance early drug and violence intervention efforts. It is important to understand how different substances may be related to violence and the conditions under which drug-related violence is likely to occur. These studies should help policymakers develop new initiatives for dealing with the issue and help professionals target limited resources in a more efficient manner. For example, since it appears that few drug-related homicides are economic/compulsive-driven, new programs/policies focused on this area are of limited value. On the other hand, programs/policies that focus resources on controlling alcohol use could be very useful, as could the enhancement of penalties for violent offenders who commit crimes while under the influence of alcohol.

In early 1994 NDRI hopes to initiate a study looking at the link between drug use and violence by youth. Youth remanded to New York State's Division for Youth Facilities for Violent Crimes will be interviewed for the study.

Questions, Answers, and Comments

To what extent is the marketing and advertisement of alcohol, particularly culturally associated advertisement, a driving force in communities afflicted with substance abuse and related problems? While there are no data from research on the issue, minimizing alcohol advertisements, especially in inner-

city communities, would have a positive effect in reducing the attractiveness of the substance. However, even if alcohol advertisements are reduced, children still will learn about alcohol and other substance abuse from their families. More attention must be focused on changing these behaviors of adults before such behaviors are passed on to the children.

What anecdotes or stories from working with people involved with drugs and violence may provide compelling lessons for others? The following story emphasizes the importance of a simple human touch in working with youth involved in drug use and violence. A distraught youth entered a detention center and said that his aunt, with whom he was living, did not know he was there. When a center staff person offered to visit his home to tell his aunt, neither the youth nor a friend could identify the exact address. The youth and his friend gave the staff person directions based on street turns, the color of the house, and the color of a bike on the porch. The staff person managed to find the home and inform the aunt of her nephew's whereabouts, and the youth was very grateful that someone had made a genuinely human response to his need to inform his aunt of his whereabouts.

One researcher said he realized after about the first 50 of his interviews with drug users in Manhattan that they were not very different from him. However, whereas the researcher came from a stable family life, they had grown up around alcohol and drug use, physical and sexual abuse, and other such factors. Another researcher emphasized that most of the people with whom she works do not intend to behave so destructively. However, she told the story of a small dog who was shaking uncontrollably on the porch of a house she was visiting. It turned out that the owners, while high, had pulled the dog's teeth out since the dog had bitten one of them. Later, she visited the house again, and the dog was dead because the owners had dropped the dog, breaking its neck.

Comment: One must not generalize the results from the study of juvenile detainees to any larger groups of youngsters other than those who were interviewed and their kind of life circumstances. However, there do seem to be some broad differences between African-American and Caucasian youth that professionals should keep in mind when determining their specific needs for services.

RS38. PHYSICAL AND SEXUAL ABUSE

Moderator: Shirley Coletti
Speakers: Karen Allen, R.N., Ph.D., CARN
Dean Kilpatrick, Ph.D.
Brenda Miller, Ph.D.
Respondent: Pearle Lavery, M.S.
July 16, 2:30 p.m.-4:00 p.m.

Speaker: Karen Allen, R.N., Ph.D., CAAN

In 1982 it was determined that women represented less than 20 percent of the people receiving substance abuse treatment. Since that time, many experts have worked on lowering the barriers encountered by women to substance abuse treatment. Barriers to treatment can be divided into two general groups: (1) external sources (e.g., treatment program or health care system) and (2) internal forces (e.g., individual personalities, characteristics, or health beliefs). Physical abuse seems to be the most predominant barrier deterring women from attending substance abuse treatment programs. Physical, emotional, and sexual abuse not only prevent some women from seeking substance abuse treatment but also have been known to cause some women to turn to substance abuse as an escape mechanism.

The number of women receiving treatment for substance abuse in 1993 represents only a little over 30 percent of the entire population of patients, while the number of women represented in the Nation's alcohol abuse treatment programs is only about 22 percent of the entire population. These statistics would suggest that little progress has been made since 1982 in the area of making treatment programs accessible to women. A strong linkage has been found between substance abuse and women in domestic violence shelters. A survey of 2,600 women from numerous domestic violence shelters in Maryland revealed that 38 percent of them had a problem with either alcohol or other drugs. Of the shelters polled, 50 percent reported that women were told they were not allowed to use any kind of alcohol or drugs when they were in the shelters. Despite telling the women they were not allowed to use alcohol or drugs, many of these shelters did not have any type of program in place to help the women stay substance free.

In addition to the lack of treatment programs present in these shelters, only about 33 percent reported having a formal assessment process to define and seek help for any substance abuse problems that incoming

patients might be suffering. Virtually all of the shelters surveyed reported that nearly 100 percent of the 2,600 women using the shelters had experienced some type of an abusive childhood. Fifty percent of these women cited domestic violence as the main reason for not entering some sort of treatment program for their addiction. These percentages indicate a crucial need for concurrent treatment programs to address the needs of both domestic and drug or alcohol abuse. In addition to the fear of domestic violence, the women gave the following reasons for not entering treatment programs: child care needs, isolation, lack of services in the area, denial of a substance abuse problem, and substance use with a domestic partner.

Many female substance abusers who are domestically abused never receive any kind of treatment for their substance abuse problems during their entire stay in domestic abuse shelters. More screening and assessment procedures need to be installed within the Nation's domestic abuse shelters in order to better address the various problems experienced by the women entering these shelters. A sharing of both oral and written information between the substance abuse and domestic violence shelters would be one method of allowing each service provider to reap benefits from the other. In the past, many domestic violence shelters have employed counselors whose main job was to address the substance abuse problems of women entering the shelters. Unfortunately, when funding for these shelters ran low, these counselors were the first employees to be cut. Research focusing on the problem of substance abuse within domestic violence shelters hopefully will lead to more funding that can be used to increase the number of joint programs that address both physical and substance abuse.

Speaker: Dean Kilpatrick, Ph.D.

Across the board, substance abuse has been tied to increases in violence. On the other hand, the following question also must be considered: To what extent does being a victim of violence lead battered individuals to drug and alcohol abuse? A recent NIDA-funded program known as the National Women's Study attempted to answer this question by surveying via telephone a nationally representative sample of 4,008 randomly selected women. A number of different variables were addressed during the interviews. The goal was to determine the number of women who had been exposed during their lifetimes to the following forms of abuse or traumatic experiences: (1) sexual assault, including completed rape, contact molestation (the touching of one's sexual parts but without penetration), and noncontact, forcible molestation; (2) aggravated assault (i.e., an attack—including or not including a weapon—with the intent to kill or seriously injure the victim); (3) homicide death of a family member or close friend; or (4) alcohol and/or drug abuse problems.

Of the women surveyed, 22.6 percent reported experiencing some sort of sexual assault during their lifetime. Based on the national population, this rate would translate to 22.7 million women in the United States. Of these women, 12.6 percent had been raped, which would be about 12.1 million women. Ten percent of the women had been a victim of an aggravated assault, and 13 percent had witnessed the homicide death of either a family member or close friend. These percentages revealed that a combined total of more than one-third of the women polled (or an estimated 34 million women in the United States) had fallen victim to some sort of abuse or traumatic experience in their lives. Studies have shown that victims of abuse are 4.4 times more likely to develop two or more alcohol problems and 8 times more likely to develop two or more drug problems than are nonvictims. How many of the first alcohol intoxications or drug experimentation occur after the first victimization incident? About two-thirds of the women surveyed reported using alcohol and marijuana and about 80 percent reported using cocaine for the first time after they were sexually abused.

Posttraumatic stress disorder can begin as a result of a traumatic experience. The disorder's symptoms include the following: (1) reexperiencing the traumatic event in some way and (2) avoiding or numbing things associated with the traumatic experience (this symptom can involve a number of physiological reactions that were not present prior to the traumatic occurrence).

It was discovered that people who had developed posttraumatic stress disorder tended to have higher incident rates of drug and alcohol abuse problems as compared to people who had been victims of violence but were able to cope better. Crime victims with posttraumatic stress disorder were 6.3 times

more likely than crime victims without posttraumatic stress disorder to have received treatment for their substance abuse problems; the former also were 17.4 times more likely to receive treatment for their substance abuse problems than noncrime victims. Improvements in crime prevention methods and drug or alcohol abuse treatments obviously are still needed. One recommendation would be to address the problem of posttraumatic stress disorder as part of substance abuse treatment. This could be done effectively by implementing systematic screening procedures for incoming substance abuse patients. The teaching of crime prevention and risk reduction techniques might be helpful in lowering the rate of revictimization among female victims of violence.

Speaker: Brenda Miller, Ph.D.

The following three questions fuel the research efforts in the area of alcohol and drug abuse and its effect on family violence: (1) Do experiences of child abuse (physical and/or sexual) set the stage for women's alcohol and drug problems? (2) Do experiences of partner violence or adult victimization increase women's substance abuse problems? and (3) Does a substance-abusing lifestyle make women more vulnerable to violent victimization?

A NIDA-funded study, which currently is interviewing 600 women, is attempting to answer these questions. The findings up to this point have shown more father-to-daughter violence and sexual abuse for alcohol-abusing women as compared to non-alcohol abusers. On the other hand, there is not more mother-to-daughter violence and sexual abuse for alcohol users compared to the general public. There are a number of hypotheses as to why these relationships exist. Some experts believe that drugs and alcohol act as a medical device, aiding in the healing process that emerges as a result of childhood violence and sexual abuse. Others feel that women who were abused as children, either violently or sexually, develop feelings of dejection or of not being as good as others. This occurrence is known commonly as the "spoiled goods syndrome." This dejected feeling is believed to cause children to turn to a peer group that they feel is more befitting their nature or their feelings of being physically or mentally "spoiled." These peer groups, which often use or abuse drugs, generally are seen by children to be "spoiled goods" themselves. The children, therefore, seek acceptance within such groups.

Some experts theorize that drug and alcohol problems are passed from one generation to another via genetics or familial environment.

Another factor that seems to play a significant role in dissuading women from entering substance abuse treatment is partner violence. Rates of partner violence for women who use drugs on a regular basis tend to be much higher than for nonusers. Data pertaining to the rates of partner violence experienced by women were obtained by interviewing women involved in three different types of programs. The women interviewed were involved in programs that dealt in the areas of alcoholism treatment, treatment of people who drive drunk, and outpatient mental health treatment. The female interviewees then were divided into two groups based on whether or not they were regular drug users. The condition a woman needed to meet in order to qualify as a regular drug user was that she used drugs at least once per week over a 1-month period. The only drug not considered when determining whether or not a woman was a regular drug user was marijuana. During the interview process, it was discovered that the women had a number of different partners throughout their lives. This presentation focuses primarily on women who have had a lifetime of any partner. The rates of partner violence were different among the women in the aforementioned programs who regularly used drugs, compared to women in those same programs who did not regularly use drugs. It was discovered that the women who had used drugs reported higher rates of partner violence, compared to the women who had never used drugs. About 75 percent of the women in treatment who also reported some drug use said they had experienced some form of partner violence. This percentage is much higher than the 41 percent of the nondrug-using women in treatment who reported partner violence. Three other types of family violence (i.e., rape or attempted rape, physical assault, and assault with a weapon) also were seen to have higher incidence rates among women in treatment who used drugs on a regular basis, compared to the women who did not.

Repeated violent episodes are experienced by many women throughout their lives. This unfortunate reality is something that treatment providers need to consider when

designing new prevention and treatment programs that address the issue of physical and sexual abuse. Other areas that should be affected in terms of program design by the fact that women often experience repeated violence at the hands of their partners are drug treatment efforts, outreach efforts, HIV awareness efforts, and program and social planning practices. Women who have been living in an abusive environment for a long period of time may be distrustful of anyone who tries to help them. This means that treatment counselors and other care providers need to be properly trained to deal with the possibility that they will not receive any cooperation on the part of the women the counselors/providers are attempting to help. There is a need for a joint effort between the substance abuse and family violence fields if any substantial improvements in the above-mentioned problem areas are to be seen.

Questions, Answers, and Comments

What rates are commonly found within female drug and alcohol treatment programs with regard to childhood sexual abuse? According to a number of national research-based interviews, about 70 percent of the women entering alcohol and substance treatment programs report some type of childhood abuse (physical or sexual). This rate is based simply on the information that women are willing to give during an interview. Speculation would suggest that within a clinical setting where women interacted with their care providers for a much longer period of time, the rate of reported childhood abuse would actually be higher. It is important that both the people conducting the interviews and those providing various types of care allow women to talk about any child abuse experiences. Letting a person talk about painful experiences acts as a kind of cleansing mechanism. Not allowing someone to express such feelings can be very detrimental to both recovery and self-esteem.

Has any work been done in targeting prevention efforts toward children? Occasionally researchers have performed studies in which children were followed in order to determine whether or not they were being physically or sexually abused. Problems, however, tended to arise when and if it was discovered that the studied children actually were being abused because the researchers were not trained to handle such a situation.

In terms of the national household studies that have questioned women concerning any childhood abuses that they may have undergone, were the women who admitted being abused referred to counselors who were qualified to help them deal with their problems? A resource list was created and is given to every woman who participates in the interview regardless of whether or not she admitted to any childhood abuses. This list was designed to make treatment available to any woman who feels she has a need for it.

Comment: More work needs to be done in the area of looking at not only male perpetrators in abuse cases but also male victims of child abuse.

Have any programs dealing with physical and sexual abuse of women focused on different ethnic groups? Baltimore had a shelter that mainly worked with African-American women who were the primary resource providers in the household and were being abused by the men who lived with them. A number of similar shelters that were in operation in other parts of Baltimore worked with women from various ethnic backgrounds. Comparisons of collected data reveal that women, regardless of ethnic background, are abused. In terms of the Hispanic community, special attention often must be given to abused women because they, more so than any other ethnic group, do not like to disclose the nature of their family or childhood abuse history to researchers.

RS39. Communitywide Drug Abuse Prevention Approaches

Moderator: Mary Ann Pentz, Ph.D.
Speakers: Stacey Daniels, Ph.D.
Luanne Rohrbach, Ph.D.
Ruth Sanchez-Way, Ph.D.
Respondent: Sallie McLaughlin
July 16, 10:15 a.m.-11:45 a.m.

Speaker: Mary Ann Pentz, Ph.D.

The Midwestern Prevention Project, a communitywide approach to drug prevention funded by the National Institute on Drug Abuse, the Kauffman Foundation, and the Eli Lilly Endowment, involves the communities and school districts in the Kansas City and Indianapolis metropolitan areas. This project was designed to present a communitywide focus in the following five components: (1) an annual mass media campaign educating a city or community about drug

prevention, (2) the introduction of each program component to the public, (3) community organization, (4) health policy change, that, in the late phases of community organization, functioning communities can effect all the way up to the State level to lobby for policy changes, and (5) mass media. The implementation of this project started with the first two components. These two program components are based in a school program that begins during the transition grades (i.e., sixth or seventh grade) and adds a parent education program that focuses on communication skills and parent support skills.

In the first component, community leaders conducted a needs assessment on drug use in the community, either through a needs assessment evaluation performed among agencies or a baseline survey of the target population. The second component provided introductory training to prospective community leaders involved in this effort. This training included drug use etiology and epidemiology so that community leaders could converse among one another about how drug use starts and spreads and give an overview of what current state-of-the-art prevention techniques exist. The third component established an operating community structure (e.g., whether it is called a task force, council, or coalition) that is formally recognized by the community. The next step was getting these people involved not only in planning community events but in helping train later program implementers, including teachers, health educators, and parents. The fourth component, health policy change, was accomplished through legislation which directed that revenues, collected through a special tax increase, be used for drug prevention. The mass media campaign, the fifth component, involved many public service announcements and a videotape highlighting the program.

When the community organization was formed for the Midwestern Prevention Project, the initial structure was the Kansas City Drug Abuse Task Force, which started with a steering committee represented by businesspeople associated with Marion Laboratories and the Kauffman Foundation. This was a large working group of about 100 people that cross-cut different areas of mass media, health agencies, schools, and treatment agencies. Working subcommittees were formed that carried out specific tasks in Kansas City, including the media, a minority issues subcommittee, research, legislation, curricula, support, education, and intervention. The Kansas City model was based at the community organization level with very strong and highly credible business support.

A similar type of community organization, Lowe, was begun in Indianapolis. Lowe is similar to the Kansas City program in that it had government, media, and medical treatment committees. However, Lowe also formed a parent/family committee, a religious committee (one-half of Indianapolis' schools are private and parochial), a school education committee, a youth action committee that worked primarily on recreational activities, and a worksite. The Indianapolis model for organization started with school superintendents banding together to create a nonprofit organization with the State of Indiana. This second model is more replicable across communities because every community has school districts. In communities with highly credible business leaders, the Kansas City model may work equally as well or better. The progress was based on the objectives developed by the community council alone. The legislature worked to develop a tax initiative on beer in the State of Missouri and legislation for providing immunity to school staff who wanted to identify and refer students for potential drug abuse problems. No overt action had been taken, but committees were established and recommendations were made to the mayor rather than the State.

In the treatment and support sectors, it is known that prevention is inextricably linked to treatment. Prevention and treatment do not need to be considered separate in a community. The most prevalent question is whether drug prevention efforts work (a report that came out from the National Research Council suggests that no current efforts do). But there is over 15 years of prevention research that counter this argument. It is probable that a community-based approach that includes schools and parents in other program components can maintain effects longer than a single-component approach alone and show more dramatic effects over time. One example is discussed below.

In a community-based approach, by 5-year followup, almost 27 percent of the adolescents in a control group were smoking (out of a sample of 5,500). Of those who went to a full community intervention, only 18 percent

still were smoking. The difference is statistically and financially significant. Subtracting the rate of increase from year to year in the control group from the rate of increase in the program group, there is a net reduction. In estimating from year to year, if the school program effect is maintained alone, any more effects accrued from year to year should be attributable to the other program components introduced in that year. Over time there is an accumulative effect well beyond just a school program alone. In a summary of the study of the longest running school programs in the United States, Canada, and Finland, by 5-year followup (or 6 years into the study), none showed effects from the school program alone. The argument is fairly strong for a community-based approach.

Speaker: Stacey Daniels, Ph.D.

The approach presented makes community involvement meaningful in the research effort. Each year about 10,000 youth are surveyed in 15 school districts during grades 8, 10, and 12 to show the community how well prevention efforts are working. Periodical news conferences are held to inform the community about any improvements as well as any weaknesses and areas requiring research. Training is provided to teach people how to use this information. Before this information is released to the press, it is released to the individual school district representatives, who are walked through their report. Reports are initially only given to the individual school districts for confidentiality purposes; statistical information is interpreted to the representatives. About one-half of the school districts request to use report information and meet with parents or school district representatives. Forecasts also are made for the school districts to pinpoint future problem areas. In one case, because many eighth graders were using inhalants, planners decided to focus on elementary school education regarding the matter. In this situation, inhalant use went down.

These results came from a survey of 148,000 youth. Surveying this many youth required cooperation from the children and the school districts, which is not easily attainable. For an incentive, one school was given $1.00 for each survey returned, which went toward funding school activities. Eventually, the teachers wanted to provide their input as well, so a teacher survey was developed. Some of the student respondents felt strongly about the survey because it allowed them to see how their lives had changed. Other students did not reply on the survey because they were concerned about confidentiality (e.g., their parents might find out). The surveys must be conducted on varied levels in order to address the concerns of teachers, principals, and others involved. Participatory evaluations are conducted for programs performing a new study. Information is attained from the youth by asking them how they would measure success.

A 30-day ratings sweep based on prevention program reports takes place every year, comparing Kansas City's trends to national trends. For example, the comparison report may cite facts such as the following: cigarette use is down in Kansas City, but among northcentral States, use has gone up; alcohol use has gone down in Kansas City, but not as much as in the northcentral States; marijuana use has declined in Kansas City as compared to national trends and northcentral States. Using multicultural people, data from 1984 were collapsed and compared to current data and presented to the superintendents for teaching curricula and conducting prevention efforts. Trends in all substances that are abused are down as compared with the national average.

Speaker: Ruth Sanchez-Way, Ph.D.

The community partnership program was developed in 1988 in response to Congress' request that OSAP (now CSAP) develop community prevention programs. The community partnership program was based on research that previously had been conducted showing that partnerships, along with community effort, would be a positive trend. A large national survey of over 26 communities had demonstrated effective multilevel, multidisciplinary approaches to substance abuse prevention. There was also a 3-day national consensus meeting about where practitioners should be going. This is CSAP's largest grant program and is considered its flagship effort. A great deal was learned in the past, and a partnership was based on the premise that alcohol and drug abuse prevention efforts were best developed, implemented, and sustained through the coordinated efforts of a coalition of key organizations on the local level. In recognition of this complexity, the community partnership program required that there would be a community coalition consisting of at least seven mem-

bers. These seven members were to represent law enforcement agencies, schools, the religious community, health and social service agencies, youth coordinating organizations, and local government. The funds were intended to help communities identify their prevention service needs, develop a strategy to address the substance abuse problems, establish priorities, and implement these programs. Over 2 years, CSAP funded approximately 250 partnerships that are 3- to 5-year programs. Ninety-five were funded in the first year, and 155 more were funded in the second year.

The community partnerships are the vehicle for building coalitions and an environment where community empowerment can occur. All community groups are involved with the coalitions and partnerships, incorporating values and celebrating the different ethnic and cultural groups in their communities. Community empowerment no longer considers that agencies and professionals are solely responsible for making the decisions in the community concerning substance abuse. The responsibility lies with the community itself and results can be obtained only through coalitions.

A national evaluation was conceived at the beginning of the community partnership program consisting of two elements: (1) gathering data across all 250 partnerships and (2) performing intensive site visits with data collection from up to 36 of the community partnerships. In 1992 a report of the results from the first 95 programs was produced. With the first 95 partnerships starting on their third year and the other 155 just starting their second year, the data are very preliminary. It took at least 1 year for the partnerships to become functional. Most partnerships in the early or middle part of development may require 2 or more years to become fully functional (i.e., to create a strategic substance abuse prevention plan and implement activities based on that plan). The early efforts focused basically on internal, coalition-building activities. During these early years of the partnership program, most coalition members have devoted their time and energy to internal developmental activities that form and guide the partnerships. Their focuses are on memberships, getting people involved, needs assessment, and planning. Development of a substance abuse prevention plan is a key step in the long-range work of a partnership. Most partnerships are developing a strategic comprehensive substance abuse plan, but less than 10 percent have completed their plan in the first year. The main features of these plans are that they cover the target area for multiple years, require coordination among local programs, and suggest various programs for implementation.

There is considerable diversity among the partnerships in the plans. The average size is 50 members, but ranges from 7 to 236 members. The members come from a wide variety of sources in the community, most commonly from civic or community organizations, education, government, and human or social services. The partnerships rely heavily on their staff for guidance and organization, especially in the first year of development. Formal organizational structures are becoming established, with elected officers of committees that are both administrative and topical. Recruitment of key community members is a crucial element of effectiveness. The participation of key members was the most frequently mentioned factor that facilitated effective partnership development and operations. Having the right members is also vital in the early stages. It was felt that the most essential members were on the partnership, but more important members were not yet on board. One finding shows that partnerships based on a strong agency do better. The most common problem is turf or personality differences. Major changes reported in the past year were most typically the loss of a project director, staff, or the local evaluator and appear to impede the development of the partnerships. Leadership-based partnerships cite these problems the least.

The partnerships were divided into leadership-based, grassroots structures and partnerships that are professionally based. The leadership partnerships tend to be more formal, bureaucratic, and experienced with working in formal relationships. The grassroots partnerships comprise members who have not been part of a working group before. Members tend to view their partnership experiences as positive and productive, with a low level of conflict. These partnerships felt as though they had an effect on the community, with an increase in interaction among agencies and a greater awareness of the constraints faced in agencies' work. Contact with other members is worthwhile and productive and helps people reach their goals. Prevention activities designed to give partnerships visibility and win community

support were performed in the first year. The design of substance abuse activities was not a product of the strategic plan in the first year. Heightening member morale and winning the interest and support of the community were early success objectives. Many partnerships chosen to participate in the process appeared to be random choices and were unrelated to substance abuse activity, but they were seen as important for building a coalition in support of the community in order for them to become visible. Issues of the future pertain to whether the partnership is (1) gaining the participation and support of key people and organizations in the community, (2) developing a process for moving the leadership away from the staff and to others in the community, (3) developing a means for achieving consensus on particular substance abuse areas and the consensus on the strategies to be adopted, and (4) successfully moving from the planning stages to implementation of prevention activities.

The first national evaluation contract will end Fiscal Year (FY) 1993. The second contract, a continuation of the first, will begin looking at outcome measures in early FY 1994. The scope of the second national evaluation contract, however, will utilize all the plans and materials developed by the first contract. The second contract will be 4 years in duration.

Speaker: Luanne Rohrbach, Ph.D.

Implementation issues in community-based drug abuse prevention projects, focusing on the Midwest Prevention Project and a community partnership in Pasadena and Altadena, California, were discussed. There has been considerable effort devoted to the development, refining, and testing of community-based and school-based drug abuse prevention programs. Until recently the evaluations of these programs have focused on the outcomes they have produced. In many cases these programs have been shown to have an effect on drug use; however, researchers either have not found the effects they expected or the effects have not been as strong as the researchers expected. In looking at some of the factors that influence implementation and the relationships between implementation and outcomes, there are certain factors that are associated with both the quantity and quality of program implementation. These factors are the teachers' styles, experiences, and health practices. Organizational factors are important, such as morale and communication between faculty and staff or between faculty and administration. A positive school climate is associated with implementation. There are program-specific factors, such as how compatible the program is with what the teacher normally does or how enthusiastic the teacher or administration is about the program. These types of factors are all associated with implementation.

The implementation of the five main components of the Midwestern Prevention Project was looked at in the process evaluation, but emphasis is put on the school-based portion of the program. Implementation generally has been measured in terms of the quantity or quality of exposure to the program. Quantity was measured by how many sessions the teacher was involved in with the program and how much time was spent on each session. Quality was measured by classroom observation of the teacher and measures of such things as how the teachers and students interacted and how enthusiastic the teacher or students are. A composite implementation score for each teacher who has implemented the program and the differences of those who score high versus low were compiled.

Implementation of the Kansas City school component was measured as a quantity of exposure to the program. A high implementation group was a group that implemented a greater proportion of the program; low implementation groups were groups of schools or students in schools that did not receive the program or were under delayed intervention control. High implementation classrooms demonstrated a stronger effect on all measures of drug use relative to low implementation classrooms. In a study, high implementation resulted in decreased cigarette use 1 year following the program.

In the case of the Indianapolis school component, study implementation was measured by observations in classrooms. Measurement affects the quality of implementation. With alcohol use as an example, there is a more typical pattern as the result of school-based programs. The implementation groups and the control groups both experienced an increase in drug use; however, the increase was not as great for the high implementation group.

The first important message is not to say that a program was just simply done. The

extent to which it was done, how well it was done, what was done, and an understanding of the implementation of a program and its outcomes need to be determined. Secondly, the messages attained from data show that the stronger the implementation, the stronger the effect.

There are a couple of ways a community-based intervention program differs from a school-based intervention program. Community-based programs are very complex and difficult to describe and categorize. There are multiple target groups that have comprehensive strategies focused on youth, the elderly, or specific cultural groups. These strategies address individual competencies and systematic changes. They are dynamic program models with no curriculum guide. They change and evolve as the needs assessment results come in and as members of the coalition come and go. There are multiple implementers in school-based research (i.e., teachers) and in community partnerships (i.e., agencies, organizations, or staff). The evaluation of implementation in community-based partnerships must be considered by both internal and external activities. Internal activities are partnership-building activities, such as recruiting members, developing commitment, building capacities of the members, garnering resources, and assessing needs and planning. These activities are taking partnerships at least 1 year to implement—perhaps several years for some organizations. These activities may be the primary implementation outcomes that the partnership experiences. The external activities in which the partnerships are involved include performing public education activities, organizing and empowering the community, targeting specific groups with specific programs, implementing school-based education and legislative policy change, coordinating, and training. Implementation includes all of these internal and external activities, which need to be considered when measuring the implementation of partnerships.

The Year 2 report of the national evaluation shows that the four most important external activities community partnerships focus on are the following: (1) communitywide education, (2) coordination of prevention programs, (3) alternative activities for youth, and (4) training for members. Other studies of community-based partnerships around the country have shown that formalized rules, effective communication, a variety of leadership roles, the ability to exchange resources, the procedures established for conflict resolution, active recruitment and training of members, representation of agencies and constituencies, and participatory decisionmaking are other factors involved in implementation. The most important message is to evaluate the implementation and antecedents of community conditions before forming the partnership and to evaluate the internal and external activities. Proximal and distal outcomes also need to be considered and evaluated with the internal and external activities. When considering implementation for designing a program, one should be specific about who the target individuals and organizations are, what the target behaviors or systems are, what the program strategy is, and who the individuals and organizations are that are responsible for implementation.

Questions, Answers, and Comments

Is there an identifier on each survey that compares students' responses from year to year, and what is it? Confidentiality is exercised when they need to track youth over time. A number is used to track each student's information.

What data will be measured when evaluating outcome? Outcome has been incorporated in the original contract so the data flow from one partnership to the other. These data will not be a big burden on the existing community partnerships. The existing contractors are working on these data, which will be passed on to the next contractor. The actual data to be measured are not yet known.

How easy is it for a grassroots organization to move into becoming an independent partnership? It has not been an easy process. It is very difficult both for people who have invested their professional careers and for political leaders to give up that power of decisionmaking to someone else. In some instances, this could not be worked out, but in those that worked out, the partnerships eventually ended up being stronger.

How are implementations measured in community partnerships? Dosage does not seem to be as strong an indicator of outcomes as is quality or fidelity. Fidelity in school-based research makes more sense because the implementers are given a clearer curriculum and the research has a strong design. The fidelity measure looks at the extent to which the curriculum is delivered. There is no

curriculum guide, but this will evolve as things progress. Quantity-type measures or exposure should not be considered as much as how the program is implemented and how it matches the design. Three new components to look at could be fidelity, amount of exposure, and reinvention. If there are highly empowered leaders who are confident in their skills to begin with, then the extent to which they reinvent, change, or tailor a program to their knowledge of a particular community or target probably will have better effects. On the other hand, people who reinvent in the opposite direction and do not want to reinvent or only want to do one-half the job will have low implementation. A study looking at network analysis from the field of mass communications was done on community leaders.

Comment: It was hypothesized that there is something particularly useful for partnership grantees and other types of projects to take a look at "critical mass" where there are complex systems and programs operating. This critical mass would be exemplified by a certain number of programs or proportion of people involved and committed to a program, providing effectiveness no matter what the strategies are.

RS40. Family and School Prevention Programs for High-Risk Youth

Moderator: Larry Seitz, Ph.D.
Speakers: Judith De Jong, Ph.D.
Leona Eggert, Ph.D., R.N.
William Hansen, Ph.D.
Karol Kumpfer, Ph.D.
Respondent: Jan McArdle, M.A.
July 16, 8:30 a.m.-10:00 a.m.

Speaker: Judith De Jong, Ph.D.

Since its inception, CSAP has stressed the equality of both researchers' and community members' perspectives in the implementation of prevention studies. CSAP's mandate of intervention is to keep high-risk youth off of alcohol and other drugs (AODs). To this end, CSAP has funded more than 300 high-risk youth demonstration projects that target youth between 3 and 20 years of age. The intermediate outcomes expected of these programs are the following: to build in protective factors, to reduce risk factors, and thereby to build a healthy environment for high-risk youth. This broad perspective has led to a great variety in funded programs.

In prevention studies, an emphasis on traditional, linear research methodology and standardized tests may limit creativity and effectiveness and, in essence, trap researchers. Instead, CSAP emphasizes customization and use of complex models, which increase validity and quality of the data. Due to variation in interventions, it was recognized early on that cross-site factors cannot be organized by intervention. Instead they were organized according to the problem which the intervention or interventions were intended to address.

For clarification, this approach was contrasted with other approaches, services evaluation, and research using logic models to illustrate fundamental differences. First, the Services Logic Model assumes that the services are needed and measures delivery and procedures used. The Research Logic Model presents an initial hypothesis and uses fixed, predetermined interventions and random assignment to test the outcome of the hypothesis. The Demonstration Logic Model, in contrast, is focused on the problem, and interventions are allowed to evolve to maximize outcomes and effect on the problems. These outcomes are defined as healthy family, school, and peer relationships and success for high-risk youth both inside and outside of the community. A matrix was presented that provides a framework for conceptualizing and evaluating prevention programs.

Because this is not a classic intervention program, determining success is difficult. Success is judged by comparative studies and answers to questions regarding the initial goals (e.g., Did the program reduce AOD risk? Did it increase school success? Are the families' goals for the youth higher after implementation of the program than before?). This program is both highly successful and complementary to those of NIDA.

Speaker: Karol Kumpfer, Ph.D.

In the past, family involvement in support programs has been largely ignored. To have a comprehensive support program, one must take into account the socialization of the youth, who is influenced primarily by the family. If a prevention model is to build on etiology, one must consider the major risk and protective factors. In a study of 1,800 Utah students, the main factor leading to AOD use was negative peer influences; the

choice of one's peer group primarily was attributed to the school and family environments. A CSAP grant program for Hispanic youth found that, in families where there was a high rate of alcohol and drug abuse, the children showed a higher rate of AOD use.

A program (not yet fully tested) currently under way is investigating factors that influence resilience to AOD abuse. This program's intent is to reduce risk factors and to increase protective factors (e.g., a purpose in life or spirituality, problemsolving skills, high self-esteem, behavioral factors, and physical well-being). Grants funded by NIDA and NIMH to serve 900 families in Iowa are attempting to accomplish similar goals.

CSAP and NIDA grant studies have determined that the most critical risk factor is family conflict, while the most important protective factor is family organization. These studies have determined that there is a need to improve family-child relationships and strengthen family values.

Most prevention programs that involve the family as a whole do so through parent training and skills training. While trying to determine the best prevention programs around the country, certain major types of programs emerged. These programs included media-based parent training, basic education, parent support groups, parent-peer support groups, family preservation, in-crisis case management, family residential treatment, and family intensive probation programs. These effective programs shared many characteristics: They were enduring and intensive; logically linked to risk and protective factors; focused on children at an early age, before problems grow; culturally relevant; conducive to attendance; and supportive to the community environment.

In studying these programs, it is important to recognize that a comprehensive support program must include a family involvement component.

Speaker: Leona Eggert, Ph.D., R.N.

The program Reconnecting At-Risk Youth is funded by NIDA and NIMH and attempts to accomplish three co-occurring outcomes: (1) prevent drug use, (2) decrease the number of school dropouts, and (3) decrease suicidal thoughts and behavior. To this end, high-risk youth are defined as potential dropouts. Indicators used to determine these youth include the following: (1) a decline in grades, (2) below-average credit accrual, (3) absenteeism, (4) a history of dropping out of school, and (5) teacher recommendation. The group chosen displayed a high rate of drug use, and approximately one-half of those chosen were seriously depressed to the point that they had suicidal thoughts and behavior.

Challenges inherent in a program such as this one involve designing and testing a comprehensive program, designing approaches to deal with the problems presented, and discovering which procedures and approaches work and why.

The first aim of this particular program was to test program effectiveness. This was accomplished by efforts to decrease suicidal thoughts and behavior, depression, and drug involvement and efforts to increase school performance.

The second aim was to test the intervention model through teacher and peer group support and to produce outcomes from a combination of life skills acquisition and school bonding. This intervention was presented as a personal growth class that youth could take for elective credit in their high schools. The class met every day for 1 semester (a total of 90 classes). Students were awarded letter grades (A through F) based on how well they met the objectives and how they helped their peers meet their objectives. The primary goal of the class was to increase students' attendance. The class focused on the following: experiential learning, feelings of group belonging, skills training, and monitoring of students' drug use and depression. The model was based on studies that had shown success, including a blend of positive peer culture and life skills training.

The youth were divided into control and experimental groups, with a total of five groups. High-risk youth and those youth suffering from depression were put into both control and experimental groups. The students were given three tests over a total of 15 months, one test every 5 months. The first test was made up of a three-part questionnaire and an interview for those considered at high risk for depression. The second and third tests were conducted in the same manner. Using trend analysis between the control and experimental groups, the following results were recorded: The students in the experimental group showed an

increase in personal control, academics, peer bonding, and attendance and a decrease in drug use and depression.

The results indicate that temporary intervention programs do not work and that some students would do well with personal growth classes throughout high school. In addition, this model should be tested alongside family involvement programs.

Speaker: William Hansen, Ph.D.

In the past 40 years, society has been through numerous changes. Since World War II, society has seen the rise and demise of large corporations, racial desegregation, equal rights for women, and other major shifts in the social structure that call for new strategies in drug abuse prevention. Effective prevention programs require an understanding of the problem and the knowledge to handle these problems. There are three basic steps to good prevention research: (1) understanding the social epidemiology of prevention, (2) understanding the developmental issues underlying prevention, and (3) developing effective prevention programs.

To better understand the social epidemiology of prevention, a study of a sample of 6th and 12th graders found a definite pattern of drug use. Inhalants, which may be "true" gateway drugs, are the most commonly used drug by this population, after alcohol and tobacco. Inhalant use generally has been overlooked, even though students who use inhalants suffer from a higher dropout rate. The use of alcohol, the most prevalent of all drugs used by this sample group, is still a growing problem. One-half of all high school students drink to get drunk. It is difficult to tell which students are using drugs, but there are strong indicators as to which students are most susceptible. For example, latchkey kids are twice as likely to use drugs. Drug use by one's friends is another strong indicator—if one student uses drugs, then it is likely that his/her friends do also.

Three systems have shown to be accurate predictors against drug use. The first predictor is commitment programs (i.e., programs that ensure commitment from youth not to use drugs). The second predictor includes values programs, which show youth how to set goals and how drug use will hamper their goals attainment. The last includes systems based on normative beliefs.

HIV/AIDS

RS41. Substance Abuse and HIV/AIDS

Moderator: Harry Haverkos, M.D.
Speakers: Don Des Jarlais, Ph.D.
Gerald Friedland, M.D.
James Sorenson, Ph.D.
Respondent: Sandra Driggins-Smith
July 16, 10:15 a.m.-11:45 a.m.

Speaker: Don Des Jarlais, Ph.D.

In a large number of international cases, HIV has not been prevented among local populations of drug injectors. The growth from under 10-percent HIV sero-prevalence to over 10-percent HIV sero-prevalence in 1 year in the following major cities is astronomical: New York City went from 9 percent to 27 percent; Edinburgh, Scotland, from introduction of HIV to 40 percent; Bangkok, Thailand, from 2 percent to 40 percent; and Manipur, India, from introduction to 50 percent. Some factors associated with very rapid transmission are the lack of AIDS awareness, the sharing of needles, and the scarcity of injection equipment mechanisms for rapid efficient mixing within the drug abuse population.

HIV sero-prevalence data were accumulated from drug treatment programs and community outreach questionnaires. Findings indicate that sero-prevalence has remained low and stable for 4 years throughout Glasgow, Scotland; Lundt, Sweden; Sydney, Australia; and Tacoma, Washington—under 2 percent in both Glasgow and Lundt and under 5 percent in Sydney and Tacoma. Each of these cities has conducted significant studies throughout its HIV population. Lundt estimates that it has tested more than 90 percent of its injection drug abusers for HIV and has tested more than 80 percent of the drug injectors at least twice. Sweden maintains on file the names of all individuals who are HIV sero-positive and investigates every HIV sero-positive case to determine how and where the person became infected (e.g., whether the person became infected while living in the local area or was HIV positive before moving into the area). Sweden also conducts HIV testing postmortem on all known drug injectors who die and has yet to find an HIV-positive, deceased drug injector who was not already included in the HIV registry.

A sense of trust between health care workers and drug injectors was established relatively early in these four cities. Prevention efforts began while sero-prevalence was still low and primarily involved going out into the community. Glasgow set up a drop-in center for HIV prevention, Lundt sent social workers into the community to recruit drug injectors into a syringe exchange program, Sydney set up an extensive network of injection drug users who serve in an advisory capacity for HIV prevention efforts, and Tacoma established a syringe exchange service.

Each of these four cities provides drug injectors with access to sterile injection equipment. Although Glasgow was initially limited in this regard, it has since developed a strong over-the-counter effort in which pharmacists are encouraged and trained to sell drug injection equipment. Lundt sponsors a strong syringe exchange program with outreach to recruit injectors into the exchange, and both Sydney and Tacoma have strong syringe exchange efforts and over-the-counter sales.

HIV counseling and testing are very intensive in Lundt, where injection drug users are encouraged to be tested every 3 months for possible sero-conversion. In Glasgow, Sydney, and Tacoma, HIV counseling and testing efforts are limited in terms of AIDS prevention. Drug abuse treatment is strong in Sydney but relatively limited in the other cities. For example, in Glasgow one must be HIV positive to receive methadone maintenance. While these four cities do not consistently use drug abuse treatment as a way to prevent HIV infection, all of the cities have found that their HIV prevention efforts have led to increased demands for drug abuse treatment.

Interviews with injection drug users from these four cities generally reported that the drug users changed their behaviors due to concern about AIDS. The most commonly reported changes were stopping the use or sharing of drug-injecting equipment and changing their sexual practices. Even with the increased awareness of AIDS, however, some risk behaviors still have continued. Although approximately 50 percent of the respondents reported that they still were using equipment already used by another drug injector, HIV-positive sero-prevalence has remained low in these areas. Public health goals should be set in terms of trying to keep HIV sero-prevalence at very low levels in all cities where it currently is at low levels. Early outreach and the development of trust between health care workers and injection drug users, as well as access to sterile injection equipment, appear to be critical components of successful prevention. All HIV infections may not be preventable, but sero-prevalence should be kept at low levels within local populations of drug injectors. The need for additional services will increase as demands are uncovered and as the need rises for an overall strategy in dealing with HIV infection and injection and noninjection drug use.

Speaker: James Sorenson, Ph.D.

Approximately one-third of all AIDS cases in the United States are linked to drug use. By the end of 1992, there were over 253,000 such cases. Of these cases, 23 percent were injection drug users, 6 percent were injection drug users and homosexual, 3 percent were from heterosexual contact with an injection drug user, and approximately 1 percent were perinatal cases in which there was a link to injection drug use. There are many community-based approaches to prevent and treat HIV infection that have kept this epidemic from reaching disastrous proportions.

For people with HIV infection, methadone maintenance has a drastic effect on injection drug use-related risk behavior, as shown through 20 years of research. Data indicate that using methadone maintenance decreased injection drug use by 71 percent, ultimately reducing the opportunities to share infected needles. Methadone maintenance programs have spurned increases in medical visits and decreases in the no-show rates of drug users in medical care. Integrating primary care with drug abuse treatment is a developing trend and has proven to be successful in several major cities.

The San Francisco General Hospital has a methadone maintenance program with an HIV focus in which currently 120 of 200 patients have HIV or AIDS. With the patient population becoming more ill, a medical clinic was opened in 1990. Treating this many patients with HIV is difficult, and several types of problems have been observed. Feelings of denial, anger, depression, and isolation are common among HIV-positive injection drug users. Patients lie about complying with treatment or act out against the world. They often feel ostracized

from society and from their fellow injection drug users. Depression has been treated using pharmacotherapy, psychotherapy, and psychosocial therapies. Staff who work with these patients also experience a variety of fears. Fear of infection is common and is an initial and continuing issue. A solution to this problem is developing good protocols for infection control and strictly adhering to them. Confidentiality regarding whether or not a patient's HIV status should be divulged is an issue and depends on which State the program is in. Goal conflicts exist about whether these patients should be treated for injection drug use or HIV infection. It can be difficult for staff to know their own limits regarding their relationships with the patients—for example, in meeting the families or attending patients' funerals. Programmatic strategies for dealing with loss have been developed.

The drug treatment clinic at San Francisco General Hospital has made the admission of HIV-infected drug users a priority. The hospital has become a platform for providing medical and psychiatric care for patients and is a productive site for research, training, and the expansion of treatment programs. It recently has completed a randomized clinical trial to increase adherence of AZT (azidethymidine) among HIV-infected patients who were not taking the drug and also is measuring bereavement reactions.

Speaker: Gerald Friedland, M.D.

HIV disease and its later clinical stage, AIDS, are treatable. Effective therapeutic advances and strategies for delaying the progression of HIV disease have been developed and available for the last 6 years. Unfortunately this progress is limited, and prevention of infection remains the best weapon. Injection drug users have disproportionately benefited the least as compared to other populations in this country living with HIV disease. The goal in the next 5 years is to bring injection drug users into the mainstream of HIV care and research through partnerships among the drug treatment communities and drug users themselves.

Antiretroviral therapy has become extraordinarily complex. There are experimental drugs that are active against HIV at different stages of development testing, and much conflicting and confusing information exists about their efficacy and toxicity. In terms of their physical and chemical nature, the most important drugs are those called reverse transcriptase inhibitors, which inhibit the viral enzyme reverse transcriptase.

The first trials of AZT conducted with individuals having HIV disease and AIDS proved that treatment could be effective. Studies have indicated a highly significant difference between the use of AZT and placebos in the development of HIV complications. However, controversy exists surrounding the use of AZT: (1) the drug is expensive and the side effects due to its toxicity can be extensive, (2) its benefits are time limited (i.e., although it is effective, it does not continue to work indefinitely), and (3) the appropriate time to start using AZT is unclear. One-year studies have demonstrated that AZT was effective early in the HIV infection before symptoms developed. The long-term benefits are not known; nevertheless, they have formed the basis of the use of AZT in the past 3 years. A European study conducted over a 3½-year period demonstrated that AZT's benefits waned over time and that there is no long-term benefit to starting AZT earlier rather than later.

Preliminary information suggests that switching to DDI when a patient's disease progresses is beneficial and further extends the period of delay in progression of HIV disease. The strategy of administering several drugs at the same time is under investigation, and very preliminary information indicates that there seems to be some benefits in taking two drugs instead of one. An important interaction occurs when AZT and methadone are combined. While AZT levels increase in the patient, methadone levels are unaffected.

Antiretroviral agents slow disease progression, improve survival after illness begins, and may slow progression in certain patients before illness appears. The benefit is transient but may be improved with additional drugs and new treatment strategies. Viral resistance may develop when the drugs are used for extensive periods of time. None of these drugs results in immune reconstitution. The current drugs are not widely available for most people living with HIV disease, and all of them are very expensive. Probably equally important for injection drug users is the fact that access to and availability of HIV care are limited. One study of injection drug users in The Bronx, New York, showed that the proportion of injection drug

users progressing to AIDS who were not taking AZT was significantly higher that those taking AZT.

Injection drug users had similar but somewhat different arrays of AIDS diagnoses than homosexual men. Most notably were the absence of Kaposi's sarcoma, less cyclomegalovirus diseases, and an increase in fungal and bacterial infections. This is likely a function of past and recent exposure to infections, which become active when the immune system wanes secondary to HIV. Certain infections become more apparent and are extraordinarily prevalent among injection drug users with HIV. Most dangerous are bacterial pneumonia and tuberculosis, which increase in frequency in injection drug users. For every 3.5 people dying of AIDS, 1 person dies of bacterial infection, pneumonia, tuberculosis, or other illness before achieving an AIDS diagnosis.

Questions, Answers, and Comments

Comment: The AIDS epidemic still continues among drug abusers. Within the last several years, there have been some shifts in the AIDS epidemiology, with the greatest increases occurring among gay men and injection drug users. Over the last 4 years, the greatest increases now are occurring among heterosexuals who do not inject drugs and who do not report other risk factors. Initially these cases were largely connected with injection drug users, but now heterosexually transmitted cases are more evident. The epidemiology is shifting and is raising several issues.

Comment: Drug abuse treatment has been proven to be effective in reducing both drug use and the sharing of needles. The longer patients are in treatment, the less likely they are to get HIV.

What is a way or means to impact upon the Federal Government and State governments to increase the funding levels and encourage research for methadone maintenance programs? In terms of getting money for methadone maintenance and research, there is a methadone treatment improvement project within SAMHSA that is providing technical assistance to programs and States. The research has been done, but political action now is needed. The next step is linking AIDS activism to the accessibility of drug abuse treatment.

Is the proposal to use interim methadone as away to expand treatment valid? One study in the United States showed that interim methadone was beneficial. There is opposition in that methadone alone or nicoderm alone has not been as effective as providing these pharmacologic agents with appropriate counseling services. There is not enough support from the political system to provide full-service methadone treatment; therefore, other approaches need to be considered.

How does the use of methadone work for cocaine abuse? Methadone does not have any direct impact on cocaine use. There are not many good treatments for cocaine abuse right now, but it is a top priority for research. One approach has been the development of psychosocial treatments and experimentation with antidepressants.

RS42. HIV/AIDS AND WOMEN

Moderator: Rebecca Ashery, D.S.W.
Speakers: Blanca Ortiz, M.A., J.D., Ph.D.
Marsha Rosenbaum, Ph.D.
Nancy Rosenshine, M.S.
Gloria Weissman, M.A.
Respondent: Trinita R. Waters, M.A.
July 15, 3:00 p.m.—4:30 p.m.

Speaker: Marsha Rosenbaum, Ph.D.

For years poor women who use drugs have faced anxiety about obtaining drugs; getting ripped off; receiving contaminated drugs; contracting sexually transmitted diseases or hepatitis; overdosing; and giving birth to addicted babies. Although women addicts today continue to confront these same issues, they also face increased poverty, increased powerlessness in their relationships with men, and increased risk for HIV/AIDS.

Two recently conducted studies addressed these issues. One study examined methadone maintenance and AIDS among 223 subjects, one-half of whom were women, and the other study examined pregnancy and drug use among 120 women in various stages of pregnancy. To a large extent these studies involved ethnographic research through indepth interviews, with the primary goal of understanding the women's situations from their perspectives. The women's own words provide compelling evidence in the studies.

This research has revealed that fear of HIV/AIDS is pervasive among women. Although the drug world already had been a

risky environment for them, the threat of contracting AIDS has made it terrifying. As one women said, "I live with the fact that because of what I do, I could wake up one morning and be [HIV] positive." Women also are fearful of the ramifications of their past actions, since HIV has made them accountable for their activities. Another woman said, "Yeah, I've been tested, but I want to get tested again now, which I know I will, but oh, I was scared, I was scared. I didn't know then, I didn't know about AIDS, and then when the big propaganda came up about the AIDS, I was scared to get tested because I thought about the stuff I did."

In addition to fear, women's powerlessness renders them unable to engage in active prevention. A study on needle-sharing among pregnant women found that 63 percent of intravenous drugs used were with a needle shared with a lover or spouse. Most of the women did not define this as sharing or as risky behavior even though, in the majority of cases, the men used the needle first, thus leaving the women vulnerable to both the men's sexual infidelity and their intravenous drug use. As one woman noted, "Yeah, I was real aware about being careful about AIDS and didn't share with anybody except him and only using new needles, you know, between the two of us. I didn't know how bad he was. I found out later by observing him in different situations. He shared with anyone and everybody." Even if women became aware of the risk of sharing needles, they often were reluctant to stop this practice due to fear of their lovers' responses. For instance, if women became assertive about cleaning needles, their lovers would become violent: "Asking him to clean a needle is like asking for a beating."

Many women who provide sex for money are aware of the risk of contracting HIV and therefore ask the men to use condoms. However, the women often will engage in sex even if the men refuse to use a condom because they want the money and, again, are afraid of the men becoming violent. Also, couples often will not use condoms because it may imply that they are not being monogamous. One woman noted, "I would use rubbers on guys that insisted to use rubbers or if there was a guy I really didn't like....but if I liked him, I wouldn't use it." In addition, women often are raped by men who do not use condoms. Thus, studies revealed that education about sharing needles and using condoms wasn't entirely effective in preventing risky behavior. The women in the studies often knew enough, but the powerlessness they felt under the threat of violence prevented them from acting assertively in their best interest.

The study conducted on pregnancy and drug use found that pregnancy initiates and increases female drug users' fear of HIV, their concern about their past and current behavior, and their desire to be tested for the virus. One woman said, "I know they're going to test me 'cause they're going to test the baby to see, but it's like I'm concerned because I would die right then. I wouldn't go off and commit suicide, but it's like I would die. I wouldn't find it a reason to live any longer because I'm not going to be able to see my kids grow up." Women who are pregnant and use drugs face tremendous stigma and guilt about possibly transmitting HIV to their babies. Indeed, managing the guilt of using drugs during pregnancy is difficult, especially given the current political and social tide of the Nation. Still, many drug-using women judged other women who were using drugs while pregnant. Within the community of drug-using women, the risk of HIV during pregnancy becomes a divisive tool when some women consider themselves of higher moral standing than others. Although HIV-positive women in the study felt guilty about potentially handing their children a death sentence, the idea of terminating the pregnancies did not guarantee freedom from that guilt. Many of the women were opposed to abortion, felt pressured to perpetuate their family lineage, or wished to make up for the inevitability of their own death.

The women in the pregnancy study had an average income of $417 per month. They were victims of violence: 62 percent were in abusive relationships at some point in their adult lives, and 26 percent were assaulted during pregnancy. In the past, drug treatment was unrealistically expected to solve problems due to poverty and a social system with a growing underclass which creates drug abuse. Treatment staff understand the complexity of the problems and the special issues that women face, but they need to adapt more of an explicit, harm reduction perspective. Treatment cannot solve major social problems, but it can help reduce the damage done by drugs even if just by providing a respite from a chaotic life. Treatment should be open and available on demand. Methadone is becoming increasingly priva-

tized, and its subsequent price precludes it as an option for some people. Also, treatment personnel must recognize that they may not be able to erase individuals' drug problems, but they realistically can reduce the harm that individuals face. For instance, one treatment provider allows drug users to stay in his methadone maintenance program even if they continue to use drugs because he believes methadone at least is reducing the harm done to them.

Speaker: Blanca Ortiz, M.A., J.D., Ph.D.

A summary of preliminary findings from the Cultural Network Project is presented below. The longitudinal study aims (1) to identify the social, cultural, and practical boundaries to women's initial adoption and subsequent maintenance of HIV-risk reduction and (2) to identify the social, psychological, and cultural determinants of women's decisions to accept or refuse HIV counseling and testing. Staff interviewed 1,922 women at three sites in New York City. Preliminary findings indicate that HIV cannot be viewed outside the contexts of people's lives (i.e., without considering factors such as socioeconomic status, gender, ethnic and racial identity, social and interpersonal influences, access to health services, personal resources and social power, and participation in community organizations and institutions). Prevention strategies based on women's HIV/AIDS-related behaviors focus not on new strategies for individual behavior change but on the development of normative contexts that are conducive to individual risk reduction while respecting community values. Preliminary findings center on transculturation, social networks, resources and challenges, and organizational participation.

With the understanding that HIV/AIDS primarily affects ethnic minorities, especially African-Americans and Latinos, this project examined the role of ethnic and cultural variables in HIV risk-reduction behavior. Transculturation was proposed as a way to understand the complexity of what happens when individuals try to reconcile their cultural background and history with the dominant surrounding culture. "Transculturation" is a multidimensional construct that involves social relationships, language, use of the media, participation in rituals and group identification, or ethnic identity. Transculturation may occur in different degrees, and it is dynamic and dialectical. A transcultural person is better able to make the most of both cultures, such as having greater facility using public health services while still maintaining family, church, and community support.

The study examined this process with a subsample of 625 immigrant Latino women. Patterns observed of interactions with the dominant North American culture included the following: acculturated, bilingual women were indifferent about ethnicity; some women were proactive and others were insulated; and monolingual women were indifferent about ethnicity. Proactive women reported greater use, knowledge of, and intention to use condoms. Monolingual, insulated, and pseudoblended women reported less use of condoms and less drug use and were less aware of network norms regarding condom use. Acculturated women were more likely to have used drugs and less likely to use condoms but were more aware of the network norms. Proactive women were most concerned with protecting themselves from HIV/AIDS and received checkups more frequently. Insulated Latinos were the least concerned with self-protection and had less access to health insurance, but they reported problems less often with their health care providers. Monolingual and pseudoblended Latinos had less frequent checkups, whereas acculturated women reported the highest rate of health insurance coverage and were most concerned about HIV infection.

These findings reinforce the fact that Latinos in the United States are not homogeneous. Transculturation appears to be more instrumental in reducing HIV-related risks; therefore, interventions that preserve Latinos' ethnic identity while facilitating access to aspects of the dominant culture that enhance knowledge about safer sex would be most appropriate. Interventions that counter their cultural norms might encounter more resistance than is normally expected. What appears most important is the value of the unique transactions that evolve between people and contexts from different ethnicities and cultures. The findings also have policy implications in that they suggest that when health care services are available and adequate, Latinos are willing to use them. This analysis will continue with African-Americans and Latinos born in the United States.

Social networks provide an ecologically based means for investigating structural and functional aspects of social relationships and

their relation to risk behavior. In the Cultural Network Project, women identified members of their social network, including their main partners and those who knew them well; provided demographic information about them; and rated their satisfaction with the relationships. Information was collected on 17,000 social network members.

A questionnaire assessed positive and negative interactions related to the respondent's HIV risk behavior. Findings indicate that interventions should encourage community-wide support for HIV prevention. Women who interact with people who encourage risky behavior or hinder prevention tend to engage in risk behaviors. Many women want to get out of relationships with such people but may find it difficult. Thus, interventions need to be developed that target social network members. Lower risk Latinos reported the lowest level of HIV-specific interactions. However, their risk might increase as they interact more with the dominant North American culture.

The study also examined the personal, interpersonal, and community resources from which women could find support in dealing with demands and obstacles to HIV prevention. Prevention is difficult in the face of multiple barriers. An examination of these challenges and the strategies that women use to overcome them would be helpful in designing interventions more responsive to their reality. Challenges often include getting and staying off drugs, leaving a partner, finding a home and a job, going to school, and dealing with unplanned pregnancies. Strategies for overcoming these challenges include communicating, relying on religion and spirituality, relying on self-efficacy, winning custody, and seeking counseling. Interpersonal and community sources of support include partners, family, friends, drug programs, churches, and the Cultural Network Project. Women appreciated receiving help in navigating through service systems and sharing experiences. These findings imply that future interventions should build on women's strengths and competencies, such as developing scenarios for women to share experiences or giving women active roles in determining how to engage in risk-reduction activities. Interventions also should incorporate the importance of the church in encouraging risk reduction and health promotion efforts, as well as the significance of children as an incentive in dealing with difficulties. Intervention mechanisms must be developed at the system level to support the strategies already used by women.

Preliminary findings from the study indicate that 41 percent of participants reported participation in at least one social organization, with the most popular being church or other religious organizations, followed by neighborhood and school organizations. Most participants reported that at least one organization to which they belonged provided help in obtaining health and social service. Women in organizations that were involved with AIDS were more likely to engage in risk-reduction activities, such as using condoms. Thus, it appears that women's participation in organizations should be encouraged to link them to resources and empower them. It also would be helpful to explore the possibility of women transferring these skills to negotiations with their partners.

Speaker: Nancy Rosenshine, M.S.

The WHEEL (Women Helping to Empower and Enhance Lives) Project grew out of work begun in 1988 by a group of pioneers in the field of working with women at risk for HIV. At a conference in California in March 1989, these individuals presented an AIDS prevention model outline and received input from administrators of projects for female sexual partners of drug users. In October of the same year, a draft model was presented and feedback was solicited from the field. By January 1990, 17 experts worked together to produce a companion training curriculum. In February the training effort, "Preventing AIDS Among Female Sexual Partners of Injection Drug Users," was launched. Finally, in October 1990, the WHEEL Project was funded by NIDA. The project is jointly administered by NOVA Research Company in Maryland and Prototypes in Los Angeles and is established at five sites: Boston, Massachusetts; San Juan, Puerto Rico; Juárez, Mexico; and San Diego and Los Angeles, California. Services already were available for women partners of drug abusers in each site except San Diego, which was eager for such a program. The WHEEL Project is unique in targeting "hidden women," who are not necessarily injecting drug users themselves but nonetheless suffer from their partners' use.

WHEEL's name was chosen to emphasize the importance of empowerment in programs for women. Women from the targeted communities conducted most of the recruitment for

the project. Prospective participants were screened with the Risk Behavior Assessment instrument and a women's supplement form and were paid an incentive for being interviewed. Random assignments then were made to either individual or group interventions, both of which initially began with individual sessions, needs assessment, risk assessment, and pretest counseling. It was very important that the women discuss their needs, top service priorities, and perceived risk for HIV infection. About one-half of the women in the WHEEL Project completed high school, while the other one-half had less than a high school education. More than one-half had their own homes, while some were transient. The overwhelming majority had children.

All WHEEL participants, in either the individual or group interventions, were invited for a 6-month followup interview using the risk behavior and supplemental followup instruments. The group sessions consisted of seven possible modules, among which women could choose the following topics for discussion at their three meetings: health, addiction, sexuality, how to keep safe from domestic violence, relationships, survival, and parenting skills. Interventionists cofacilitated the first session with an outreach worker, letting women vote on which two of the seven modules they most wanted to discuss, with the option to change their minds at the second session. The first two meetings were highly interactive with and respectful toward the women. At the end of each, the women were given peer education packets and asked to teach someone else about what they had learned in the sessions. Then in the third group session, called "teachback," the women were asked to teach project staff about the chosen topics. A graduation ceremony followed.

Preliminary initial-to-followup data on behavior change have begun to be collected, and qualitative and quantitative analyses are being conducted. In addition, an ethnographic study soon will be completed of 189 women across the 5 sites in both the individual and group interventions. Preliminary findings indicate that women still were engaging in unprotected sex; therefore, there is much more work to do. Although targeted women are part of a fairly low drug-using population, findings revealed a drop in their use of drugs before sex. Also, women's worries about getting AIDS increased, thus indicating that the project sensitizes women and personalizes the risk of HIV, particularly among the women at the Mexico and Puerto Rico sites. Finally, a reduction was found in women's feelings of no control over their lives. More indepth analysis of these and other results are upcoming.

Speaker: Gloria Weissman, M.A.

Although women have constituted the most rapidly growing group of persons with AIDS in the United States for the last several years, providing access to health care and getting women and HIV on the prevention and research agendas have been uphill battles. The risk to women has been overlooked, and attention instead has been placed on women as vessels of infection to men or babies. When women with AIDS and their care providers formed a critical mass, that attitude changed. Still, there is too little funding and public discourse on this problem. While there has been much pediatric care for babies with AIDS, there has been little care provided for their mothers. Last year saw the first largescale study of the natural history of HIV infection in women; therefore, optimal care based on sound research is currently not largely available.

Because women with HIV are stigmatized and suffer discrimination, it is difficult for them to seek and receive appropriate care. They face educational, cultural, economical, psychological, physical, and social barriers to accessing care. Furthermore, in addition to being drug users and partners of drug users, most HIV-infected women are ethnic minorities; have little formal education; have children or partners who also are infected; and have lost children or partners to violence, foster care, and/or the criminal justice system. Many of these women do not have stable living situations, thus increasing the difficulty of complying with care. Some are not medicaid eligible and have to deal with transportation and child care costs as well as drug abuse and mental health services expenses.

Women's ability to change risk behaviors, as well as service-seeking and health care behaviors, is affected by their cultural orientation, socioeconomic status, and sense of power and decisionmaking. More research is needed on prevention and factors that influence women seeking and receiving care. Cultural competence is important in improving access to care. Although most women at risk are members of ethnic minorities, they

share the culture of gender. Women act in unique ways, as seen in their health care seeking behavior. For instance, women with HIV usually will seek care for their children and partners first and neglect their own health, resulting in their later entry into the HIV care system and shorter survival period. Women also have less power than men at every level (i.e., funding, focus of staff training, and research projects). To talk about access to care for women without discussing these and other aspects of women's culture and women's reality is the height of cultural insensitivity.

Another problem that cuts across ethnic boundaries is abuse. Many women have been victims of physical or sexual abuse by men and currently are in abusive relationships. It is important to examine how abuse affects their ability to seek and find care sensitive to their needs. Also, it is important to address HIV-infected drug users' drug problems, in addition to the virus. The lack of affordable and available drug treatment is a major issue in access to care. Since many women are unwilling or unable to get drug treatment, they must be actively recruited to health services. Such an effort requires extensive training of providers, pressure on the system by advocates (which are sadly lacking), and innovative outreach.

Successful projects frequently use peer-led interventions and peer-support models. Other successful projects use indigenous outreach workers to serve as the bridge between women and providers, helping women get through service systems. These two strategies are equally valuable and should be integral parts of the continuum of HIV care. Programs must devote considerable attention to advocacy efforts to build external resources needed to help HIV-infected women.

In the continuum of care, at the time of pretest counseling, program staff have the best chance of ensuring access to care for HIV-infected women. If staff cannot ensure that appropriate services will be available for a woman, however, then they have an ethical duty not to encourage the woman to be tested for HIV. In doing so, they may be doing harm. Too often women are diagnosed with HIV and then given an informational pamphlet without receiving medical care until AIDS symptoms are evident.

In February 1993, the Health Resources and Services Administration (HRSA) convened a workshop on access to health care issues for women with HIV. The meeting focused on priorities for evaluation research on access to care for HIV-positive women. Copies of the report are available from HRSA. Many studies proposed by the workshop group now are in progress (e.g., how the needs of women with HIV are being addressed in the Title I planning process). A new study is being conducted to determine whether any changes occur for HIV-infected women drug users in five cities that are just beginning to receive Ryan White Title I funding. It is important, however, not to wait for the results of these and other studies before aggressively working to improve access to care. Women's needs must be heard and advocacy for women with HIV must be improved.

RS43. Effectiveness of Teaching Safe Sex Practices with Drug Abusers

Moderator: Ro Nemeth-Coslett, Ph.D.
Speakers: Michael Dennis, Ph.D.
Robert Mallow, Ph.D.
Gloria Weissman, M.A.
Respondent: Bill Taylor
July 15, 4:45 p.m.-6:15 p.m.

Speaker: Michael Dennis, Ph.D.

A 1990-91 study focused on 53 male clients in a number of New Orleans inpatient programs. The information obtained through this study was compiled into a number of 6-hour videotapes dealing with the positive effects of psychoeducational and educational treatment approaches. These videotapes covered such topics as the susceptibility of African-Americans to the AIDS virus and the proper method of putting on a condom and allowed for many beneficial group interaction, role-play, and question-and-answer periods. The ratio of clients to therapists was fairly high, and the therapists involved in the program were found to be primarily recovering addicts themselves.

It was found that the best topographical determinant for the clients was whether or not they were at risk for contracting AIDS. If people did not use condoms 100 percent of the time, they were classified as "at risk." If people were monogamous (both partners), were not using intravenous (IV) drugs, were abstinent from all sexual activity, or used condoms 100 percent of the time, they were classified into a safe category. Of the 53 people randomly assigned to the various

psychoeducational groups, 40 (75 percent) were found to be at risk, while only 13 (25 percent) were found to be safe. The results of a 3-month followup study revealed that 25 of the 40 who were classified as at risk were no longer classifiable in this category. This meant that only 32 percent of the original 53 people remained at risk. Inpatient clients, upon completing a 28-day followup program, then were treated as outpatients through aftercare methods. Three months after this conversion from inpatient to outpatient care, the clients' progress was assessed. The following factors were determined to be the most important mediating variables for risk reduction: (1) knowledge, (2) susceptibility, 3) anxiety, (4) response efficacy, (5) self-efficacy, (6) communication skills, and (7) condom use skills.

Changes in the mediating variables were seen during the periods between preintervention and postintervention for the people treated with both the educational and the psychoeducational videotapes. Although the psychoeducational group showed a little more positive change than its educational counterpart, it was difficult to determine what exactly caused the change. Length of stay in treatment, however, often is cited as a predictor to success.

Indepth investigation into the perceived levels of motivational behavior change on the part of the clients has led to the formulation of a three-stage regression model: (1) susceptibility stage, (2) commitment stage, and (3) enactment stage. Continuing study is going into the understanding of these highly differing stages of client development. Controls dealing with age, education, and IQ (intelligence quotient) level are being applied to each stage to determine what the effects will be. The ongoing results of these studies can be used as a model for other needy treatment facilities.

Speaker: Gloria Weissman, M.A.

The two main programs cited in this speech are the National AIDS Demonstration Research (NADR) project (from 1987 to 1992), which worked with women at risk, and NIDA's 3-year Women Helping to Empower and Enhance Lives (WHEEL) project, which also worked with women at risk.

Women are the fastest growing group of HIV-positive people in the country. Despite this fact, AIDS funding for female treatment and research is fairly low. Due to the fact that female AIDS transmission never has received the attention that it deserves, time has been lost that could have been used to develop methods of blocking this growing epidemic. Contrary to common belief, lack of knowledge concerning risky behavior is not the main reason for the high female transmission rates. Very high levels of knowledge concerning this growing problem were found among 63 of the surveyed female treatment sites. The most predominant factors affecting women's susceptibility to HIV are the following: (1) culture, (2) risk-taking practices, (3) socioeconomic status, and (4) decisionmaking regarding sexual behavior and drug use.

Women, as a primary preventive measure, often are told by treatment clinicians to decrease their number of sexual partners. It was found that 47 percent of the women involved in the NADR project had only one sexual partner; thus, if this percentage is at all representative of the general population, then the above-mentioned advice would not be viable. The NADR project also points toward a higher level of condom use among women with multiple sexual partners. This fact could mean that either women with more than one sexual partner feel that they are at a greater risk or that women who have only one sexual partner feel that they are not at risk. Prevention efforts need to focus more attention on the educational side of HIV transmission. In doing this, women involved in monogamous relationships should be told that they may, in fact, be at risk despite how well they think they know their partners.

The majority of the women at risk or already infected with HIV are cultural minorities. HIV transmission is especially high among minority women involved with crack-cocaine. One predictor to this unfortunate reality is the fact that many of these women have been either physically or sexually abused by men at one point in their lives. Of the 28,000 women involved in the WHEEL project, 36 percent experienced some sort of childhood sexual abuse. Forty-five percent of the women currently are physically abused, and another 31 percent are sexually abused. Due to these disturbing percentages, many women do not feel secure enough to promote the idea of condom use.

More than 21,000 women have been studied in the NADR project. It has been found that the women most at risk for contracting the HIV virus are those who have the most difficulty changing their risky behavior. The majority of the women studied in this project reported some kind of sexual activity 6 months before being interviewed. Of the 85 percent of the IV drug-using women who reported having vaginal sex, only 11 percent admitted to using condoms every time. In comparison to this, of the 97 percent of non-IV drug-using women who reported having vaginal sex, only 8 percent said they used condoms every time. A 2-percent condom use rate was reported among the 13 percent of the IV drug users and the 15 percent of the non-IV drug users who stated they engaged in anal sex. A slightly higher level of condom use was detected among women who had multiple sex partners and by those who traded sex for money and drugs. The occasional or regular condom use percentages for the sexual partners of both the female IV drug users and the female non-IV drug users (these percentages rise or fall depending on the number of sexual partners the women have) are as follows: (1) partners of IV drug users—one partner, 82 percent; two or more, 39 percent; and five or more, 74 percent—and (2) partners of non-IV drug users—one partner, 18 percent; two or more, 33 percent; and five or more, 83 percent.

As a result of the NADR project, 37 percent of the IV drug-using women and 45 percent of the non-IV drug-using women reduced the number of occasions in which they engaged in unprotected vaginal sex. The initial assessment period of the project pointed toward a one-in-four rate of daily unprotected sex. At project onset, one in five of these women reported engaging in unprotected sex.

At the beginning of the WHEEL project, 41 percent of the women involved reported having unprotected sex with an IV drug user within the past 30 days. This percentage had been reduced to 17 percent as the end of the project neared. The overall rate of unprotected sex decreased from 87 to 78 percent. It would seem that the most important research goals should be the development of a female contraceptive that can be used to combat the risk of AIDS and the increased discovery of new populations of at-risk women.

Speaker: Robert Mallow, Ph.D.

A recent study of eight NADR-funded projects (four were outreach and four were methadone maintenance) was conducted. The main goal of this study was to determine the differences, if any, between the IV drug users entering methadone maintenance programs and those entering outreach programs. The variables considered were demographics, sexual practices, and drug use. Many drug users in these two different kinds of programs were interviewed between 1988 and 1991. The eight projects had many goals they wished to attain. One was to get the drug users to stay in their respective methadone or outreach programs so that the users eventually would decrease their IV drug use. The second primary goal was to push toward safer sex practices through increased condom use within both sets of programs.

Followup assessments were conducted for over 80 percent of the methadone maintenance clients and 50 percent of the outreach clients 6 to 18 months after they left their programs. It was found that the methadone maintenance clients, in terms of demographic differences, were generally older, female, and white or Hispanic. The IV drug users who had undergone outreach treatment were more likely to use non-IV drugs daily (e.g., alcohol or crack-cocaine). The IV drug users who had undergone methadone maintenance treatment, however, were found to be more likely to be using IV drugs (with the exception of cocaine) on a daily basis. In terms of the number of sexual partners, the outreach clients tended to have multiple partners, while the methadone clients generally had only single partners. In conjunction with this, the outreach clients were found to have a slightly lower rate of condom use than the methadone clients. Only 7 to 9 percent of the people assessed reported always using condoms. Sexually transmitted diseases are generally more predominant among outpatient clients, while such illnesses as tuberculosis, hepatitis, and pneumonia are more likely among methadone clients.

Other followup data revealed that most people in high-risk groups either increased or kept the same number of sexual partners. Low-risk celibacy or single partners also were seen to be in high numbers. Overall, 24.0 percent of the outreach patients and

16.8 percent of the methadone clients reduced their number of sexual partners. Generally, IV drug users are not known for using condoms, but there has been an increase in the number of outpatient and methadone clients who have been using condoms. This also is coupled with the encouraging fact that there has been a decrease in the number of methadone and outpatient clients who have been both using IV drugs and having multiple sex partners. There is an obvious need for further emphasis to be put on risk reduction in both the methadone and outreach programs throughout the world.

Questions, Answers, and Comments

How is it possible that IV drug users have lower rates of sexually transmitted diseases, considering that they are generally known to engage in unprotected sexual activities? This is due to the fact that they tend to have either one or very few sexual partners.

What approach to HIV education is more effective within the treatment facilities—group therapy or individual counseling? It depends on the receptiveness of the client. Group therapy, however, has been seen to have greater levels of effectiveness for long-term patients.

RS44. HIV/AIDS Outreach Intervention Research

Moderator: Richard Needle, Ph.D.
Speakers: Robert Booth, Ph.D.
Clyde McCoy, Ph.D.
Ro Nemeth-Coslett, Ph.D.
Respondent: Gerald Ribeiro
July 16, 2:30 p.m.-4:00 p.m.

Speaker: Ro Nemeth-Coslett, Ph.D.

For several years the Community Research Branch at NIDA has been involved with outreach targeted to drug users who are not in treatment through the National AIDS Demonstration Research (NADR) program. From 1987 through 1992, demonstration research projects were funded across the country, combining service and research. These demonstration projects recently were completed. Currently the Community-Based Outreach Intervention Cooperative Agreement Program is being conducted at 17 sites. Since participants in the NADR project completed extensive questionnaires, a large data base has been developed concerning this population of drug users.

The role of the outreach workers in these projects is extremely important. Researchers are finding that outreach constitutes more of an intervention than mere recruitment to a project. The concept of outreach originated not with AIDS but with late 19th-century efforts to combat tuberculosis by educating the public. Now outreach workers work in many roles, such as health education aides, community health workers, home health guides, and other professional positions. They frequently come from the neighborhoods in which they work and are of similar ethnographic, cultural, and street environments as their target populations. Some are former drug addicts themselves. Outreach workers form the core of their projects by serving as a link between the program and the community. Their primary responsibility is to gain community acceptance and encourage involvement in the program.

Outreach workers' initiatives differ according to the populations they serve. For instance, in reaching out-of-treatment drug users, outreach efforts emphasize case findings in several community settings. For instance, outreach occurs in "copping" areas, where illicit drug transactions openly take place regularly among users. To be successful, a program and its personnel must be trusted by both the users and public officials responsible for law enforcement; outreach workers negotiate with the former while program leaders should negotiate with the latter. Many programs also conduct outreach in other areas, such as the criminal justice system and hospital emergency rooms. Former drug users usually become credible, effective outreach workers because, as those in drug treatment say, "To talk the talk, you first have to walk the walk."

Pretest and posttest data on about 16,000 program participants show that most were male, African-American or Hispanic, of high school-level education, and unemployed. Nearly one-half had not had prior drug treatment. To reach these individuals, outreach workers must be indigenous to the target area, be connected with the drug user contact networks, and have personal interactions with the users. Outreach workers engage in numerous activities such as making referrals; providing education on risk reduction; and distributing prevention literature, condoms, and bleach for cleaning needles. They are a constant presence in neighborhoods with a high prevalence of drug use and HIV infection.

Overall and perhaps most significantly, data have revealed the significance of the outreach worker's impact in facilitating behavioral change even before actual program treatment begins. James Chen, of the World Health Organization (WHO), has said,

> We are all too willing to pour what will be billions of dollars into the pursuit of an AIDS vaccine but will not pour the same amount of money into education and behavioral modification programs which in the long run will be more cost-effective. The general public and policymakers need to realize that even when and if an effective AIDS vaccine or treatment should become available, it will not be the 'magic bullet' that will eliminate AIDS as a global problem. All of the global efforts to build public health infrastructures and to support HIV prevention programs, which we have been slowly and inadequately trying to develop to limit the spread of HIV, must be continued and even intensified when an AIDS vaccine does become available....

Thus, outreach workers must be trained at the community level in order to educate individuals about risk reduction.

Speaker: Richard Needle, Ph.D.

The National AIDS Commission recently released its final report with recommendations similar to those of WHO's James Chen, emphasizing the importance of behavioral change strategies and outreach as a risk-reduction strategy. NIDA's Community Research Branch can provide a number of documents that describe models of outreach among these kinds of projects.

Speaker: Clyde McCoy, Ph.D.

The public recently has begun to see a significant shift from demonstration projects to what appears to be an emerging public health model based on these outreach projects. It is important that researchers start considering the projects' common elements that can make up a public health model and be adapted across the country.

In order to meet the criteria for a public health model, at least four areas must be examined. First, accessibility is extremely important and will be a major plank in the new health care reform. Currently injecting drug users do not have access to health care, drug treatment, or even criminal justice programs that are targeting them for risk reduction. Current projects have demonstrated that, through proper access, an appropriate intervention model can be provided for the reduction of risk among drug users. Second, one must examine a program's effectiveness and whether the program actually leads to reduced risk behavior. Third, programs must be of high quality and accepted by the target population. Even an effective program will not be successful unless the target population first accepts it. Programs therefore try to be sensitive to the populations that are being recruited so that these people will accept the interventions. Fourth, the programs must be cost-efficient. The most cost-effective means for providing health care is through prevention. If even two cases of AIDS are prevented every year, the programs will have more than paid for themselves at each site. However, it takes a substantial capital investment up front before one can see long-term benefits. Therefore, unlike public health programs that treat the same patients over a long time period, many private care providers do not invest in prevention.

To develop a public health program, one should consider the results of these projects along with pre-existing literature in order to come up with a model that will meet societal goals. There are three primary components of all of these projects. First, recruitment and followup is important. Patients must be actively recruited. Second, it is important to consider the ecology, or the community cultural elements, when designing an acceptable program. Third, programs must be effective change agents to reduce the risk of HIV.

Each of these components may have several elements. In developing a public health model, one must determine the contribution of each component. At this point, each component appears as important as the others. A fairly standard intervention protocol has been developed based on the results of NIDA's demonstration projects. Out of this protocol, however, researchers would like to discover additional components that contribute to project effectiveness.

One unique aspect of the NADR and cooperative agreements is the degree to which NIDA became aware of the communities in which it was working. In doing so, practitioners became aware of what the communities found acceptable, which allows treatment to continue with followup services for both

research and reinforcement. More must be learned about the effectiveness of reinforcement services, which appear to be so important to program success. As a change agent, practitioners do not address attitude and belief changes; rather, they try to achieve behavioral change. Thus, the model can be seen in two ways: teaching and promoting. Education incorporates very specific skills related to risk reduction that participants should retain in order to change their behavior.

Because this program is long-term, each program is required to conduct 6-month followups. Data show continuous change in each of the outcome variables. Any prevention program must have similar durability to be successful. It is unclear how effective the 6-month followups have been in effecting this change, but it does appear that regular booster sessions do promote the continuous change. In most of the programs, a session has been built in called "Enhance." Participants in this group appear to be doing better than those in the standard programs.

Needle-cleaning has been a paramount component of many programs. Recent studies on the use of bleach have countered the myth circulating among the field that bleach is not effective. The time of exposure has been refined for bleach. Studies show that with clotted and unclotted blood, if one cleanses one's works with two bleach rinses of 15-seconds' duration each, then the syringe is decontaminated. This protocol has been used without knowledge of exactly what time of exposure one should expect. But the proper time of exposure to the bleach now is known. Researchers are not confused about this issue, although some public health officials might want them to be.

The United States cannot afford to look exclusively to its publicly supported treatment system to reduce HIV transmission cases arising from high-risk behaviors. There is little likelihood of expanding treatment capacity or changing intravenous drug users' attitudes. Thus, effective and affordable intervention models of short duration must be implemented, as projects have demonstrated over the last several years.

Speaker: Robert Booth, Ph.D.

There are many important issues regarding program evaluation strategies for evaluating outreach programs. When NADR projects first were funded, most were demonstration projects. In running a project that was a demonstration project for its first 3 years, the speakers tried to determine whether one could access drug addicts and change their behavior, irrespective of the particular interventions being used. Although changes were found, it was unclear whether they were due to social desirability, the interventions, the respondents' becoming used to the researchers and the questionnaires, or other causes.

It now appears to be time to move beyond demonstration projects with these kinds of outreach efforts. In the mid-1980s, the first literature that emerged about pretest/posttest changes in risk behaviors revealed that such changes were occurring prior to the implementation of federally funded interventions. Thus, current data about changes in the presence of interventions leave room for skepticism. In reviewing the literature on changing the risk behaviors of intravenous drug users and crack-cocaine smokers, the speaker found only two articles that discussed process information, such as dosage (the degree of intervention necessary to cause change) of the intervention, in order to determine the extent to which the intervention could account for changes in behavior. Dick Stephens of Cleveland worked on both of these studies; Dwayne Simpson from TCU was involved in one.

In 1978 Peter Rossie wrote an important article entitled "Issues in Evaluating Human Service Delivery Programs," which showed that the delivery of an intervention is as important as the intervention message in changing risk behaviors. Besides the intervention itself or the philosophy behind it, the way the intervention is delivered is significant. Peter Rossie pointed out situations in which an intervention may fail, such as when a project is not implemented, as expected. Also, the heterogeneity of how an intervention is delivered may complicate the evaluation of the intervention's effects. For instance, positive results may be due to the charisma of a outreach worker more than to the intervention he or she is using. Thus, it is very important to evaluate the process of the intervention being delivered.

As an example, several years ago a program was evaluated that trained personal care boarding home operators in dealing with chronically mentally ill individuals. The researchers randomly picked one-half (five staff members) of the boarding home operators in Denver to receive the intervention.

Over 3 years the researchers were to conduct the interviews at both groups of homes (those receiving and those not receiving the intervention). The researchers found, however, that one-half of the homes in the experimental groups were interested not so much in the services but in filling beds. Furthermore, many of the homes in the control group already offered more interventions than the researchers could provide. Using an evaluation form that obtained process information, no difference was found to exist between the two groups, but results did differ according to the amount of intervention dosage, regardless of the group to which the homes were assigned.

A second example can be found in the operation of a program called Project Safe, which involved a targeted sampling. Indicator data on sexually transmitted diseases, intravenous drug users, and HIV/AIDS cases were obtained from city agencies. Staff gathered additional information on, for example, the frequency and types of drugs sold in city "copping" areas. The researchers then estimated the number of drug users in the targeted area and developed quotas so that injectors and smokers from the areas could be accessed proportionately. Next, the researchers hired outreach workers who were "indigenous," or familiar with the drug subculture.

In the cross-over design, the study used two interventions: (1) NIDA's standard intervention, in which participants are shown how to use a condom and bleach and then rehearse these activities, and (2) the researchers' enhanced intervention, using the Chicago model in which outreach workers conduct individual risk assessments with clients (depending on their risk behaviors and the extent to which the clients allow the practitioners to intervene). The latter intervention was difficult to monitor due to the individualized treatment and the discomfort of some of the staff with the paperwork involved in evaluation. The researchers were careful to determine clients' exposure to other interventions both prior to and during the project. It was difficult to know whether clients in the enhanced program actually were receiving that intervention and whether those in the control group actually were receiving more services than just the standard intervention; therefore, the researchers tried to track dosage from the perspectives of both the client and the outreach worker.

Several problems arose in evaluating the intervention from the clients' perspectives. First, outreach workers sometimes were possessive of their clients and did not want others initiating contact with them. Consequently, outreach workers recorded all of their significant contacts (5 or more minutes) at the end of each day to ensure that the researchers accurately monitored intervention dosages. Second, outreach workers worried that the researchers were monitoring their productivity and sometimes recorded contacts that did not appear significant. It continually had to be emphasized that the researchers were monitoring the clients, not staff. Third, the researchers and outreach workers needed to establish a common understanding of what constituted and should be recorded as an intervention or significant content, based on factors such as time spent with the client and subjects discussed.

The study gathered several general principles: (1) the examination of intervention exposure is as important as that of pretest/posttest changes in risk behaviors, (2) it is important to assess intervention exposure from as many perspectives as possible, (3) this type of evaluation requires constant oversight, (4) it is critical that staff buy into the evaluation design and gather their insights concerning the data, (5) evaluation tools should serve as many purposes as possible (i.e., for the evaluation of intervention dosage, as a management tool, and as a case record), and (6) outreach workers need constant reinforcement in the evaluation process.

Questions, Answers, and Comments

Has there been any research into the length of time a person should be in recovery before she or he can become an outreach worker? And how long should that person be out on the street, with the threat of relapse? This is a major issue. Persons are not hired unless they have spent at least 1 year in recovery. This agency has a support system for outreach workers, provides treatment when necessary, and gives time off for work-related stress. Furthermore, because this program is affiliated with a treatment agency, random urinalysis testing is conducted on outreach workers.

Should active users be used to conduct outreach? One program in the United States

tried that approach unsuccessfully. This agency has had relapse among its outreach workers, which adversely affected other workers' morales and feelings of safety. Mixing active and recovering users, at least, creates a major problem among staff.

Comment: Active users should not be used. The appropriate time that an outreach worker should have spent in recovery depends on the individual. Several years ago an outreach worker who had been in recovery for 10 years began missing work and, it turned out, had started using and dealing drugs. This worker was likely put into situations he should not have been in. One must be careful never to pair two former addicts in outreach efforts. The most important issue in choosing outreach workers is not whether they once were addicts but whether they are comfortable with the environment of drug users.

Comment: Besides being comfortable with the environment of drug users, outreach workers must be extremely careful and quick when they are in these dangerous, as well as tempting, situations.

How does one make the distinction between contacts and encounters and account for contextual effects that occur in an interaction that may cause confusion in monitoring contacts? A significant-contact form can be utilized, which has a series of check boxes to indicate what occurred in the interaction. The form is more or less limited to HIV/AIDS issues to help the outreach workers establish boundaries in the interventions provided.

What kind of criteria do you use in evaluating the appropriateness of both recovering addicts and nonaddicts for the outreach worker role? The field seems to be moving toward an unofficial certification for outreach workers. An extensive training manual for outreach workers is helpful, but workers also should be encouraged to take a certification course through a medical school. It is important that outreach workers receive training as well as continuing education.

Comment: Evaluation of outreach workers often is based on instinct. It would be helpful if NIDA were to develop a standard list of criteria for outreach workers.

Comment: Mistakes often are made in hirings. The agency has recruited outreach workers from Narcotics Anonymous and methadone programs. The agency pairs outreach workers and has a strong support system for the staff to try to prevent relapse.

RS45. Substance Abuse, HIV/AIDS, and Tuberculosis

Moderator: Alan Trachtenberg, M.D., M.P.H.
Speakers: Hannah Wolfe, M.S.
Harry Haverkos, M.D.
Peter Selwyn, M.D.
Respondent: Glen Fischer
July 16, 2:30 p.m.-4:00 p.m.

Speaker: Harry Haverkos, M.D.

Tuberculosis (TB), predominantly a respiratory system infection, is a worldwide problem. TB causes 3 million deaths each year, and 8 million new cases are diagnosed worldwide every year. Only in the industrialized world has much impact been made in combating the disease. From 1953 (the first year of national surveillance for TB) to 1991, remarkable success occurred with prevention and treatment programs. However, the mid-1980s saw a plateau in that success, and since 1989 there has been a growing increase in the number of TB cases. Although, because TB is preventable and treatable, there has been an increase of only several hundred cases each year, this upswing is appalling.

Like most diseases, TB is more common among certain populations. For example, between 1985 and 1991, minority groups acquired TB more frequently than other groups. Also, in some cities the number of cases is growing, even though a larger number of counties reported no cases of TB this year than in previous years. For instance, after a decrease of cases in the 1970s, Central Harlem in New York City began to show an increase. In addition, drug abusers tend to show higher rates of TB.

There are two noteworthy sets of national surveillance data with regard to incidences of TB. First, one can look at reports of AIDS, since TB occurs more commonly among individuals with HIV infection, and because the percentage of intravenous drug users with both AIDS and TB tops all other groups in the United States, slightly ahead of gay men. The other helpful data set is the National TB Surveillance System run by the Centers for Disease Control and Prevention (CDCP), which collects information on all cases of TB. Only recently, however, has this system included questions about patients' use of drugs.

The most clearly documented reason for the upsurge in TB is HIV infection. Researchers have shown that individuals infected with the HIV virus and TB typically convert from simply having the infections to having active TB (usually pulmonary TB) at a rate of about 8 percent per year. Only about 5 to 10 percent of the other 10 million TB-infected Americans progress to active TB during their lifetime. Since only individuals with active TB are infectious to others, more pockets of TB now are developing.

The incidence of TB has increased for a number of reasons, including drug abuse; the increasing number of homeless people and those in crowded living conditions; and the deteriorating infrastructure of public health, with less money allotted for followup on TB cases. In addition, although TB is a treatable disease, many treatments are not working as well and as often as they have in the past. This is partly due to the developing resistance of the organisms to many of the antibiotics that have been developed in the past few decades, including INH and rifampin. The mortality rates are very high in these outbreaks, ranging from 43 percent to almost 90 percent in some hospital settings, with a mean interval between diagnosis and death of 4 to 16 weeks.

In 1985, the last year of national surveillance of drug resistance to TB, there was 0.5 percent new TB cases nationwide. Surveillance was stopped because of this low rate. However, the rate then jumped to 3.1 percent in 1991. Recurrent cases, those that had received treatment previously, averaged 3.5 percent in 1985 and now are at 7.4 percent. In some parts of the country, especially New York City, between 20 to 40 percent of isolates from new cases of TB now are resistant to INH and rifampin.

Speaker: Peter Selwyn, M.D.

HIV infection, according to World Health Organization projections, affects 12 to 20 million people, mostly in the developing world. TB is the most common serious infectious disease, affecting one-third of the world population, or about 1.7 billion people. Between 4 and 5 million people have both HIV infection and TB. In every area in which the two diseases have coexisted, there has been a resurgence of TB in the past decade, particularly in sub-Saharan Africa, parts of Latin American and Southeast Asia, and inner-city communities in the United States. In developed countries, TB and HIV are concentrated among intravenous (IV) drug users and their sexual partners. Even before the AIDS epidemic, data linked TB with substance abuse, particularly drug injection. A study on methadone programs in New York found an increased risk of TB related to patients' drug injection, not to other associated demographic factors. Surveys at TB clinics from 1988 to 1990 showed that in the northeast and southeast, the level of HIV infection among individuals with active TB exceeded 20 to 30 percent. For instance, in New York, over 40 percent of all persons with TB were also HIV infected, due in part to the individuals' suppressed immunity, which made them more vulnerable to the development of active disease. Also, people with HIV but not TB are more susceptible to becoming infected with TB and developing the active disease at a more rapid rate.

Any infectious disease is like the balance of three points on a triangle: the host or susceptible person, the agent or organism, and the environment in which they both exist. Anything that strengthens or weakens any of these elements can affect the overall progression of an epidemic. In almost a systematic way, several factors have converged toward the further progression of TB related to HIV, such as infected persons' increased susceptibility to disease, reactivation of latent disease, and diagnostic delays due to the presentation of TB in more unusual and undiscernible forms. This diagnostic delay can be hazardous, because until individuals are put on therapy, they can continue to spread the disease to others. Also, HIV-infected individuals are more vulnerable to contracting TB, and if they do become infected, they tend to develop the disease at a more rapid rate. Also leading to the progression of the TB epidemic is the development of multiple drug-resistant TB, possibly the result of many factors, including inadequate therapy, lack of completion of therapy, and the greater prevalence of TB in general related to HIV. Also, environmental factors—such as poverty, homelessness, substance abuse, and lack of resources (e.g., primary care and preventive care)—have contributed to the spread of TB. Poor environmental hygiene can lead to increased transmission even among high-risk populations in drug treatment programs and HIV-care programs. Finally, conflicting epidemic paradigms have been problematic

in combatting TB. Public health interventions and approaches for blood-borne epidemics are very different from those for airborne diseases. These two paradigms sometimes come into conflict, thwarting efforts to control either side of the epidemic.

In a study published in 1985 by the *Journal of the American Medical Association* examining drug use in relation to TB, John Livingood investigated INH-resistant TB in the Northwest among a group of Vietnam veterans. Smoking marijuana was shown to be a very effective way of transmitting TB. One hundred percent of people who smoked with the index case in the study contracted TB infection. Fifty percent of those living with the index case developed TB. In a different setting, in Contra Costa County in California, smoking of crack-cocaine was associated with TB transmission, possibly due in part to some smokers' HIV infection. Also, many individuals were "shotgunning," in which one person breathes in crack smoke and then exhales into someone else, an excellent method of transmitting TB. Thus, the behavioral features of drug use or the social environment in which drugs are used may contribute to the spread of TB. Drug injection itself also may be a risk factor, as evidenced by data showing that extrapulmonary TB is more common among drug injectors. This still needs further study.

Many areas require further research and scrutiny. For instance, researchers should investigate whether TB transmission among drug users is related to the drugs themselves, to the environment, or to underlying demographic features. Second, it should be explored how drug use itself may predispose people infected with TB to develop the active disease. It seems that drug use affects immunity; therefore, aside from the effects of HIV, the drugs may be related to TB. Third, people need to be screened effectively to control TB; if populations are not in contact with the health care system, it is hard to conduct screening or supervised therapy. Consequently, some people are trying to provide screening and therapy on outreach vans or during welfare screening. A few specific clinical issues exist related to pharmacological interactions. Most important, however, is the interaction between methadone and rifampin, because if methadone doses are not appropriate, users may go into opiate withdrawal, leading to problems in the treatment of TB as well as drug use. Finally, researchers need to investigate drug resistance and whether it is related to intermittent therapy or other factors.

Even though the news is grim about the spread of TB, the disease is treatable (even in HIV-infected persons) with rapid initial drug combinations and early diagnosis. Treatment does not vary much between HIV-infected and noninfected individuals, except for longer treatment and perhaps slightly different drugs. Thus, treatment and prevention can be done easily in drug treatment settings. Drug treatment workers can provide a great service by screening and providing followup for patients, as well as by providing supervision to keep them from getting TB. Observed therapy is important, as is repeat sputum examinations, for people with active disease. Drug treatment workers should review this clinically with someone experienced in treating TB. Finally, it is important to have infection control in drug treatment settings, including adequate air exchange and mixing, as well as negative air pressure that sends exhaust-contaminated air outside, not in the center. These are fairly simple techniques, but they are capital intensive. Such systems must be brought up to current standards to prevent TB, and staff must be trained on how to minimize the risk of transmission. Over all, drug treatment centers are vulnerable to the transmission of TB but also are very strategically placed to prevent and treat TB among drug users.

Speaker: Hannah Wolfe, M.S.

In showing the need for TB education of IV drug users and drug treatment program staff, the following story, from a study conducted by Drs. Rick Curtis and Don DesJarlais of National Development and Research Institutes, Inc., in Brooklyn, New York, between 1990 and 1993, is compelling. Miss J., an HIV-positive, African-American female IV drug user, was admitted to the hospital with a high fever. In the emergency room she was diagnosed with pneumonia and possibly TB. This was the first time she was told she might have TB. While still in the emergency room, after her fever subsided, she developed severe heroin withdrawal symptoms. She said she was told that she could not be detoxified and treated for TB at the same time, so she received no methadone. When she wanted to leave, the doctor told her she could not go because she had TB and posed a threat to others. After her protests, she was given a small dose of methadone, which did not ease her symptoms

significantly. One week after leaving the hospital, she developed a high fever again. The same hospital did the same tests with the same results: The doctor did not want to prescribe methadone. In frustration, she left the hospital and 2 weeks later called inpatient detoxification programs at other local hospitals. One refused to admit her because she admitted she had TB. She did not tell another hospital until after she was admitted. It should be pointed out that Miss J. believed that she had active TB, although medical records do not indicate she ever did. Thus, miscommunication occurred at some point.

This story highlights the reluctance of some medical staff to prescribe methadone, leading to a problem with treatment compliance. Also, it shows how many drug users might fear involuntary detention and therefore avoid contact with the health care system. Many of these issues, especially the apparent confusion of Miss J., were mirrored in a knowledge, attitudes, and beliefs survey administered by New York University and Beth Israel Medical Center researchers to 571 New York City IV drug users and their sexual contacts. The survey was conducted in late 1992 and early 1993 to determine what people in the cohort knew about TB. Most people in the sample were drug injectors. The survey was verbally administered and followed up with one-on-one TB education. Survey questions were taken from a survey being piloted by CDCP for the National Health Interview Survey. Almost all of the sample identified TB as an air-borne disease. Two-thirds of the sample were worried about contracting TB, and about one-third said they knew someone with TB. Most were aware that TB cases were increasing, and when questioned about the reason for this increase, the most frequent response was that people do not take care of themselves. Such a blame-the-victim mentality reflects fear and confusion about the disease. Other reasons accurately cited were lack of medical care and prevention efforts and crowded living conditions. However, some persons also cited rats, prostitution, bad weather, oral sex, and flaws in the food chain. Over one-half of the sample endorsed the quarantine of people with TB, and two-thirds perceived TB as a severe social stigma. In response to questions about proper compliance with TB medication (therapeutic and prophylactic), most people rightly disagreed that persons should stop taking medication when they stop feeling sick. Also, most agreed that if people do not take their medicine for as long as prescribed, it will be harder to be treated. Although 60 percent answered questions about prophylactic care, it is difficult to know whether these persons actually complied with such guidelines.

The survey revealed that many people do not understand the differences between TB infection and the active disease. Nearly one-half of the sample agreed that a positive TB skin test means you will develop the disease. Also, many people incorrectly agreed that someone with a positive TB skin test can transmit TB to others. People seem to understand the least about this area. Only about one-fourth of the people in the survey sample really had a good understanding of the differences between infection and active disease. Using multivariate analysis, it was shown that people who had tested PPD (purified protein derivative of tuberculin) positive were 2½ times more likely to understand the difference.

To conclude, New York City's IV drug users correctly perceived themselves as vulnerable to TB and saw TB as potentially fatal. They identified some of the major reasons for the recent resurgence of TB. However, one-half had misconceptions about transmission. There are numerous implications for these results. The perceived social stigma associated with TB may be causing people to avoid testing/treatment, as may their failure to understand the differences between infection and disease. Effective education does seem to be occurring at the time of skin-test reading. Finally, drug treatment programs have played a leading and effective role in HIV education and prevention. Similar education and prevention efforts must be made regarding TB, especially because of the considerable overlap of the two diseases.

Questions, Answers, and Comments

Should ultraviolet light be used with TB? This question is subject to debate. No human data demonstrate its efficacy, although animal data are suggestive of its benefits. Some hospitals now have instituted ultraviolet light fixtures in some areas. There are also new devices that contain enclosed light fixtures within boxes that draw air in, sterilize it, and put it out the other side, addressing concerns of radiation. Ultraviolet light is a very important consid-

eration which may prove to be efficacious if one cannot afford expensive changes in ventilation.

Dr. Currin of CDCP said that HIV, TB, and substance abuse are "hanging out" together and are very bad influences on one another. How do substance abuse treatment centers begin to integrate TB into their facilities, and what are the obstacles? At a recent meeting of investigators with NIDA's Community Research Branch (part of a followup to AIDS education and outreach demonstration projects), there was much resistance to incorporating the issue of TB despite its relevance to the other subjects of study, including HIV prevention. However, the attenders finally agreed that TB should be included in the research. One barrier to addressing TB is resources. Funding is inadequate for drug abuse treatment, let along for TB screenings and other services. Also, many drug abuse treatment workers need more knowledge about TB on how to make diagnoses and provide therapy. Staff are at some risk for contracting TB, so they may be more reluctant to work with infected individuals. TB is such a critical health problem that these barriers must be overcome; otherwise, more and more outbreaks will take place.

Also, a lack of communication often exists between methadone clinics and hospital medical units, such as with medical records being fragmented. Consequently, there should be better coordination in that area. There also may be more resistance on the part of the TB treatment and public health community to dealing with issues of drug abuse. The story of Miss J., whose doctor refused to treat her withdrawal with sufficient methadone, is typical of what one must call malpractice in dealing effectively with these patients. Some States have legal problems in the maintenance of addicts on methadone unless they are registered in a methadone maintenance program. But a very effective detoxification regimen will put the patient on an adequate dose to cover symptoms and then withdraw them gradually.

In training around HIV disease and substance abuse, it is amazing how many people in drug treatment programs are more concerned about contracting HIV than they are TB. Have there been any studies with staff like the one with IV drug users? Nothing seems to have been published, but such a study needs to be done. Probably similar findings would be revealed. Many people in high positions in the medical field do not understand the difference between TB infection and TB disease. Many people simply never learned about TB in this country. Several interviewers for the IV drug user study felt uncomfortable wearing masks and taking other precautionary measures, so they would not put on their masks. If the person began coughing, the interviewers would just leave the room. In addition, in many parts of the country, people are seeing more deaths due to AIDS than to TB.

One issue that is a barrier is the stigma on a client once the client has received treatment for HIV, and then the client is found to have TB too. This can be so overwhelming that it becomes a barrier for clients. Are there any comments on this? There are some biases among health care providers that jeopardize the provision of care to individuals at many levels. This is one of the main reasons TB is on the rise again. Patients who are HIV positive and in need of undergoing a TB regimen often think they should not even bother since they expect to die soon anyway. This problem also is a difficulty for counselors, who are overwhelmed with their patients' problems.

However, there are data showing that the provision of comprehensive primary care is a positive force in treatment retention and compliance. Also, treatment centers should focus at least on not harming patients. Some people could be harmed by the presence of persons with active TB in a treatment program. This potential harm is also a concern for staff, since TB infection would affect their own health and their families' health.

What is the progression of TB infection with and without intervention? In an otherwise healthy person who becomes infected with TB, there is only a 5- to 10-percent chance that during his/her lifetime he/she will develop a lung infection and other symptoms. TB also can cause symptoms in other organs, but most frequently symptoms occur in the lungs.

An untreated HIV-infected person who gets AIDS faces an 8- to 10-percent probability each year that he/she will develop serious symptoms, usually in the lungs. For individuals with both TB and HIV, infection can be prevented from progressing to the disease by the use of prophylactic antibiotics, usually

INH, provided the organism is susceptible to that drug. It is difficult to tell yet how to treat individuals with drug-resistant TB infection.

SPECIAL POPULATIONS

IF01. ADDRESSING SPECIAL POPULATION NEEDS: GAYS AND LESBIANS

Moderator: Jim Graham, J.D., L.L.M.
Speakers: Eileen Durkin, M.B.A.
Michael Shriver
July 15, 10:30 a.m.-12:00 p.m.

Speaker: Jim Graham, J.D., L.L.M.

The substance abuse community largely has underappreciated the significance of substance abuse among gay men and lesbians. Compounding this problem, many stereotypes surround the gay and lesbian community. Many of these stereotypes are not accurate, and they are very damaging, especially with their link to racial stereotypes. For instance, many people associate AIDS among white gay men with homosexual activities, while many associate AIDS among African-Americans with intravenous (IV) drug use. Also contrary to stereotypes, bisexuality is prevalent among whites as well as among Latinos and African-Americans. One barrier to a sophisticated understanding of homosexuality and substance abuse consists of personal prejudices based in part on these stereotypes.

It is estimated that over 30 percent of the gay and lesbian community has a substance abuse problem. One reason for this alarming rate of substance use is that the majority of socializing among the gay and lesbian community traditionally has occurred in bar settings, where large amounts of alcohol and other substances are present. Therefore, the temptation for substance use is always present.

Successful treatment for the gay and lesbian community must be conducted in an environment that is free from the social stigmatization faced by this group in everyday life. For instance, substance abuse counselors must be sensitive to the complexities of gay and lesbian cultures. In Washington, D.C., one of the Whitman-Walker Clinic's earliest programs focused on alcohol and substance abuse services, including assessment of substance use, outpatient treatment, and aftercare. About 70 percent of participants in this program remained drug and alcohol free for at least 12 months after completing treatment.

It can be very stressful for gay men and lesbians to cope with HIV/AIDS, and alcohol and drugs often offer an escape. Special community-based organizations that provide safe environments for alcohol and substance abuse treatment are critical. Traditional clinics too often are insensitive in their treatment of gay men and lesbians.

It also is important to understand the problem of IV drug users within the gay and lesbian community and the associated high risk of HIV infection. The Whitman-Walker Clinic worked early on with IV drug users, and today it operates the Max Robinson Center in Washington, D.C., an outreach program funded by CSAT for a largely underserved, African-American population of IV drug users who are HIV positive or at risk for becoming so.

Speaker: Eileen Durkin, M.B.A.

The Howard Brown Health Center—a community-based health treatment facility in Chicago for gay men and lesbians—was founded in 1974 as the Gay Horizons Program, arising from the gay empowerment movement of the 1970s and responding to the need for culturally sensitive, gay-affirming care. In 1974 the center was open only one evening per week and saw an average of 20 patients per week. By the end of that year, the average had risen to approximately 50 patients per week. About one-half of those patients had one or more sexually transmitted diseases (STDs). By 1982 the center had expanded and the number of patients with STDs seen in the clinic had risen to an alarming 13,000 per year.

The Howard Brown Health Center's mission statement states that the center is to promote the well-being of gay and lesbian people and to enhance their lives through the provision of health care, wellness programs (including clinical, educational, and social services), and research. Although the center serves other populations, it strives to provide culturally competent care to its primary clients of gay, lesbian, and bisexual individuals. The Howard Brown Health Center also cooperates with other programs serving this community, such as Horizons, a mental health counseling center in Chicago.

Besides providing health services, the Howard Brown Health Center has become involved in research directed primarily at gay health issues. The center has conducted six major studies, all of which are longitudinal national studies. The first study was conducted in 1975 by Dr. David Ostrow. The study resulted in the development of a hepatitis vaccine and clearly determined that the number of STDs increases the chances for HIV contraction in the gay male population. The second study is a multicenter cohort study sponsored by NIH. Currently in its ninth year, this study has been looking at the changes in sexual behavior and drug use among the gay community. About 40 percent of the men participating in this study are HIV positive, while 10 percent have AIDS-defining conditions. Eighty-six percent of the cohort is still participating in the study in its ninth year. A third ongoing study, begun in 1984, examines how men cope with the stress of living with AIDS and their associated behavioral changes. A fourth study, sponsored by the Centers for Disease Control and Prevention (CDCP), studies the health outcomes and mortality rates of individuals who first tested positive for HIV infection in 1975. A fifth CDC study is examining STDs among gay men, and a sixth project is studying the behavioral patterns of sexually active men in white, African-American, and Latino communities.

In the third study concerning the coping strategies of gay men with AIDS over a 4½ year period, a substantial decrease in the use of recreational drugs occurred. Recreational/psychoactive drug use has been associated with HIV-related illnesses and the infection rate among gay men. Therefore, the Howard Brown study examined the use of 10 recreational drugs among, the frequency of alcohol use among, and the sexual behaviors of 13,000 participants. The study found that the use of certain recreational drugs led some individuals to engage in unsafe sexual behaviors. Individuals who used "poppers" (amylnitrate) and cocaine were more likely to engage in such practices than those who used other drugs. Over the time of the study, the use of poppers and cocaine decreased among the cohort, while the incidence of alcohol use remained constant and did not appear to impact sexual behaviors. Unfortunately, it is difficult to translate the results of this and other research into practical program practices. The Howard Brown Health Center case manages over 320 clients, the majority of whom are gay males, and besides the usual difficulties of having such a large clientele, it is difficult to sort out the causes and effects of the behaviors being studied. Additionally, and quite simply, it is difficult to counsel such a drug-abusing population. However, staff are trying through culturally competent outreach and educational programs to transfer the knowledge gained through research into direct beneficial services for clients.

In summary, the Howard Brown Health Center has a wealth of data demonstrating what many people intuitively know, such as the relationship between recreational drug use and unsafe sexual behaviors. Many clients' behaviors and practices, however, do not conform to those indicated by these data. Even with much knowledge, it is difficult to design programs that will reach a certain population, but the Howard Brown Health Center continues to try to do so.

Speaker: Michael Shriver

The 18th Street Services program in San Francisco began in the late 1970s as a referral program for gay men and lesbians and quickly added cosexual (i.e., for both genders) outpatient and residential drug treatment services. Out of this program grew the Iris Project, a drug treatment facility designed specifically for lesbians and bisexual women. In 1984, 18th Street Services closed for financial reasons, but in 1985 it received State funding. The program now operates the country's largest exclusive gay and bisexual men's outpatient drug treatment service and staffs San Francisco's largest street-based HIV and substance abuse prevention/education program. 18th Street Services operates under the harm reduction model, which originated in Europe. This model views chemical dependency as a disease marked by relapse and acknowledges that access to drug treatment is not the defining condition for access to services. The harm reduction model states that clients deserve to have their needs met and that clients know what their needs are. Providers must respond as adequately as possible to those needs defined by the clients.

The client population of 18th Street Services is very multicultural: Caucasians make up 70 percent, Latinos make up 15 percent, African-Americans make up 12 percent, Asian/Pacific Islanders make up 2 percent, and Native Americans make up 1 percent. Between 30 and 40 percent are IV drug

users, with methamphetamines the primary drug of choice. Most clients do not share needles, however. Sixty-seven percent of the men reported that they always had sex while under the influence of drugs or alcohol, and only 24 percent reported never having sex while under the influence of drugs or alcohol. Furthermore, one-third reported that they had participated in unprotected anal intercourse within 90 days prior to entering drug treatment. The program retention rate is roughly 40 percent.

Over 50 percent of 18th Street Services staff are gay and bisexual men of color. When three new clinical specialists were hired in 1991 to focus exclusively on HIV-infected men, the program's clientele increased two-fold. Staff expected to see between 600 and 800 (unduplicated) male clients in the clinical program in 1993. Most staff are not licensed psychotherapists, and several do not have bachelor's degrees. Most staff are in recovery and are HIV infected; therefore, these staff not only empathize with but share the experiences of the clients.

One of 18th Street Services' programs, funded by NIAAA, serves as a model for the agency. Clients entering the program frequently report relapse into chemical dependency and inability to maintain safe sex practices. Either they became drunk or high and then had sex, or vice versa. The program therefore treats both conditions together. 18th Street Services does not discourage sex outside the treatment facility but views it as a healthy part of clients' lives. However, sex is forbidden between clients. The NIAAA-funded program at 18th Street Services focuses on delivering strong and explicit risk-reduction methods in a closed recovery setting, while at the same time addressing chemical dependence recovery and building self-esteem. The entire protocol for the program was developed and reviewed by clients. The program had operated on a two-tiered model, with constant individual counseling along with an early recovery group focused on group readiness and a closed recovery group focused on intensive therapy. With NIAAA support, staff found that most clients were asking for more early treatment, with the lowest threshold possible drug treatment early on. Now, as clients continue through the program, treatment becomes much more specialized and focused on chemical dependency, STDs, HIV infection, and tuberculosis, as they relate to clients' recovery.

In all the communities impacted by HIV, chemical dependency is the constant. However, it remains difficult to encourage HIV service providers to address chemical dependency and vice versa. 18th Street Services had no choice but to address both. 18th Street Services has begun to close the gap between the chemical abuse treatment field and the HIV treatment field by offering HIV-specific support groups, an outreach program focusing largely on HIV infection, and other services. The agency deals with seven key issues on a daily basis: sex, HIV, sexuality, relapse, partnership (i.e., between client and clinician), nonjudgmentalism, and positiveness about sex.

Evaluation results of the 18th Street Services' program indicate that its clinical interventions halved the rate of unprotected sex among clients from 33 percent to 17 percent after a 30-day followup, and then to 8 percent after a 60-day followup. As the 21st century approaches, it seems important to stress lowest threshold treatment—to find the kind of treatment that entails the lowest level of contractual requirements for clients and the highest level of comprehensive treatments. Additionally, more funding is needed specifically in the area of substance abuse, so these service providers do not have to overemphasize HIV issues, for which much funding does exist. More residential detoxification programs should be implemented to deal specifically with cocaine and methamphetamine use among the gay and lesbian community. Also, gay youth must have increased accessibility into chemical dependency treatment programs. HIV, tuberculosis, and STD prevention activities are needed from chemical dependency service providers, along with a change in perceptions of what constitutes successful treatment (i.e., not only graduation from treatment indicates success). Lastly, there should be an increased number of evaluations.

Information gleaned from NIDA and other agencies must be complemented by insights from patients. Finally, it is important to remember that gay men and lesbians do not constitute a special population but are part of the normal population.

Questions, Answers, and Comments

What is the configuration of the 18th Street Services' outreach program? Six staff members are full-time, street-based outreach workers, and another staff person is a 20-

percent time, street-based outreach worker. The program is moving from traditional informal activities to a street-based, quantifiable, case management program. Outreach workers now carry a caseload of 10 to 12 men. It is important to try to evaluate outreach-based programs, for example, on the location of outreach activities. The outreach workers spend a great deal of time in bars, alleys, and parks; distribute thousands of condoms each year; and staff needle-exchange sites. Seventy-five percent of the outreach department consists of gay men of color, and all but two are in recovery.

Is anyone bothered by the 30-percent prevalence of addiction among the lesbian and gay community, and if so, how? Across the country, due to financial problems, there is little opportunity to provide programs specifically for gays, lesbians, and bisexuals. Even agencies that try to identify themselves as gay and lesbian agencies encounter problems because of the enormous prejudices in their communities. It should be pointed out that most studies focus on gay males but not on lesbians. A needs assessment conducted by 18th Street Services reaffirmed the 30-percent figure for gay men addicted to drugs, while one in four lesbians and one in five bisexual women had an unhealthy relationship with chemical substances. Bisexual women's drug-using patterns were more like those of gay and bisexual men than those of lesbians (i.e., bisexual women were less likely than lesbians to use drugs at home, to use drugs with a small circle of friends, and to face domestic violence). A large number of lesbian women reported using drugs and alcohol in order to avoid feeling the pain they experienced in their relationships with their partners.

Is there a program model that suits the needs of both gay men and lesbian women, or is there a need to deal with each population separately in terms of treatment? There appear to be two separate sets of circumstances with men and women. The female issues are very different from the male issues. However, there are several cosexual, residential drug treatment models in San Francisco. Although cosexual programs are important, so are gender-specific programs, so that the continuum of care offers all options to clients. It is unrealistic that the models discussed in this forum can be replicated easily in other cities. It probably is more feasible for existing agencies to become more culturally competent.

Are there any other issues besides domestic violence that are specific to lesbians in terms of their substance abuse? Although research has been limited, a multiagency task force in Chicago on domestic violence was one of the first attempts at dealing with lesbian issues, and no connection was shown between substance abuse and domestic violence. The Whitman-Walker Clinic in Washington, D.C., has seen an increasing number of lesbians in its alcohol treatment program, but they appear uncomfortable in the program. Separate programs may be necessary in many circumstances. Although most gay men and lesbian women seek treatment in multicultural programs, such persons may be immediately turned off by a program if it displays insensitivity, such as by ignoring their grief over the loss of friends to AIDS. Intake forms also should be reviewed for sensitivity to gay and lesbian issues. Furthermore, demographics should be carefully tracked to reflect gay men and lesbians who reveal their homosexuality or change genders later. Individuals entering the Whitman-Walker Clinic must be ready up front to deal with their addiction and with their sexuality, but this is not always the case.

CSAT is developing a Central Intake Assessment Instrument to address many of these concerns and facilitate a culturally sensitive intake process.

What are the major obstacles to the development of culturally competent services for gay men and lesbian women? Homophobia is a major problem, even manifested in staff members' lack of knowledge concerning the gay and lesbian community. For instance, using the term "sexual preference" can be offensive to gay men and lesbians. Also, "heterosexism" assumes that homosexual love is somehow inferior to heterosexual love. In general, there is a lack of awareness with regard to terminology, which may not necessarily constitute homophobia but may lead to offensive language. So, there is real homophobia, and there also is ignorance. In addition, many people working in treatment believe that sexual issues should be put on hold while a client addresses his/her addiction problem in treatment. The two issues are so intertwined that they must be addressed together. Funding and staffing are not adequate, however, to provide such comprehensive services.

Comment: At 18th Street Services, homophobia, racism, and sexism are not tolerated at

all and are viewed as breaches of the client contract. Counselors address these issues during treatment.

Comment: Only about 10 percent of 18th Street Services' clients can pay for its services (i.e., through insurance).

IF02. Addressing Special Population Needs: African-Americans

Moderator: Flavia Walton, Ph.D.
Speakers: Lawrence Brown, Jr., M.D., M.P.H.
Janet Mitchell, M.D.
William Sweatt
July 17, 11:15 a.m.-12:45 p.m.

Speaker: Lawrence Brown, M.D., M.P.H.

African-American communities are never constant in the areas of language or country of origin. All too often when research studies are performed, African-American people are grouped as one common race. This process generally describes a group of people who have a common ancestry. However, the feelings and actions expressed by different African-American cultures are never universal; therefore, each culture deserves separate attention. The vast array of Caucasian/African-American study comparisons is a prime example of the need for increased cultural breakdown that would more accurately represent the African-American population. The Nation's alcohol and drug abuse statistics pertaining to the African-American community should be examined with a touch of skepticism. This is especially true with regard to the calculated statistics on illegal drug use. The reason for this skepticism is the fact that the source of these statistics, as well as the methods by which they are calculated, is stigmatized and may be illegal. Based on this belief, it is widely believed that the statistics associated with the rates of African-American alcoholism and drug abuse may be inaccurate. Within this country, there are two main methods of calculating drug and alcohol abuse statistics: (1) the National Household Survey on Drug Abuse and (2) the Drug Abuse Warning Network. Unfortunately, in the past, difficulty has arisen in terms of incorporating all of the information gathered by these two services into one universally representative statistic.

Keeping in mind the possible inaccuracies of the statistics, the incidence and prevalence rates point toward a lower level of consumption for the African-American community, as compared to the Caucasian community. The consequence rates, however, are predominantly higher for the African-American community than those of the Caucasian community. Data collected through the National Drug and Alcoholism Treatment Utilization Survey (NDATAS) overrepresented the number of African-Americans that actually enroll in treatment programs. This overrepresentation is interesting because a large number of the Nation's African-American communities have made it known that they do not wish to have treatment facilities in their neighborhoods. These communities believe that treatment facilities have detrimental effects on the surrounding property's value. In addition, the number of African-Americans actually entering the treatment programs often is miscalculated.

There are three main social and economic factors associated with drug use within the African-American community. They are the following: (1) high school dropout, (2) teen pregnancy, and (3) crime.

Researchers need to consider these variables when developing new community intervention methods. All too often, emphasis is placed only on the medical aspects of clinical care. If other social factors are not addressed, they eventually can negatively affect the various clinical methods of dealing with the physiological aspects of alcohol/drug use, abuse, and dependency. Treatment programs should offer educational tools within the community to deter resentment on the part of the community's occupants. Lack of knowledge as to what goes on in the treatment facilities often leads to ill feelings and resentment. Another aspect of community resentment that is present throughout a large portion of the country is the issue of racism. This subject must be addressed in order to improve the treatment facility's ability to interact freely within any community, no matter what race or color populates it.

Speaker: Janet Mitchell, M.D.

A service-oriented treatment program that began in 1985 has provided care to more than 1,300 pregnant women. The average age of women who attended the four-sessions per-week program was 29 years. These women, although having experienced an average of five pregnancies, only had an average of two children. The various drugs used by the women treated in this program include the following: intravenous (IV) heroin, non-IV heroin, crack-cocaine, program-provided

methadone, street-bought methadone, alcohol, marijuana, IV cocaine, and non-IV cocaine.

A sample consisting of 610 pregnant women was analyzed to determine how many drugs were being used. With the exception of cigarette use, the alarming findings regarding their drug use were as follows: 48 percent used one drug only, 32 percent used two drugs only, 13 percent used three drugs only, 6 percent used four drugs only, and 1 percent used five drugs.

In connection with these unfortunate statistics, only 22 percent of these women were in a drug treatment program when they registered for a prenatal program. Of that 22 percent, only 19 percent remained in their respective programs through the duration of their pregnancy. Of the remaining 78 percent of the women who were not in treatment, 29 percent were persuaded to enter some kind of treatment program. An astounding 49 percent of the women who were not in treatment refrained from entering any sort of treatment program until they delivered their babies. Only 47 percent of the women had custody of their children upon entry into a treatment program. The remaining 53 percent of the women did not have custody of any of their children. Of the women who went on to deliver their children while in the program, 71 percent were able to take their children home with them, while the other 29 percent had to give their children to the child welfare agency. One of the contributing factors to the high level of pregnancy among the women in the study was the importance placed on motherhood through many cultural aspects. It also was found that the majority of these women (who are on average older than the general obstetrical population) were first introduced to drugs by their significant others.

The Caucasian concept of "empowerment," which goes against the cultural norms of African-American communities, has been detected within almost every existing treatment program. This fact has been cited as contributing to the need for repeated treatment visits on the part of African-American women. The goal of the aforementioned program is to motivate drug-using pregnant women to enter treatment. In attempting to accomplish this goal, researchers and practitioners must understand that many addictions are often intergenerational. Due to this fact, long periods of treatment often are required in order to break the chain of addiction. There also is a growing need to increase the number of African-American researchers and practitioners in the therapeutic community. As a result, more accurate perspectives of what is happening within the Nation's African-American communities will be obtained.

Speaker: William Sweatt

HIV transmission within the African-American community is due in large part to IV drug use and the unprotected sexual practices of this population. (Experience in the Baltimore area points toward the discouraging fact that children as well as adults generally have not taken the "just say no" philosophy toward drugs.) The U.S. HIV transmission rate from mothers to their fetuses is between 13 and 43 percent; in the Johns Hopkins community, the HIV transmission rate is at a steady 20 percent. A large number of African-Americans in treatment are supported solely by social services. This fact, as well as the stereotypical belief that African-Americans are not the "type of people" to return for scheduled treatments, is often the main obstacle to accessing new treatment methods. There is a growing need for more African-Americans in the HIV research and teaching fields as well as a number of other areas of treatment. Finally, more time, money, and effort need to be applied to HIV studies on vaccine development because the steps now being taken could be described at best as "questionable."

Questions, Answers, and Comments

Other than more training of African-Americans in the fields of treatment and research, what can be done to improve the relationship between the therapeutic community and the African-American community? It would be beneficial to bring the research more to the community level. By getting people more involved in research, they slowly will become more educated and in tune to the problems facing the African-American community. Also, the creation of programs free of environmental and cultural influences on treatment outcomes would be very helpful in gaining more of an honest representation of what is happening within the community and also would allow for a more comfortable environment for people to enter.

The Centers for Disease Control and Prevention funded two ethnographic research studies on infant mortality. They are the African-American community in Harlem, New

York, and the Latino American community in Los Angeles, California. The first study found that infant mortality rates within the African-American community were almost twice as high as those of Caucasians. This startling finding was attributed mainly to preterm delivery. It is important to know not only what are the positive, protective aspects of treatment but also the negative aspects.

Comment: Researchers and practitioners must begin to acknowledge that most literature dealing with drug abuse and alcoholism is directed at Caucasian men. New literature must be produced that offers more updated and accurate perspectives.

Comment: An overall increase in the amount of encouragement offered by leading medical advocates in the area of recruiting more minorities into the research and treatment fields could have a very positive effect on the number of new ideas being spawned within this area.

What can be done to keep drug-using mothers in some sort of treatment program? Treatment facilities need to offer more flexible treatment schedules, some sort of child care system, and a less confrontational treatment environment.

Comment: Another good idea would be to design programs around the clients' environments instead of always having them adhere to the various stipulations put forth by the programs.

Comment: More use should be made of the referral systems in order to best match clients with the most appropriate treatment.

IF03. Addressing Special Population Needs: Asians and Asian/Pacific Islanders

Moderator: Ford Kuramoto, Ph.D.
Speakers: Marissa Castro
Toshi Sasao, Ph.D.
July 15, 3:00 p.m.-4:30 p.m.

Speaker: Marissa Castro

Asian-Americans and Asian/Pacific Islanders face many external and self-imposed barriers to receiving proper treatment for HIV/AIDS. Several brief examples illustrate this problem: the gay Vietnamese immigrant who visits an AIDS health care agency and refuses the services of a gay Asian translator because he fears the translator will recognize him and reveal his condition to his family; the gay Hawaiian with AIDS who is admitted to a hospital and calls his mother, who refuses to talk to him; the woman with AIDS who is ostracized from her community because people believe the disease is easily contagious and whose husband and children are exiled from the community upon her death. These examples illustrate the importance of family and duty and the prevalence of fear, ignorance, and perceived importance of not disgracing one's family in the Asian-American and Asian/Pacific Islander community. These examples also highlight the challenge of developing cultural competency in programs to meet the needs of Asian-Americans and Asian/Pacific Islanders with AIDS, drug abuse, and other problems.

According to the 1990 U.S. census, approximately 3 percent of the U.S. population—about 7 million people—are Asian/Pacific Islanders. This population comprises many ethnicities but primarily are Chinese and Filipino. More than 2 million people in California, or 10 percent of the State's population, are Asian/Pacific Islanders, with about 1 million Asian-Americans and Asian/Pacific Islanders in Los Angeles County alone—10 percent of the county's population. Of the 188,000 legal immigrants from China, Thailand, the Philippines, Vietnam, and Japan admitted to the United States in 1992, more than 13 percent settled in Los Angeles County. Southern California is home to the most diverse of Asian/Pacific Islander communities; in order of size of population, these communities include Filipinos, Chinese, Japanese, Vietnamese, Korean, and Asian Indians. The Asian/Pacific Islander community is expected to become the second largest ethnic minority community in California by the Year 2000.

Hispanics have a universal language, most Caucasians share a similar Western culture, and African-Americans share common race; however, Asian/Pacific Islanders do not seem to share such commonalities. Asia and the Pacific Islands have many languages and dialects and therefore Asian/Pacific Islanders should not be categorized as one homogenous group.

The general public's perceptions of Asian-Americans and Asian/Pacific Islanders include many myths (i.e., that they are all industrious, successful, and in excellent health—the model minority). Myths also pervade that Asian-Americans and Asian/Pacific Islanders are not victims of AIDS and do not engage in injection drug use and

unsafe sexual practices, when in fact these communities are plagued by drug abuse; gangs; substance abuse; and diseases, including AIDS. These myths have hindered Asian/Pacific Islanders' access to services. While AIDS diagnoses are relatively low among this population, the alarming increase in the number of Asian-Americans and Asian/Pacific Islanders with AIDS has generated a growing sense of urgency. The rate of new AIDS cases per year among Asian-Americans and Asian/Pacific Islanders is one of the highest in the United States during the last 5 years, and no major Asian/Pacific Islander community has been excluded from this problem. Between 1983 and 1987, AIDS statistics were kept only for Caucasians, African-Americans, and Hispanics, while other populations (including Asian/Pacific Islanders and Native Americans) were grouped together. As of February 1993, 1,610 Asian-American and Asian/Pacific Islander AIDS cases had been reported to the Centers for Disease Control and Prevention (CDCP), although underreporting is widespread. A subgroup breakdown is not available nationwide; however, in Los Angeles and San Francisco, the Filipino population is the group most affected by HIV/AIDS, followed by the Japanese and Chinese populations. About 75 percent of all adult cases of AIDS in these communities are attributed to male homosexual or bisexual contact.

AIDS has revealed the inadequacy of health services for the poor and for other populations. Asian/Pacific Islanders are hampered by insensitive attitudes and other obstacles, such as language barriers and many service providers are not aware of differences in cultures, languages, and nationalities among Asian-American and Asian/Pacific Islander populations. Many Asian/Pacific Islander clients also are reluctant to advocate for their needs. While translations services help, they do not address cultural inhibitions and nuances critical to effective care. Sometimes the translation of words poses problems. For instance, the literal translation of "AIDS" written in Chinese means love, disease, or death and hence, can have mixed meanings. "Homosexual" literally translates in some languages to "deviant." Thus, pamphlets and other forms of communication for Asian/Pacific Islander communities should be screened properly for appropriateness.

Other problems besides communication barriers often arise. For example, dietary counseling and food banks that distribute food to people with AIDS sometimes provide foods such as milk that are unsuitable and indigestible to Asian/Pacific Islanders. Consequently, Asian/Pacific Islander clients often underutilize or drop out of these programs. Because Asian/Pacific Islanders tend to be reluctant to access services on their own, direct outreach is critical. Many Asian-Americans and Asian/Pacific Islanders do not disclose their illness out of fear of deportation by immigration officials; as a result, they tend to delay treatment until the last moment, missing early intervention. More flexibility is needed within existing services regarding recruitment and intake; for instance, programs should accommodate third-party intake and referrals, the method by which many Asian/Pacific Islanders access services. Another problem relevant in Asian/Pacific Islander communities is denial regarding homosexuality, substance abuse, and AIDS. Many Asian-Americans and Asian/Pacific Islanders also have a general sense of pessimism and lack of familiarity with U.S. health care agencies and Western medicine. Because most Asian/Pacific Islanders believe that health services are only for emergencies and hospitals are places to die, they often do not receive proper preventative care. Gay Asian/Pacific Islander men often are pressured into marrying and having children; however, these men often still participate in homosexual relations, thereby creating a segmentation of their life roles. With their strong sense of privacy and confidentiality, many Asian-Americans and Asian/Pacific Islanders do not want people in the community to know that they are seeking services. Unfortunately, many people turn to suicide to try to save face and avoid causing shame to their families.

Major barriers must be overcome in treating AIDS-infected Asian-Americans and Asian/Pacific Islanders. The lack of funding, sensitivity, and understanding from public and private realms must be addressed. The "model minority" myth that is perpetuated by mainstream society and Asian/Pacific Islanders must be dispelled. Finally, Asian-American and Asian/Pacific Islander communities must build bridges with other communities.

In closing, health care providers must consider alternating treatments for AIDS patients. A Filipino man who was diagnosed with AIDS in 1987 has been using an alternative treatment that may suggest a possibly beneficial supplement to regular AIDS treatment. He takes the extract from a vegetable

named bitter melon, which Asian cultures use for medicinal purposes, including as a treatment for diabetes. After learning that people in the Philippines use bitter melon to treat leukemia, he started taking the extract, and his T4 cell count has increased from 460 to 1,060. While this substance may not be effective for everyone and should not replace regular treatment, there is no harm in trying it (the extract seems more effective when applied rectally rather than orally).

Speaker: Toshi Sasoa, Ph.D.

Upon reviewing the small number of research articles on Asian-American drug abuse, several concerns arise. First, drug abuse professionals need to refocus their prevention efforts on minimizing drug abuse and related problems among Asian/Pacific Islanders. Although risk factors among Asian-Americans have been identified, such as limited language abilities and low levels of acculturalization, they have not been substantiated with actual empirical evidence. For instance, many Asian alcohol and drug abuse prevention programs focus on the development of Asian identity and acculturalization, but there is no empirical link between these factors and drug use—only anecdotal evidence. Furthermore, these risk factors primarily are discussed on the level of individuals; although they also should be examined in terms of the linkages between individuals and their families, schools, and local and mainstream communities. In other words, researchers should investigate more of the ecological and environmental factors that affect an individual's well-being, such as the social ecology and interracial climate in which people live, work, and study.

A second concern is the need to examine and redefine what is meant by an Asian-American or Asian/Pacific Islander community. A community is not just a geographical area; it is multiethnic—a source of social relations and resources through various modes of contact, such as telephone or electronic communication. For instance, a Korean community in Los Angeles is not confined to a geographical area, such as one neighborhood, and a geographical area is not the home for only one community.

In conducting research, several methodological and conceptual issues should be considered, particularly relating to the relationship between researchers and local communities. These groups need to understand each other to address the increasing diversity of clients, staff, and the contexts in which programs work. For example, Asian-American communities work alongside other ethnic communities.

In conducting community-based research, the relationship between researchers and service providers also should be considered. An upcoming article in the *American Journal of Community Psychology* will present a research model, developed by Dr. Sasao, that addresses this relationship. This model suggests that researchers need to address drug abuse, AIDS, and related issues from a different perspective, with a different methodology, and in a different context than those used in the past. The model shows that service providers typically think that research does not apply directly to their programs. They usually are more interested in ethnographically focused research that obtains indepth information from programs. However, both quantitative and qualitative methodologies must be integrated together. The latter methodology usually is used most effectively as a complement to data from traditional methodology.

Community-based research can be conceptualized as a three-dimensional figure representing the types of questions researchers ask; the types of research methods used; and the context in which the methods are used (i.e., the "cultural complexity" of that context). In community-based drug abuse research, researchers usually ask the following three types of questions: (1) descriptive questions that address the context of a community needs assessment and the epidemiology of abuse in the community; (2) etiological or explanatory questions, such as why Asians use or do not use drugs; and (3) prevention or treatment questions in terms of evaluation, such as which methods worked better with which clients. Depending on interests, location, and questions, researchers must be flexible in terms of methodology used in studies.

However, researchers need to investigate beyond these questions and consider the issues of "cultural complexity" and the concept of community in their studies. These issues should allow for the identification and assessment of appropriate contexts in which ethnicity or culture is defined. In the past, culture or ethnicity was defined externally by looking at a person and then making assumptions; but researchers also should consider

the psychological definition of ethnicity and community. For instance, in a study of the Korean community in Los Angeles, Koreans in a wealthy area were more inclined to think of themselves not as Koreans but as part of a particular church or class level. Thus, cultural complexity may be defined at both an individual and sociological level. At the individual level, one considers the degree to which an individual is defined by a racial, ethnic, or cultural category and by his or her own interpretation of that category.

In community-based research, it is important to define what it means to be acculturated. Many third- and fourth-generation Japanese Americans seem acculturated but cognitively, they may be very traditionally Japanese. At the sociological level in a broader setting, one considers the extent to which a relevant group is defined by itself or others vis a vis other relevant categories; the group is defined in terms of other groups around it. Furthermore, there are three layers of cultural complexity: (1) the accultural level, at which most research has been conducted, looks at the imposed, external definition of a culture but not at the values in a cultural aspect of the community; (2) the premium of the ethnic cultural community looks at a culture and community as defined by the individuals in the community; and (3) the subcultural community level, or the street culture, includes the homeless and youth gangs and their typical meshing of cultures.

Researchers should conduct more studies focusing on the ecological context, such as the interracial climate. For example, a study last year of 2,000 students from three high schools in east Los Angeles—an area consisting primarily of Chinese, Vietnamese, and Hispanic populations—assessed standard demographic and school variables, differences according to schools, and other covariates. Among the findings, ethnic identification with Asian communities generally did not appear to be a strong predictor of drug abuse. Hispanics in predominantly Asian schools tended to use drugs less than those in predominantly Hispanic schools. Peer pressure strongly influenced marijuana use, and students with low ethnic identification were more likely to use alcohol, thus supporting program interventions that stress ethnic identity. However, for Vietnamese, ethnic identification was not a predictor.

Many graduate students have expressed interest in research on Asian-Americans because many of that population attend UCLA or the University of California at Berkeley. However, the university students are very different from Asian-Americans in other parts of California because they typically are from upper-class families and are very bright. These students are not as useful as other Asian-Americans in research studies.

Questions, Answers, and Comments

Comment: Many Filipinos use traditional Filipino healers before seeking Westernized treatment. In Los Angeles, one Filipino healer trains police officers and treats them for injuries incurred in service, such as broken bones. He is referred to as a "bone-setter." Better linkages are needed between traditional healers and other programs and medical services. Unfortunately, mainstream society in the United States has not yet integrated medical care such as what is provided by Filipino healers into its range of medical services. It simply will take time.

Is it accurate to exclude students from UCLA and other areas of California in research study samples? These students will fill out questionnaires appropriately, but the generalizability of their responses are questionable because many Asian-Americans do not have the same level of language abilities.

Comment: It might be helpful to refine the definition of accuracy. University students probably are more acculturated and Westernized than others in the community, but they still use drugs. Questions for them might be posed differently than questions for others in the Asian American community. It is difficult to determine the best way to randomly sample Asian/Pacific Islanders for studies, and it is helpful to compare results from samples obtained in various ways.

What role does religion play in drug use among Asians and Asian/Pacific Islanders? About 90 percent of the Korean population in Los Angeles belong to a Christian church, which serves a strong social control function. Many Korean youth who use drugs find it difficult at first because they are committed to attending church. The spiritual aspects of religion's role is difficult to assess because it is so individualistic. Asian and Asian/Pacific Islander churches generally are less involved in social services than African American churches tend to be.

Comment: It is vitally important to collect clinical data on the efficacy of herbal

medicine, but it is difficult to find funding for such studies.

What are effective ways of collecting data from the Asian culture, which traditionally is very private? It is vitally important to have qualified interviewers who understand the language of the populations they are interviewing. Also, the ethnic and mainstream media usually cooperate well in communicating information about the survey prior to its implementation so people will not feel threatened. Community-based organizations also can disseminate survey information to the people they serve. Telephone interviews may be threatening because many people fear the interview relates to immigration problems.

What types of people generally respond to these surveys? Generally, those who are more acculturated understand the surveys better and are more likely to respond. Also, older people generally are happy to answer questions because they view it as a form of social service.

IF04. Addressing Special Population Needs: Hispanics

Moderator: Eunice Diaz, M.S., M.P.H.
Speakers: Margarita Alegria, Ph.D.
Sairus Faruque, M.D.
July 15, 4:45 p.m.-6:15 p.m.

Speaker: Eunice Diaz, M.S., M.P.H.

America's Hispanic community, the Nation's fastest growing minority population, has been hit hard by AIDS and drug abuse. Technologies developed by NIDA's research and community demonstration projects are needed urgently, but several barriers impede the transfer of technology and knowledge to Hispanic communities. For instance, inadequate resource allocation, lagging information transfer, and human and bureaucratic resistance all present challenges to the meeting of Hispanic needs.

To use technology transfer strategies effectively with the Hispanic community, three factors must be well identified and understood from a cultural and psychological perspective: (1) the special circumstances of HIV/AIDS and substance abuse in Hispanic communities; (2) the resulting special needs for research and community demonstration projects on AIDS and drug abuse within the context of NIDA's overall programs; and (3) the individual, group, and cultural values and behaviors within the Hispanic community that affect technology transfer. Furthermore, community members must become more involved in setting appropriate research agendas. For this to happen, researchers, practitioners, and representatives of funding agencies such as NIDA must communicate better. Since 1989, when NIDA Director Charles Schuster met with representatives of the Hispanic community to address Hispanic needs relative to drug abuse, Hispanic individuals have had ongoing communication with NIDA to present their special population needs.

Speaker: Margarita Alegria, Ph.D.

In 1986 the Anti-Drug Abuse Act augmented efforts to examine drug abuse in minority groups, including Hispanics. Since then, several major studies have provided information on the prevalence, risk factors, and developmental course of substance abuse. However, studies with Hispanics have involved small populations and people in restricted regions, and the studies have been skewed by differences in socioeconomic factors and methodological pitfalls. For instance, when estimating the prevalence of drug abuse among Hispanics, many studies exclude from their samples high-risk groups, such as the homeless and the transient. Substance abuse is frequently underreported and uncertainty often exists over who a Hispanic categorization really represents. Problems also occur when self-administered instruments are used among groups with low literacy. Epidemiological studies among Hispanics show great variation regarding the prevalence of drug use; therefore, it is important to focus more attention on cultural patterns that may be relevant to service planning. Researchers commonly accept that individuals' responses to psychiatric, behavioral, and substance abuse problems are strongly influenced by culture and ethnicity. For instance, in a study in Puerto Rico, only 1 out of 75 illicit drug users received specialized mental health care services. Many studies similarly indicate that Hispanics appear to underutilize drug abuse treatment services; other studies, however, indicate the opposite. Differences also are evident among ethnic groups in their denial of a substance abuse problem and their perceived need for and benefit from treatment. For instance, after adjusting for nonethnic predictors, Hispanic drug-using arrestees were less likely than Caucasians to have received treatment

for drug dependence and to acknowledge that they needed treatment.

Given this difficulty in engaging Hispanic substance abusers in treatment, increasing emphasis is needed on behavioral and community intervention strategies. Most efforts have an individually focused, rational action framework—with the assumption that individuals make rational choices to use drugs and that they can change their behavior simply with individually oriented interventions. However, such an approach minimizes the complexities of social life when, in fact, a contextualized view of individuals' actions is vital. Besides just the conduct of similar research in different cultural settings, researchers should conduct indepth analyses of interpersonal, intrapersonal, community, and institutional factors in drug abuse. Behavioral changes that individuals make often are not sustained because the environmental context that led to the drug abuse has not been changed.

The results of a study in Puerto Rico show the extent to which societal context plays a role in substance abuse. The study, with a sample of impoverished Hispanic women and girls, provided information on familial, individual, school, and community factors that promote adaptation in the face of adversity. This kind of information would not be available from more traditional methodologies and samples. The study revealed that the prevalence rates of drug abuse among adolescents were considerably lower in Puerto Rico than in the mainland. While the reported frequency of alcohol and tobacco use in children ages 11 to 14 was lower in Puerto Rico, the rate among children ages 15 to 17 was similar to that on the mainland. Children in Puerto Rico did not appear to follow the same progression of drug use as children in the rest of the United States, who experienced alcohol and tobacco use during their preteen years and early adolescence followed by use of illicit drugs during their late adolescence. Hypotheses state that the strong familial influences and socially extended kinship system in Puerto Rico shield children from influences toward drug use.

Such a shielding effect is not seen, however, among prostitutes in Puerto Rico. In one study, since February 1990 researchers followed adult women prostitutes from both street locations and brothels, and beginning in 1992 adolescent prostitutes were monitored. One pattern observed across all three cohorts was low education level. More than two-thirds of the prostitutes had dropped out of school prior to high school graduation, and more than one-half of the adolescent prostitutes were two or more grades below their appropriate school levels. Four out of five of the adolescent prostitutes and two-thirds of the adult prostitutes were raised in a single-parent (usually female-headed) household. About 80 percent of the street adults reported the occurrence during their childhood of frequent family fights and alcohol and/or drug use by their parents. More than one-third of the adolescents reported suicidal thoughts or suicide attempts before age 14, and many of them had run away from home. About two-thirds of the adult prostitutes and three-fourths of the adolescent prostitutes had a friend who was a prostitute before they themselves became prostitutes. Also, 27 percent of the adult prostitutes had a close relative involved in prostitution. Thus, susceptibility and exposure appear to trigger entrance into prostitution.

Less than one-fourth of the adolescent prostitutes and less than one-fifth of brothel workers had used drugs before becoming prostitutes. Once they became involved in prostitution, however, one-half of the adolescent prostitutes began experimenting with marijuana and cocaine, possibly due to the lack of support from traditional institutions and their increased exposure to drugs from other prostitutes. Thus, factors that should be included in the hypothesis model concerning the significance of susceptibility and exposure to prostitution and substance abuse are high community unemployment, accessibility to street soliciting, and the opportunity for other illegal hustles such as theft. In looking at environmental factors, differences in prostitution and drug abuse patterns among geographical areas are evident; prostitution is more likely, for example, near naval bases in Puerto Rico than in rural areas. Such environmental factors are very important considerations in prevention and intervention efforts.

It is hypothesized that an increased number of adolescent prostitutes will experience their first initiation into drug use and that they will develop a history of incarceration, high depressive symptoms, poor financial situation, and one or more abortions. It thus is critical to prevent or counter the behaviors, social networks, and contexts that lead to substance abuse, for instance by targeting prevention efforts at school dropouts before

they become entrenched in street life and criminal behavior. Schools need to provide the resources to deal with students who need help to stay in school.

Also, service delivery systems that currently are based on policymakers' needs, not clients' needs, must be adjusted to include closer collaboration between the two groups in determining appropriate services. Adult prostitutes described their most urgent needs as money, housing, drug rehabilitation, work, and getting their children back from social service agencies, whereas adolescent prostitutes listed money, housing, work, clothing, and help in taking care of their children. Therefore, programs that primarily focus on changing women's behaviors do not actually target their greatest needs. Social programs tend to respond only to health service needs, rather than employment or housing, for example. However, the latter kinds of needs must be met if women are to have alternatives to prostitution. Women fail to change their behavior usually because economic and other needs seem more important. Alternatives to prostitution are needed before prostitutes will be receptive to drug treatment and prevention efforts. Also, providers and clients must have the same treatment goals; sometimes clients may want to decrease—not stop—their drug use. For many women, drugs present the only way for them to get away from the crises of everyday life, but the habit becomes both expensive and unmanageable.

To address special population needs, research and intervention frameworks on substance abuse must change to include a more social context. Contextual factors may be more relevant than personal factors in preventing behaviors such as prostitution and drug use. Prevention efforts may need to be initiated earlier and focus not just on prevention and changing behaviors but also on the social networks and contexts tied to substance use. Service providers and clients both should participate in the design and implementation of services, which should focus on women's multiple needs. Only if frameworks are reformulated can Hispanics sensitively be integrated into AIDS and chemical dependence prevention, education, and treatment programs.

Speaker: Sairus Faruque, M.D.

The Centers for Disease Control and Prevention (CDCP) recently released data concerning substance abuse among various ethnic groups. Among young adult men between the ages of 25 and 44, the proportion of deaths due to HIV in 1990 was highest among Hispanics. Twenty-two percent of deaths among Hispanics resulted from HIV, followed by 19 percent among African-Americans and 15 percent among Caucasians. Broken down into subgroups, 38.4 percent of deaths among Puerto Rican men in that age group and 40.3 percent among Cubans resulted from HIV. Eleven percent of deaths among Hispanic women between the ages of 25 and 44 resulted from HIV, a rate comparable to that of African-Americans. Therefore, HIV-related problems were the primary causes of death among young adult male Puerto Ricans and Cubans and female Puerto Ricans. These data reveal how much must be done to counter the spread of HIV among Hispanics and point out the need to continually pressure researchers and practitioners for detailed data to understand the needs of various cultural groups.

The Association for Drug Abuse Prevention and Treatment (ADAPT) conducted two outreach research projects in the streets of New York City, one project in east and central Harlem and the other project in the south Bronx, both of which have large Puerto Rican populations. ADAPT's crack and AIDS study in east and central Harlem included 1,000 participants between the ages of 18 and 29 and compared people who smoked crack-cocaine with (1) people who smoked crack-cocaine and injected drugs, (2) people who injected drugs but did not use crack-cocaine, and (3) people who did not use illegal drugs. Among the sample, 237 were female regular crack-cocaine users, of whom 77 were Puerto Rican and 160 were African-American. The Puerto Rican women were more likely to have been in jail during the past year, to have injected drugs, and to have engaged in sex without the use of a contraceptive or a condom. The African-American women were more likely to be single, homeless, sexually active, to have traded sex for money or drugs, and to have had syphilis. Furthermore, intravenous (IV) drug use was more prevalent among the Puerto Rican women in the Harlem neighborhoods than among the African-Americans. Thus, it appears that even within certain geographical areas, different subgroups should be treated differently according to their needs and behaviors. Similar data were found among men: Puerto Rican male crack-cocaine users between ages

18 and 29 were more likely to inject drugs than African-Americans. A related finding is that prostitutes were more likely to begin using drugs after, rather than before, becoming prostitutes.

In the South Bronx, ADAPT conducted an evaluation of a street outreach project ongoing for the last few years. Researchers collected quantitative and qualitative information through approximately 60 interviews with IV drug users in the streets of the area, which is predominantly Puerto Rican. Of the 60 participants in the sample, 31 were male and 29 were female, and most were Hispanic and under age 45. The project examined the awareness of outreach in the area. Only 14 people in the sample reported that they had not seen an outreach worker in the area. Most respondents were appreciative of the outreach workers' efforts and perceived them as helpful and nonjudgmental. In addition, many participants in the study were engaged in a high level of needle risk behaviors. Only 26 percent reported using a new needle with each drug injection; however, nearly two-thirds of the same population reported sharing needles. Discrepancies, such as these, in answers to the questionnaires resulted mainly from prostitutes, all of whom reported sharing needles. Out of the 60 participants, 43 reported sharing or mixing prepared doses of drugs, and among the Hispanics, 34 reported doing so.

When conducting interviews on the streets, researchers usually inquire about the predominance of certain risk behaviors but not the reasons for engaging in these behaviors. In the study conducted in the Bronx, however, researchers asked participants about the factors that helped people to stop sharing drugs and needles. Forty-eight out of the 60 participants said that free needles and easier access to needles lessened their use of contaminated ones. Consequently, it is possible that the availability of more condoms would reduce the rate of risky sexual behaviors, particularly among prostitutes. NIDA, CDCP, and CSAT have issued new guidelines for the use of bleach, indicating that the method that has been taught to clients for cleaning their needles is not as effective as once thought. Even then, bleach cleaning does not ensure protection against HIV; therefore, the availability of sterile needles is necessary. This is a complicated and controversial issue. ADAPT has started a needle exchange program in the east Harlem area and in parts of Brooklyn. This approach, combined with prevention messages, has seemed to be effective in building a trusting relationship with the clients and assisting them as best as possible.

Questions, Answers, and Comments

There are many different Hispanic cultures that cannot always be addressed in the same manner. Many treatment programs want to impose their own needs on clients rather than listen to the clients themselves. How can the Hispanic population as a whole be helped with the limited resources, such as housing and education, provided to its members? The Hispanic community is too complacent and should pressure for legislation to meet their needs. Hispanics should be more organized in their advocacy efforts. Programs should devote funds and resources to the continuation of their efforts once their funding ends, for instance by fostering grass roots organizations.

With the radical differences among Hispanic groups, what role do researchers have in educating Hispanic populations and the broader public about these differences and their significance in treatment? First, in research, samples should be very representative and not simply lump all Hispanics together into one category. Distinctions must be made in terms of what interventions and outcomes apply to some groups but not to others. At the same time, breaking Hispanics down into subgroups poses the danger of impeding a strong Hispanic advocacy effort and lessening Hispanics' political power. Hispanics should be careful where they distinguish differences and where they see similarities among themselves.

Comment: Through working on the National Commission on AIDS, it was evident that there was no unified action agenda among various Hispanic groups. And, as with substance abuse, there are different manifestations of HIV depending on the various Hispanic subgroups. This year, however, dozens of Hispanic groups united to present a common agenda to Congress with 24 specific recommendations. It was hard for Congress to ignore this advocacy effort. Therefore, there definitely is a need for such unified action, as well as for the distinction of culturally specific recommendations for subpopulations.

Comment: Similar findings and implications occur among African-American youth. However, Hispanics could use African-Americans

as a model in being united in advocacy efforts. Although Hispanics have differences, their empowerment lies in education and in numbers, which will grow as Hispanics recognize their commonalities rather than their differences.

Comment: The needs of the Latino population as a whole must be better addressed. Division based on many subgroups impedes Hispanics' efforts to acquire the services that they need. For instance, treatment for Hispanics in a bilingual setting is important, but few programs offer treatment totally in Spanish. Also, many Hispanics in jail do not receive treatment for medical reasons other than drug and alcohol abuse because the Government does not provide the bilingual people necessary to assess such problems. Hispanics must come together for such needs to be met.

Comment: Many needs, such as child care, cross ethnic boundaries, while others are very specific in terms of treatment. Researchers should conduct studies with large enough samples of each Hispanic community to assess significant differences. Even data from Puerto Ricans in different parts of the country are not completely the same, indicating the significance of environmental or geographical factors.

Comment: One study conducted early in 1993 compared data produced by NIDA over several years to examine the significance of economic level. More commonalities are found on this level, in that poverty crosses ethnic boundaries.

Comment: The moderator or speakers for this session can send information, including needs and strategies for NIDA and other Federal agencies, about the ongoing dialogue between Hispanic researchers and practitioners. NIDA needs to fill several gaps in fulfilling the needs of Hispanics. First, to fill the gap in the epidemiological gathering of data, information should be gathered collectively for the Hispanic population as well as separately for its subgroups. Gaps also exist in communication and information, and in NIDA's responsiveness to Hispanics' needs. A community education network exists within NIDA, but very few Latinos or Hispanics serve on this network; those that do are almost all Mexican-American. A strong advocacy effort, therefore, is vital to meet Hispanics' needs.

IF05. Addressing Special Population Needs: Native Americans

Moderator: Gary Peterson
Speaker: Delmar Boni, M.Ed
July 16, 8:30 a.m.-10:00 a.m.

In this forum, participants discussed the delivery of drug abuse services in Native American communities. Topics discussed included culturally relevant research methodologies and their application in Native American communities; culturally competent service delivery; and humor, wellness, and spirituality in the delivery of services in Native American communities. A demonstration of Native American ritual was conducted.

IF06. Substance Abuse and Disability Issues

Moderator: Charles Sharp, Ph.D.
Speakers: Stephen Gilson, Ph.D.
Susan Hallman, M.Ed.
Arthur MacNeil Horton, Jr., Ed.D.
Respondent: Mel Tremper, Ph.D.
July 16, 10:15 a.m.-11:45 a.m.

Speaker: Stephen Gilson, Ph.D.

Recently there has been an awakening of interest within NIDA regarding the field of substance abuse in persons with disabilities. Currently there are no available studies on treatment or prevention dealing with this population, although persons with disabilities currently make up 10 to 12 percent of the U.S. population. Until now, substance abuse was not recognized as a risk to persons in this population, and the only statistical data available about this population's use or abuse of illicit substances emanate from surveys at trauma and rehabilitation centers for the disabled. Though recent advances with disabilities promote pride in this community, the powerful stigma attached to persons with disabilities is still very prevalent.

To discover the risk of substance use and abuse in persons with disabilities, the 1991 National Household Survey on Drug Abuse (NHSDA) was used as a template for data collection. The NHSDA included questions about the use of both illicit and licit drugs and evaluated their use in the following three categories detailing the recency of use: (1) ever used, (2) used within the past year, and (3) used within the past month. It included college students and military personnel living in residences outside their homes, as well as those members of the

population residing at home. The survey excluded hospitals, nursing homes, and treatment centers, as well as individuals who were unable to complete the form. The only representative category for people with disabilities on the survey was the "disabled, unable to work category," which actually represents only a small portion of those with disabilities.

The resulting data were weighed according to the 1991 NHSDA. The data show that, of the persons with disabilities evaluated, 81.7 percent use alcohol, 19.9 percent use crack-cocaine, 5.0 percent use heroin, 15.3 percent use sedatives, and 15.5 percent use tranquilizers. On an odds ratio scale measuring the differences of use between persons with disabilities and those without (with 1.0 showing equal use, greater than 1.0 showing a greater amount of use, and less than 1.0 showing less amount of use), persons with disabilities scored a 90.2 for alcohol, 7.4 for tranquilizers, 4.2 for sedatives, 3.75 for crack-cocaine, and 0.74 for heroin. This study does not indicate whether substance abuse came before or after a disability.

It is now necessary to expand the knowledge of substance use and abuse in persons with disabilities.

Speaker: Susan Hallman, M.Ed.

In the latter part of the 1980s, CSAP first became aware of the need for substance abuse services for persons with disabilities. Steps to provide these services began in 1990 with the development of new training initiatives to encompass the various needs and issues that would be tied to this previously unserved population. A review group made up of persons aware of the inherent needs of substance use in persons with disabilities was created to evaluate the sensitivity of CSAP's new training initiatives curricula. From this group meeting, a better understanding of the issues that pertain to this population emerged. The depth of need was greater than CSAP's training staff had thought. Also, it became apparent that there were no available resources to deal with persons with disabilities in the substance abuse community.

In 1991 CSAP funded the first conference for the Institute on Disability and Alcohol and Drug Awareness. This conference included management staff from CSAP, many of whom became absorbed in the issue of substance abuse and disabilities. Then in June 1992 CSAP convened Federal agencies for an issues forum that garnered abundant support from the disabled community. Through CSAP's involvement and linkages with persons from this community, in planning these events and in simply bringing persons with disabilities to the conferences, much was learned by CSAP about what is necessary for the integration of the disabled community into the substance abuse treatment community.

To continue to develop approaches in providing treatment services to disabled persons with substance abuse problems, there are several steps that must be taken. The first is to keep up an ongoing dialogue with the community to remain aware of the services that are most needed. Second, an internal plan must be developed as an agency to increase awareness, promote the sharing of individual knowledge, and promote the relevant issues to the substance use community. Third, external initiatives must be developed to change CSAP's approach to other agencies and to Congress regarding encompassing the needs of the disabled community. Fourth, people with disabilities must be hired in the substance use community. And lastly, commitments from the research community and the Administration are needed.

Speaker: Arthur MacNeil Horton, Jr., Ed.D.

Persons with disabilities face major barriers regarding substance abuse. The first barrier is access to care. Many persons with disabilities face an exclusionary situation at treatment centers due to the lack of beds available for persons with disabilities. The stigma attached to persons with disabilities also is a barrier that must be overcome, because many professionals who work with substance abuse simply do not want or know how to work with persons with disabilities. Another major barrier is resources. Many members of this population have to deal with an environmental situation that does not compensate for their disabilities, and often treatment centers do not wish to allocate resources to providing the services needed.

Problems with substance abuse are prevalent among spinal cord- and head-injured persons. Fifty percent of those with head injuries experience substance abuse problems prior to injury, and as many as one-third of the head-injured population leave treatment for their injuries due to substance abuse. Covertly disabled persons (i.e., those whose disabilities are not clearly evident) also face many

problems with substance abuse treatment due to the small amount of information available for this population.

Steps that might be considered to bring about a more positive situation for persons with disabilities and substance abuse are the mandatory inclusion of services for persons with disabilities in treatment centers and self-help groups that target this population.

Questions, Answers, and Comments

Is there any money currently allocated for disabled persons with substance abuse? NIDA has written a grant for that purpose, which will become a general announcement in the near future. NIDA currently is developing either a Request for Applicants or a Request for Proposals.

TREATMENT

IF07. CURRENT PERSPECTIVES ON MODELS OF CASE MANAGEMENT

Moderator: Arthur MacNeill Horton, Jr., Ed.D.
Speaker: Rebecca Ashery, D.S.W.
Peter Bokos, Ph.D.
Harvey Siegal, Ph.D.
July 15, 10:30 a.m.-12:00 p.m.

Speaker: Rebecca Ashery, D.S.W.

The Joint Commission on Accreditation of Hospitals defines case management as including such components as assessment, planning, linkage, monitoring, and advocacy (e.g., resource development). The National Association of Social Workers (NASW) also defines case management to include assessment, arranging, monitoring, evaluation, and advocacy. NASW places emphasis on two different levels when looking at case management: (1) the individual level, which can be described as the biopsychosocial level, and (2) the community level, which pertains to the various systems involved in case management. It must be understood that case management is a process as opposed to a goal. The question of what makes case management a success needs to be addressed. Should a client who has been connected to an agency be considered successful even if he/she only attends one session and probably has not received the services needed for recovery?

In the late 1960s and early 1970s, two occurrences affected case management. First, the Anti-Poverty Program worked toward categorizing the services offered through case management. Second, many mental patients who were in need of case management and other services were released from hospitals. The use of case management within hospital settings has been successful in lowering the length of stay for many patients. This is due in large part to the fact that case management works toward linking some patients with either nursing homes or home health care. Another program worth mentioning as representative of the care management model is the Treatment Alternatives to Street Crime program, which is used to detect and refer drug abusers to treatment in the criminal justice system.

Two main events in particular made the use of case management important within the United States. The first was the spread of HIV and AIDS, which made it necessary for programs to be developed that offered the services of both treatment and health care facilities. The second event was the widespread use of crack-cocaine, which has greatly affected the Nation's child protective services. This is due in large part to the fact that crack-cocaine use by women has caused such problems as newborn crack-cocaine-addicted babies and the increase of children in foster care. These factors point toward a greater need to connect the services offered within both the child protective and the drug abuse treatment programs.

A number of studies were conducted that focused on the chronically mentally ill. The case management results with regard to these studies have varied. The main areas looked at within these studies were relapse, the length of hospital stays, and the quality of life (e.g., home living arrangements, number of friends, income level, and service utilization such as medical programs). The primary area in which differences were seen throughout the many studies was the length of stay in the hospitals. Cost containment is another big issue associated with case management. One study claimed to have saved about $5,500 per patient in terms of relapse into treatment, but this study neglected to mention the cost involved in keeping patients functioning within the community. No other major differences in cost have been cited within any of the studies.

A study conducted by Bonne focused on three community health centers and found that one had no significant control and experimental group differences. It was discovered that the control group in the second health center had

fewer hospital stays, whereas the third health center saw a lower rate of relapse among the experimental group. Another study, conducted by Boorelyn, devoted 5 years to looking at case management and exhibited a one-to-one client-to-caseworker ratio. Within this study the number of days the clients spent in the hospital was seen to decrease by 75 percent. There was, however, a 193-percent increase in the overall amount of structural residential care days in the community. These findings revealed the only notable differences between the control and experimental groups involved in the study. The total hospital cost savings were seen to increase as a result of the cost with regard to community care. These various findings suggest that there are a number of factors that need to be considered if cost containment is to be adequately addressed.

It should be mentioned that NIDA performed a technical review on research in progress for case management. Some of the many issues addressed during this technical review were cost containment, the experience and educational backgrounds of case management workers, client-to-caseworker ratios, and community advocacy (e.g., resource development and the purchasing of services). The findings from this technical review can be obtained through NIDA's clearinghouse.

Speaker: Peter Bokos, Ph.D.

Two areas that deserve some attention are (1) improvements in programming and (2) the efficiency of drug treatment in terms of filtering clients through large treatment systems at a faster pace. This is the third year of a 5-year study that is performing research to help determine how effective case management might be in improving the two aforementioned problem areas.

Treatment access is one factor that really prefaces the problem of getting clients through treatment at a decent speed. Client retention in treatment was seen as another problem area that needed some improvement. Factors associated with goal completion, which refers to a client's individual counseling goals, was another area that received a great deal of research. One of the factors studied was the effects that case managers have on clients with respect to the development of their individual goal completions. High-risk HIV/AIDS behavior was another area that was highly researched. It was determined that the main issues that needed to be addressed in order to substantially lower the rate at which HIV/AIDS was being spread was the decreasing of needle-sharing, high-risk sexual behavior, and the amount of illicit drug use.

The question of whether or not this study is cost-effective still remains unanswered; however, a 15-to-1 client-to-case-manager ratio has been recorded. It has been estimated that about $2,400 to $2,500 on average is being added to the cost of treatment for each patient annually. The main functions found within most case management models are the following: (1) assessment, (2) planning, (3) linking, (4) monitoring followup, and (5) advocacy. These core functions, with the exception of advocacy, were at the center of development for the case management/problemsolving model that was used in the program. Advocacy was not specifically considered when the model was being developed because it is something that all case managers must keep in mind anyway when they are dealing directly with their clients.

The procedure involved in assessing the progress of clients is a meeting between clients and case managers that is meant to define what the clients' current situations are and what direction they need to go in terms of making future progress. Following this meeting, the case managers then review the various options (e.g., different services) they have for treating the clients. Once the different options are weighed, a plan of action finally is decided upon. This describes the cyclic model of assessment and treatment.

Treatment access is a major problem that was encountered not only in this program but also in many similar programs. Unfortunately, the number of people in need of treatment far outweighs the number of treatment slots available throughout the country. Lack of documentation is another problem that has surfaced within many programs. Various forms of identification and records of previous treatment services received are generally two prerequisites to entering a treatment program. It is not uncommon for clients to be missing either some or all of these documents. Some other factors that occasionally pose problems for people who are attempting to enter a particular treatment program are comorbidity, HIV/AIDS, mental health problems, conflict with treatment expectations, and lack of transportation. A person possessing a negative reputation in

terms of his/her relationship with past treatment workers and facilities also may hinder his/her chances of being admitted into future programs.

A three-way contract was developed in this program among the case managers, the treatment program, and the clients. This contract was aimed at helping to minimize the aforementioned problem factors that often act as barriers to the positive progress that clients wish to experience within their individual treatment programs. Studies have shown that there are higher rates of treatment retention among clients who are involved with case managers.

Speaker: Harvey Siegal, Ph.D.

The Substance Abuse Intervention Project at Wright State University of Medicine worked in conjunction with a NIDA initiative focused on enhancing drug treatment. The two main goals of the NIDA initiative were (1) to increase the number of available drug treatment openings and (2) to develop a tool or service that could improve the overall quality of care. The factor that needed to be addressed in order to make progress toward these goals was the need to locate and define the most significant service gaps facing the project. Treatment of crack-cocaine users was found to be the most significant gap facing the project. The group primarily looked at within this project was drug- and alcohol-abusing male Vietnam veterans.

There are two problems that often affect drug treatment programs. The first is program retention, which has been seen to be a fairly widespread problem throughout the Nation's drug treatment programs. This problem is especially apparent during the early stages of many programs. Many people end up dropping out of their respective programs after only a very short period of participation. This occurrence is commonly referred to as premature withdrawal from treatment. The second problem has to do with long-term drug treatment compliance on the part of the people involved in the programs. One method that seemed to help dissuade people from prematurely withdrawing from treatment was enrolling them into some type of treatment induction program with the intent of making them full-fledged drug treatment clients. Wright State's project, in attempting to increase retention rates, made use of an intervention program that had experienced a good deal of success in treating and retaining drunk and impaired drivers.

In terms of the clinical side of the treatment equation, care providers must decide to either complement the treatment that clients already may have received or focus their efforts on new and additional modes of treatment. The issue of how to accomplish these treatment goals is an area that often poses many problems for care providers within the therapeutic communities. Complications often arise with regard to either getting treatment services to the clients or the clients to the services. There is also a question as to whether or not clients need to be taught skills that will help them to function more effectively within not only their respective treatment programs but also within the community.

The Substance Abuse Intervention Project installed a model that incorporated a wide array of treatment and skill-building services for its clients. This model, a "strengths perspectives model," asks clients the following important question: "What is healthy about you and how can you use your strengths and assets to secure the resources you need?" The strengths perspectives model used within the Substance Abuse Intervention Project at the Wright State University of Medicine was designed around a model developed by Rapp and Chamberlain. The model's two main principles are providing "disenfranchised people" with support in (1) examining their own strengths and assets in order to gradually build and obtain various usable resources (e.g., housing and employment) and (2) asserting direct control in their attempts to build and obtain these resources. Three additional principles stressed within this model that focus on the improvement of individual strengths and self-determination are (1) showing the importance of positive relationships between the clients and their case managers, (2) reassuring clients that their community can provide a great number of resources instead of acting as a barrier, and (3) providing positive, interactive outreach programs within the community.

In adapting this model for use within the Substance Abuse Intervention Project, two concepts were added to act as a type of guide for practiced work. The first concept centered on the development of a definition for case management advocacy. This definition, which basically infused all of the aforementioned core functions into a usable form, was

somewhat influenced by the work conducted by Intagliata. The second concept centered on an area known as life domain, which refers to the general life skills needed to live comfortably (e.g., how to take care of one's self, how to cook dinner, and how to develop positive relationships). Drug treatment recovery also was included within this concept for the clients who needed it. This client-oriented model tries to focus on the strengths and assets of the clients and then build upon them. A strengths assessment of each client is conducted and the findings are turned over to the treatment workers in order to apply them toward both the development of more effective and individualized treatment services and the production of plausible case management plans. Upon first meeting their clients, the case managers' primary goals are to address the immediate needs that the clients may have (e.g., clothing retrieval, contacting friends or family members, and the updating of probation officers as to their clients' treatment statuses).

Questions, Answers, and Comments

Comment: About 30 to 35 percent of the people treated within the Chicago project are female. This percentage vaguely reflects the number of women in many of the Nation's treatment programs. The primary functions performed by the project's case managers were to develop both vocational and rehabilitation programs for the clients. Basically, the various needs (e.g., child care services) of the clients are focused on by the case managers. One area of need that many clients in the Chicago project reported was transportation either to or from the treatment facility. The project's case managers remedied this problem by providing subway tokens to those clients who reported a need. This solution has led to a substantial increase in the project's overall retention rates. Case managers, through providing the initial housing payments and security deposits for subsidized housing, also have managed to lower the rate of homelessness among the project's clients.

Has any work been done in the areas of managed care, medicaid, or medicare with respect to the Chicago project, and if so, what have the effects been? Managed care providers tend to try to control the lengths of stay for their clients. This is not really the tendency within the Chicago project, so the answer to this question would have to be "no."

Have any differences been noticed between the rates of effectiveness for inpatient and outpatient treatment within any of the programs? Differences have been seen, but the exact numbers have not yet been tabulated due to the fact that only 3 years of the 5-year study have been completed.

Is case management more effective if provided by a physician within a program or by an outside agency? Case management that occurs outside of a program but still is found to be moderately tied into the whole system of treatment is probably the most effective method of providing these services.

What qualifications should case managers meet before they are assigned to work with clients? A wide array of qualifications have been seen within many highly effective case managers. A few of the many qualifications have been both bachelor's and master's degrees, experience in substance abuse counseling, and simply experience obtained through being actual drug and alcohol abusers. Various respect and interaction skills also are taught to the case managers for use when dealing with both clients and treatment staff.

IF08. METHADONE TREATMENT ISSUES

Moderator: James Cooper, M.D.
Speakers: Joseph Brady, Ph.D.
Robert Lubran, M.P.A.
Mark Parrino, M.P.A.
July 15, 10:30 a.m.-12:00 p.m.

Speaker: Joseph Brady, Ph.D.

This presentation explores an innovative delivery system that determines the effectiveness of drug abuse treatment in general and methadone treatment in particular by describing a mobile methadone treatment program already under way in Baltimore, Maryland. The results of the program are meant to assist States in the development and management of similarly successful programs across the Nation.

Since access to drug abuse treatment services has proven to be difficult in the past, 2 years ago a demonstration project was conducted in order to examine whether successful methadone treatment services could be carried out by way of mobile treatment units. These mobile units' fundamental purpose was to address the accessibility to the treatment facilities and the length of time that the patients remained in the programs. One of

the measures by which the success of a program was judged concerned the duration of time that an addict stayed in a treatment program. This factor is as important as accessibility to the programs.

Results from a recent study performed by Tom McLellan corroborated the importance that the length of time an addict spent in treatment had upon successful rehabilitation of the user. McLellan's study demonstrated that heavily addicted opiate users who entered the treatment program but dropped out after having received 90 or fewer days of treatment were worse off upon followup than a comparable group of addicts who had not received any treatment. Although this may seem paradoxical, it demonstrates the importance of keeping drug abusers in treatment for a sufficient amount of time to enable successful rehabilitation to occur.

In Baltimore, the mobile treatment units consist of two medication vans and two trailers. Although the mobile vans are constantly on the move, serving a wide population of some of the most difficult drug abusers, one medication van concentrates its efforts on the east side of town, while the other treats patients on the west side of town. Since the trailers are used only once a week for counseling purposes, they remain stationary in church parking lots (the clergy was the only part of the community willing to assist the methadone treatment programs). The mobile medication vans are supplied with equipment that fulfills all of the drug enforcement requirements, and aboard the units are computerized management information systems responsible for tracking all patient information. Everything is done onsite—prescribing medication; providing referrals; and performing clinical work, such as tuberculosis testing. In all, about 200 patients are served by the mobile units.

The intake procedure is an involved process. The patients must meet FDA requirements and must have been regular opiate users for at least 1 year prior to their admission; this information has to be verified by previous treatment programs. Next, an extensive Individual Assessment Profile (IAP) is administered to the clients. Since it is difficult, due to both time and financial constraints, for the patients to transport themselves to the treatment facilities, the IAP (in addition to gathering demographic data) asks the patients to describe the length of time and the amount of money that they spent in order to arrive at the programs where they were previously treated. This question is meant to examine the amount of effort that the clients had to put forth in order to receive their treatment services. This measurable behavior is commensurate to the term "accessibility." The last item about which the patients are asked concerns the documentation of any differences between the programs in which they previously have been involved.

A vast number of the patients served by the methadone treatment programs are dropouts from prior programs. Some of the patients have been in the mobile treatment program for more than 1 year, and a number of them participate in what is called "within treatment evaluations," in which they self-report the success that the mobile program has had in reducing their own opiate intake. The findings from these evaluations suggest that there has been a dramatic decrease in the amount of time that the clients spend in drug-related activities, and there has been a significant increase in the number of patients involved in legitimate employment. The validity of these findings not only was measured by self-reported client information but also by urinalysis testing. The next step in the treatment process will be to reduce the amount of cocaine found in virtually every methadone-treated patient.

Data released by the State of Maryland concerning six other methadone treatment programs in Maryland provide a framework for comparing programs. Of the seven methadone treatment programs mentioned, the percentage of drug use measured upon admission to the programs shows that the patients involved in the mobile units were among the heaviest of drug users. Also, the clients of the mobile units reported the highest levels of unemployment. Therefore, the mobile units treat the most serious daily users, a population that also happens to be largely unemployed. To make matters worse, the only category in which the mobile treatment units ranked lowest was in regard to whether the patients had received at least three previous admissions for treatment. In summary, while the clients receiving treatment from the mobile units are among the most seriously opiate-addicted patients, they have received the least amount of treatment for their disease; consequently, they are among the most naive about their addiction.

The clients treated by the mobile units reported having remained in treatment two

or three times longer than the clients treated by the other methadone programs. In part, this may be due to the fact that the mobile units are the most accessible for clients and reach a different population than the other six treatment programs. When the clients were asked to describe their occupations, 35 to 40 percent of the patients in the mobile clinics responded that they were homemakers, whereas in the other programs only 5 to 10 percent reported similarly. Thus, the mobile units are treating a different population than the other methadone treatment facilities. Besides the fact that the patients treated by the mobile units were among the most serious drug users who received the least amount of previous treatment for their addictions, they remained in their respective treatment programs longer than the clients served by conventional treatment programs.

Speaker: Mark Parrino, M.P.A.

The beginnings of methadone treatment trace back to the early 1970s. Between 1971 and 1973, there was a 20,000-patient influx into the methadone maintenance treatment programs in New York City. Also at this time, it was found that criminal activity and the number of reported cases of hepatitis significantly decreased in the city. A major correlation was drawn between untreated heroin use and criminal involvement and hepatitis. In recent years, however, there has been a diminished interest in methadone maintenance treatment.

The rapid expanse of methadone treatment programs sprung under the Nixon Administration and was based upon the successful decrease in crime reported in New York City, which was attributed directly to controlling the crime-ridden, heroin-addicted culture. But gradually the methadone maintenance programs diminished because of several factors. The programs expanded without providing the public with the information essential for bolstering the community support necessary to implement successfully such an undertaking. Without the fundamental support of the community, the programs stood little chance of thriving. Furthermore, since the FDA did not step in to provide guidelines and standards, the programs lacked the structure to operate successfully. All of these factors led to the communities' overall distrust of methadone maintenance programs.

Today there are 750 methadone treatment programs across the United States operating largely in 40 States and treating approximately 115,000 patients daily. Nationwide, there are great variations in prescribed dosages of methadone. A 1990 Government Accounting Office study evaluated 24 methadone treatment programs. The results suggested that dosages varied widely, depending both on the programs and the individuals treated in the programs. While it is very important for facilities to prescribe effective dosages, low methadone dosages are typically found in programs in which there is a high incidence of heroin use. For instance, New York City is among the lowest in the Nation regarding prescribed dosages, but it has one of the highest levels of heroin use.

There is great variability in the quality and effectiveness of methadone treatment across the United States. Another study, conducted by John Ball, documented the fact that methadone dosages depend upon the program, the city, and the State. There are some programs that have a tendency to compel people to leave the programs for one reason or another, and then there are some patients who detoxify or drop out. It was further documented that 82 percent of patients who presently are in treatment will relapse after the conclusion of their methadone treatment. Thus, retention of patients in treatment is critical, and consequently, policymakers must begin to address the maintenance of these patients in programs. Without sufficient time spent in the programs, the patients will simply relapse, and this subverts the whole treatment process. In the future, policymakers must ask what they should do in order to maintain the patients in the system and to guarantee the integrity of the program while also allowing the patients to want to remain in the treatment program.

Another important factor that policymakers ought to discuss is a definition of the overall expectations of the methadone treatment programs. Without clear expectations, it is difficult to accomplish anything. The integrity of the treatment sites must be upheld, proper dosages of methadone must be prescribed, and patients must remain in the programs long enough to respond successfully to treatment. In the future, an emphasis should be placed on reviewing relevant research in this area, and pertinent findings found in these studies should be translated into the field. In conclusion, in regard to available

resources, the strategy of doing more with less is an antiquated and unrealistic outlook.

Speaker: Robert Lubran, M.P.A.

There are several ways in which to implement research findings into practical use in the field or, as it is sometimes referred to, "moving from the bench to the trench." Treatment practices are uneven nationwide. It is very important to focus on strengthening States' abilities to regulate programs and/or the need to transfer information and educational knowledge into the field.

The project referred to in this session had three objectives, all of which related to the improvement of treatment systems across the United States. The program wants to help State alcohol and drug agencies that have funding and regulating responsibilities for treatment services in compliance with Federal block grant requirements. These requirements generally pertain to the use of Federal funds for intravenous drug use throughout the country. Also, in the interest of those States that have been unable to support training due to cutbacks, the program wants to use focused workshops at the State level rather than sponsoring workshops in Washington, D.C. Third, the program seeks to develop guidelines in order to provide a means for translating policy-level documents at the Federal level. Consequently, those guidelines will be used to steer States in the directions that they should be moving.

Questions, Answers, and Comments

Where exactly can someone in need of mobile methadone treatment be referred for services? All of the clients make the initial contact by meeting the mobile units on the streets of Baltimore. Only after the addicts come to the van are they registered. And since there is already a waiting list holding the names of 500 people, they do not have room for more.

What is the difference between the mobile medication units in Baltimore, Maryland, and the units in Boston, Massachusetts? The primary difference is that the units in Boston simply deliver methadone to patients around the city, whereas the units in Baltimore also counsel their patients.

With the wide variation of methadone dosages prescribed to patients across the Nation, what are the adequate levels to prescribe? The question of proper and effective dosage prescription is something that has to be measured according to the individual. Since everyone has different rates of metabolism, absorption, and other factors, every individual will require a personal assessment in order to ensure that the proper dosages are prescribed. NIDA recommends a range from 50 to 120 mg.

IF09. Cigarette Smoking Policies in Treatment Programs

Moderator: Jack Henningfield, Ph.D.
Speakers: Janet Bobo, Ph.D.
Terry Rustin, M.D.
Karen Sees, D.O.
John Slade, M.D.
July 16, 4:30 p.m.-6:00 p.m.

Speaker: Karen Sees, D.O.

The 1988 Surgeon General's report on nicotine addiction revealed a number of interesting findings. Of our country's treatment counselors, a large number are working under the belief that individuals who are trying to quit using illicit drugs should not attempt to cease smoking at the same time. The fear is that these people will relapse into illicit drug use more often if they do not have cigarettes as a "diversionary tool." Surveys have found that less than 1 percent of patients who were not advised to quit smoking actually quit on their own. The number of patients who quit smoking after receiving minimal amounts of advice pertaining to the ill effects of smoking is about 3 to 5 percent per year. The smoking cessation rates rose to between 20 and 40 percent for patients who receive both advice and information about the health consequences of smoking.

A recent study conducted by Drs. Bobo and Miller found that alcoholics can break their smoking habits successfully without hindering their progress toward alcohol recovery. This study, along with the 1991 Sandor Study, revealed a tendency for alcoholics (who had quit smoking) to stay in treatment longer than alcoholics who still smoked. Why is there such a concern over nicotine addiction when there are so many other kinds of addictions which involve stronger drugs? Four reasons are as follows: (1) nicotine has psychoactive effects, (2) basic health concerns, (3) the addictive drug effects of nicotine and other drug use, and (4) tobacco is the number one killer among all drugs.

Among drug users, female smokers exceed the number of male smokers and smoke more cigarettes than males. It also has been seen that Caucasians smoke more than any other

race, and that less educated people are more likely to smoke.

Speaker: Janet Bobo, Ph.D.

Of all Americans who are addicted to both alcohol and tobacco, millions risk developing some form of oral cancer or cancer of the esophagus. A statewide survey (conducted during 1991 and 1992) of all the drug abuse treatment counselors in the 69 treatment facilities in Nebraska offered a 95-percent response rate (771 counselors). The survey was in the form of a three-part questionnaire which pertained to the problem of dual addiction to alcohol and tobacco. The topics covered in the questionnaire included the following: (1) the respondents' personal experiences with alcohol and tobacco cessation, (2) the professional opinions toward clients' dual tobacco use in conjunction with alcohol, and (3) the practice patterns toward having clients quit smoking while in treatment for alcoholism.

The responses revealed a number of disturbing beliefs concerning the use of tobacco products in treatment facilities. An alarmingly low 35 percent of the 771 counselors felt that recovering alcoholics should be urged to quit smoking while still in treatment. This percentage rose to 77 percent for counselors who felt that those recovering alcoholics who had been alcohol free for 1 year or longer should quit smoking. Another set of questions showed that only 49 percent of the counselors had ever advised a patient who smoked to quit as soon as possible, and only 30 percent routinely advised patients to quit. The reasons why some counselors advise smoking cessation and others do not are affected by the following: (1) the counselor's personal experience with alcohol and tobacco, (2) the counselor's amount of health knowledge about tobacco, and (3) the treatment center policies toward smoking and tobacco use. It has been found time and again that those treatment center counselors who know more about the ill health effects of smoking are more likely to urge their patients to quit smoking.

Speaker: Terry Rustin, M.D.

There are two main reasons why nicotine use should be treated in substance abuse treatment programs. First, nicotine is an incredibly addictive chemical. If a treatment program claims that it helps with addiction problems, then it is hypocritical not to include addictive tobacco products. Second, tobacco is a very destructive drug in regard to physical health effects.

A number of issues and other factors were crucial to the implementation of a smoke-free treatment program at the University of Texas Medical School; these also can be used as a guide for other treatment facilities that wish to do the same. First, convince yourself that this is the right thing to do. Second, define your mission. For example, what do you mean by "smoke free?" Are you going to create a program that does not allow patients to smoke on or off the treatment facility premises? Should staff be allowed to smoke at work or at all? At the University of Texas it was decided that staff were not permitted to smoke at work but could smoke outside of work as long as they did not display any sign of smoking once they arrived at work (i.e., no cigarettes brought with them and they could not smell like smoke). Third, convince the administration of the idea. If it happens that the person or persons in charge of making the decision smoke, then you will find that 9 times out of 10, the idea will not be passed.

Speaker: John Slade, M.D.

Additional health problems that have been found to be fairly common among chronic alcohol and tobacco users are pancreatitis and cirrhosis. A New Jersey consultation service, supported by both the Health Department and the Robert Wood Johnson Foundation, helps alcohol treatment facilities address nicotine dependence issues. There are two main goals of the consultation service: (1) creating a smoke-free environment throughout all of the alcohol and drug treatment facilities and (2) helping treatment counselors address their patients' problems of nicotine dependence. There seem to be five main reasons for quitting smoking in treatment facilities: (1) quitting smoking can save lives, (2) many patients want to quit smoking, (3) tobacco smoke harms nonsmokers, (4) relapsing to nicotine in drug and alcohol treatment facilities is very high for exsmokers, and (5) tobacco use can lead to other kinds of drug use.

Before the patients' problems of nicotine dependence can be adequately addressed, the staff need to first address their own problems of addiction. Therefore, aid programs should be set up for those staff members who need help in quitting smoking throughout all of the treatment facilities.

Questions, Answers, and Comments

Is there a preferred method for helping people to quit smoking? There have been no direct studies that have documented which methods work and which do not work, but personal experience has shown that quitting "cold turkey" seems to be the most effective method. Treatment counselors need to be sensitive to the client's readiness to quit smoking. If the issue is to be forced emphatically on people before they are ready to quit, it could have an adverse effect.

What should be done about the treatment facilities that permit clients to go outside and smoke? Hopefully this can be viewed as a positive step in the process toward full integration of a completely smoke-free environment.

Does going smoke free improve your standings with referral sources? In general it has been neutral; some referrals have risen and some have dropped.

IF10. Selecting Pharmacologic Treatments for Use in Drug Abuse Treatment Programs

Moderator: David Gorelick, M.D., Ph.D.
Speakers: Jim Cornish, M.D.
Thomas Kosten, M.D.
Jeff Wilkins, M.D.
July 15, 1:15 p.m.-2:45 p.m.

Speaker: David Gorelick, M.D., Ph.D.

The first issue to consider when selecting a pharmacologic treatment for a patient is whether or not medication actually is needed. If medication is found to be the most effective means for treating a patient, then the question of what medication to use must be answered. Dosage and lengths of use also should be defined according to the need of each patient. If a medication is found to be unsuccessful in treating a patient, reevaluation of clinical status, compliance, and side effects are three areas to address. Outcome measures often are helpful in determining the success patterns of different medications and any dangerous side effects.

Treatment facility staff who begin using medications as one of the primary methods of treatment should be aware of a number of possible "impacts." The first impact is the fact that patients face a certain degree of risk when taking different medications. The second impact is an increase in procedures, costs, and visits that patients must undergo when using medications. The third impact affects treatment facility staff, who must be thoroughly trained to better understand medication uses and side effects. Sometimes an increase in a program's overall resources (i.e., funding, pharmaceutical facilities, and medical staff) is one of the most critical needs that result from the switch to using medications.

Speaker: Jim Cornish, M.D.

More treatments for cocaine dependence must be considered for use because an effective treatment has not been discovered to date. In treating cocaine dependence, medical evaluations help determine the extent of a patient's problem by obtaining current medical information and the patient's medical history. The information used to assess the extent of the patient's problem is based on medical, laboratory, and psychiatric evaluations. Studies show that the most severely dependent cocaine abusers often are fairly medically fit. However, those who are ill tend to have very serious problems. This indicates how valuable accurate medical exams and evaluations are.

In treating drug and alcohol dependence, the Addictions Severity Index (ASI) is used to evaluate a patient's medical, employment, alcohol/drug, legal, family/social, and psychiatric problems or needs. It is extremely uncommon for patients to have just one addiction problem. Instead, they normally have a few or all of the above listed problems. Based on the fact that no two patients tend to have the same problems, treatment facilities must develop individualized types of treatment strategies.

During the past few years, the Nation's treatment facilities have expanded their focus to include nicotine addiction. An average 90-percent rate of nicotine use among alcohol, opiate, and stimulant abusers has been identified in many treatment facilities. Despite the widespread rate of nicotine use, treatment facilities that implement programs to help curb this addiction experience a measurable degree of success.

Speaker: Thomas Kosten, M.D.

Methadone maintenance is considered to be the most effective pharmacotherapeutic method for treating opiate addiction. Dosage in methadone maintenance, as well as in all treatment medication programs, is very

important. Methadone dosages, in general, need to be higher than other drug treatments. Duration of treatment also is a key issue to be considered when treating people. Some methadone maintenance patients, for example, need at least 2 years of treatment before they experience any success. Concurrent psychosupport services also are an essential ingredient for the success of the average recovering patient.

Several problems must be addressed in treating opiate addiction. The development of other medications that last longer than 1 day is imperative if methadone treatment programs do not allow patients to take home dosages of methadone. In addition, the unwillingness of many communities to accept the presence of methadone programs in their neighborhoods hinders treatment availability for opiate addicts. Changing the name of the drug may be a possible solution for making it more socially acceptable and working toward opening more methadone programs.

Two medications are being considered as replacements for methadone—LAAM and buprenorphine. LAAM is a medication that performs the same function as methadone except that it can be taken every 2 days. Use of this drug helps to eliminate the need for take-home dosages of methadone. Unlike heroin, which is a drug that has a very fast onset, LAAM's chemical makeup causes a slower reaction within the patient's body. The fact that LAAM is taken orally also helps contribute to its slow onset. One drawback is that its initial effects take a while to be felt by the user. This is unlike methadone, which can normally be felt within the first day or so of intake. Due to the differences in onset periods, LAAM patients tend to have somewhat lower retention rates than do methadone patients. One possible method of solving this problem is to start patients on methadone and eventually switch them to LAAM.

Buprenorphine is another medication that is being considered as a replacement for methadone. One drawback to using this drug is that its users have been known to exhibit some abuse symptoms. It must be understood though that abuse depends solely on the level to which a particular drug is made available. In Europe, buprenorphine is highly abused because it can be attained as easily as aspirin. In the United States, where the use of buprenorphine is highly regulated, the number of abuse cases is extremely minimal. The advantage to using buprenorphine is that when it is taken in small dosages (i.e., 2 to 3 mg. per day), the effects are similar to those of methadone. When it is taken in higher dosages (i.e., 20 to 30 mg. per day), it acts as a kind of opioid blocker. Consequently, if a person attempts to use heroin in conjunction with the buprenorphine, he/she will not experience any of the normal effects of heroin. Another advantage to buprenorphine use is that it tends to have a lower rate of dependence when compared to methadone. This means that the detoxification periods are much easier to undergo. In fact, with the help of two other medications (Naltrexone and Clonidine), the detoxification period for buprenorphine can be decreased to about 8 hours.

Another problem that methadone maintenance programs experience is that a large percentage of the Nation's methadone maintenance population has HIV or AIDS. The medication AZT is the most common form of treatment for this population. Unfortunately, when a person takes AZT along with methadone, the person's AZT level increases as the result of an interaction. This often causes people to stop taking AZT because they begin to feel sick and think that the AZT is "cutting into" their methadone supply. Instead, what is happening is that the methadone is making the AZT increase to a level of toxicity. The way to remedy this problem is to simply prescribe lower dosages of AZT, with the knowledge that it will increase when it reacts to the methadone.

Speaker: Jeff Wilkins, M.D.

Some of the more common symptoms associated with the use of hallucinogenic drugs are paranoia, auditory hallucinations, schizophrenia, negative feelings about life, blunting of emotions, and anxiety-based depression. There are few, if any, clinical studies focusing on the problem of hallucinogenic drug abuse. Because of this, a large amount of the information pertaining to this topic is provided by various users and abusers of these drugs. However, this method of acquiring information often is not completely accurate because a number of these people suffer from schizophrenia and, therefore, may not give accurate histories. Studies indicate that the reason many schizophrenics continue using cocaine is that the euphoria created through cocaine use can help to temporarily relieve the dysphoria associated with the anxiety, depression, and blunting of emotions. A somewhat

common mistake made by psychiatrists is to attempt to treat depression when in fact a client's cocaine-induced depression likely will disappear once he/she gets off the drug.

Hallucinogenic drug abuse can be treated with pharmacotherapy and behavioral therapy. The use of pharmacotherapy is not always the best method of treatment. In some cases it can even be detrimental to a patient's speed of recovery. However, antidepressive and antianxiety medications are beneficial when treating patients who are depressed to a level that might lead them to cause harm to themselves or to someone else. Behavioral therapy is probably equally important as a form of treatment to instill the use of medications. When these two methods of treatment are used in conjunction with one another, the results are generally very positive. Although the combination of behavioral therapy and pharmacotherapy tends to be effective, avoiding the use of medications when treating people who are "cleaning out" their bodies of drugs is helpful.

Complications occasionally arise when treatment staff use medications to treat various problems that recovering drug addicts might be experiencing (e.g., sleep disorders or anxiety). The most common complication is that patients who receive medications to help make their problems more bearable often become dependent on those drugs instead of the ones that they were previously using.

Finally, in treating opiate-addicted pregnant women, most programs either do not give the women methadone or they drastically reduce the dosage levels. Preliminary study findings have shown that pregnant women actually need higher doses of methadone in order to maintain a relative comfort level. This need will vary from woman to woman. It is recommended that methadone programs do all they can to ensure that these women do not feel they have to turn back to heroin use in order to reach their comfort zone because health care providers agree that the effects of heroin use are much more harmful to a mother and her unborn fetus than are the effects of methadone.

Questions, Answers, and Comments

Comment: Some studies indicate that buprenorphine has been more effective than methadone in lowering addicts' cocaine use. An average of about 70 percent of the people who enter an opiate abuse treatment facility use cocaine. Whether treated with methadone or buprenorphine, an average of only 25 percent of these people still use cocaine upon completion of their treatment program. This is obviously a drastic drop in the amount of recorded cocaine use; therefore, it would seem logical to continue using these two medications when trying to treat the Nation's cocaine-addicted population.

Comment: Despite the fact that intravenous drug-using AIDS patients' overall nutritional and immunological conditions improve with the use of methadone, methadone is not the next AZT. The positive effect that methadone has on these patients appears to be due more to the absence of heroin than to the presence of methadone in the patients' systems.

Comment: Even though LAAM and methadone basically perform the same functions, LAAM, upon receiving FDA approval, will probably be recommended for use by pregnant women who need treatment. The reason for this is that LAAM does not metabolize quite as fast as methadone, which means that it will not have to be taken as often. LAAM, on average, only has to be taken about three or four times a week. This is beneficial for treating people because it helps eliminate the need for take-home dosages.

How often do patients abuse the psychoactive therapeutic medications that are supplied to them by treatment practitioners? There are some medications that are commonly abused. Supplies of these drugs (i.e., benzodiazepines such as Xanax [alprazolam]) often are obtained from small practitioners and physicians.

IF11. Acupuncture and Other Alternative Treatments

Moderator: Debra Grossman, M.A.
Speakers: A. Thomas McLellan, Ph.D.
John Spencer, Ph.D.
George Ulett, M.D., Ph.D.
July 15, 4:45 p.m.-6:15 p.m.

Speaker: John Spencer, Ph.D.

The main forms of alternative care being used throughout the world are generally suggestive forms of treatment. This simply means that these types of care—while often not as medically effective as more conventional treatments—may in fact produce the same positive effects for certain patients. This phenomenon can be attributed to the power of suggestion or the psychological beliefs of each individual patient. Some of

the better known alternative treatments that tend to be used in conjunction with more common forms of care are herbal teas, hypnosis, relaxation therapy, and biofeedback, as well as massage therapy for the feet, back, and neck. One method for treating drug abusers and alcoholics is a practice by which treatment counselors attempt—through use of the previously mentioned alternative treatments—to alter a patient's alpha waves, thus causing him/her to experience a feeling of complete relaxation. Successful application of this treatment method causes the patient to relate his or her feelings of relaxation to abstinence. More than 500 applications of alternative treatments have been used at the National Institutes of Health for both health- and drug-related problems.

What exactly constitutes an alternative medical practice? Using medical courses of action that are not conventionally or traditionally taught in school would be one qualification for being labeled "alternative." An additional characteristic would be a transformation from a retrospective to a prospective model either in or for evaluative purposes. Hopefully, as continued study leads to a better understanding of these so-called alternative medical practices, State and Federal funding also will increase in those areas proven to be successful in treating health- and drug-related problems.

Speaker: A. Thomas McLellan, Ph.D.

Acupuncture use within the medical community has spawned a continuing controversy between people who believe it is the best form of drug treatment available and those who feel that it is a fraud. The single best study that can be cited to support the effectiveness of acupuncture is one conducted by Dr. Milton Bullock of the Hennepin County Medical Center in Minneapolis, Minnesota. Dr. Bullock used an acupuncture method known as auricular to help treat 80 severely alcoholic patients. One-half (40) of the patients were treated with auricular acupuncture, which—through the use of needles—pinpointed three substance abuse-specific locations on their body; the second half of patients received acupuncture that was not substance abuse specific. Upon completion of the patients' acupuncture treatments, they were asked to attend Alcoholics Anonymous (AA) meetings. Followup evaluations of this study revealed that 21 of the 40 patients who were treated with the acupuncture that pinpointed substance abuse-specific body locations completed all the AA meetings. Of the 40 patients who were treated with acupuncture that did not pinpoint substance abuse-specific locations, only 1 finished all of the AA meetings. These findings suggest that acupuncture does possess some treatment capabilities and that the placement of the needles is also a valid consideration when planning treatment approaches.

Assuming that acupuncture does work, how could it be used in treating substance dependence? Acupuncture could be applied effectively somewhere within the following three phases of treatment: detoxification/stabilization, rehabilitation, or aftercare (relapse prevention).

Many different kinds of acupuncture techniques can be used, depending on the various reactions of the patients. Acupressure, for instance, applies the same treatment methods as acupuncture but does not involve needles. Acupressure, as indicated by the name, simply uses pressure as its treatment approach. Bilateral acupuncture is another technique, which typically involves sticking five small needles in either one or both ear lobes. A third treatment technique worth mentioning is electroacupressure—a form of electrical stimulation without the use of needles. Lastly, neuroelectrical stimulation, a type of electrical stimulation, lacks any kind of puncture or pressure.

What is needed in the field of acupuncture treatment? For one, a universal vocabulary should be implemented among all the active researchers and practitioners in this field. The reason is so that new advances can be understood thoroughly by all the people who will be affected. Secondly, a standard set of active points—which have been determined to be positively susceptible to pressure and puncture—should be documented. Once this has been done, further studies can be conducted that will elaborate on what little is known about this mysterious field. Finally, the question of what level of acupuncture is needed in order to make it work should be answered on a patient-by-patient basis. One way of doing this could be by designing a format for acupuncture studies that would randomly assign acupuncture use to a number of patients; these results then would be compared to a number of randomly assigned patients treated with a placebo.

Speaker: George Ulett, M.D., Ph.D.

Of the 360 acupuncture points on the body, the 80 of them that are useful for treatment purposes are known as motor points. Dr. Han, who authored a 1985 publication on the neurochemical basis of acupuncture analgesia, believes that acupuncture, while not particularly point specific, is instead electrical frequency specific. The aforementioned motor points are simply locations on the skin's surface that resemble electrical currents. The process of stimulating these points with electrically charged acupuncture can (when correctly executed) offer the same pain relief that small doses of morphine would. Evidence of this was seen in the 1950s when the Japanese used acupuncture as a substitute for anesthesia during a surgery.

Two years ago, Dr. Han conducted a study that compared the spinal fluids of 18 volunteers who had received electrically charged acupuncture. The results revealed that those volunteers who endured a higher level of hertz electricity per second produced more spinal fluid than did those who had received a lower level. Based on this study, the belief would be that the greater the amount of pain experienced, the greater the amount of electricity that should be applied. The reason for this is that past studies have shown that people who possess higher levels of spinal fluids also tend to have lower thresholds of pain.

Another kind of acupuncture that has gained some recognition is ear acupuncture. This type of acupuncture, which stimulates either one or many of the 168 points on the ear, is supposed to correspond with different organs and parts of the body. In 1972 Dr. Wen was the first to use this acupuncture method as a means of treating drug abuse.

It would seem that the main question that needs to be answered is whether or not acupuncture is a mythical process in which the yin and yang are brought to more of a harmony or if acupuncture is an actual physiological method that, through the use of electrical stimuli, causes the central nervous system to release pain-relieving neuropeptides.

Questions, Answers, and Comments

How do FDA regulations differ in terms of electric acupuncture methods and nonelectrical needle acupuncture? All the electrical simulators fall under the category of investigational, and none has been approved for use within common practice. While plain needle acupuncture also has been deemed investigational, there is not as much "red tape" to undergo in gaining FDA approval. The reason for this is that electrical stimulators for acupunctural reasons are treated with the same regulations as any other piece of electrical equipment.

Electrical application on the head, by way of either needles or pads, does not seem to be as effective an application as using the hand. It would seem that the medical field should agree on one method of application that is deemed most effective and then simply make dose modifications as needed from one patient to another.

IF12. Recovery With and Without Treatment

Moderator: David Nurco, D.S.W.
Speakers: Barry Brown, Ph.D.
David Mactas, M.A.
July 16, 10:15 a.m.-11:45 a.m.

Speaker: David Nurco, D.S.W.

This session focuses on the early manifestations of deviance, highlighting those behaviors that distinguish future narcotic addicts from other children and providing a better understanding of the background of addicted individuals.

The determination of the etiology of addiction has plagued the minds of researchers for many years. A recent University of Maryland study differed from past etiological studies in the types of control groups it employed. The three urban male samples used in this study were as follows: (1) an addict communitywide sample of 255 narcotic addicts, (2) peer controls—a group consisting of a matched sample of 147 never addicted individuals who were identified by the addicts as their associates at age 11, and (3) community controls—a group of 199 never addicted individuals who lived in the same neighborhood as the addicts at age 11 but did not associate with them. All participants in the study came from the Baltimore metropolitan area. Preliminary research for this study revealed age 11 as an age at which a process of selective association was operating already among peers who were destined to become narcotic addicts. In other words, potential addicts at that age demonstrated a strong disposition to associate with peers who also were likely to become narcotic addicts.

Results regarding this study's peer control group reveal valuable information on "survivors" who resist addiction despite immediate and early exposure to drugs and peers who later become addicted.

Prior to any analyses of the study samples, the researchers hypothesized that deviance rates would be higher among the addict-generated peer controls than among the community controls. The study compared the lifetime deviance rates among 11-year-old male associates of all study participants. In addition to narcotic addiction, the study inquired about the lifetime occurrence of the following: alcohol problems, heavy cocaine involvement or addiction, heavy barbiturate use or abuse, any other drug problems, and whether the individual obtained most of his income through criminal behavior. Any 11-year-old associate that possessed one or more of these characteristics was labeled "seriously deviant." The pattern of results for lifetime deviance almost mirrored the results obtained based on narcotics addiction alone. The 11-year-old associates of narcotics addicts, for example, were found to have higher rates of both serious lifetime deviance and future narcotics addiction than did associates of the two control group members. For 61 percent of the narcotic addicts, 31 percent of the peer controls, and 11 percent of the community controls, more than one-half of their associates exhibited serious deviance. To corroborate the self-reports, careful investigation into Maryland State police files revealed that 56.5 percent of the addict-generated peer controls were known criminal offenders, as compared to only 16.7 percent of the community-generated controls.

Subsequent data analyses focused on answering the following four questions: How are the three study groups different with regard to the proportion of older (age 12 and older) friends at age 11? Are the older friends of members of the three groups significantly different with regard to deviant behavior? Are the close friends of members of the three groups at age 11 significantly different in age? Are the close friends of members of the three groups significantly different with regard to deviance?

Findings indicated clear differences among the three groups with regard to the deviance of older and close friends. The deviance of both the close and older friends of the addicts was comparatively high. Among members of the peer control group, however, the closer friends exhibited higher rates of deviance than did the older friends. This finding was exactly the opposite among the community control group: The closer friends appeared less likely to be involved in deviant behavior than did their older friend counterparts. In addition, addicts were found to be more likely than members of the control groups to have older friends. These patterns were consistent among Caucasians and African-Americans.

Participants in this study also were asked whether they, together with friends with whom they spent the most time, had participated at age 11 one or more times in the following activities: drinking alcohol, using illicit drugs, and committing crime (from among 14 types, varying in levels of severity). Addicts consistently reported the highest amount of drug and criminal involvement at age 11, while community control group members demonstrated the least involvement in these behaviors. While both African-American and Caucasian peer control group members showed an intermediate level of involvement in deviant activities at age 11, the African-Americans in this group were closer to the African-American addicts than to the community controls in their levels of deviance. Caucasian members of the peer control group, however, were closer to the community controls in their levels of deviance.

Researchers for this study considered criminal activity, particularly serious crime, during early adolescence as a general indicator of precocity for deviance. Thus, it was expected that the prevalence and severity of precocious criminal behavior would be highest among the most deviant—the addicts—and lowest among the least deviant—the community controls. Differences in criminal involvement at age 11 were found among the three groups. Only 27 percent of the community control group participants—but 50 percent of the peer controls and 58 percent of the addicts—reported criminal involvement at age 11. These results were significant and consistent across race. Addicts were most likely and community controls were least likely to have been involved in crime at each level of severity. Among addicts, those who reported onset of first addiction at an earlier age also reported the most involvement in crime, whereas addicts who reported first addiction at a comparatively older age reported the least criminal involvement. Moreover, those youngest at first narcotic addiction were most likely to have participated in crime at a more serious level than

those who were older at first narcotic addiction.

Differences also were found among the three study groups in the amount and severity of criminal involvement between the ages of 12 and 14. Of the three groups, addicts demonstrated the greatest increase in participation and severity of criminal involvement during those years. These increases in criminal behavior occurred prior to narcotic addiction. Again, these findings were consistent across race. The data further suggested that individuals likely to become narcotics addicts, regardless of age of onset, may be identified by increases in criminal involvement at various levels of severity. Those individuals who engaged in the most serious forms of drug abuse also engaged in the most serious types of crime. Overall, three prominent characteristics associated with predisposition for serious deviancy are the early onset, persistence, and variety of antisocial behavior. Addicts were more likely than the control group participants to have displayed these characteristics as early as age 11. Many members of the community control group avoided criminal involvement in early adolescence despite living in a high-risk neighborhood due to some sort of protective factors. The nature of these protective factors will be explored in future papers.

Speaker: Barry Brown, Ph.D.

One of the most positive influences that is potentially lifesaving for any serious drug user is the decision to enter a drug abuse treatment program. However, two important issues to consider are the following: (1) the influences that are available to help drug addicts "kick the habit" without entering treatment and (2) if any of these influences exist, the ways in which they can be implemented into part of the drug abuse treatment effort. A recent Baltimore area study focused on people who exhibited decreased drug use to lower levels after being put on waiting lists to enter treatment programs. Surveys of these people revealed an underlying feeling that the ability to maintain low levels of drug use without the help of a treatment program would be difficult, if not impossible.

A Waldorf and Biernacki study made a thorough investigation of a large number of heroin users within the community. It was found that 101 area heroin users had given up their habits without the aid of any formal treatment program. The average length of use among these people was 5½ years. Further inquiry led to the discovery that 86 percent of these users had been off heroin for at least 3 years and 58 percent of them had not used heroin for as long as 5 years. Many key factors enabled the respondents to accomplish these commendable feats. First, a user had to separate himself/herself either physically or psychologically from the drug-using community. By doing this, he/she was able to distance himself/herself to the point that he/she could self-impose a new sense of identity. The people that proved to be the most successful in avoiding relapse were those who exchanged their drug-infested environments for new ones consisting of positive, prosocial role models. Basically, these people had to establish new identities for themselves. Apparently one of three general characteristics were needed to establish a new identity: (1) the ability to repossess or regain a previous identity (i.e., an identity that had existed prior to a user's involvement in drugs), (2) the ability to seek out and take hold of the positive identity that has been present somewhere in a user's psyche throughout his/her involvement in drugs, and (3) the ability to develop a whole new identity.

There is also a great importance in positively organizing a user's leisure time in order not to allow the relapse temptation to be so significant. Future programs should place more emphasis on the support of the user by the family unit. Family strengths and weaknesses should be employed in treatment, pinpointing both individual members and the entire unit. So too should there be more emphasis placed on the positive variables present in every community. A few examples of these would be athletic and social clubs and events, positive working organizations, and church groups. Finally, as in basically every field of treatment, there is an imperative need for increased research efforts.

Speaker: David Mactas, M.A.

A 1990 book published by the National Academy of Sciences' Institute of Medicine (IOM) entitled *Treating Drug Problems* references recovery in the absence of treatment. However, the IOM committee that produced this book concluded that drug treatment is justified and appropriate for an individual if clinical signs of dependence or chronic abuse is evident.

The therapeutic community emphasizes that ultimately recovery and self-recovery are one and the same—that is, the client, not the treatment, is the more significant variable. Staff at therapeutic communities maintain an environment conducive to recovery, but clients themselves are responsible for recovery. George DeLeon and Nancy Jainchill released a paper in 1986 that studied and stressed the importance of certain treatment variants (e.g., circumstance motivation, readiness, and suitability of treatment) for users' abilities to recover. This work is relevant to therapeutic communities, which generally view treatment in terms of stages. The paper emphasizes the role of the drug abuser in treatment. For instance, people entering a therapeutic community for a second time attribute their success to a feeling of readiness in terms of wanting to recover from their addictions. These people tend to have better outcomes and retention rates as compared to addicts attending treatment for the first time. One reason for this is the fact that the second-time-around clients have more opportunity to help in creating their specific treatment program focus and tools.

Dr. Barry Sugarman, who now runs the graduate program for management of chemical dependency programs for Lesley College in Cambridge, Massachusetts, conducted a study for Marathon, Inc., in 1976 that compared the followup outcomes of people who attended a therapeutic community for 12 months but did not successfully complete the program with people who stayed in treatment an average of 26 months and graduated. On virtually every level of measurement (e.g., drug abuse and criminality), no significant differences in success rates existed between the two groups. As a result of these findings, the 26-month program studied by Dr. Sugarman was modified to incorporate a new 12-month regimen.

Two other projects are worthy of mention. First, the National AIDS Demonstration Research (NADR) program, consisting of NIDA-funded AIDS outreach demonstration grants, was established in order to advance the AIDS outreach education efforts within the community and help prevent/minimize high-risk behavior. Marathon's NADR project resulted in a significant reduction in drug use, primarily injection drug use. Another study, which Marathon began in 1989, is called Project Impact. The basis of this study is to determine the correlation between lengths of stay in treatment and the patients' outcomes when considering the various problems being addressed. Project Impact is examining four treatment models: both the 3-month and 6-month residential relapse prevention programs operated by Spectrum and the 6-month and 12-month treatment terms of Marathon's traditional therapeutic community. Study participants are randomly assigned into one of these four treatment models. (Researchers do not view the absence of a control group receiving no treatment as a hindrance to the integrity of this study. Ninety percent of participants in the Marathon program—regardless of successful completion of treatment—continue their engagement in the study.)

One common misconception is the belief that reuse and relapse are synonymous terms. Occasional reuse on the part of a recovering drug addict should not be viewed necessarily as a lack of success on the client's part but, instead, as a simple setback. An occasional setback does not mean failure; it may suggest that more preventive measures may be needed. Too much emphasis is placed on striving for perfection.

Questions, Answers, and Comments

Comment: The capacity to mobilize community resources varies considerably across communities. It deserves more attention than it has received in the past for its role in helping individuals remain drug free after they leave drug abuse treatment. The relapse prevention movement is very exciting in this regard. Relapse prevention involves to a large extent behavioral skills training within treatment programs, not merely as a part of aftercare. Mobilization of community resources is very important for the prevention of relapse or reuse of drugs.

In the study with addicts and their peers from age 11, why was age 11 chosen as the focus for the research? Researchers considered age 11 the cusp of adolescence, when the pertinent behavior would begin to be demonstrated. Additional studies probably should focus on age 5 or 6, when children are beginning school, to look for early manifestation of aberrant behavior. In a few studies that already have been done, teachers of kindergartners and first graders demonstrated an ability to make distinctions, based on aggressive behavior, regarding children who are likely to display dysfunctional behavior, such as drug use. Thus, some people have argued

for the establishment of programs for at-risk children at this age.

To what extent does gender have to do with the shift toward criminality and other deviant behavior? Women, on average, only make up about 25 percent of the addict population. At the Marathon program, women generally stay in treatment longer than men, but the percentage of women who actually complete their respective programs is much lower than that of men.

Do heroin "chippers" (i.e., nonaddicted, casual users) need treatment? The IOM in the 1990 report says that, unless an individual demonstrates chronic abuse, the IOM would not make a categorical statement about his/her need for treatment. Treatment should not necessarily be determined according to the frequency of use but, instead, by the effects that the use has on the user's everyday life.

Comment: The issue of readiness for treatment must be handled carefully. Who has the responsibility for a client's readiness for treatment? It is a part of treatment and therefore is the program's responsibility. Programs should not have the attitude that the client bears the responsibility for becoming prepared for treatment.

Comment: An important question is the following: Do some people outgrow their pathologies, manifested in addiction? One study that bears on this question involved different types of drug users. Those individuals who were addicted less than 25 percent of the time during a 10-year period since onset of addiction were able to grow out of their addiction due to various circumstances. The support system around them apparently gave them the opportunity to leave their deviant subculture and become more productive.

IF13. Patient Placement and Treatment Outcome

Moderator: Dorynne Czechowicz, M.D.
Speakers: Norman Hoffman, Ph.D.
Charlene Lewis, Ph.D.
A. Thomas McLellan, Ph.D.
July 17, 8:15 a.m.-9:45 a.m.

Speaker: Norman Hoffman, Ph.D.

The most imperative aspects to keep in mind when considering patient-to-treatment matching are not only applying viable treatments to different problems but also determining each patient's correct length of stay. Unfortunately, the continuum of care is a commonly overlooked treatment issue throughout the treatment field. Currently, a CATOR (Chemical Abuse/Addiction Treatment Outcome Registry) history form has been completed by more than 20,000 participants and systematically stored into a risk index. The risk index only records information pertaining to people's various addictions. Future advances in interview and recording techniques should expose a greater diversity of patient characteristics, such as resistance to care/treatment, keys to motivation, and denial within a psychosocial environment.

According to the Substance Use Disorder Diagnostic Schedule (SUDDS), the primary diagnostic indicators of drug and alcohol abuse include blackouts, getting into trouble when drinking or using drugs, excessive use of substances, job problems, neglect of responsibilities, morning drinking, objections by a doctor, use despite an illness, emotional problems, and interpersonal conflicts (e.g., marital problems). A review of the more than 20,000 CATOR survey participants revealed that the inpatients appeared to suffer from more of these diagnostic indicators than did their outpatient counterparts due to the fact that high-range severity patients tend not to participate in outpatient programs.

The issue of a continuum of care needs to receive higher levels of concern. Alcohol and drug problems should be considered chronic illnesses as opposed to acute illnesses. If this were a universal belief among all drug and alcohol treatment counselors, then the concept of aftercare as we know it now would become obsolete. Aftercare would no longer be necessary because treatment would be ongoing, much as it is for cancer or any other chronic disease. Studies have found that people suffering from serious alcohol problems who received continuum care tended to be just as successful in terms of recovery rates as those suffering from minor alcohol problems who did not receive continuum care. The following findings were documented regarding the recovery rates of people who received continuum care: (1) 1 to 2 months of continuum care did not reveal any advantage over the people who did not receive continuum care; (2) 3 to 5 months of continuum care showed substantial improvements for people who received it; and (3) 6 or more months of continuum care marked the greatest level of improvement for those who received it, and these people proved to have

much higher rates of recovery than those who did not receive continuum care.

It is imperative that treatment counselors keep in mind the vast amount of diagnostic indicators to drug and alcohol abuse, so that patient-to-treatment matching can be as accurate as possible. However, in this discussion, projections of medical comorbidity are not addressed.

Speaker: Charlene Lewis, Ph.D.

CSAT and the Department of Labor (DOL) are cosponsoring a project through DOL's Job Corps, an education and employment training program that builds vocational skills among disadvantaged youth. However, many of these youth disrupt their education and employment training through drug use when they leave the Job Corps campuses on weekends. Through Job Corps, CSAT and DOL have set up a demonstration project at eight national sites. In each major region of the country, two Job Corps sites were selected—one for the demonstration program and one for the standard Job Corps program. The student population is similar at each of a matched pair of sites. The main objective of the demonstration program is to determine the effect of a continuum of comprehensive care on students' rates of job training and GED (general equivalency diploma) course completion. At each experimental center, comprehensive care is provided by a team of at least five staff members, including a substance abuse specialist, an activities specialist to promote drug-free recreation, a life skills training teacher, an assessment worker, and a data entry specialist to enter the information collected in client interviews. This team assists the students with taking full advantage of what the Job Corps offers.

Just over one-half of the youth entering the Job Corps programs report having used drugs on more than an experimental basis, with one-fourth testing positive for drugs on the day they enter Job Corps. The drugs used most prevalently include primarily alcohol, marijuana, and tobacco; however, substantial levels of cocaine, hallucinogens (mainly LSD), and methamphetamines also are being used by the student population. One-third of the students already have been arrested for some kind of criminal activity, 17 percent sell drugs, and 12 percent belong to gangs. Furthermore, about 8 percent have been sexually abused, although this is a conservative estimate. Some social indicators that seem to relate to the development of these statistics include the following: whether the student comes from a single-parent household, whether the student has ever run away from home, whether the student's parents have ever kicked the student out of the house, and whether the student was placed outside of the home by the courts.

Considering these indicators, the Job Corps students who use drugs were found to be three times worse off than either the students who just use alcohol or who use neither substance.

When assessment determines that a student needs comprehensive support from the Job Corps treatment program, the staff decide the student's needs and the resources available to meet them. The student then meets with the substance abuse specialist and is asked to sign a behavioral contract, ensuring that the student attend, at minimum, four basic drug education sessions and four to six group counseling sessions, as well as undergo urinalysis for at least the first 6 weeks that he/she is at the Job Corps center. Each student participates in a wide range of activities provided through the continuum of care. Few students have dropped out of this demonstration program. In fact, it is encouraging that students who are required to be in the enhanced treatment program now are staying with the Job Corps as long as students in the standard program. Thus far, about 125 students have stayed in the treatment program for 6 months.

Students who drop out of the Job Corps program generally are under 18 years of age, have been suspended from school, have children, and have tested positive for drug use in the last month. Job Corps is trying to address these factors in different ways, such as providing day care.

Speaker: A. Thomas McLellan, Ph.D.

Several important questions regarding patient-to-treatment matching were raised as a precursor to this discussion: What problems do people bring to treatment versus what services are offered within the treatment facilities? Is there any common patient information that can be used as a predictor to determine the type of treatment needed for each individual? Do predictors vary between inpatient and outpatient settings, and if so, is a detailed evaluation of the services provided within these vastly different settings needed?

A number of predictors of success level hold true for both the adult inpatient and outpatient participants. These include psychiatric problems, addiction severity, employment problems, and family problems. A recent study by Arthur Alterman discovered better inpatient completion rates for alcohol-dependent male veterans who were assigned randomly to inpatient and outpatient detoxification units. Two other studies, focusing on rehabilitation, also were conducted. One study, a 28-day inpatient program, offered group and individual therapy for alcohol-dependent individuals. The second study, a 37-hour-per-week outpatient program, also offered group and individual therapy for alcohol-dependent individuals. It was found that there were no real differences between the success rates for people treated through inpatient and outpatient programs. The reason for this is that virtually identical services were offered within each program. Another look at four randomly selected, private inpatient and outpatient programs revealed that the following services almost exactly mirrored the ones offered in public programs: medical, employment, alcohol, drug, legal, family, and psychiatric.

With the exception of 10 occasions, the amount of medical services offered in inpatient care as opposed to outpatient care in both the public and private sectors was virtually equal. This leads to the conclusion that it does not really matter where a client goes for treatment, it is what he/she is getting while there.

Questions, Answers, and Comments

Comment: In the last few years, the overall recovery rate has been decreasing among privately funded programs.

With unlimited resources, where should efforts be centered (e.g., on family, psychiatric, or employment issues)? According to data, severe psychiatric problems are the worst problems because they seem to relate to problems in other areas. The next important area to address is employment. With jobs, many people might find it easier to recover. Programs generally should be full-service programs, evaluating all of the clients' needs and ensuring that those needs are met somehow. This is an expensive venture, as evidenced by the Job Corps program.

Are any data available on the types of youth who apply for Job Corps, in terms of those who are coming out of treatment compared with youth who have never had drug or alcohol problems? Job Corps has a zero-tolerance policy for drug and alcohol use. Because addiction is a chronic relapsing disorder, it has been difficult to have youth in Job Corps who have drug problems. Job Corps is beginning to try to adapt to this problem—for instance, through the ongoing demonstration project. Interview-based data pertaining to this subject are available but have not yet been analyzed. In general, however, about 10 percent of incoming Job Corps youth have been in some form of drug treatment.

While it is expensive to operate programs like Job Corps, it can be more expensive to society not to offer such programs. Are any studies currently tracking the cost-effectiveness of programs with these added services? Many such studies have been conducted. For instance, one study is focusing on a condition called alcoholic cardiomyopathy—which, if undetected, leads to many serious and expensive complications. When this condition is detected early, it leads to dramatic financial savings. With adolescents, financial savings usually occur in the school and legal systems, neither of which tend to fund treatment. Thus, the payback occurs in areas where the money is not actually spent to provide comprehensive services.

Comment: The tolerance of the next generation of youth for alcohol use is much higher than it is for cocaine, marijuana, or methamphetamines use. It is much more socially acceptable. This circumstance should be studied further.

IF14. Juvenile Justice

Moderator: Michael Backenheimer, Ph.D.
Speakers: Richard Dembo, Ph.D.
Jim Inciardi, Ph.D.
Dorothy Lockwood, Ph.D.
July 17, 8:15 a.m.-9:45 a.m.

Speaker: Jim Inciardi, Ph.D.

In order to be included in this study, participants had to have been regular drug users who had used at least one illegal drug daily for the past 90 days prior to being interviewed. In addition, the participants had to have been involved in at least 12 Federal Bureau of Investigation Part I crimes in the year prior to the interview. Part I crimes include homicide, aggravated assault, automobile theft, forcible rape, and arson. If the

user did not fit the aforementioned description, then he/she had to have committed at least 100 other lesser offenses within the year, such as prostitution or drug sales. Thus, the most serious juvenile offenders were assessed in this study.

Speaker: Dorothy Lockwood, Ph.D.

Research from this study provided data to examine many of the factors involved with delinquency as they pertained to drug use among the most seriously delinquent youth. Another research topic that can be explored within this data set is the difference between youth who have and have not been involved in criminal violence. Unfortunately, the existing juvenile delinquency theories fail to provide a framework from which to measure criminal violence as it relates to youth who have and have not been involved in criminal activity because the theories do not differentiate between various types of crimes. Violent crimes are different than nonviolent crimes; therefore, both should be viewed separately in order to delineate differences. Although the juvenile delinquency theories have not provided the necessary framework, a great deal of research has been performed on youth who have been involved in criminal violence.

For purposes of this study, the correlates of criminal violence among juveniles fall under four categories. The first correlate concerns the demographics of the child, which include gender, ethnicity, and age. The second correlate addresses the living situation and/or the family situation of the child, since research indicates, for example, that the frequency of family arguments and the number of people living in the household contribute to the likelihood of criminal violence among juveniles. The third correlate assesses the social networks of the child, including his/her peers and friends. The last correlate determines whether the child has been involved in any previous delinquent behavior, such as drug use or other criminal history.

The research suggests that different correlates exist for males and for females who are involved in criminal violence. A greater number of men than women participated in the study. In order to reduce the probability that variables significant to the females would be lost when included with the disproportionate number of males, the results of the study were divided by gender in order to differentiate between the two. The most significant correlates that determined the likelihood that males would commit criminal violence were the following factors: ethnicity, peer relationships, and drug use. Insignificant factors influencing males included living situation (i.e., whether they were living with their families), household income, age at which delinquency began, and participation in the drug business. The most significant correlates that influenced the likelihood that females would commit criminal violence were the following factors: living situation and the age at which their delinquency began.

These results open the door for discussion on the topic of what this information means for practitioners, juvenile corrections officers, and those involved with youth and their treatment environment. The kind of data gathered for this type of study (i.e., data gathered from a street population) brings to question some of our traditional models of dealing with children. The "parens patria" model, which aims to rehabilitate and/or cure children, may be very antiquated for this group of children because this model depends on benign authorities (e.g., schools and families) to help redirect the youth. In many cases, the youth have been expelled from their schools and/or their families, so this model typically proves to be ineffective. In fact, to rely upon these institutions would be unfair to both the youth and the institutions. On the other hand, the purely punitive response from the juvenile justice system would prove to be similarly ineffective. These institutions provide minimal treatment, and they may even create a more harmful situation for the youth in that some of their delinquent peer relationships may be strengthened.

Likewise, the family preservation model of child welfare, in which the primary goal is to keep the child in the family, is evidently ineffective also. Within this sample, 12.8 percent of the youth reported no longer living with their families. Many relied upon drug sales or prostitution to support themselves. Due to these living situations and the fact that these youth are on their own without the necessary skills to integrate successfully into the workforce, policymakers should attempt to include a provision of marketable skills for youth when developing programs. Rather than concentrating all of their efforts on trying to reunify the families, policymakers should attempt to provide the offenders with the opportunity to begin some prosocial employment. Finally, the rehabilitation

model of drug abuse treatment, which is based on the concept of teaching clients to use appropriate skills and behaviors (with an assumption that they already have learned these), also may be ineffective if the clients have not learned the appropriate skills and behaviors.

Within these analyses there are several other important findings relevant to policymakers and service providers. The primary finding from the study is that a difference exists between the variables that are correlated with criminal violence for the females from those of the males. This has to be taken into account when developing future programs. Many of the females were living outside of the home, and some of their violent acts may be attributed to the fact that they were involved in prostitution or drug sales in order to support themselves. Therefore, in some of these instances, their violent acts may have been committed in self-defense. Among the male population, the primary correlate influencing their likelihood toward criminal activity concerned their relationships with their peers. Consequently, future studies should examine the association between peer relationships, drug use, and violent behavior.

Speaker: Richard Dembo, Ph.D.

In this session, a model of one community treatment agency was used as an example of how to address funding issues, experiences in establishing a similar facility, youth processing procedures, and research activities. The program is an outcome development of a community consensus taking place in Tampa, Florida, for about 6 years, of which the primary aim is to educate the community and to drive more resources. Since various agencies have come to the understanding that a spirit of collaboration has to be developed, information sharing has become a top priority in order to meet future goals.

The facility in Tampa holds a maximum of 20 beds. The program is a 24-hour-per-day, 7-day-per-week detoxification facility for youth undergoing withdrawal, and it is staffed by nurses with medical, psychiatric, and psychological backgrounds. On average, youth remain in the facility for 3 to 4 weeks. There are four holding cells in the basement, but they are seldom used. The top floor of the facility is divided into two components: One is a secure area for youngsters arrested on delinquency charges, and the other is a nonsecure area where a variety of other categories of youth, primarily truants, are located. All youth picked up on a given day in the area for truancy are brought to the program. Youth are assessed with parental consent. Upon admission to the facility, the youth undergo a three-part, comprehensive information process that includes a preliminary screening, an indepth assessment, and a referral outcome measure.

Delinquent arrestees are brought to the facility as well, which is notified beforehand through the control room's onsite computer contact with the State attorney's office, the Florida Department of Health and Rehabilitative Services' (HRS') central information system, and the educational computer to access the school system. Herein, it is evident that information sharing is beginning to pay off. As a result of networking, legislative changes often occur as problems arise. For every youth who is brought into the facility, the Florida Department of HRS delinquency intake unit provides an abuse and delinquency history of the youth.

A typical case scenario runs as follows. A police officer calls the control room and informs officials that an arrested youth is being brought into the facility. The youth is then brought up to the locked facility where the arresting officer registers him/her and assigns the arrestee an event number. The screening process is completed in about 2 hours. If the youth meets the detention criteria, he/she then is driven to the detention center. Within 24 hours, the youth appears in court, and the judge decides whether to release the youth or keep him/her in detention. Usually the youth sits in detention for 21 days while the juvenile court decides what to do with the youth's case. Once the youth is assigned to the detention center, he/she is assigned an HRS case manager who represents the youth's interests in court. If the youth does not meet qualifications for the detention center, the parents are called to come pick up the youth.

When the arrested youth is brought into the facility, the computer system provides access to both his/her police department and educational records. Within a short period of time, the youth's delinquency history is matched with the juvenile assessment center register number assigned to the arrested youth. Immediately the State's attorney is notified that the youth has been arrested and is in custody. Subsequently, a breathalizer test and drug tests are administered (due to the

fact that there has been some concern expressed about civil liberty violations, administration of drug tests has been suspended indefinitely even though there is a State of Florida legislative mandate that requires all arrested youth to be tested).

The first step in the process is to determine the immediate placement of the arrested youth. In doing so, there are three possibilities: The youth either could be (1) sent to the detention center, (2) released on a nonsecure home detention/home arrest, or (3) released to a parent or guardian. The second step in the process is an indepth assessment of the youth. The purpose of this assessment is to determine whether or not the arrested youth could be a potential problem in the facility. Factors such as previous delinquency and past drug use help determine the potentially problematic youth, and these youth undergo further assessments. Last is the referral of outcome measure, which is compiled to document the child's delinquency history and is sent to the manager at HRS. When complete, the client's episode history goes to the agency worker, and as the youth moves through the system, his/her paperwork follows.

This innovative community treatment agency has been quite effective thus far and promises, with future developments, to become even more so in the future.

Questions, Answers, and Comments

Are these data from the Florida community treatment agency online with the Florida system? No. Currently, the information system created within the program is used only for self-stored information. A committee has been established to look at relevant statutes and decide which agencies should have access to which sectors of data and for what purposes. Appropriate protection of the youth and their confidentiality rights are being upheld. Dr. Dembo explained that he is very interested in clinical access to the data and the use of data in a way that will respond to the needs of the youth without creating additional impediments to the youth's safety. He explained that their aim is to put together a subcommittee in order to ensure the proper identification and interpretation of the statutes, with appropriate legal opinions and interpretations consonant with the protection of the youth's interests.

Are there official arrest rates that document the ratio of women arrested compared to men? Concern was expressed in regard to male youth being introduced to rehabilitation more often than female youth because the males are being arrested more often. Since females are not arrested as frequently, they tend not to be introduced to the rehabilitation resources offered to those who are arrested, and thus the females may be missing out on available treatment. Future development must make resources available to the females who are in need.

Comment: Although no association was found between participation in the drug business and violence, there was a very strong relationship between drug use and participation in the drug business, particularly with the use of crack-cocaine. The people involved in the crack-cocaine business tend to be among the most deviant of criminals; therefore, the drug attracts some of the most difficult youth.

Comment: The Florida agency tries to match youth with other agencies that can meet at least some of their specific needs. The bottom line of the program is not data collection but the connection of youth with needed services. The spirit of cooperation among State agencies and other agencies and programs has been exemplary.

Comment: The Florida program has not yet implemented urine testing due to questions of informed consent and whether parental approval is needed. However, Florida has mandated that all youth arrestees be assessed for, among other things, substance abuse.

Comment: Miami's violent crime rate has been declining since 1979, whereas this rate appears to be increasing in many other cities. Also, gangs don't seem as prevalent. In general, gang involvement in drug trafficking is related to how tightly controlled trafficking is in the community as a whole. Because in Miami the Colombian cartel controls drug trafficking, youth stay out of it for the most part (except for the trafficking of crack-cocaine).

IF15. Evaluation Results To Improve Program Functioning

Moderator: Barry Brown, Ph.D.
Speakers: Arthur MacNeill Horton, Jr., Ed.D.
Gerald Soucy, Ph.D.
Roger Straw, Ph.D.
July 16, 8:30 a.m.-10:00 a.m.

Speaker: Gerald Soucy, Ph.D.

In the future, if program officials are to perform their jobs effectively, they will need to receive information about how successfully and with whom the programs are achieving their objectives. The first step in evaluation is to define the questions that need to be answered. The quality of these questions plays a vital role in the quality of the evaluation. The questions, in turn, have implications for the design, data to be sought, and resources that will be needed when undertaking the evaluation.

Several generic themes underlie the development of evaluation questions. The first theme concerns the content of the program and addresses the exact nature of what the program is doing. The second theme ascertains whether the program is operating as intended. The third theme examines the measures of program outcomes—that is, what the program is achieving. The last theme pertains to more sophisticated evaluations, including financial or cost components, and whether services are being delivered as efficiently as possible (i.e., with cost-effectiveness). For agencies that are not tied into comprehensive management information systems, questions pertaining to cost are usually beyond the resources and the technical expertise of the program trying to undertake the evaluation. Agencies without technical expertise in the area of cost-benefit analysis should stay away from such analyses with the exception of providing budget summaries.

The evaluation questions need to be developed specific to the program's functioning. To aid in this development, a basic framework describing the program's mission statement, goals, and objectives should be drafted. This framework is useful in many ways. For instance, if a person were to provide the program's evaluation results, explaining that the results demonstrate the program's effectiveness, a technical expert might ask about the program's mission statement, goals, and objectives in order to determine whether the program's results are commensurate to the goals set forth in the mission statement. Therefore, the framework that defines the program's overall intentions is useful in providing a general context for the program and can be referred to throughout the project's history.

The aforementioned framework should organize and define program goals in such a way that, upon examining the evaluation report, one can easily review whether the intended goals met with the end results. Although program goals and objectives sometimes change over time, the documentation of the program's original intentions serves the purpose of tracking the program's direction and makes programmatic changes all the more obvious.

The terms "process outcome" and "formative outcome" refer to those evaluation questions focused on effort and effectiveness, respectively. Effort questions examine whether a program is concentrating its efforts on the targeted client population and the types of activities or services that the program is providing to that population. These questions are designed to look at the process or operation of the program by examining the services being provided, the persons to whom services are being provided, and the amount of services being provided. Effort questions include everything that a program is doing. Outcome evaluation questions are known as effectiveness questions. For instance, if there is a job employment component to a program, a question could inquire as to the percentage of clients who did something or the impact that a certain variable had upon client functioning. Efficiency questions can extend the information obtained through outcome evaluation by incorporating issues of service costs.

The first step in designing evaluation questions is to write out a rough draft of questions to be addressed and determine whether each question is consistent with the program's mission statement and goals. If the two do not overlap, either the mission statement should be reviewed and appropriately modified (because it is possible that the program has changed) or alternative evaluation questions should be considered. If the two are consonant, one should determine whether the question has an effort, effectiveness, or efficiency focus. If a question is a compound one, it should be broken into simple, single questions and examined to determine whether any comparisons exist that are worth mentioning. These compari-

sons can either be across groups or across time.

In summary, one should always define comparison questions and revise all questions as needed. If one lacks technical expertise and is just beginning to undertake an evaluation, then it is best to keep the evaluation simple. Second, one should use available resources and ask for feedback. In terms of refining questions, it is also important to involve staff and gatekeepers, since the program's goals and objectives may change over time. Finally, one should involve other important people in the process, including board members and anyone else who might provide useful input.

Speaker: Roger Straw, Ph.D.

A frequently asked question in regard to the evaluation of program outcomes is as follows: How does one go about changing a treatment program in order to make improvements? The term "outcomes" is used here in its broadest sense. Frequently funders tend to ask whether people stay drug free. A more important concern may be how to keep people in treatment.

When a change in outcome appears to have occurred in a given program, the next step is to determine the exact variable that caused the change. This line of inquiry should address whether something changed as the result of a single, measurable variable or whether another equally plausible reason could account for the change. The last questions that evaluators should address are whether the program was worth it and whether it is possible to produce similar results for less money. When evaluators talk about these kinds of questions, they are suggesting causal relationships. In order to feel confident that a causal relationship exists, three things need to be done. First, whatever it is that one thinks caused the change must be seen as consistently preceding that change. Next, a clear statistical relationship must be found between the presumed cause and the effect. Last, one must consider whether the change in outcome could be the consequence of another equally plausible variable or set of factors.

When using evaluations to improve programs, evaluators should keep the evaluation simple and should approach program improvement in terms of problemsolving. In addition, all variables should be capable of being examined separately in order to determine the exact cause of any change that appears to have occurred. Furthermore, evaluators should approach program improvement systematically, in much the same way as they approached the program's original development.

Before making changes, there must be a reasonable measurement of how well the program is doing already. Program evaluators must then decide what needs to be altered in order to accomplish the desired change in outcome. Next, one must determine the level of certainty necessary to determine the variable responsible for creating the change. Finally, the program must be given enough time to mature and for the staff to develop the necessary skills to make all of this possible.

Speaker: Arthur MacNeill Horton, Jr., Ed.D

Guidelines are helpful for selecting evaluation consultants. First, consultants' attire should be neither slovenly nor overly dressed, for this may be seen as a reflection of their work. Next, by researching previously published work of the prospective consultants, a clearer picture emerges as to the company's capabilities. In addition, the consultants should be aware of statistical packages, such as SAS (Statistical Analysis System) and BMS programming, and should be able to provide the names of at least five satisfied customers. In summary, consultants are chosen for their brains and not their beauty.

Some necessary resources exist for conducting evaluations. In regard to providing feedback to program staff, clinical staff should be involved whenever possible. Since they are the ones being evaluated, their input is crucial in order to construct the most effective delivery of services. Also, there should be a record of findings and implications, and all that is learned must be made available. In addition, since suggestions are being made in order to improve the means by which services are to be delivered, precautions should be taken to ensure that the programmatic changes be presented in a nonjudgmental fashion, cognizant of the fact that the people currently involved in the program may feel defensive about any program alterations—especially in programs that already are operating smoothly.

Questions, Answers, and Comments

Often in the community setting, the incremental approach will not work. For example, in order to apply for a particular grant from the

Federal Government to serve a particular population, several components will need to be added to the existing program. In these situations, an evaluation must be designed that is specific to the program that is being put into place and the requirements of the funding agency. Program improvement, as opposed to grant development, should be an incremental process.

Generally, when should the evaluator be brought in? It rarely benefits the program's development to bring in an evaluator on a post-hoc basis. It would be similarly ineffective to bring in an evaluator too early—that is, before the program has had enough time to grow to maturation.

One recommendation was that available resources be used. Please specify. In terms of available resources, involve the academic community whenever possible. Use the resources found within the universities. Enlist prospective doctoral students who are looking for dissertation topics. Be sure to formulate the question to be answered and set up the ground rules so that the hired consultants work for the person who hired them and perform the work they are hired to do.

How should a portion of the community be involved that has voiced the opinion that it does not want to be involved in the evaluation process? First, determine whether this portion of the community is an integral part of the study. If it is, there may be a misconception of what the evaluation is doing. Consequently, meet often and at length to explain the evaluation more clearly. Work at befriending the community; likely you need its assistance more than it needs yours.

What should be done if the community is too involved and continually asks whether it is getting enough out of its evaluation? An overactive community, wanting more "bang for the buck," must be convinced that it is being served well and shown the positive impact that is being created. Demonstrate that you are providing information to the community that will move it in the direction in which it wants to move. Often this is all it takes.

What can be done in terms of building controls into the sampling design with regard to the methodology in order to guarantee that one does not engage in a type of "creaming" in order to satisfy the needs of the agency that is being evaluated? This question presumes external pressures that would drive the program to "cream" in order to appear successful. Sampling strategies exist to reduce bias in the selection of clients for an evaluation study; however, it will be important to make certain that the evaluation is seen as being on the side of program improvement rather than a monitoring function involving penalties for "inadequate" performance.

IF16. Treatment and Prevention in Rural Settings

Moderator: Elizabeth Steel, M.S.W.
Speakers: Jean Carney, M.P.A.
Virginia McCoy, Ph.D.
Martha Rueter, Ph.D.
July 16, 2:30 p.m.-4:00 p.m.

Speaker: Jean Carney, M.P.A.

A demonstration project conducted in 1989 focused on the treatment and prevention needs of many rural settings in western Tennessee. It was found that the two main barriers facing these communities were the small amounts of resources that they could provide themselves and the large distances they needed to travel in order to obtain resources from neighboring treatment providers. In an attempt to deal with these problems, a 32-foot mobile unit was created that held up to 20 people and was able to spread needed information to distant treatment facilities and clients. Despite the fact that it also had the ability to network all of the area treatment facilities through the use of satellite communication, this unit did not work. The practice of gathering information through the process of surveying people was implemented. A simple knowledge and belief survey revealed that people were generally in denial of any problem.

In addition to the issue of client denial, one of the main problems now facing the treatment field is the lack of an adequate number of available beds within the majority of the treatment facilities. Even though the aforementioned mobile unit still is used as a tool for spreading both information and minimal treatment, the problem of limited resources is still one of the main restraints hindering the advancement of the rural communities' treatment facilities. Community participation and survey efforts have determined that alcohol is the drug of choice within the rural areas, but crack-cocaine used in conjunction with alcohol is on the rise.

Speaker: Virginia McCoy, Ph.D.

A recent University of Miami feasibility study devoted 6 months to investigating drug-using networks within the town of Amocalee, Florida. This study especially focused on high-risk behavior in terms of HIV transmission. Of the 150 people interviewed in this study, 122 of them were found to be drug users. In addition, 68 percent of the 122 drug users were either migrant workers or the sex partners of migrant workers. In order to obtain the most accurate information concerning the transmission rates of the migrant farm worker population, followup practices and base intervention methods were applied to the various findings. Some of the ethnic, gender, and age makeups of the survey sample were as follows: 25 percent were female, 26 percent were Caucasian or Hispanic, 73 percent were African-American, and 38 percent were under age 25.

One additional noteworthy statistic surrounding this survey sample was the fact that 16 percent of the survey population tested HIV positive. This percentage, which is higher than similar studies, can be attributed to the fact that cocaine and intravenous drug users were mainly cited. Crack-cocaine users, who were also a very visible part of the survey population, are one of the highest risk HIV transmission groups known. As well as the hardcore illicit drug use, alcohol and marijuana also were used very widely by the survey population.

There were two main intervention test programs within this particular study. The first was a NIDA Standard Intervention program that offered HIV testing in addition to tuberculosis and hepatitis checks. The issues of needle-cleaning and condom use also were addressed as methods for reducing high-risk behavior. Secondly, a 2-hour session on HIV transmission taught personalized risk reduction techniques.

Despite some minor community resistance on the part of conservative groups concerning the discussions on drug use, prostitution, and AIDS, the program seemed to be widely accepted. The best recommendation seems to be to continue to expand the study to cover the entire eastern migration "stream" from Michigan to Florida. In order to do this, however, additional State and Federal funding would be needed.

Speaker: Martha Rueter, Ph.D.

The Iowa Center for Family Research in Rural Mental Health conducted some research into the predictors to drug abuse among rural families. Upon completion of this research, it was felt that prevention, through the process of focusing on the adolescent population, was still the key. Alcohol proved to be the biggest problem throughout the rural communities. Over 30 percent of the children surveyed admitted to drinking alcohol before they were in the seventh grade. It was determined that the following three factors were the main causes of this unfortunate statistic: (1) economic stress, (2) drinking by other members of the family, and (3) parenting behaviors.

An indepth study into adolescent alcohol use was conducted by the Iowa Youth and Families Project. Four hundred and fifty-one rural Iowa families were surveyed for this study. The only prerequisite for participation in the study was that each family had to consist of four specific members: (1) two biological parents, (2) one seventh-grade adolescent, and (3) one sibling within 4 years (older or younger) of the seventh grader.

Many interesting findings spawned from the careful review of the information provided by the various families. Harsh and inconsistent punishing or parenting methods caused youth to be more likely to drink by the time they were in the seventh grade as compared to youth brought up in positive, nurturing parenting environments. Mothers who were drinkers were harsher parents than fathers who were drinkers. However, men who married women that drank were less likely to be nurturing fathers. In the event that the older child used alcohol, the younger child had a greater chance of drinking before he or she was in seventh grade than did a child whose sibling did not use alcohol. Children living in economically unstable environments tended to have higher preseventh-grade drinking rates than did their economically secure counterparts. There are three main keys that programs should focus on when attempting to prevent and treat adolescent alcohol use: (1) effective parenting, (2) economic pressure, and (3) drinking by other family members.

Questions, Answers, and Comments

How long did it take for people to both accept and utilize the many services offered by the mobile treatment unit? About 2 years (from

1989 to 1991). This was due to the vast diversities found within the many communities.

Were the surveyed migrant workers actually using crack-cocaine, and if so, how did this affect their individual job performance? Yes, a large portion of the people surveyed actually were using crack-cocaine. These people generally were able to maintain their difficult work schedules despite their predominant drug use.

Is the parental training that was referred to culturally specific or do the same rules apply to African-Americans, Caucasian, and Hispanics? In rural Iowa, the studies generally have focused on Caucasian lower middle-class children, but as the work gradually shifts to the Des Moines area, more and more minorities will be included.

Upon realizing that a vast array of services (e.g., physical, mental, preventive, and educational) are needed within the rural communities, how are the services being transported from the urban locations? A networking of all the services provided by the surrounding agencies is a good start.

Do any of the programs actually teach positive parenting skills, and if so, how is interest provoked on the part of the parents? Yes, the services of the Appalachian Education Laboratory have been employed to offer such classes in rural Virginia. One method of gathering parents is through offering a spaghetti dinner. In addition, program resource managers record information and perform followup studies until the Appalachian Education Laboratory workers can return.

What was the role of the ethnographer in the migrant farm worker study, and did he or she find any noteworthy health beliefs and/or practices? One of her main roles was to determine what the feelings of the study participants were concerning community drug use and abuse. She also was asked to locate the highest concentrations of migrant farm workers in order also to find the highest drug use/abuse rates and patterns.

IF17. Providing Ancillary Services in Drug Abuse Treatment

Moderator: Bennett Fletcher, Ph.D.
Speakers: David Metzger, Ph.D.
Robert Millman, M.D.
July 17, 8:15 a.m.-9:45 a.m.

Speaker: Bennett Fletcher, Ph.D.

Ancillary services are defined as "supplementary, subordinate or subsidiary interventions." Each treatment program should be broken down into those services that are considered primary and those that are considered ancillary. There is a problem, however, in trying to determine which services offered by different programs are the most important. It would seem to hold true that one service that may be important for one patient may not be as important for another patient. Keeping this in mind, treatment providers should be careful in deciding which services receive more attention or financial support.

Because relapse is more likely to occur among patients who have not received sufficient levels of care within their group treatment programs, a certain degree of individualized care might be considered by treatment providers when trying to determine the most effective treatment approaches. By doing this, it is more likely that the people in need of care will receive treatment in the areas in which they actually need care, as opposed to undergoing a set program which may or may not address their particular problems.

Doctors Charles O'Brien and A. Thomas McLellan recently published an article in the *Journal of the American Medical Association* outlining their program, which responds to the issue of different levels of service for methadone maintenance clients. They determined that there are three basic levels of service that can be offered: (1) methadone delivery without drug counseling; (2) standard methadone counseling; and (3) standard methadone counseling paired with other services, such as psychiatric care and vocational counseling, which are rendered on the basis of need. It was found that about 70 percent of the people who had just received their methadone rations eventually had to be admitted into a more formalized treatment program because either their drug use had continued or they had a psychiatric disability that needed attention. People that initially received advanced levels of care (e.g., methadone treatment paired with counseling

services) were found to have more success in both staying off drugs and keeping their jobs.

The problem of determining whether or not services are properly matched to patients' needs always exists within treatment facilities. According to an analysis conducted on a number of methadone patients involved in the Treatment Outcome Perspective Study (TOPS) between the years 1979 and 1981, these methadone patients received one of the three following treatment modalities: (1) methadone maintenance, (2) outpatient drug free, and (3) long-term residential. Ward Condelli, from the Research Triangle Institute, further studied these individuals in order to help determine what factors had the greatest positive impact on program retention rates. Quality of services was found to be one of the most important components of good retention. Improved patient-to-treatment matching would almost certainly increase a program's retention rates. The services offered within treatment programs must adhere to the patients' various needs. However, studies have determined that the number of services currently being offered within the average treatment program are far fewer than those that were offered 10 years ago.

Dwayne Simpson, Ph.D., and Bob Hubbard, Ph.D., conducted an additional study on the TOPS analysis. The main finding in this study was that the majority of the methadone clients reported that, with the exception of their actual methadone treatment, they still had not received the services needed 3 months following their intake into the program. However, there is some question as to the accuracy to which clients can assess their own individual needs. With this in mind, it would be a good idea for programs to begin paying more attention to the individual assessment procedures applied to incoming clients.

Speaker: Robert Millman, M.D.

There are a number of models that treatment workers consider when determining what services their particular programs will provide. One model is based on the belief that drug addiction spawns from an individual's underlying psychiatric disorder. The basis behind this model is that the treatment provider focuses his or her attention on treating the psychiatric disorder, in the hopes that it also will aid in the treatment of the person's addiction. Some examples of ancillary services that often are offered in this type of program are social services, group building techniques, and various other therapeutic practices.

A social determinant model is another fairly common model used throughout several of the Nation's treatment facilities. The theory at work in this model is that some people—who lack either power, personal options, or sources of pleasure—turn to drugs as a coping tool. Therapeutic communities that stress group process, building groups, therapeutic milieu, group loyalty, trust, truthfulness, and recreation are the keys to treating these individuals. Psychiatric care would be considered a very distant ancillary service that would be offered within this type of program.

Another model used within many of the Nation's treatment facilities is the disease model of chemical dependency. The idea behind this model is that people become overpowered by strong chemicals to the point where they would be considered as having a disease. The recommended treatments for this condition include (1) attending Alcoholics Anonymous (AA) meetings and (2) surrendering to a higher power and admitting powerlessness. These treatments often are delivered through the implementation of such practices as group process and spirituality building within the program.

The final practiced model used within a number of treatment facilities is the neurochemical deficit model. This model is based on the belief that people who are dependent on a drug for a prolonged period of time undergo a noticeable change in behavior thought to be caused by the various interactions that occur between the chemicals the person is taking and the neurotransmitters already present in the person's body. The primary services offered within this type of model include such treatments as methadone maintenance, buprenorphine, or LAAM. Some examples of ancillary programs that might be offered within this kind of model are basically anything that exceeds either chemical (i.e., methadone maintenance) or counseling treatment.

Psychopathic behavior is much more prevalent today among chemically dependent people as compared to several years ago. Chemically dependent people also have an increased need for more training in the areas of (1) social skills, (2) education, and (3) vocational skills. It is difficult to determine which care model is the most effective

method to treat people. Arguments could be made for and against the success of each one; consequently, it is not feasible to try to choose which model to include at which treatment facility. The best method is to use all the models simultaneously so that the benefits of each one could be experienced within all of the treatment facilities.

The Comprehensive Vocational Enhancement Program (CVEP) study was designed to look at the benefits of one type of ancillary service-treatment via methadone maintenance—and determine what level methadone maintenance had on a treatment facility's ability to (1) improve retention rates, (2) reduce drug use, (3) increase employment for its patients, (4) decrease the number of AIDS cases, (5) decrease criminality, and (6) improve psychological status. The study compared the effectiveness of two different methadone maintenance treatment facilities, an experimental site and a comparison site. These two facilities, which were both located in Greenwich Village in New York City, exhibited higher rates of participation among Caucasians, as compared to the majority of the other inner-city facilities in New York. A higher level of education also was seen among the participants in these two facilities. Again, this finding is compared to the majority of the other treatment facilities in the inner city of New York City.

Studies that look at recovering intravenous drug users in methadone maintenance programs have found that the earlier these people become involved in criminal activities, the earlier they begin sharing their needles. Studies also indicate that the earlier a person begins using intravenous drugs, the sooner that person begins sharing needles. Furthermore, the people who use the most drugs engage in the most needle-sharing.

Followup studies of people involved in the CVEP showed that a greater degree of success was exhibited by the people who attended more treatment sessions. In other words, the more that people involved themselves in the CVEP, the less they tended to use cocaine.

One problem facing a number of treatment facilities is the idea that medical treatment is an ancillary service. Contrary to this belief, medical care is and should be one of the foremost primary services offered within treatment facilities. In addition to the most basic medical care, AIDS treatment also should be included within all of these facilities. Once patients are sent to other facilities in order to receive medical and psychiatric care they either never make it to their destinations or they arrive and are treated very badly because they are drug patients. Other practices that need to be addressed include (1) contingency contracting (especially in methadone maintenance programs); (2) rewards or punishments for clean/dirty urine samples; and (3) individual controls over program participation. It is imperative that treatment patients be kept in their respective programs for the first month. Studies point to a much higher rate of success among patients that reach a 1-month milestone in treatment.

Speaker: David Metzger, Ph.D.

It would seem that one of the main problems facing the therapeutic community is not how to develop more services to treat individuals but how to ensure that individuals actually receive the services that they need. The majority of the country's drug addicts are not in treatment; therefore, it would appear that one of the main problems in delivering services to people would be simply finding a way to get people into treatment. Despite the fact that most drug addicts are not currently in treatment, most of them have had some experience with treatment programs. Although they seem to know what services are available to them, they must not find them attractive enough to actually make use of them. This points toward the need for steps to be taken to make treatment more attractive for people in need. Hopefully if this were done, more people would enter and remain in treatment. Some of the ancillary services that might be ideal in helping to attract more people into treatment include providing help in finding jobs (i.e., a source of income) and housing, as well as providing supportive social networks.

Three important studies have been conducted on drug treatment and treatment facilities: the Risk Assessment Project, a northern Philadelphia-based longitudinal study of intravenous drug users; (2) the Treatment Services Review, which was developed by A. Thomas McLellan to help determine what types of services patients are receiving during their stays in various treatment facilities; and (3) the Methadone Levels Study, which randomly assigned people to different levels of care in order to determine the greatest formulas to recovery success.

The Risk Assessment Project monitored the risk behaviors and HIV infection rates of a number of drug-using individuals. The only qualifications that these people were required to meet were (1) they had to be opiate users and (2) they had to have a long history of intravenous drug use. This project was designed to provide free services to everyone who wanted them in order to persuade more people into treatment. The individuals who chose to participate in the treatment had a choice between either inpatient detoxification, outpatient drug counseling, or methadone maintenance. Only 10 percent of the individuals not in treatment at the project onset chose to actually make use of the free services. In addition, 30 percent of the individuals already in treatment when the program began dropped out over a 3-year period. HIV infection rates also were seen to nearly double among those project participants who remained out of treatment. In attempting to treat the project's participants, four primary characteristics of the participants were considered: (1) history of substance use, (2) physical health, (3) psychiatric status, and (4) social functioning.

After reviewing the characteristics exhibited by both the in-treatment and out-of-treatment participants, findings indicated that a great need exists for an increase in the number of ancillary services offered within treatment. Substance use was seen to be much less prevalent among the inpatient participants as compared to the outpatient ones. There also was a greater amount of identified health problems among the participants in treatment. Comparatively, there also were higher levels of psychiatric problems among people in treatment as compared to those people who were not. In terms of social functioning, higher employment rates and lower rates of crime activity were seen among people in treatment. However, lower job salary levels were seen among the inpatient participants as compared to the outpatients. This finding can be attributed to the fact that criminal involvement is much lower among the inpatient participants.

It is important for treatment facilities to realize that not all patients need the same level of care. Therefore, these facilities need to develop tools that will help them determine the level of care needed for each individual patient. Even before this type of measure can be performed, treatment facilities must develop methods to more effectively entice people to enter treatment. If this latter problem is not addressed, then none of the aforementioned problems will be solved.

In the Treatment Services Review Study, treatment providers contacted patients in order to find out what services they received during a given week and how those services helped them. Findings from this study indicate that, on the whole, people are not receiving a sufficient amount of services when they are in treatment.

The Methadone Levels Study randomly assigned methadone maintenance patients to three different levels of care in order to best determine the formulas to successful care. In addition to the basic methadone maintenance services offered within this program, counseling and self-enhancement services also were provided. Heroin and cocaine use were found to increase after this study ended.

Questions, Answers, and Comments

Why has acupuncture not been used more often within treatment settings since it has, in fact, received a great deal of positive publicity? Acupuncture is being used within many treatment settings, but the problem that keeps arising is how to improve retention rates. It has been seen that, just like every other aspect of treatment, the longer patients remain in treatment the better off they usually are. One method that has experienced at least a minimal level of success is assigning one counselor to one patient. The drawback to this is that most facilities do not have these types of resources.

Comment: Back in the 1970s when drug addiction was not viewed as such a threatening problem as it is today, Federal funding was abundant. Now that the addiction problem has been publicized and is growing, Federal money is no longer flowing with such vigor. Instead, other methods of care, such as group therapy, which is actually one of the many steps involved in the Government's plan to contain costs, are widely used and recommended.

Comment: The resources needed to help increase the number of services provided within treatment facilities are present within the majority of the Nation's communities. The question that needs to be answered is how the treatment facilities are going to gain the necessary access into the communities that actually will allow them to make use of these resources.

IF18. Use of the Problem Oriented Screening Instrument for Teenagers (POSIT) in Case Management and Clinical Practice

Moderator: Elizabeth Rahdert, Ph.D.
Speakers: Richard Dembo, Ph.D.
Tiffany Field, Ph.D.
July 16, 2:30 p.m.-4:00 p.m.

Speaker: Elizabeth Rahdert, Ph.D.

The Problem Oriented Screening Instrument for Teenagers (POSIT) represents the first step of the Adolescent Assessment/Referral System which focuses on many aspects of drug and mental health treatment for adolescents. As such, the POSIT aides the clinician or case manager who desires to address the needs of troubled adolescents by gathering accurate information in the most cost-efficient way in order to individualize each plan of treatment. As a problem-screening tool, the POSIT is a 139-item self-report questionnaire that covers 10 potentially problematic functional areas in the adolescent's life: drug use/abuse; mental health; physical health; family relationships; peer relationships; educational status (e.g., learning disabilities); vocational status; social skills; leisure/recreational activities; and aggressive/delinquent behavior. If specific problem areas are identified through use of the POSIT, indepth diagnostic assessment should follow in order to determine the best approach to treatment.

Speaker: Tiffany Field, Ph.D.

A recent research project entitled Cocaine and Marijuana Use in Teenage Mothers used the POSIT to aid in assessing the need for treatment among pregnant/postpartum teenagers. The POSIT also proved helpful in tracking the progress and outcomes of those who entered treatment.

As part of the project, a comparison was made between drug-using pregnant teenagers and nondrug-using teenage girls in terms of problem areas identified by the POSIT. Each group consisted of approximately 40 girls, with an average age of 17 years and an average education of 10th grade. Most of the girls came from families with relatively low incomes. The results revealed substantial differences between members of these two groups, especially in terms of level of depression.

The girls in the cocaine/marijuana project, who were mostly African-American or Cuban Hispanic, were interviewed, and the POSIT data were used by the clinical treatment staff to develop individual education plans (IEPs). These IEP-based interviews occurred once every month, and the results, in combination with information from the POSIT, were used to update and revitalize the plan. The services provided included academic classes, day care for the infants, and individual counseling and drug rehabilitation. A "buddy" system was used as a support tool, and a "token" system also was used to reinforce "good" behavior and discourage "negative" behavior.

In girls that required vocational training and career counseling (POSIT results), such training had a secondary positive effect in that it seemed to reduce the level of depression; however, it simultaneously raised the level of reported stress. This latter finding (i.e., lower depression, higher stress level) might be explained by the fact that these young women spent more time with their newborn infants while at the same time attempting to improve their onsite job performance. Other followup POSIT data indicated reduced drug use.

Speaker: Richard Dembo, Ph.D.

The Juvenile Assessment Center in Tampa provides detoxification services, counseling, and truancy programs for troubled adolescents. It has a 7-days-per-week, 24-hours-per-day detoxification unit that serves juveniles who are experiencing withdrawal from drugs and alcohol and need medical support. Another major component of the center is the delinquency secure area where a juvenile who has been charged with a felony or two or more misdemeanors is brought for counseling. Another major component of the center addresses the needs of adolescents who are truant. In addition, a school psychologist and social worker are at the center to develop comprehensive programs for outreach-school linkages and community coalitions.

When taken to the Juvenile Assessment Center by a Tampa police officer, the troubled adolescent must participate in a number of processing and screening procedures, including responding to items on the POSIT. In addition to having his/her picture taken, the adolescent is fingerprinted. It is hoped that in the future, urine testing will be another

procedure conducted at the center. Currently, an adolescent is given a breathalizer test to determine whether he/she should be transferred to the center's detoxification unit. Upon completion of the procedures, the adolescent is assigned a Juvenile Assessment Center number for identification purposes. Repeat visits are not uncommon, and different identification numbers are assigned every time an adolescent returns.

During the screening process, demographic and criminal activity information are obtained through self-reports, arresting officer reports, and a statewide computer system that can be accessed from the center's computer data base. Heavy screening of an adolescent determines whether or not he/she has been there before and establishes any gang affiliations. During the screening process, information also is sought on education level, substance use, and HIV-risk behavior.

One way in which the quality of the information collected remains on a high level is by having counselors work directly with the adolescent to gain his/her trust. Information forms are periodically filled out by the adolescent and checked over by task workers to ensure accuracy. Based on these evaluations and the adolescent's previous history, recommendations are made on the type of treatment program into which the adolescent should enter.

Occasionally, an adolescent is unable to enter a treatment program. Some of the reasons that this may happen include a long waiting list, lack of transportation, and lack of programming availability for a particular adolescent. In some cases, an adolescent is forced to leave the center prematurely. This can occur when, for instance, a warrant for his/her arrest is discovered in another State. Approximately one in every four adolescents who enter the center has been in juvenile court at least one time in his/her life. Fifteen percent of these adolescents have been to court at least one time for a felony charge, and twenty-seven percent have been to court on a misdemeanor offense. Overall, findings indicate that males who enter the center have a much higher rate of delinquency compared to females. An adolescent also may be forced to leave the treatment center if he/she refuses to participate or if the treatment workers feel that he/she would not be a good candidate for the program.

When an adolescent is brought into the Juvenile Assessment Center for truancy reasons, his/her parents are contacted and asked to come and pick him/her up and to provide permission to the center to conduct an evaluation on the child to determine whether any serious problems are present. Sixty-seven percent of the adolescents were found to have problems in six or more of the POSIT areas, including the following: mental health status, peer relationships, educational status, social skills, aggressive behavior, and delinquency.

Questions, Answers, and Comments

In what way was the POSIT administered in the Cocaine and Marijuana Use Study? How long does it take to respond to all the items on the POSIT? The Cocaine and Marijuana Use Study used the paper-and-pencil, self-report form. It took an average of 20 minutes per girl to complete the POSIT. But other forms of administration are available. For instance, Dr. Dembo reports that the computerized form of administration and scoring is used at the Juvenile Assessment Center in Tampa, Florida. Different forms of administration may elicit more truthful responses, although the cost and availability of word processing equipment and appropriate administration/scoring programs are two of the main determinants as to what a clinic or an intake/assessment center will use.

Do only nonfelony offenders enter the detoxification centers? No, anyone can enter the detoxification centers.

What types of regulations are used within the Tampa, Florida, treatment center in terms of consent issues? A consent procedure is implemented as soon as an adolescent enters the facility.

What is the indicator for the mental health status domain in the Juvenile Assessment Center? The most predominant indicator is depression; however, there are some other factors that often lead to conduct disorders.

RESEARCH

IF19. Questions and Answers on Drug Addiction and the Brain

Moderator: Timothy Condon, Ph.D.
Speakers: David Friedman, Ph.D.
Christine Hartel, Ph.D.
Frank Vocci, Ph.D.
July 15, 3:00 p.m.-4:30 p.m.

During this session, the panel and audience discussed the NIDA videotape "Drug Abuse and the Brain," shown earlier in the conference, and issues related to that topic.

Comment: Although it has been suspected that tolerance and dependence associated with opiate addiction are due to changes in the number of opiate receptors, researchers have not found evidence of such an effect. Evidence exists, however, indicating that long-term opiate abuse changes the way in which these receptors interact with cells. Such apparent causal effects differ from those seen in stimulants such as cocaine. (Studies of cocaine addicts indicate that the number of dopamine receptors decreases, although quantitative measures are not yet available.) While it generally is accepted that the number of dopamine receptors can increase or decrease, depending on the availability of the transmitter or other substances interacting with the drug, it remains unclear exactly how those variations occur. Certainly, some factor distal to the receptors themselves appears responsible for the tolerance and physical dependence associated with drug addiction. People may have difficulty in ceasing their drug use partially because the brain operates through opposing systems; when withdrawing from methadone, the opiate system may remain unchanged, while the system that opposes the opiate system may become sensitized over time.

Comment: Scientists are studying the phenomenon of stimulus fade. Classical conditioning to drugs often occurs, for instance when addicts crave drugs upon returning to the neighborhoods in which they used drugs. However, with time such stimuli lose their reinforcing capacity if they are not reinforced. In other words, the stimulus effect fades. It could take a long time, however, for the fade to be fully effective. Drugs act on the level of an individual's brain that is more potent for controlling behavior than cognitive decisionmaking. Drugs work on the level of a person's primitive drive, and hence overcome good judgment. If the drugs no longer are available, the individual can learn new coping behaviors and alternative ways to respond to former stimuli. Most drug treatments are based on this premise and encourage individuals to make conscious decisions and follow through on them.

Comment: The neurotoxic effects of most drugs are unclear and controversial. Researchers administering cocaine to animals in controlled settings have not found changes in the brain. However, pediatricians continue to describe the physical problems of babies born to crack-cocaine addicts which indicate that the drugs do have neurotoxic effects. It remains unclear whether such effects result from the drugs or from other factors, such as the lack of prenatal care.

In regard to the neurotoxic effects of other drugs, many people have used methadone for decades with no apparent decrement in their behavioral and cognitive capabilities. Specific neurotoxic effects have been found in some drugs, such as ecstasy, which clearly damages serotonin, a neurotransmitter in the brain. Although the neurotoxic effects of most drugs remain unclear, it is important to remember that once an individual becomes addicted or experiences long exposure to a drug, he never returns to baseline conditions. The person must attain new levels of behavior, as Alcoholics Anonymous teaches. Addicts may be in a state of recovering but never be fully recovered.

What research is being conducted on ibogaine and its mechanism of action? Ibogaine is an alkaloid compound from a root grown in West Africa and is a hallucinogenic drug that may reduce drug-seeking behavior. Evaluation of the drug's effects is being conducted using behavioral and toxicology tests on rats and dogs. It appears that ibogaine produces a legion in the cerebellum of rats, destroying the purkinje cell. Researchers are studying the dose response of the nature of this effect. There appears to be significant overlap between pharmacologically active doses and doses that produce this neurotoxicity—not a desirable effect. After comparing this result with similar tests on dogs and monkeys, clinical trials may be conducted. Anecdotal reports indicate that one treatment with ibogaine enables people to remain drug free for an indeterminate amount of time. However, no followup studies have been conducted on these individuals. NIDA is using caution in assessing these claims about ibo-

gaine's effects. Similar claims previously have been made about LSD's ability to eliminate alcohol addiction. It still remains to be seen whether either drug is effective for large numbers of addicts. Safety studies, such as those in which NIDA is engaged, should be conducted before efficacy studies and clinical trials. Learning from history, rational caution should be used in determining how to treat substance abuse. Sometimes the supposed cure causes more problems than even the disease.

Comment: Most opiates administered by injection take effect within seconds; methadone administered orally takes effect within 8 to 15 minutes. Many people buy methadone on the street to sample it while considering entering a methadone maintenance program. Methadone sells for about $1 per milligram on the street. Many people self-medicate themselves with methadone because they are ambivalent about going into therapy and taking methadone is better than injecting heroin. It also has been shown to be an effective treatment when used properly.

It is not clear whether agonist treatment for cocaine addiction is effective. Opiates and stimulants, like cocaine, have different mechanisms of action. Stimulants usually induce increased and immediate desire for the drug, while opiates leave a person feeling more satisfied. (These effects have been shown in labs as well as in program-based studies.) So, it is not clear if agonist treatment for stimulant abuse really works. In some cases, it actually stimulates increased cocaine abuse.

When methadone is used properly, it acts like an antagonist (i.e., a huge dose of heroin is required to overcome the effect of the methadone). Methadone then is an antagonist in action although it is an agonist drug. Scientists currently are examining mild stimulants, as opposed to those as potent as cocaine, for possible treatment of cocaine addiction.

What effect does methamphetamine (crystal or ice) have on neurotoxicity? Strong evidence indicates that methamphetamine selectively kills dopamine-containing neurons in the brain and is similar to cocaine in its effects (i.e., it acts as a potent psychomotor stimulant and can be injected or smoked). However, crystal has a different mechanism of action, and the effects of the drug last longer. Neurotoxicity clearly is associated with the drug.

Comment: In the United States, there is a history of treating drug abuse as a moral problem rather than a medical problem. For years heroin addicts have been jailed, and even now methadone maintenance programs are limited in the treatment they provide. The way incarcerated addicts are treated has nothing to do with what is known about how they should be treated.

Comment: Current research on depot naltrexone, an antagonist, reveals that the drug has a solubility limitation—only a certain amount can be contained in a certain physical volume. Between 65 and 80 percent of the matrix is the drug itself, and it may have an action for 2 to 4 weeks. To develop a 6-month formulation from a chemical standpoint, a more potent substance would be desirable that could be injected at a smaller volume and not produce any organ toxicity. No such candidates are available yet.

Comment: During an increase in the use of MDMA, a stimulant designer drug, addicts were treated successfully with drugs used to treat patients with Parkinson's Syndrome, such as L-dopa. More research in this area will likely take place soon. Baby boomers who used this drug may show its effects more as they age and the natural loss of dopamine cells compounds the nerve toxicities from the drug. Hence, the number of Parkinson-type syndromes among this population may increase significantly. Subclinical effects, or those that might be detected under normal circumstances, often may become more evident when compounded by the effects of normal aging.

What are the effects of cocaine on the developing central nervous system (CNS)? Developing organisms have great plasticity: They can adapt to the influences that affect them so that some consequences of drug use do not appear until much later. Tests on animals have shown that except for gross malformations due to extraordinarily large drug doses, there does not appear to be much effect on the developing CNS. Cocaine blocks the re-uptake of dopamine, norepinephrine, and serotonin, and changes in the neurochemistry of those transmitter systems have been detected. However, the behavioral outcome of those changes has not been determined yet. It also is possible that changes evident just after birth may normalize with further development of the child.

Researchers also may not measure the correct factors in determining the effects of drug use. For example, NIDA provided a great deal of funds to investigate whether marijuana destroys brain cells; researchers have not been able to prove it. Not knowing how to measure the right factors could be a problem in other drug abuse studies as well.

Comment: Scientists still do not completely understand cocaine's interactions with dopamine and other neurotransmitters or hormones. Perhaps researchers focus too much on discoveries concerning dopamine, at the expense of other neurotransmitters. Further study is warranted, for instance, in preliminary findings connecting types of aggressive behavior to serotonin. Dopamine is involved in many functions of the brain, such as motor and gastrointestinal functions, and researchers are investigating its role in the brain's reward system. Generally the brain acts globally, and there is no association between a given transmitter and a given behavior. The neurotransmitters have widespread roles throughout the brain and change in concert with and relative to each other. The interactions are very complicated. Dopamine clearly has been shown to be important in the brain's reward system, but exactly how or why it is important still is not known.

Comment: The cocaine receptor is a site on the transporter molecule to which cocaine attaches, thereby interfering with the transporter's ability to move dopamine back to the neuron that released it.

Comment: If people do not learn a skill or behavior during critical times (e.g., learn to read between the ages of 4 and 8), it becomes more difficult for them to learn the skill or behavior later. For example, an adolescent's use of drugs may hinder his ability to learn functionings, such as motor coordination or cognitive skills, and it may be very difficult to learn them at a later date. A related issue involves state-dependent learning, in which learning is associated with a drug state and memories from that time are only retrieved when in the same drug state again. Also, it should be remembered that drugs may have potential residual effects, and current research should soon shed light on these subtle deficits.

Are children with attention deficit disorder more susceptible to substance abuse, and if so, why? There is not much information on such a connection. It has been interesting to note that in lab tests, some animals "just say no to drugs." Scientists simply used to omit them from studies, but now they are studying these types of animals to try to determine why they do not want drugs.

What possible biological factors cause some people not to want drugs? It should be remembered that stimulant-dependent people constitute a very heterogenous group (e.g., some have depression and others have adult attention deficit disorder). In lab rats with low rates of responding, stimulants increase their rates of responding, whereas in lab rats with high rates of responding, stimulants decrease their rates of responding. So people with attention deficit disorder may have high rates of responding, and stimulants then may help them normalize or reduce the incidence of their behavior. In other words, these people may have a different brain chemistry from those without the disorder, and they may be self-medicating themselves with stimulants. For instance, studies now are focusing on whether people with attention deficit disorders do tasks better while on stimulants. Furthermore, studies with animals have shown that a low responder placed in a changed environment may become a high responder, with stimulants then having the correspondingly opposite effect as before. So this finding indicates that environmental and behavioral interventions can change the effect of a given drug on a person's responding behavior.

Comment: The brain has plasticity; it changes in response to its environment. It usually can recover from neurological insult to some extent. So babies born to crack-cocaine-using mothers may not have as pessimistic of a prognosis as some people believe. Also, multiple factors are involved with crack-cocaine babies, including lack of prenatal care, small head circumference, and other problems that may be associated more with premature birth than drug abuse. Through changes in their environment, such as being placed in an enriching, stimulating environment, babies may respond positively and change their neural set. The brain is dynamic not just after birth but probably throughout the first 21 years of life. It should be remembered when considering the effects of drugs on the brain that changes naturally occur in the adolescent brain as well.

Comment: Researchers recently identified a receptor in the brain that recognizes canna-

binoids. It is likely that most of the actions of cannabinoids can be explained on the basis of their actions through that receptor. The receptors are located in many parts of the brain.

Alcohol is much more complicated in that it is involved in many receptor systems, such as the GABA receptor. GABA is an inhibitory neurotransmitter that decreases the activity of other neurons, and alcohol appears to increase the activity of the GABA receptors, thus explaining its effect of depressed brain activity. Alcohol may achieve its effects also by acting on an excitatory neurotransmitter system.

Comment: Some people believe strongly in the significance of stimulus cues while others believe that the subconscious plays a strong role in behavior. There are multiple determinates of drug-seeking behavior, including classical conditioning and operant factors, and subconscious or autonomous thoughts may play a role. Thoughts and moods are related in both positive and negative senses. For instance, positive thoughts have been shown to affect the mood and performance of athletes. Psychology studies have shown that cognitive restructuring techniques are effective in treating depression. These approaches are worth trying, but more research among drug-dependent populations is needed.

Is there any evidence that organ toxicity is associated with heroin per se, as opposed to heroin addiction and related problems? No evidence of organ toxicity associated with heroin has been identified. Researchers have not found any brain or organ damage caused by opiates within certain dose ranges. If a person takes very high doses of opiates and becomes chronically hypoxic, he may develop brain damage secondary to hypoxia. Animal tests have shown increases in the size of the heart and changes in the kidney, secondary to hypoxia, with high doses of opiates.

Comment: Many addicts report that the pleasurable feelings from drug use diminish over time, but the reinforcing quality of the drugs still exists and continues to reinforce the behavior. Thus, the reward circuit may be different from the pleasure circuit in the brain.

Comment: There does not appear to be any relationship between substance abuse and brain lateralization. There is no evidence that the limbic system in which the reward system exists is lateralized.

Comment: An acute withdrawal syndrome is associated with the cessation of opioid use. Also, a protracted withdrawal syndrome, with physiological and subjective effects, may occur.

Comment: The general toxicity of alcohol is well documented, but the neurotoxic effects of marijuana have not been proved. It is likely that, if alcohol had been invented in this century, it would be considered a controlled substance.

IF20. Drug Abuse Research Along the U.S./Mexico Border

Moderator: Moira O'Brien, M.S., M.A.
Speakers: Rebecca Ashery, D.S.W.
Lana Harrison, Ph.D.
Nancy Kennedy, Dr.P.H.
Respondent: Al Mata, Ph.D.
July 17, 8:15 a.m.-9:45 a.m.

Speaker: Moira O'Brien, M.S., M.A.

This session highlights three major drug abuse research and prevention activities along the U.S./Mexico border. The border runs along four States in the United States and six states in Mexico, and covers about 2,000 miles. The U.S. and Mexican governments in recent years have become increasingly interested in the health and welfare of populations on both sides of the border. This concern resulted in an agreement between both governments for increased cooperation on health-related issues in the border region. In the late 1980s the U.S./Mexico Border Health Association formed and was composed of government representatives and health personnel actively involved in health issues along the border. The El Paso field office of the Pan American Health Organization (PAHO) has served as the central coordinating body and secretariat for the organization, and the acting director of NIDA has cochaired, with Mexican officials, workshops on drug abuse research at the Border Health Association's annual meetings.

One border activity began in 1988 when NIDA combined resources with OSAP (now CSAP) to fund an investigation by the El Paso field office of PAHO into drug abuse along the border, with three main objectives: (1) to review available information on the nature and extent of drug abuse in the region; (2) to identify opportunities and barriers for conducting substance abuse epidemiological research and prevention

demonstrations; and (3) to develop a plan of action for substance abuse prevention and epidemiological initiatives in the U.S. border States—Texas, New Mexico, Arizona, and California. Little quantitative data on this subject existed at the time.

A second border activity began in 1990. Through its Division of Epidemiology and Prevention Research, NIDA developed the Border Epidemiology Project, working with Mexican experts to augment the PAHO study and develop a binational surveillance system, which was designated the Border Substance Epidemiology Work Group. The PAHO study had indicated that the populations on either side of the border were more similar to each other than to populations in the rest of the States. This study led to the hypothesis that patterns of drug abuse on one side of the border tended to influence drug abuse on the other side. However, a survey had not been designed to assess the nature and extent of drug abuse on both sides. A project conducted by the U.S./Mexico Border Health Association in the late 1980s surveyed health professionals along the border who identified substance abuse as a priority health concern in the area. In keeping with recommendations made by the U.S./Mexico Border Health Group Report produced in March 1991, the border partnership between U.S. epidemiologists and their Mexican counterparts is strengthening the infrastructure of the public health systems on both sides.

A third border activity began in the late 1980s when NIDA's Division of Clinical Research commenced its National AIDS Demonstration Research Project to test and evaluate different models and intervention methods for reducing high-risk drug use and sexual behaviors among intravenous drug users and their sexual partners. Several of these projects were developed in the border region.

Speaker: Lana Harrison, Ph.D.

Besides providing national data, the National Household Survey on Drug Abuse generates specific data on several groups that are designated as priorities. These include minority groups that have smaller populations, which may experience increased precision of substance abuse estimates through oversampling. The survey has produced significant data on Hispanics in the U.S./Mexico border area, primarily in six metropolitan statistical areas (MSAs), which consist of large cities and their surrounding suburbs. Almost 95 percent of the population living in the border region lives in one of these six MSAs.

The household survey assesses lifetime, past year, and past month drug use. According to data from the 1991 survey, alcohol and drugs are the most frequently used drugs in the United States, while cannabis is the most frequently used illicit drug. Residents along the Mexican border showed similar rates of alcohol and tobacco use as people in the rest of the United States, but a slight increase in the rate of overall use of illicit drugs in the past year was indicated. Border residents tended to use less cannabis but significantly more psychotherapeutic drugs than the general population in the United States. In comparing border MSAs with other MSAs in the country, again similar patterns of alcohol and tobacco use were found. Border residents were more likely than the general populations of both countries to use psychotherapeutic drugs and much less likely to use cannabis in the past month. Cocaine use among border residents and the general populations of the United States was similar.

In comparing Hispanics in the border region with Hispanics in the rest of the United States, significantly less use of illicit drugs, especially cannabis, was found in household populations along the border, perhaps because of the increased cohesiveness of Hispanic families in the border area. When compared with other ethnicities, however, some studies of Hispanics in the United States indicate that being Hispanic does not appear to encourage increased protective factors from drug use.

Recent data show that Hispanic border residents in both countries between the ages of 12 and 17 use illicit drugs at a similar rate as other youth in the United States. Any protective factors that the Hispanic family seems to encourage do not seem to be having as much effect on the younger generation in the border area, which perhaps is becoming more amalgamated in American culture. These youth already live in an area conducive to drug abuse, such as low socioeconomic status; therefore, careful attention should be given to this generation's susceptibility to drug abuse.

Speaker: Nancy Kennedy, Dr.P.H.

ADAMHA recently was reorganized as SAMHSA, which is comprised of three pri-

mary agencies: CSAP, CSAT, and the Center for Mental Health Services.

CSAP is responsible for leading the Federal Government's efforts in prevention and early intervention of alcohol, tobacco, and other drug abuse in the United States, with a special emphasis on youth and families in high-risk environments. CSAP's goals are to promote the concepts of no use of any illegal drugs and no illegal or high-risk use of alcohol or other legal drugs (e.g., drinking and driving). Its guiding principles include the following: (1) prevention intervention should begin as soon as possible in order to be successful; (2) prevention practices should be knowledge based and incorporate state-of-the-art findings from research and expertise in the field; (3) prevention programs should be comprehensive (e.g., include education, health care, and law enforcement aspects); (4) prevention programs should include process and outcome evaluations; and (5) prevention programs initiated and conducted by community members are the most successful.

The high-risk youth programs administered by CSAP's Division for Demonstrations for High Risk Populations aim to reduce the factors that put youth at risk for alcohol, tobacco, and other drug use and to enhance the resilience of vulnerable youth. About 70 percent of the high-risk youth programs focus on individual-based risk factors, with strategies such as alternative activities; 50 percent target family-based risk factors, with strategies such as enhancing parenting skills; 50 percent target school-based risk factors; 40 percent address negative peer influences through means such as peer support groups; and 40 percent target the broader community (e.g., by enhancing cultural pride). Nearly all of the high-risk youth programs focus on all of these domains.

From its inception, CSAP has been involved in efforts that focus on preventing substance abuse along the U.S./Mexico border, partially because one-half of its programs are multicultural and address at-risk target groups. Because the border is only a political line and not an economic, social, or cultural line, CSAP engages in a collaborative effort with Mexico to reduce the demand for drugs. In congressional hearings about the 1994 fiscal budget, Dr. Lee Brown, Acting Director of the Office of National Drug Control Policy (ONDCP), stated his specific concern about the Southwest border of the United States and Mexico, and he met with his Mexican counterpart. The United States and Mexico currently have an unprecedented opportunity to maximize combined interventions to reduce the demand for drugs in the border region.

CSAP engages in other activities along the U.S./Mexican border. For instance, for at least 5 years it has partially funded the annual meeting of the U.S./Mexico Border Health Association, particularly the substance abuse workshops. Since 1987 CSAP has funded 193 grants in the 4 Southwest border States, and CSAP is nearly ready to start funding State block grants. In 1991 CSAP made a special effort to implement programs in the area by offering preapplicant technical assistance to prevention workers. Those efforts are starting to have results.

Another major division within CSAP is the Community Partnership Program. Fifty-two community partnerships have been funded in the 4 border States with Mexico (out of a total of 252 programs throughout the country). The 52 projects mainly target Hispanics, although members of 2 Native American tribes also live in the border area in which the projects operate. Many community sectors typically work together in these partnership programs, which are expected to facilitate, coordinate, or create new prevention program activities. A national evaluation of these programs is being conducted.

CSAP also recently awarded a 3-year communication cooperative agreement through the Division of Communication Programs to the University of Arizona Rural Health Office. In May 1992 CSAP helped fund the Southwest Border Governor's Association conference, which aimed to help put individual State goals into practice and facilitate cooperation among the States, which can be difficult to do at times due to politics. Around that time, CSAP also held the Hands Across the Border conference (an international, bilingual conference in which Mexican and American community leaders were trained to develop prevention programs). In February 1993, prior to the CSAP National Prevention Conference, CSAP held another meeting with an international audience of drug abuse workers who discussed the border area and other issues. Workers from Oregon, Washington, and Alaska were interested in the area because many Mexican-Americans and Mexicans travel to those States to work. In addition, CSAP developed PrevLine, an

online system that enables immediate communication between grantees, State directors, and even international professionals in the prevention field.

Much work remains to be done in this area. In September 1993 CSAP began funding field offices to address a vision for a drug-free workplace. The agency also negotiated with the State Department to enter officially the international arena in demand reduction and prevention and to introduce the community partnership model in other countries, including Colombia and Mexico.

Speaker: Rebecca Ashery, D.S.W.

Through the National AIDS Demonstration and Research Project, NIDA has funded programs at 41 sites across the country, including 5 in the U.S./Mexican border area (San Diego, Tucson, El Paso, San Antonio, and Laredo). These programs provide outreach to injection drug users who are not in treatment. Indigenous outreach workers educate the drug users about AIDS and reducing risky behaviors; they also make referrals, distribute bleach and condoms, and randomly assign some drug users to group interventions.

About 69 percent of injection drug users served in the border States are Hispanic. Data from these projects indicate that many clients share their needles, and needle risk scores are higher in border States as compared with the rest of the country. The injection of heroin is a common practice, partially because Mexican heroin is available and inexpensive. Sexual behavior risks generally are similar to other regions, with the West being the highest. Crack-cocaine and cocaine are not used as prevalently in the border States and Puerto Rico, possibly because heroin is more profitable. Marijuana use is somewhat higher.

NIDA's WHEEL (Women Helping to Empower and Enhance Lives) Project targets female sex partners of injection drug users within the last 5 years in Boston, Los Angeles, San Diego, Juarez (Mexico), and San Juan (Puerto Rico). All the women received needs assessments, pretest HIV counseling, testing, and referrals. Randomly assigned women participated in group sessions focusing on HIV prevention and awareness and other topics. Both qualitative and quantitative data were collected and now are being analyzed.

Most of the women in Juarez had a very low educational level; 85 percent had not graduated from high school. The women in the projects in Juarez and San Juan were younger than those on the mainland. More women in Juarez and San Juan were likely to be living with their sexual partners than women on the mainland, a finding that is perhaps reflective of the Latino culture. Crack-cocaine use among project women was more prevalent on the mainland than in San Juan, and it was nonexistent in Juarez. In Juarez on the border, women were more likely to be in a steady relationship and therefore did not consider themselves at risk. Only 10 percent had ever been tested for AIDS, whereas over one-half of the women on the mainland had been tested. However, the WHEEL Project raised the women's awareness of AIDS.

Questions, Answers, and Comments

Comment: It is unclear how many, if any, of the women in the WHEEL Project in Juarez were immigrants from Central America.

Comment: In Los Angeles, Central Americans tend to use a different kind of crack-cocaine than Mexicans and Mexican-Americans.

Comment: The U.S./Mexico Border Substance Abuse Project divided the border into three regions—eastern, western, and central—because these areas differed significantly. For instance, crack-cocaine use was reported primarily in the San Diego area, whereas heroin use seemed to be more prevalent in Juarez and El Paso.

IF21. NIDA Meets With Practitioners About Future Research Needs

Moderator: Richard Millstein
Speakers: Diane Canova, J.D.
Hector Colon, M.A.
Patricia Evans, M.D., M.P.H.
Linda Kaplan, M.A., C.A.E.
Mark Parrino, M.P.A.
Mei Tremper, Ph.D.
Respondents: William Bukoski, Ph.D.
Loretta Finnegan, M.D.
Harry Haverkos, M.D.
July 16, 4:30 p.m.-6:30 p.m.

Speaker: Richard Millstein

This forum creates an advantageous symbiosis between the research and practical application fields. NIDA, while planning future programs, has given priority to the following

general areas of research: pharmacological treatments with a special emphasis on medications development; nonpharmacological treatments, specifically behavioral therapy and psychotherapy; the consequences of drugs, such as maternal and fetal effects and HIV/AIDS; epidemiology, prevention, and neuroscience; research training and career development with special attention on women's issues and minority health concerns; and research dissemination and technology transfer.

In terms of prevention, NIDA always has focused its efforts first on preventing experimentation with drugs. Second, many prevention techniques have been used that try to dissuade the person who is experimenting with drugs from escalating to a level of use in which he/she would be considered a casual user or abuser.

Also during this era of HIV/AIDS infection, great concern has been raised over the development of advanced educational and prevention tools that could be used to control the progression from nonintravenous drug use to intravenous (IV) drug use. This concern is of great importance because IV drug use has been found to be one of the primary catalysts in the spread of the HIV/AIDS infection.

Studies have found that despite the fact that drug abuse is often a chronic relapsing disorder, there are still effective methods of treatment. However, there is a need for better understanding of pharmacological and nonpharmacological treatment methods. Improvements also need to be made in the area of making treatment more individualized. This can be done by considering the differences in clients' age, gender, and race. Increased levels of retention and better matching of patient modalities are additional goals for which to strive.

One last area of interest that needs to gain a higher level of attention is the maternal and fetal effects of drug abuse. Overall, a more effective level of treatment across the board would create decreased percentages of relapse victims and gradually produce a decline in overall drug abuse.

Speaker: Diane Canova, J.D.

Within the confines of a reformed health care system, treatment could advance to a state in which it is based solely on the outcome data results. Progression of the HIV/AIDS epidemic could be slowed through the gradual development of comprehensive models that in a best case scenario would include increased social model treatments in connection with the therapeutic community. Greater emphasis needs to be placed on the studies of factors leading to long-term, chronic drug use. A certain number of treatment programs should be designated simply to address this growing problem of long-term, chronic drug use. Evaluating program models in terms of the needs of special populations is key.

How does one interpret whether or not a drug abuse client has achieved any success within his/her own treatment program? In the past, too much emphasis has been placed on the completion of programs. Those drug abusers who have not fully completed their treatment programs can and should be considered successful, assuming that they have retained a certain amount of information. This information then can be utilized toward improving their everyday lives. The definition of success within the therapeutic community depends on the identification and improvement of many critical elements, such as the following: (1) counseling and therapeutic elements, (2) job training and educational elements, (3) transportation and child care for women in programs, (4) the effects of staff training and intervention in relation to program outcomes, (5) staff turnover and burnout, (6) adaptation of the therapeutic community model, (7) provision of a continuum of care based on an assessment of needs, (8) studies on different mixes of populations (particularly adolescents), and (9) cost-effectiveness data.

As indicated above, there is a growing need for a greater understanding of the needs of different populations, such as adolescents. It is important to improve tools that could aid in this process, as well as develop new identification instruments to assist program providers in determining the needs of particular drug abuse clients. The role of the family must be stressed more strongly when considering adolescent drug abuse treatment approaches. The criminal justice infrastructure is another area of interest when investigating the problem of treatment methods for special populations. No longer can prison guards play the role of licensed counselors within the walls of our prisons. So too, beyond the walls there is growing concern over the need for trained, qualified treatment counselors for the increasing numbers of homeless and mentally ill drug users on the streets.

Speaker: Hector Colon, M.A.

Advancements in the methods of education toward the reduction of HIV/AIDS infection risks by drug users is at the top of the priority list. Treatment models that can be applied to drug users who are both in and out of stabilized treatment communities are needed, as is the enhancement and availability of support materials for drug users who have completed their given treatment programs and wish to continue with the recovery process. The treatment of drug abuse needs to be thought of in the same way one would think of treating an ongoing disease. Therefore, followup meetings need to be made to discuss the user's progress or lack of progress.

Treatment must be accessible to everyone. The expectations that drug users bring with them to treatment should be taken into account when considering accessibility problems. Researchers, policymakers, and service providers need to employ identical approach methods when dealing with the various problems that arise during the course of treatment.

Strategies that could weed out drug users at an earlier stage in their drug abuse careers would be very beneficial in the overall fight against drug abuse. Treatment continuity is a must; there should no longer be short-term treatment methods for chronic drug users, as such methods just do not work. A plan of attack should be implemented that would offer special care for those drug abusers exhibiting deteriorating drug abuse behaviors. Finally, a technology transfer model is needed that follows a pattern beginning with research, continuing into evaluation, and ending with implementation into treatment.

Speaker: Patricia Evans, M.D., M.P.H.

There is a need for increased research efforts in the areas of "special populations," health services research, policy research, behavioral research, prevention research, and HIV research. More emphasis should be placed on the prevention of substance abuse, as opposed to the development of some type of "miracle drug" that can be used to treat people with this problem. One segment of the aforementioned special populations that deserves an increased amount of attention comprises the country's ethnic minority populations. Treatment efforts associated with these groups appear not to have reached their fullest potential in terms of working with substance-abusing individuals.

The development and funding of more alternative treatment methods (e.g., the use of acupuncture for the detoxification of heroine-addicted individuals) are important for determining what methods are actually the most effective in treating certain populations. Nutritional factors also should be studied in order to measure what role they can play in substance abuse prevention. Violence also has been tied to substance abuse within many ethnic minority populations. Environmental and cultural investigations also need to be conducted for the sake of defining the effects that they have on substance abuse rates among ethnic minorities. Additional preventive measures should be aimed simply at female substance abusers. Drug use in connection with the power roles of both men and women as well as sexuality (e.g., using drugs before and during sex) needs to be considered when designing treatment and prevention programs.

Health services research should begin to focus more on integrating drug treatment into managed care systems. Investigations into how to address additional public health problems (e.g., HIV, tuberculosis, Hepatitis B, and Hepatitis C) through the use of drug abuse treatment methods should be performed. Health care staff attitudes toward the treatment of HIV-infected individuals as well as the use of harm reduction (e.g., use of low-dose methadone, primary care, and needle exchange) also need to be investigated to determine the overall effects they have on treatment. The use of case management should be looked at as an option for treating ethnic minorities, women, and high-risk youth. Basically, improved methods of matching patients to treatment are needed. This need holds true for both inpatient and outpatient treatment programs. The recruitment, training, and funding of new researchers, especially women and ethnic minorities, are extremely important for the advancement and creation of new treatment techniques.

Speaker: Linda Kaplan, M.A., C.A.E.

It is very important that practitioners learn the "how to" in terms of the different methods of treatment developed within the research field. One way that this might be done is through the publication of a periodic journal that both addresses the findings of the research field and also shows how these

findings can be applied to the practice. Training on what researchers find works and does not work is imperative for the practitioners, because all the research in the world means nothing if the findings are not applied for use in the practical field.

An increased amount of cultural sensitivity needs to be exhibited by counselors when dealing with special populations. HIV/AIDS is a rapidly growing problem that must be addressed with a certain level of sensitivity. Such an approach can be tied in with the need for more ethics development within all areas of the therapeutic communities. The need for improved ethics simply refers to how practitioners and other treatment workers should act toward patients at different given times.

The question of how to measure treatment outcomes in terms of what constitutes a patient's success is one that is in constant dispute. Due to this, an increase in the number of outcome studies would be helpful in pinpointing both positive and problem areas. Outcome studies are also very important because they have a lot to do with what and where health care funding is directed. One very important improvement that would be very helpful in the treatment field would be a universal vocabulary that could be used not only in the field but also when dealing in ancillary services.

Followup in terms of continuum of care also needs to be better defined. Does continuum of care mean 1 year, 2 years, or a lifetime commitment? Two other general areas that always can use some improvement are relapse prevention and assessment techniques.

Speaker: Mark Parrino, M.P.A.

The issue of the effectiveness of methadone maintenance has been raised. Although there are many positive factors surrounding the use of methadone, there are still a number of areas needing improvements. More studies should be aimed at the therapeutic side of methadone maintenance. For instance, what factors should be taken into consideration when determining the proper dosage of methadone from one patient to another? A study conducted by Dr. John Ball found that a patient's level of success generally depends solely on whether or not that patient is receiving the proper dosage of methadone. All too often, methadone programs focus on giving their patients the lowest possible dose as opposed to the lowest effective dose. Updates and improvements are needed in many treatment services, including the following: vocational referral, quality individual counseling, group counseling, and good intensive medical and psychiatric care.

With private versus public treatment, when is each effective or ineffective? When methadone maintenance is used gradually as a replacement for IV drug use, it is a tremendous HIV/AIDS deterrent. The question of success also has been raised with reference to methadone maintenance. Is a person considered unsuccessful if he/she does not complete a methadone program but does gain useful knowledge about his/her problem? The creation of a slide library that includes the latest treatment methods and that could be updated periodically would be beneficial. Lastly, a regional planning initiative should be instituted throughout the entire country.

Speaker: Mel Tremper, Ph.D.

Needs assessments focusing on the preexisting conditions that lead to both alcohol and drug abuse are important for the formulation of prevention methodologies that can be applied before a person's problem escalates to the point where treatment is needed. More research into the risk and protective factors associated with drug and alcohol abuse also would be helpful in reaching people before they need treatment to address their problems. Research studies that identify the various advantages gained through different prevention programs would be useful for State and local health officials who are in charge of deciding which programs to employ in their communities. Studies on treatment outcomes are fairly plentiful, but there are not many studies aimed at determining the cost benefits of prevention. One question that needs to be considered when looking at the State and local prevention programs is the following: Are the people being billed the most for these programs actually reaping the most benefits, and if not, what can and should be done to remedy this problem?

There is a need for more advanced evaluative tools that can be used by practitioners to determine more precisely not only the extent of patients' drug and/or alcohol problems but also the resources that are available within a given community with regard to treatment and prevention. One way to help improve prevention efforts within the treatment community is to focus research on how practi-

tioners actually learn their information. To accomplish this, one would ask such questions as the following: (1) To what do practitioners pay attention? (2) Whom do practitioners trust? (3) What media do practitioners utilize? (4) What institutional barriers might exist in prevention programs that block the adaptation of new knowledge and techniques once they are learned by the practitioners? (5) What is the role of the entrepreneur in transferring technology? (6) What are the critical protective factors that practitioners should be aware of, and how can these factors be enhanced? (7) What type of training is needed for practitioners to become educated about the most updated information and techniques being developed by researchers?

Studies have shown that the Nation's population is aging; therefore, there must be a gradual shift from youth-based and school-based preventive programs to more worksite type programs. Genetics has been pointed out as one possible reason that people become alcohol and drug abusers. Due to this belief, there is a growing need for more research in this area in order to determine how much of a role genetics actually plays in people's lives.

Respondent: William Bukoski, Ph.D.

Special attention should be given to special populations and people from diverse cultures. Some steps have been taken toward this goal through stressing staff competency with regard to diverse cultures. It is important that NIDA staff include not only people who are aware of these diverse cultures but also people who actually belong to these cultures. NIDA, under the guidance of Zili Amsel, also has created a number of prevention research centers that focus mainly on issues related to minority populations. These centers address issues that pertain to African-Americans, Puerto Ricans, Mexican Americans, Native Americans, and adolescents. Some of the other centers work with specific issues (e.g., HIV/AIDS). Comprehensive programs that focus not only on individuals but also on families, individuals in the workplace, and adolescent and adult peer groups seem to be the main requests of both researchers and practitioners. The understanding of the relationship between risk factors and protective factors is another area that practitioners have pointed out as in need of additional research. Environmental research with regard to the family, peer groups, neighborhoods, and the culture as a whole should be upscaled to carefully look at its impact on different types of drug and alcohol abuse. The SINAR amendment, for instance, suggests that States regulate and restrict the distribution of tobacco products to adolescents 18 years of age and younger. This amendment is intended to reduce the number of adolescents using tobacco products, which are considered gateway drugs to more serious drugs.

Interest also has been raised over the efficacy of the various drug-free school and work zones that have been set up throughout the country. In the case of drug-free work policies, urine testing must be paired with employee assistance programs in order to reach the highest levels of success. Individual employees and their family members must be worked with under these programs so that the root of an employee's drug or alcohol problem can be detected. Project Reconnect, which is Dr. Leona Eggert's program at the University of Washington, is working with adolescents in 9th through 12th grade who are exhibiting signs of multiple problem behaviors, including falling behind in school, truancy, sexual promiscuity (which leads to higher risks for AIDS), cigarette smoking and alcohol and other drug use, and suicidal thoughts.

Respondent: Harry Haverkos, M.D.

Two subjects that seemed to come up within virtually all of the presentations were (1) the issues of linkage and coordination and (2) the problems associated with incorporating the information attained through research into the training of care providers. With respect to the topic of linkage and coordination, the areas that need to be worked on are the linkage of services; problems associated with HIV/AIDS; continuum of care; alternative treatments for drug and alcohol abuse (e.g., acupuncture); and linkage of public health services, focusing on such problems as HIV/AIDS, tuberculosis, and hepatitis. An increase in the number of school-based intervention programs, as well as in the coordination of research activities, also is needed.

Some of the many topics that tend to be raised when working in the area of research and training of care providers are staff issues (e.g., burnout and training), training of new researchers, how to implement research findings into practice, the lack of use with regard to pharmacological findings, and

learning patterns of practitioners and other care providers.

Speaker: Loretta Finnegan, M.D.

NIDA and NIH have given a great deal of attention to women's and children's issues. The linkage of treatment was mentioned previously as one of the areas in need of improvement. Linkage of treatment is especially needed in the area of women's treatment. Special emphasis needs to be placed on not only the linkage of treatment with regard to women but the treatment of pregnant women in particular. Some of the areas that could stand to have an increase in the linkage of services for women and children are mental health, primary care, substance abuse treatment, and HIV/AIDS. The recruitment and retention of women for clinical trials is one way in which researchers can gain better insight into the effects of different stimuli used on women in all levels of the lifecycle (childhood through old age). NIH also has a reentry program for female scientists that focuses on various gender issues that arise throughout all of the health institutes and on women in general. A conference is going to be held that will center on finding the women's issues that deserve the greatest amount of research or simply have the most need.

The use of methadone coupled with comprehensive care can be a very effective means of treatment when dealing with drug-abusing pregnant women. Women who receive primary care, prenatal care, and drug abuse treatment have much lower rates of morbidity and mortality for both themselves and their children. Studies performed by Mary Jeanne Kreek have pointed toward lower rates of child abuse among drug-abusing mothers who are stabilized with the use of methadone. One drawback to the use of methadone is that some patients have exhibited both psychological and physiological tolerance toward its effects. The Medications Development Division, however, is looking at developing a new formulation of methadone that could be used to offset this problem.

Two manuals also are being developed that address the areas of women in treatment and drug dependence management in pregnancy for both mothers and their children.

Questions, Answers, and Comments

Comment: The question of what makes a patient successful upon his or her completion of a treatment program should be better defined. Are there any additional factors other than decreased crime, decreased drug use, and increased employment that should be looked at when measuring a patient's level of success? People that drop out of their treatment programs—yet improve in the areas of crime, drug use, and employment status—can and should be viewed as successful. In terms of cost, it needs to be determined how health care providers measure and compare negative outcomes and determine certain controls that can be used to help prevent future similar occurrences.

Comment: The main question that needs to be answered with regard to technology transfer is this: When are researchers going to receive information that they can use? The differences between how practitioners see the world and how researchers see the world is another issue that should be looked at.

Comment: It also must be remembered that, when creating new programs and policies, the medical field is strongly tied into the country's political system. Additionally, areas that need more attention are the following: client factors, program factors, staff factors, and the existence of different subpopulations. One bright note is that NIDA, by legislation, now devotes 15 percent of its appropriations to health services research. Some of the issues that still need to be addressed concerning the items suggested for the research agendas are as follows: how they will be paid for, how they will be prioritized, whether NIDA's 5-year plans cover the suggestions for the research agenda, and if funding is not available, what should be cut back to accommodate this dilemma.

IF22. Child Abuse and Neglect

Moderator: Lula Beatty, Ph.D.
Speakers: Lisa Jones, Ph.D.
Carol Williams, D.S.W.
July 15, 10:30 a.m.-12:00 p.m.

Speaker: Lula Beatty, Ph.D.

In 1974 a public law known as the Child Abuse Prevention and Treatment Act (CAPTA) was created. This law, amended for the third time in 1993, stressed greater Federal involvement in child abuse and neglect and led to the creation of the National Center on Child Abuse and Neglect. This organization's primary goal was to work toward preventing and treating various kinds of child abuse. Child abuse is defined loosely

as physical, emotional, or sexual abuse and/or neglect, or the exploitation of a child by the person who is responsible for that child's welfare. The number of child abuse cases has increased since 1976. Statistics indicate that about 27 percent of abuse is physical injury, 16 percent is sexual abuse, and 55 percent is neglect or deprivation of necessities.

Who are the perpetrators of these various abuses? It has been found that this is generally a family problem. The natural parents have, on average, been perpetrators in about 80 percent of physical abuse cases, 90 percent of necessity deprivation cases, 90 percent of emotional abuse cases, and 60 percent of sexual assaults against children.

The question of what impact substance abuse has on child abuse statistics is one that deserves a great deal of attention. A 1990 study conducted by Miller looked at the relationship between the role of child abuse and the development of alcohol problems among women. It was found that women who experienced child abuse tended to have higher levels of alcoholism as adults in comparison to women who had no such experiences. Survivors of childhood sexual abuse exhibited greater rates of psychoses and other mental illness, as well as numerous forms of alcohol and drug problems. This study also revealed a doubled rate of being sexually abused as adults among women who had been sexually abused as children in comparison to women who had not been sexually abused as children.

Another aspect of the Miller study worth mentioning is the number of women using drugs during pregnancy. Eleven percent—an alarming average—of all newborns were found to suffer from the ill health effects caused by their mothers using drugs during pregnancy. Health care personnel assigned to care for these infants have to cope with extremely difficult children who often suffer from physical and neurological damage. In addition to these problems, babies born to substance-abusing mothers are also more likely to suffer from fetal alcohol syndrome; withdrawal syndrome; child abuse, neglect, and incest; and later on, it is suggested, from eating disorders, antisocial behavior, and stress-related mental and physical disorders. In order to prevent some or even all of these problems from occurring, it has been recommended that the following elements be incorporated into therapeutic treatment methods offered to children of substance-abusing parents: (1) physical protection and safety, (2) a trusting environment, (3) a supportive social network, (4) positive role models, (5) education about alcohol and substance abuse, and (6) family therapy (prevention/intervention).

Speaker: Carol Williams, D.S.W.

There would seem to be little opposition over the belief that the three main objectives of the child welfare system are as follows: (1) protection of children within families and communities, (2) reduction of the circumstances/factors that lead to abuse and neglect, and (3) implementation of permanency planning (i.e., early planning and decisions as to the best, safest environment, free from both abuse and neglect, in which children can grow up). The basis behind the entire area of child care protection is to protect children, not by separating them from their families but, instead, by resolving the problems within the family and thus creating a safe and stable environment in which to live. Not unless it is found that a family's problems cannot be resolved will a child be relocated into a more suitable environment. Great difficulty has been discovered within the majority of the child welfare system programs in terms of locating trouble areas within many family units. The difficulty that arises can be attributed simply to the fact that most programs do not address enough of the problematic areas. One solution to this dilemma would be to increase the number of family preservation services, which are both family focused and community based. The goal of these programs is to prevent children from having to leave their homes. Within these programs, there exists a system of service workers who visit individual families at their homes and address any needs present and offer any needed advice or other support tools. The five main characteristics of a successful family preservation services program are as follows: (1) be holistic (i.e., address all the problems that a family presents), (2) be family centered (i.e., treat the needs of all the family members as opposed to particular individuals), (3) offer in-home programs and services, (4) be very intensive, and (5) focus on families' strengths.

Child welfare system workers need to obtain female treatment induction rates from the substance abuse field. If it can be determined why certain women begin using drugs, the child welfare system may be able to determine why substance-abusing mothers

sometimes turn to child abuse. Comorbidity of drug and mental health problems should be studied in order to better understand patterns toward child abuse/neglect and treatment methods for these occurrences. More attention also needs to be placed upon cultural issues in terms of treatment and prevention of both substance abuse and child abuse/neglect.

Speaker: Lisa Jones, Ph.D.

More emphasis should be put on prevention; steps should be taken to reach families before they have a need to enter the child welfare system. A national committee, which consisted of some of the top substance abuse and child abuse researchers, practitioners, and policymakers in the country, devised a plan to help prevent child abuse between the years 1990 and 1996. Under this plan the following three issues are covered: producing joint (child abuse and substance abuse officials) initiatives; matching treatments to substance-abusing families; and making treatment models available to families with substance abuse problems.

A 15-year study that surveyed all 50 States revealed a substantial increase in the number of child welfare reports and fatalities due to substance abuse. In 1992 the reported child maltreatment cases reached an all-time high of 2.9 million. Studies have pointed to two factors responsible for this steady increase: (1) substance abuse and (2) economic difficulties (e.g., unemployment and poverty). The 1992 reports of child maltreatment were broken down into the following categories and percentages: 45 percent of abuse resulted in neglect, 27 percent of abuse resulted in physical injury, 17 percent was sexual abuse, 8 percent was specified as other, and 7 percent was emotional abuse. Within the past 3 years 30 percent of all reported maltreatment cases have involved substance abuse. Chronic neglect has been the most prevalent result due to this unfortunate phenomenon.

The child abuse cases reported in 1992 had a 19-percent rate of substance abuse involvement. Of all the cases reported in 1992, 58 percent were physical abuse related, 36 percent were neglect related, and 6 percent were both abuse and neglect related. Forty-three percent of all reported cases involved children that were age 1 or younger; 41 percent involved children ranging from 1 to 5 years, and the remaining 16 percent were representative of children who were over age 5.

The following six prevention plan components are important for the future decrease of the country's child abuse statistics: (1) public awareness, (2) services for adults, (3) services for children, (4) training; (5) research, and (6) public participation.

One common misconception surrounding substance abusers is the belief that they are a "homogenous" group. The fact is that they are not; programs must be flexible when addressing the differences of individual substance-abusing populations. Practitioners and program designers must begin to ask people what they want in a program. This idea would lead to a much-needed philosophy of matching the program to the client as opposed to the other way around. Once these programs are designed, they also need to be affordable so that the public can benefit from the services. Services also should be long term and sensitive to client problems, such as childhood victimization, so that each treatment will be as effective as possible.

Questions, Answers, and Comments

Is there a neglect or sexual and physical abuse pattern present among the older parents who turned to substance abuse after years of parenting? Research has not been fully conducted on this subject, but there are large amounts of information available to be studied.

Comment: Substance abuse and heavy alcohol consumption begin later in life for African-Americans than for any other race.

What steps are being taken to ensure that the treatment practitioners and researchers have a better working knowledge in terms of what signs to look for when dealing with various patients who are being abused at home? The National Association of Social Workers has issued policy statements regarding child abuse and neglect. Problems have arisen regarding the ways these policies are being implemented throughout the country.

POLICY/ADMINISTRATION

IF 23. THE CHANGING DRUG ABUSE TREATMENT SYSTEM: SERVICE AND RESEARCH IMPLICATIONS

Moderator: Frank Tims, Ph.D.
Speakers: Thomas D'Aunno, Ph.D.
Barry Brown, Ph.D.
Robert Hubbard, Ph.D.
Henrick Harwood, Ph.D.
Respondent: William Butynski, Ph.D.
July 16, 4:30 p.m.-6:30 p.m.

Speaker: Thomas D'Aunno, Ph.D.

Data presented in this session come from outpatient treatment studies conducted in 1988 and 1990, but because of the rapidly changing drug abuse treatment system, what was true then may not be as accurate now. The survey research conducted at the University of Michigan of the outpatient treatment system was rather broad, with general questions about services provided and types of clients served. Three particular areas in these data deserve consideration: (1) methadone treatment, (2) HIV prevention, and (3) the availability of medical and social services. These data are from a national random sample of units via a telephone survey.

The average dose level of methadone that programs across the Nation are giving was found to be less than 50 mg. per day. However, considerable clinical research indicates that this level is too low for treatment to be effective. Consequently, a majority of programs appear to be encouraging their clients to detoxify from methadone much too quickly for their treatment to be effective. If clinical research indicates that clients need to remain in treatment for an extended length of time and that methadone doses must be above 50 mg. per day, it is a source of great concern that the majority of programs across the country are not following these treatment practices. One question for future policy, research, and practice is as follows: What can be done to increase the addict's length of stay in detoxification?

In the Michigan survey, drug abuse treatment units also were asked about how they were addressing HIV/AIDS among clients. Between 1988 and 1990, significant increases occurred in these programs' HIV prevention efforts with clients in treatment. However, much room still remains for improvement. For instance, about 20 percent of the units that were providing HIV prevention in 1988 had dropped their HIV efforts in 1990. Similarly, while the number of units providing HIV outreach services, along with the number of hours devoted to outreach, increased from 1988 to 1990, about 20 percent of the units regressed in their outreach efforts.

Previous research indicates that substantial comorbidity exists between drug abuse and mental health problems. The survey attempted to determine how many drug abuse treatment units at least assess mental health. From 1988 to 1990, there was a slight increase among both methadone and drug-free units. However, in that time, there were statistically significant decreases in the kinds of mental health services provided, with the exception of individual therapy. This trend is a cause for great concern.

Speaker: Barry Brown, Ph.D.

An important initiative that NIDA undertook in response to the AIDS crisis was its nationwide outreach/intervention program, geared toward encouraging intravenous (IV) drug users who were out of treatment and the sexual partners of IV drug users to practice risk-reduction techniques in their everyday lives. A variety of behavior-changing strategies was implemented in communities, directed toward individuals who had not elected or had been unable to access drug abuse treatment. The strategies aimed to modify both needle risk and sexual risk behaviors. About 45,000 people participated in the program's research protocol interventions, involving at least HIV testing, both pretesting and posttesting, educational literature, and some form of behavioral change strategy. Abstinence from drug use and sexual practices, although not discouraged, were not direct program goals, nor was entry into longer term drug abuse treatment. Primarily, the program sought to reduce individuals' risk for death and risk for infecting others with the AIDS virus.

The program was able to provoke a considerable extent of change among individuals, including a 50-percent reduction in individuals' sharing of needles and in the numbers of individuals using drugs on a daily basis. Also, there were marked increases in individuals' use of new or bleached clean needles and condoms, and there was a reduction in the number of people having multiple sex

partners. Thus, the program has had considerable success.

As generally expected, despite some skepticism, the program was able to locate and involve in this quasi-treatment experience IV drug users who previously had resisted treatment. About 45,000 people were involved in the research protocol, and many more were contacted and provided with services. A surprising finding in this study was that although pressure was not exerted on people to enter longer term treatment, a very significant number did become invested in longer-term treatment. About 38 percent of participants who had previously been in treatment entered long-term drug abuse treatment, and approximately 23 percent of those with no prior involvement in drug abuse treatment entered treatment during the 6-month follow-up period. Approximately 41 percent of the total number of people contacted had never been in treatment, despite an overall average of 11.5 years of IV drug use.

Many of these people were encouraged and able to access services because of the work of the outreach counselors, among other reasons. Real behavior change occurred consequent to outreach workers' activities in the community. To be imprisoned in a four-walled conception of drug abuse treatment is a mistake, especially with the threat of AIDS. Furthermore, the outreach activity facilitates the understanding of treatment in terms of the process of drug abuse treatment with consideration of what is occurring in the community (i.e., program staff interacting with clients on the clients' own turf). When treatment is conducted in the community, the client can help to negotiate the treatment agenda, such as the expected changes in behavior. Under these circumstances, the client can comfortably move into drug abuse treatment, prepared by the community-based treatment for more formal aspects of treatment.

Speaker: Robert Hubbard, Ph.D.

Fairly dramatic changes are occurring in the treatment system that may affect the types of individuals entering treatment, the kinds of services they will receive, and the types of outcomes they will experience. Fortunately, similar kinds of data collection have been conducted at different times. This kind of trend data is invaluable in putting study results into perspective. However, typically, client data have been collected in different eras when systematic data have not been available on programs, or when systematic data on programs have been collected, client data have not been available. It is essential that a comprehensive, coordinated program of research be developed that facilitates the examination of these issues systematically, from multiple levels, over time.

Data presented in this session come from two major, multiprogram, national studies of drug abuse treatment. The first is the Treatment Outcome Perspectives Study (TOPS), conducted in 1979 and 1981 in 40 treatment programs, including methadone, long-term residential, and outpatient drug-free programs. These programs were located in 10 cities and involved about 4,000 methadone clients, 3,000 outpatient clients, and 3,000 residential clients in the sample. The second study is the Drug Abuse Treatment Outcome Survey (DATOS), conducted from 1991 through 1993 in about 120 programs, including methadone, residential, and outpatient programs, along with short-term, inpatient, or chemical dependency programs. These programs were located in 11 cities across the country. Data on the first study are not available for making comparisons with the second study.

In the late 1980s, researchers trying to determine effective study designs wanted to conduct an intreatment interview with drug abuse treatment clients after about 28 days of treatment, the usual length of time for short-term, inpatient treatment programs. However, once work began in the field, it became obvious that interviews needed to be conducted much earlier since few people in short-term treatment programs remained in treatment for 28 days. Although some, but not much, attention was paid at the time to the concept of managed care, in just 2 years its impact on short-term inpatient programs has been dramatic. In many communities, managed care now is evolving into the public sector, and the potential changes that managed care may have on all modalities of treatment cannot be underestimated. This development again points to the need for a continuous system of studying drug abuse treatment. The changes that managed care will create must be monitored for potential and actual impact on clients, treatment, and outcomes.

Among the findings from the DATOS study, the data seem to indicate that short-term inpatient programs are moving more toward

public sector-like clients than other data bases had suggested. In the 2 years of the DATOS study, about 5 of 18 chemical dependency programs studies shut down, while the others have severely curtailed their duration of treatment. Long-term therapeutic communities, however, appear to have changed the least during the 1980s and seem to be functioning well.

Special efforts to recruit women into treatment appear to be having some positive effects, with 10 percent more women in methadone and long-term residential programs. Also, according to the DATOS findings, in each modality of treatment, the number of daily opioid users declined dramatically, as did the use of depressant psychotherapeutics, such as barbiturates and tranquilizers, among individuals entering treatment. More people, however, are using multiple drugs. Among individuals entering the outpatient methadone treatment in the TOPS study, 75 percent had previous treatment for drug abuse. But, in the DATOS study, only 66 percent had previous treatment. This finding may indicate the efficacy of outreach in getting people who have not had treatment to enter a program. In the long-term residential and outpatient drug-free programs, referrals by the criminal justice system programs increased by 10 percent in the past 2 years. Additionally, the number of people covered by private health insurance for drug abuse treatment declined dramatically. Also, the predatory crime rate among methadone patients rose, implying that more people from the streets began entering the programs. The employment rate declined among patients across the different modalities of treatment.

In addition to decreases in services at the program level, there also have been decreases at the individual level. For instance, only 5 percent of people in methadone treatment who identified a need for a particular service (e.g., legal or psychological) received the service. Less than 10 percent received the needed service in outpatient, drug-free treatment. Long-term, residential treatment seems more capable of providing needed services, with about 25 percent having an identified service need met. Another concern is that despite outreach efforts, only 66 percent of individuals in methadone treatment, 42 percent in long-term residential treatment, and 61 percent in outpatient, drug-free treatment reported receiving AIDS risk reduction services.

Followup data will be collected in upcoming months. Hopefully, future studies will see increases in service levels and access to programs, along with more positive outcomes than have been evident in the past.

Speaker: Henrick Harwood, Ph.D.

Lewin-VHI, Inc., recently conducted a study for NIDA examining the major health care reform proposals that had been put forth on Capitol Hill or by major health care interest groups with respect to their coverage of alcohol and drug abuse treatment services. The company identified 30 major proposals that had been submitted to Congress or that had been put forth by groups such as the American Medical Association and Blue Cross/Blue Shield and then narrowed the list down to 10 major proposals for detailed examination. A number of criteria were established by which to evaluate the proposals. From these criteria were developed five sets of major issues that can be used to analyze health care systems or health care reform proposals: (1) What are the health coverage provisions? In other words, who would receive treatment or coverage for treatment? (2) What are the benefits, and what services would be included? (3) How will service delivery systems be reformed, and will the fragmented system currently in existence continue or will integrated systems such as HMOs be developed? (4) In regard to financing reform, who will pay for services? (5) What cost containment mechanisms will be included?

Concerning coverage, the central question is whether a particular proposal would ensure universal or partial coverage and the speed with which that coverage would take place. In the United States, approximately 37 million people are not currently insured, and many more are covered through Medicaid. In addition, many of these people are at high risk for alcohol and drug abuse problems. It appears that individuals covered through Medicaid will not see much change in their coverage, but the uninsured might gain coverage through their attachment with the workforce (i.e., their employers or a relative's employer). It should be pointed out that Medicaid currently is limited in its State-to-State coverage for substance abuse treatment services. Therefore, it is possible that despite the current health care proposals, there will still be a major need for con-

tinuing publicly subsidized substance abuse treatment delivery systems.

Even if individuals do have insurance for substance abuse treatment, it still is unclear exactly to what extent treatment will be covered. For instance, will only a minimum level of treatment be covered, or will comprehensive services be provided? Again, even if people do gain coverage for treatment under a new health care system, they still are likely to fall through the system, exhaust their benefits, and need a safety net (i.e., a publicly subsidized treatment system that takes on the hardest cases).

In considering the delivery system structure, it must be remembered that individuals with alcohol and drug problems often have other related problems, such as HIV infection, tuberculosis, or mental health issues. The current system is very fragmented, making it difficult for people to receive all the services that they need. Proposed health care systems provide for a more integrated delivery system, so that, for example, someone in substance abuse treatment would have access to a full range of therapeutic services.

The Democratic and Republican proposals appear to be variances of the "pay or play" system in which employers are required to make some contribution toward insurance, with some public subsidization for individuals. It is unclear whether the two tiers of substance abuse treatment—programs for those with health insurance and programs for those receiving publicly subsidized care—will be integrated. It is critical that any proposal consider the continuing need for publicly subsidized treatment for the hardest cases.

Finally, the proposals reviewed in this research study had very active cost containment provisions. Cost containment is a major focus of the health care reform debate and could create difficulties for individuals requiring substance abuse treatment. It is likely that people could exceed both their annual and lifetime limits for substance abuse treatment coverage very quickly after entering treatment programs. And while managed care has been effective in cutting costs in substance abuse treatment in the private sector, it does not have extensive experience with people with chronic, long-term substance abuse problems. Many HMOs, for example, do not cover reimbursement for services for chronic, severe substance abuse cases. Again, there is a need for a safety net for individuals who fall through such a system.

Questions, Answers, and Comments

Have any treatment outcome indicators been developed against which to measure success? There have been numerous, well-accepted indicators of substance abuse treatment success for some time now. Certain types of studies, such as cost-effectiveness studies, are not available yet, but extensive studies of the efficacy of substance abuse treatment have been published.

Comment: Among the many important issues discussed in this session, several were particularly significant. While many types of treatment services are being reduced, it is unclear whether this is occurring predominantly in the public or private systems, or in both. It also is critical to recognize that drug users can be involved successfully in behavior change strategies outside treatment, as well as in treatment itself for the first time. In addition, the dramatic changes in the treatment system, including managed care and trend changes of different drug use, must be followed carefully. Finally, while most people in the substance abuse treatment field have been optimistic about changes in the country's health care system, proposed changes may provide only limited coverage for treatment, primarily for outpatient or short-term care. Workers in the field must advocate for greater coverage in the new health care system and make sure that no Federal funding supporting the drug treatment system is lost.

Comment: Three questions typically are included in discussion of substance abuse treatment: Does it work? What will it cost? What is the payback? Research must demonstrate the efficacy of treatment approaches. Effective treatment translates into financial savings in the long run, and this must be demonstrated to policymakers.

Comment: If treatment on demand is built into health care reform, the cost is spread from the Federal Government to State government, employers, and individuals. This approach would be better than continuing a separate system that was entirely federally supported.

Comment: It must be argued successfully that substance abuse treatment results in reductions in other health care and other costs to society. However, no useful studies on this issue have been funded to demonstrate this fact. The future of the substance

abuse treatment field is at stake with health care reform.

Comment: One issue that is not discussed as much as it should is the implication of AIDS on drug abuse treatment. There are many service delivery issues that must be addressed, such as whether there should be standard guidelines for AIDS prevention activities or how to reach the sexual partners of injection drug users.

Comment: At the core of managed care is cost containment, and at the core of the substance abuse treatment field's response must be accountability. Yet, there is no paradigm for determining the cost of alcohol treatment. Besides determining if a treatment works, it must be assessed whether the treatment is worth its cost. Simultaneously, the cost of not treating people must be assessed. However, it is easy to see that when someone contracts AIDS or is imprisoned, the cost of medical treatment or incarceration is enormous. Refined data and fancy calculations are not necessary to understand broadly the cost-effectiveness of substance abuse treatment. It also should be remembered that, as a public health issue, substance abuse affects the national welfare and therefore is not isolated among a certain population of people. Substance abuse treatment should not be held to a higher standard of efficacy than other forms of medical treatment.

IF24. Questions and Answers on Drug Abuse and Legal Issues

Moderator: Ellen Weber, J.D.
Speaker: Mark Barnes, J.D.
July 15, 3:00 p.m.-4:30 p.m.

Speaker: Ellen Weber, J.D.

The Americans with Disabilities Act (ADA), a piece of civil rights legislation, extended the rights offered under the Rehabilitation Act to the private sector. The two main subsets that comprise the ADA are the Employment Provisions and the Public Accommodation Provisions.

The Employment Provisions states that people cannot be discriminated against due to their physical or mental disabilities. This law includes both alcohol and drug problems. People with current drug problems, however, are not covered under this law unless they are seeking treatment for their current drug problems. Because alcohol is a legal drug, people suffering from either past or current alcohol problems are protected under this law whether or not they are seeking treatment. A common question asked of the ADA's Employment Provisions is this: What constitutes current drug use? The answer to this question tends to be fairly vague, since current drug use does not necessarily mean the day or even week prior to testing. In other words, no real limitations have been set concerning what is and what is not current drug use. The law, however, provides for testing any time an employer suspects drug use by an employee. Inquiries into disabilities or medical conditions prior to hiring an individual are absolutely prohibited under the law. On the other hand, drug testing can be applied at any time. The one protection that individuals do have is that testing must be conducted by facilities that provide very thorough and accurate test results. Test results that reveal employee drug use can result in reasonable steps being taken by the employer. These steps generally include periodic drug testing and inquiries by professionals to ensure that drug use does not continue.

Although the ADA does not allow discrimination against individuals suffering from physical or mental disabilities, people unable to perform essential job functions (with or without reasonable accommodations in the workplace) lawfully can be refused employment. Reasonable accommodations generally can be defined as altering rules or procedures within a workplace, allowing accessibility to an employee in terms of performing the essential job functions. Examples of reasonable accommodations include restructuring the job, modifying the schedule to better suit the employee, and modifying various tools and materials that may be needed during the employee's workday. There is, however, an undue hardship clause in the law, which places a limitation on an employer's obligation to make any unreasonable accommodations. An unreasonable hardship would be an extreme difficulty or expense placed on the employer when considering the following factors: (1) nature and cost of accommodation, (2) overall financial resources of the facility, and (3) type of operation conducted in the facility.

The Public Accommodation Provisions prohibits any public accommodation (including drug and alcohol treatment programs) from discriminating in the provision of services of the equal employment benefits that any

accommodation provides. Under this provision of the ADA, the following rules and regulations apply: (1) There should be no discrimination of benefits for disabled employees, (2) there should be no separation or segregation of services, (3) it is a violation if one fails to take the necessary steps to accommodate a disabled individual, (4) employers must modify architectural features of their facilities to accommodate disabled employees—failure to do so is a violation, and (5) facilities built now must be accessible to disabled individuals.

Speaker: Mark Barnes, J.D.

In the United States, there has been a steady increase in the number of tuberculosis (TB) cases since 1980. Somewhere between 1 in 5 and 1 in 3 of the people infected with TB are multidrug-resistant (i.e., their bodies are resistant to some of the TB treatment drugs). This phenomenon commonly is caused by one of two factors. First, TB-infected patients are given a supply of medicine that they are to take over a period of 6 to 9 months. If they do not take the full dosage, the TB reactivates itself within the person's body in a new form, which becomes resistant to the effects of the medicine that was fighting it previously. Second, about one-half of all the people who have TB also are infected with HIV, and about one-half also are suffering from underlying substance abuse problems.

There are two different kinds of TB—TB infection and active infectious TB. Generally the public health field is more concerned about active infectious TB, since it can spread to other people. Free tests are available to anyone who may have been exposed to someone with active infectious TB. A number of strategies are used to control the spread of active infectious TB. One method is to have drug treatment facilities institute a mandatory rule that TB patients must sign a consent form on admittance into treatment so that the local public health department can locate all of the people who have come into contact with the TB patient. Another method is to establish "QSOAs" (quality standards of action) between the health department and individual treatment facilities. In the event that a treatment facility is part of a larger entity, such as a hospital, then the infection control nurse or other authority should report the case to the local public health department.

Ensuring that people complete their treatment always has been a challenge facing the public health field in terms of controlling the spread of TB. One suggested remedy to this problem is developing a system of "directly observed therapy," which involves a patient receiving his/her medication directly from a nurse, doctor, or public health worker, who in turn keeps a record of every appointment and every dose taken. Another idea is delivering individual medications on a daily basis and then following the same system of recording the appointments. Compliance with TB treatment has been deemed just as important, if not more important, than diagnosing TB and reporting cases to the public health department.

Questions, Answers, and Comments

Comment: Alcohol and drug policies in the workplace must be written so that everyone is covered by the job description in an equal manner across the board.

Comment: People with current alcohol problems are not treated differently than people with any other kind of disability because alcohol is a legal drug. Policies can be written within the workplace that prohibit alcohol consumption on the premises and/or by anyone who performs potentially dangerous jobs (e.g., driving or using mechanical equipment).

Comment: Any person suffering from a disability that causes him/her to be unable to perform at the level needed to complete his/her job functions is not protected from discrimination.

Comment: Drug resistance does not mean that a cure is impossible; it means that the TB patient does not respond adequately to certain drugs but likewise is not completely unaffected.

Comment: Many alcohol detoxification units consider people involved in methadone maintenance treatment programs ineligible to enter their particular program because admittance would go against their facility's abstinence policy. This is discriminatory, since methadone use should be considered a medical treatment as opposed to continued drug use.

What would happen in the event that the public health department went into a facility and wanted to see the medical records of a patient who had not signed a consent form? Technically the patient is protected under

Federal law; therefore, the records would not have to be rendered. In the case of a State or local public health department official, however, he/she may possess the power to overrule that law and take the record anyway.

In terms of disabled clients, what is the ADA's position on allowing and disallowing access into treatment facilities? Access into treatment facilities must be allowed unless evidence can be documented proving that a particular client was unfit to participate in the treatment and services provided by a certain treatment facility.

IF25. Legislative Issues in Drug Abuse

Moderator: Joel Egertson
Speakers: Susan Quantius
Ronald Welch
July 15, 4:45 p.m.-6:15 p.m.

Speaker: Joel Egertson

During the 1980s three major health phenomena emerged that affected how the Government would organize in response to the drug abuse problem. The first of these was the appearance of crack-cocaine as a drug of choice, which has had severe health consequences, particularly for women and children. The AIDS epidemic also began to spread quickly during the 1980s. The third event, the entrance of drugs into the workplace, caused the policy of drug testing to become a reality in both the Federal Government and the private sector.

Drug abuse legislation between 1982 and 1992 reflects the following congressional priorities. In 1984 drug abuse amendments created new set-asides in the Alcohol, Drug Abuse and Mental Health Services Block Grant for the prevention and demonstration authorities of NIAAA and NIDA. The 1986 amendments created OSAP (now CSAP), while also providing for increased emphasis on treatment in the block grant. In 1987 appropriations legislation increased funds to NIDA for the research and treatment of AIDS. These amendments also required NIDA to publish guidelines in the *Federal Register* for Federal drug testing. The Anti-Drug Abuse Act of 1988 established the Office of National Drug Control Policy (ONDCP) and initiated the idea that one individual should be in charge of coordinating the Federal effort against drug abuse. In 1992 the Alcohol, Drug Abuse, and Mental Health Administration Reorganization Act united SAMHSA. In addition, this act placed NIDA, NIAAA, and NIMH in NIH and authorized a medications development program at NIDA.

Speaker: Susan Quantius

Problems involved with appropriations and drug funding include difficulty in (1) making judgments about the allocations of drug funding and (2) deciding what priority should be given to drug abuse research and treatment funding. Because appropriations work on an annual cycle in Congress, funding fluctuates for programs not only during the year but also from year to year. Thus, it is difficult to predict what kind of funding drug abuse research can expect in the next 5 years. From 1984 to the present, there has been an uneven history in drug funding. From 1987 to 1991, there were significant increases in drug funding, following modest increases in funding from 1984 to 1987. After 1991 there were again modest increases in drug funding. Part of this problem is that no topic can consistently be everyone's number-one priority. Public attention and concern about other issues sweep through the population, making that field the new priority. The changes in appropriations are part of the natural ebb and flow of priorities. Also, many worthy programs compete for funding, which makes it difficult to decide which programs should get money. This competition contributes to the difficulty of attaining and maintaining top funding priority.

Because the drug problem does not have an easy or clear solution, in addition to being expensive, some people are more hesitant to fund drug research and programs. Also, since a strong correlation exists between drugs and crime, some people focus more on the criminal justice system and place funding there. The cyclical funding is difficult for research, and there might be a possibility of lobbying for steady funding in return for showing Congress the results from drug research and treatment programs. It is helpful to link drug treatment programs and research with other issues, such as HIV/AIDS, in order to approach the problem in a wider perspective and gain a broader base of support. Since NIDA is now part of NIH, it is reasonable to think that it will share in the broad support NIH has in Congress. However, any increase in drug research funding will be taken at the expense of other health service and research areas, and most likely the Clinton Administration and Congress

have higher priorities in other health areas. In a time of limited resources and an abundance of need, drug researchers and outreach workers should have realistic funding expectations.

Speaker: Ronald Weich

It was noted—when looking at Mr. Egertson's history of drug policy— that Congress has not had a strong impact on the drug problem. The drug problem is deeply rooted in American society and is related to a variety of social factors over which Congress has very little control. There is a need to move away from the simplistic rhetoric of the "drug war." It needs to be recognized that the drug problem is not a war, and it is not primarily a criminal justice matter but rather a public health problem. Senator Kennedy has tried to improve the Nation's policy on drug abuse by advocating for a more balanced, effective, and consistent drug strategy.

A more balanced drug strategy means moving toward a strategy that does not underestimate the importance of both treatment and prevention. Treatment and prevention must be the central tools for dealing with drug abuse. The Department of Justice needs to be encouraged to utilize its resources with drug abuse treatment and prevention in mind. Law enforcement can play a positive role in bringing people into treatment and sustaining treatment within the criminal justice system. A crime bill currently is being developed, which includes reinstitution of the Federal death penalty and restrictions on the Federal habeas corpus. New mechanisms to use law enforcement resources for drug treatment also may be included. This would mean that block grant dollars would not be used for treatment of the criminal population. Instead, the criminal justice system would need to provide treatment for every criminal charged with substance abuse. Hopefully, the national health care reform also will contribute to the development of a more balanced drug strategy.

A more effective drug strategy is also important. The reorganization last year of the Federal effort to treat, prevent, and research substance abuse was performed to ensure that money spent on the demand side is well spent. Since NIH is well supported by Congress, funding for these offices may improve. Technology transfer is central to the idea of a more effective drug strategy. Ongoing collaboration is needed so that research findings can be translated into effective substance abuse treatments. It also is necessary to work to (1) strengthen links between SAMHSA and NIDA; (2) increase integration between NIDA and NIH; and (3) improve the block grant mechanism, which is the Federal Government's primary method to support the States' efforts of treatment and prevention.

A more consistent drug strategy also is necessary. There is a need for a method that will recognize alcohol, tobacco, and prescription drugs as substances of abuse and prevent their abuse. Criminal sentences are given for illegal substance abuse, yet almost no attention is paid to these three other harmful drugs. A more rational strategy is needed that is capable of preventing the abuse of legal and illegal substances. A more consistent drug strategy includes a stronger public health model, moving toward a harm-reduction model with respect to drug abuse. There is a need for more sensible drug regulation.

Questions, Answers, and Comments

There should be more discussion about the drug maintenance clinics that were operated from 1919 to 1924 and which seemed promising. Also, why isn't the legalization of drugs discussed openly in the United States? In the current environment, Congress is not ready to discuss the legalization of drugs. Congressional members who have brought it up have been shot down quickly. However, Congress should not close itself to any argument concerning the drug abuse problem, including legalization of drugs. Unfortunately, up to this point, what debate there has been has had an extremist approach, with one group supporting legalization of drugs and another group taking a hard stance against all drug users. There should be a middle ground in which drugs remain illegal but a more compassionate approach is taken toward drug addicts.

Comment: Focusing on children is important, but more attention also must be given to the many young adults and adolescents who need help immediately.

Comment: Another problem is that addiction has been viewed as a moral and not a medical issue. We know how to treat medical problems in a hospital, not a prison. Why are we sending addicts to prison when they need to be treated in a hospital program?

Comment: Among the various programs operated by DHHS, the Head Start program

and immunization probably will take top priority in the Clinton Administration, but drug abuse is becoming a higher priority and may receive more attention in the future. It also is hoped that there will be an improved, tightened focus on drug-free schools when the program is reauthorized. It must be demonstrated that the Drug-Free Schools and Communities Program is effective.

Comment: The research community and American policymakers should look internationally for new ideas on drug policy, drug abuse programs, and other pertinent issues.

IF26. PUBLIC-SECTOR FUNDING RESOURCES

Moderator: Eleanor Friedenberg
Speakers: William Butynski, Ph.D.
Paul Gaist, M.P.H.
Miguel Gamez
George Lewis
Elaine Parry
Beatrice Rouse, Ph.D.
July 15, 7:15 p.m.-9:00 p.m.

Speaker: Beatrice Rouse, Ph.D.

SAMHSA's Office of Applied Studies operates several drug abuse data sets, including those from the National Household Survey on Drug Abuse, the Drug Abuse Warning Network (DAWN), the Client Data System, and a variety of special studies. This Office is eager to make its data available, either in print or online, to individuals and programs developing grant and contract proposals. The Office also is trying to make available public-use data sets, but issues of confidentiality necessitate caution in disseminating such information. The Office of Applied Studies is planning the early release of several advance reports, such as the three-quarter data of the DAWN and the 1992 DAWN data, an indicator of the medical impact of drug abuse on medical examiners and emergency room divisions. Individuals are highly encouraged to explore the data available through this Office and to provide feedback on data that should be included. Data on women are a priority, and the Office is interested in information on women's treatment and other needs. Currently data from the Office of Applied Studies is not expensive. Office staff are trying to facilitate the analysis of its data across years and to tag data related to the census track. Data obtained through SAMHSA may be very useful in applying for funds from private foundations. In addition, SAMHSA looks forward to cofunding studies with NIDA, but funds currently are not available for such ventures. However, the Office of Applied Studies can provide valuable funding resources in the form of data that can be used for grant proposals.

Speaker: Elaine Parry

CSAP, one of the three Centers that make up SAMHSA, is the lead Federal Agency focusing on the prevention and intervention of alcohol, tobacco, and other drug abuse problems. The Agency supports very comprehensive local, State, and national prevention programs that aim to develop innovative strategies for addressing substance abuse. CSAP's prevention demonstration programs focus on both clients (i.e., the individual, family, and community) and systems (i.e., broad systemic changes in the community). CSAP also operates training programs to improve the skills of people working with clients and to assist with community empowerment. The public education program involves knowledge transfer and media operations. Additionally, CSAP's field development efforts aim to build the capacity of the field by facilitating networking among substance abuse treatment workers. CSAP has two primary client-oriented programs: (1) the High Risk Youth program, which supports projects that develop innovative strategies for addressing the factors that place youth at risk for substance abuse, and (2) the Pregnant and Postpartum Women and Their Infants (PPWI) program, which supports demonstration projects addressing this group's special needs. With the reorganization of ADAMHA into SAMHSA, CSAT is expanding the PPWI program. Also, CSAP operates a perinatal addiction prevention resource center, which provides a national focus for perinatal issues and a forum for knowledge exchange.

Within CSAP's systems-oriented programs is the Community Partnership Demonstration grant program, which provides funds to communities to establish public and private partnerships and comprehensive strategies for preventing substance abuse. Also, CSAP's training program involves curriculum development for health care professionals and community leaders, a medical education program to build the skills of students, and a national volunteer center. CSAP's public education and information dissemination effort comprises a variety of activities, including NCADI and the more specialized Regional Alcohol and Drug Awareness Resource cen-

ters within the States. CSAP also is engaged in numerous media campaigns. Finally, CSAP engages in field development efforts, including a conference grant program, and comprehensive evaluation activities.

In Fiscal Year 1994, CSAP expects to receive increases in its budget, including funds for additional HRY grants and for replications of successful projects. Also, CSAP's Communications Cooperative Agreements program will target media campaigns toward specific population groups rather than a broad national audience. A new alcohol, tobacco, and other drugs/youth violence program within the CSAP High Risk Youth program will begin, as will a program focusing on adolescent (ages 13 to 20) females, especially those who have suffered physical abuse in association with alcohol and drugs. In addition, the Community Partnership Services program, an outgrowth of the Community Partnership Demonstration grant program, will focus more on services delivery. Also, CSAP will start a small grant program to provide technical assistance to small businesses for starting employee assistance programs. At present, it is unclear whether funding will be available in the upcoming budget.

Speaker: George Lewis

CSAT was established in the late 1980s and has grown considerably since then, with a current staff of about 140 people and a budget of about $1.3 billion. Like CSAP, CSAT expects to receive increased funding in Fiscal Year 1994. CSAT's philosophy of treatment maintains that comprehensive treatment works best—that is, programs that offer a wide array of services for clients, such as primary care, education, counseling, and vocational skills training, are most effective. CSAT's demonstration programs are evaluated carefully. One of these, the Target Cities program, currently operates in 9 cities, with expectations to grow to 15 in the next review cycle. The Critical Populations program covers a range of issues and population groups, including adolescents, Native Americans, and public housing residents. With passage of the reauthorization bill in 1992, CSAT was given authority over the PPWI program, as well as another program for women and their children previously operated by CSAP. CSAT also operates two programs with incarcerated individuals. There presently is considerable controversy surrounding whether to incarcerate people for nonviolent crimes, and CSAT's nonincarcerated criminal justice program offers an alternative to imprisonment. In addition, CSAT is funding (1) projects for rural, remote, and culturally distinct populations; (2) clinical training and cooperative agreements to support training needs in the treatment community; (3) a managed care model for supplemental security income; and (4) a program addressing the needs of community-based organizations, such as community health centers, to improve the availability of primary care treatment.

Speaker: Miguel Gomez

The Health Resources and Services Administration (HRSA), one of nine agencies within PHS, is committed to individuals with the greatest needs, sponsoring programs for mothers and children, people in rural and urban settings, homeless people, and migrant workers. HRSA's primary responsibility is to train health care professionals to meet the specific needs of these populations. For instance, the Public Health Service Corps is managed through HRSA, as are Healthy Start and the National Organ Transplant Act.

The Ryan White Care Act is the largest Federal program providing care and treatment for HIV-infected people, including those with substance abuse problems and their families. The Act has two primary components. Title I funding is directed to 25 cities across the country to provide care and treatment for people living with HIV. The cities must use this money to provide primary care and support services to HIV-infected people who are not eligible for insurance or other public programs. The funding is sent directly from the Federal Government to the mayor's office in each city. A local planning council, made up of individuals who are reflective of affected populations in the community (such as people with AIDS or hospital representatives), decides the priorities for spending the money, which then is usually managed by the local health department. Community organizations apply for the funds which, because they are distributed under emergency relief legislation, must be spent within 120 days of being received by the city. Over 40 percent of individuals receiving services through this funding are from minority communities and are uninsured.

Title II funding goes to all States and may be spent in four ways: (1) to build a consortium to release resources in State areas with the

greatest need, such as in rural settings; (2) to provide drug abuse treatment; (3) to provide home health care; and (4) to provide insurance continuation programs. The Federal Government also provides Title III funding, at a much lower level, directly to applicants. Currently 133 programs across the country are providing early intervention with Title III funding.

Organization and program staff should find out which kinds of funding are available in their areas, particularly because funding is increasing. In 1993 HRSA had a budget of $138 million, but this amount is expected to increase dramatically in 1994. Therefore, a large amount of money is being poured into communities across the country. To provide treatment and social support to the substance abuse community, an applicant should be able to prove that a linkage exists providing HIV-infected persons and their families with primary care. HRSA's Ryan White funding goes toward placing people in treatment facilities, providing support groups, and supporting methadone treatment. Also, HRSA is funding mobile vans operated by substance abuse treatment programs in New York City and New Jersey to provide linkages with primary care.

To apply for money through HRSA, applicants must be able to explain the substance abuse problem in their communities, how they plan to coordinate their AIDS efforts with substance abuse workers in the community, and how they plan to continue their work in the following year. Also, grantees must complete a needs assessment, detailing the greatest needs of the populations in their communities, and a plan for how they will spend the money to ensure that the greatest needs are met. While Ryan White funding is primarily focused on HIV issues, HIV overlaps with substance abuse, tuberculosis, and many other issues.

Speaker: Paul Gaist, M.P.H.

As the principal biomedical and behavioral research arm of DHHS, NIH funds research related to a broad spectrum of diseases and health problems, conducted both in its own research facilities and by other research and educational organizations and institutions. NIH also funds the training of research investigators and the dissemination of research knowledge. Furthermore, NIH has played a key role in combatting AIDS. In accordance with its mission to conduct and support biomedical and behavioral research on the causes, diagnosis, prevention, and cure of diseases, NIH has established a comprehensive program of basic and clinical research on HIV infection and AIDS.

With the reorganization of ADAMHA into SAMHSA in 1992, NIAAA, NIDA, and NIMH were incorporated into NIH, broadening NIH's mandate and thereby presenting an opportunity to better achieve national health care and research priorities. This structural change should promote greater scientific collaboration, enhance the interdisciplinary coordination of programs, and increase the likelihood of major breakthroughs in treating diseases.

The Office of AIDS Research (OAR) and the Office of the Director of NIH are responsible for coordinating the scientific, budgetary, legislative, and policy elements of NIH's AIDS research program. OAR fosters cooperation among the NIH Institute Centers and Divisions (ICDs) and among other Federal agencies, foreign governments, private industries, organizations, and institutions. In 1993 President Clinton proposed providing NIH with $1.3 billion for AIDS research in Fiscal Year 1994—48.9 percent of PHS' AIDS funding. NIH AIDS expenditures have grown quickly in the past decade, from $3.3 million in 1982 to over $1 billion in 1993; funding for AIDS research represents 10 percent of the overall NIH budget. The NIH AIDS research effort may be categorized into five major scientific areas: (1) behavioral and social science research, (2) natural history and epidemiology, (3) ideology and pathogenesis, (4) therapeutics, and (5) vaccines.

NIH supports HIV research conducted through intramural and extramural studies, with most of the budget going toward the latter at academic and other institutions. Research grant applications are submitted to the Division of Research Grants at NIH, the central receipt point for applications, where each application is reviewed for its relevance to the overall mission of the NIH awarding component or the PHS. From that point, applications are assigned to an appropriate initial review group for assessment of their scientific merit, and then to the appropriate NIH Institute for second-level review by its advisory council or board. (Contract proposals are submitted directly to the particular Institute responsible for putting out the request for proposals.) Since its inception, NIH has used peer review procedures in

which scientists assist with the selection of biomedical and behavioral research projects. Such a dual review provides for a more objective evaluation by separating the assessment of the project for scientific and technological merit from subsequent policy decisions concerning programmatic scientific areas in which projects are supported and the levels of resources that are to be allocated.

Many NIH support mechanisms exist. The primary support mechanism is the research project grant, or the traditional RO1, awarded to eligible domestic or foreign institutions on behalf of a principal investigator for a project related to his or her interests and competence. Most of the research that NIH supports is maintained through this mechanism. In addition, NIH awards First Independent Research Support and Transition (FIRST) awards to support first independent and investigative efforts of an individual and to affect the transition toward traditional types of NIH research grants. Another support mechanism is the Center Grant, awarded to institutions (i.e., specialized centers) on behalf of a program director and a group of collaborating investigators to support multidisciplinary, long-term programs of research and development. NIH also supports the research training of scientists for careers in behavioral and biomedical sciences, as well as the expansion of professional schools in these areas. Research supplement awards for underrepresented minorities are given to ongoing research projects to support the research capabilities of students and investigators belonging to particular ethnic or racial groups determined (by the grantee institution) to be underrepresented in biomedical or behavioral research nationwide. Finally, NIH makes cooperative agreements with grant recipients, ensuring substantive NIH involvement in their projects.

Information on many other NIH funding mechanisms are available through NIH. For instance, interested persons may obtain the NIH Guide for Grants and Contracts, which lists funding opportunities; a guide to preparing NIH grant applications; a directory of contacts and mission statements of the OAR in each NIH ICD; brochures on the NIH AIDS loan repayment program; and other information.

Drug addiction with injectable substances and high-risk sex associated with substance use will fuel the HIV pandemic. Substance abuse and HIV infection are not confined to one risk group but are diseases of families and communities. NIH is committed to funding research to understand better this intersection.

Speaker: Eleanor Friedenberg

NIDA follows the same mechanism of funding as NIH, because it now is one of the NIH Institutes. Applicants submit applications directly to the Division of Research Grants. However, at least through Fiscal Year 1996, NIDA will continue to maintain its own NIDA-specific review unit within the Office of Extramural Program Review. Applications are reviewed three times each year for grant awards. NIDA's ongoing program announcements are made through the NIH Guide to Grants and Contracts, which may be obtained via subscription or online. NIDA also periodically issues requests for applications, usually once per year, for targeted research that is congressionally mandated or deemed to be underrepresented in NIDA's research portfolio. It is helpful for prospective applicants to make personal contacts within NIDA; staff try to make the long and difficult application process as user friendly as possible.

NIDA supports research in a full range of areas from basic neuroscience research to clinical research. In Fiscal Year 1994, NIDA will place a renewed emphasis on health services research with a congressional mandate to spend at least 15 percent of its research money in this area. In addition, NIDA hopes to cofund projects in many areas with SAMHSA centers and the Office of Applied Studies, with linkages between services and research. Most of the NIH Institutes expect to remain fairly level in their funding for Fiscal Year 1994, but NIDA likely will see a slight increase.

Speaker: William Butynski, Ph.D.

The National Association of State Alcohol and Drug Abuse Directors (NASADAD) conducted a State Alcohol and Drug Abuse Profile Project, which showed that States contribute about 39.9 percent of overall funding in the alcohol and drug abuse service area, while the Federal Government contributes about 37.7 percent, county and local governments contribute about 6.9 percent, and other sources such as private health insurance contribute about 15.5 percent. The Federal share has increased significantly over the past several years. On average, about 75 percent of funding supports treatment, fol-

lowed by prevention and research. Most States provide the largest share of alcohol and drug abuse service funding in their particular State. However, in some States, Federal dollars make up the largest proportion. Researchers and practitioners should investigate the sources of most of the funding in their respective States. More information on State funding and demographics is available from NASADAD.

Researchers and practitioners also must take it upon themselves to advocate for continued and increased funding. The alcohol and drug abuse field currently is at a critical point, while health care reform is under consideration. If alcohol and drug abuse services are included as a benefit in a new health care system, the field will grow enormously. If not, the field likely will shrink considerably because the funding will not be available to support it. Workers in the field should call congressional representatives to voice their concern about resources for substance abuse services, particularly the substance abuse block grant. However, if alcohol and drug abuse services are in fact included in a new health care system, the substance abuse block grant likely will discontinue in order to free up resources.

Questions, Answers, and Comments

Comment: The minority supplement grant is given to an ongoing research project. A grantee states that there is a need to bring into the project ethnic minority researchers who are underrepresented nationally in the scientific field, and NIH provides supplemental funding to meet that need. Usually a training plan then is developed to help build a cadre of minority scientists and researchers. A comparable program for handicapped individuals also is available.

Comment: Individuals interested in becoming peer reviewers for CSAT grants should contact George Lewis.

IF27. PRIVATE-SECTOR FUNDING RESOURCES

Moderator: Patricia Rosenman, Ph.D.
Speakers: Mary Ann DeBarbieri
Janine Lee
Rush Russell, M.P.A.
July 15, 7:15 p.m.-9:00 p.m.

Speaker: Mary Ann DeBarbieri

According to *Giving U.S.A.*, an annual report on American philanthropic giving, donations in 1992 outpaced inflation despite the weak economy, with Americans donating $124.3 billion to charities, an increase of 6.4 percent, the largest rise in the last 3 years. Groups promoting environmental causes showed the largest increase, followed by arts and health-related organizations. Human service charities also received an increase in donations. However, international causes saw a substantial decline in 1992.

Private-sector funding comes from three sources: (1) individuals and individuals via bequests, (2) foundations, and (3) corporations. By far the largest percentage of giving (88 percent) comes from individuals. Thus, individual donor campaigns are important parts of fundraising strategies. The largest percentage of individual donations in 1992 (46 percent) went to religious groups, followed by education (11.3 percent) and undesignated or general purpose programs (10 percent). At the start of the 1980s, few foundations identified their target funding programs as alcohol and drug abuse related. But a surge of funding in this area began in the mid-1980s. In 1980, out of 450 of the Nation's largest foundations, only $4 million were awarded to substance abuse grants. This amount rose to $9 million by 1983, but this equalled only 0.5 percent of all foundation dollars. By 1987 foundations were awarding $26 million for substance abuse projects. The Foundation Center's 1992-1993 grant guide for alcohol and drug abuse lists 677 grants of $10,000 or more awarded from 1990 to 1991, with a total value of $41 million by 278 funders.

Over 33,000 private foundations in the United States hold nearly $163 billion in assets. By law, each private foundation must pay out 5 percent of the fair market value of its assets annually (assets reported to the Internal Revenue Service). The Foundation Center offers resources for grant seekers conducting the research phase of grant-seeking.

The Foundation Center is a nonprofit service organization that collects, analyzes, and disseminates information about private philanthropy in the United States. It was established in 1956 in response to congressional hearings examining the dissemination of private foundations' money. The Center began compiling data from foundations' tax returns and publishing the data in directories; the first Foundation directory was published in 1960. The Foundation's national

office is located in Washington, D.C., and contains an extensive library of resources. Other offices are located in Cleveland, San Francisco, and New York, and another office will open next year in Atlanta. The Foundation has established a network of nearly 200 cooperating collections (at least 1 in every State), each of which has a core set of the Foundation's publications available for free. The Foundation Center does not consult or make recommendations but makes information readily available for individuals to conduct their funding research.

The first of the four steps to successful fundraising is research. During this stage, grant seekers should use the Foundation's published resources to build a list of sources that seem to match their organization or program goals and services. Many people visit the Foundation with the expectation that they can quickly choose a funding source from one main list of resources. They must, however, compile their own list through extensive research. Typically, three primary funding sources that seem completely appropriate should be targeted, along with 100 other possible funders. The second step involves the strategy phase—coordinating with staff and executive directors on when to send out proposals, to whom, and for how much money. For instance, grant seekers should be careful not to ask for too much or too little money. In the third step—cultivation—grant seekers identify a funding source and continue to inform this source of their program in order to keep the funder aware of their activities. If a program officer has heard something about a program, it may be easier for the program to receive funding. The fourth step is the solicitation of funds. More time actually should be spent on grant research rather than grant writing. Funders want proposals to be brief, clear, and free of jargon so that they are easily understood.

The Foundation Center is a nonprofit, nongovernmental organization with a principle fund or endowment of its own that it maintains to aid charitable, educational, religious, or other service activities primarily by making grants to other nonprofit organizations. The Center classifies four major types of foundations. The largest is the private, independent foundation, or a family foundation, whose funds usually come from an individual, family, or group of donors. Approximately 30,000 of these foundations operate in the United States. The second type is a corporate foundation, in which a corporation sets up a separate nonprofit organization; currently, about 1,600 exist in the United States. Other corporations set up corporate-giving programs, which are not always listed by the Foundation Center. Third, operating foundations are established to operate research, social welfare, or other charitable activities determined by the donor or governing body, usually through its own programs. It may be difficult to obtain funding from these types of foundations. Fourth, community foundations are supported and operated for a specific geographic community or region. Because they draw their funds from many sources through fundraising efforts, they are not necessarily private foundations. They are excellent sources for community programs, but only about 350 currently exist across the country.

The Foundation Center publishes its *Foundation Directory* annually; the 1993 edition lists 6,300 of the 33,000 foundations across the United States, those that have assets of at least $2 million or give at least $200,000 annually. The directory is set up geographically by State but also includes a subject index. The Foundation also publishes a *National Directory of Corporate Giving*, which details corporate foundations and corporate giving programs, as well as a guide to United States foundations and their officers, donors, and trustees. Local funders, in particular, such as small family foundations, should be considered as potential funding sources.

Speaker: Rush Russell, M.P.A.

The Robert Wood Johnson Foundation is among the top 10 foundations in the United States in assets and among the top 10 in total giving. It is a health care philanthropy with a mission of defining the most important issues in health care in the United States and funding the very best people to address these issues. Robert Wood Johnson was the son of the original Johnson & Johnson company owners. At his death in 1968, he left his estate of $1.1 billion to the Foundation. The Foundation, the largest health care foundation in the world, has total current assets of about $3 billion, with about $175 million in grants awarded annually. About three-fourths of the philanthropy's resources fund national programs that define key health care issues. The remaining resources fund ad hoc programs chosen from submitted proposals. Issues of health care are broken down into four priorities: (1) improving access to primary care, (2) reducing the harm

caused by substance abuse, (3) improving the organization and delivery of services for people with chronic conditions, and (4) addressing the high costs of health care.

The Foundation's 1992 annual report focused exclusively on substance abuse. About one-third of the grants awarded that year went to this area. When grant seekers approach the Foundation for funding, the Foundation considers whether they actually can do what they propose, and if so, whether it really will make any difference. In the past few years, the issue of substance abuse has dropped in people's rankings of the top problems facing the Nation. Yet, other studies show that people consider substance abuse as the primary problem facing their local communities. One of the Foundation's five goal areas concerning substance abuse focuses on raising the attention paid to the problem at the national level. A large number of health care and social problems are related to substance abuse, yet discussions of substance abuse rarely are included in the health care reform debate. Although much has been learned about what does not work in the area of substance abuse, such as the "Just Say No" campaign, more needs to be discovered about what does work. A more comprehensive approach appears necessary (e.g., dealing with family, educational, and economic issues). The Foundation is interested in determining how to address the linkages needed for addressing this problem.

The Robert Wood Johnson Foundation has sponsored many types of programs. For instance, the Foundation provided $45 million for 15 grantees within the Fighting Back program, a well-known national program with a communitywide strategy for reducing the demand for illegal drugs. Out of 331 applicants for that program, the Foundation still could only fund about 15, thus illustrating the competitive demand for resources. Other examples of programs that have received Robert Wood Johnson funding are the Free to Grow Program, which links Head Start affiliates to increase their capacity to strengthen family and neighborhood environments for high-risk preschool children; Healthy Nations, which works to reduce drug demand among the Native American population; and several programs aimed at reducing tobacco use.

A grant guidelines publication and annual reports listing grants are available from the Foundation.

Speaker: Janine Lee

Ewing Marion Kauffman founded Marion Laboratories, a pharmaceutical company that recently merged with Merrill Dow; Mr. Kauffman also owns the Kansas City Royals baseball team. The Kauffman Foundation is an operating project that typically focuses on research and services through its own operating programs. For instance, Project STAR, a youth development project focusing on alcohol, tobacco, and other drug use, is one of five youth development projects within the Foundation's activities. The Foundation also sponsors Project Choice, Project Essential, and Project Early. Although the Foundation typically does not provide strategic or tactical planning grants, it has provided up to $1.4 million with strategic planning partners. The Foundation emphasizes working with strategic partners that have goals similar to the Foundation's operating projects. The Foundation's strategic vision and mission is to encourage the self-sufficiency of people in healthy communities by researching and identifying the unfulfilled needs of society and developing, implementing, and/or funding breakthrough solutions that have lasting impact and offer people a choice and hope for the future.

Project STAR works with program partners such as the Fighting Back Initiative (called Project Neighborhood in Kansas City) and others that share its philosophy and beliefs. Consequently, some opportunities are available for program-related grants. Typically, the Foundation requests that grant seekers ensure that their goals match the Foundation's mission.

Questions, Answers, and Comments

Comment: Treatment programs were formerly the major recipients of alcohol and other drug abuse funds, but recently there has been an increase in the funding of prevention programs. Many private foundations' emphasis on health care and healthy communities indicates a subsequent emphasis on children, families, and prevention. Grant seekers should consider this development, as well as the kinds of cooperation and collaboration they have from their communities, when determining whom to approach for funds.

Comment: Foundations are sometimes criticized for not funding ongoing operating expenses but choosing instead to look for new ideas and innovations. The Robert Wood Johnson Foundation, for instance, considers

its mission to be looking for and supporting new ideas. Through its Community Initiatives program, the Foundation supports organizations with innovative ideas—not necessarily on a national level, but within the organizations' own communities.

IF28. Using Information From This Conference in Day-to-Day Practice

Moderator: Gerald Soucy, Ph.D.
Speakers: Janet Lerner, D.S.W.
Randy Stinchfield, Ph.D.
Sharon Williams, Ed.D.
July 17, 8:15 a.m.-9:45 a.m.

Speaker: Gerald Soucy, Ph.D.

This informal question-and-answer session highlighted information acquired by three participants at the first NIDA conference, which was held in 1991. In addition to the information acquired and its uses, the participants discussed obstacles faced in implementing programs and activities.

From the evaluation of the 1991 conference, three observations were made: (1) 90 percent of the participants gained new information and planned to use it; (2) the information acquired at the conference was used in a number of diverse ways by participants, including clinical programming, staff training, policy development, policy revisions, and program development; and (3) information acquired at the conference resulted in the initiation of a Request for Proposals.

Two of the speakers talked about using the 1991 conference information in their treatment and related research fields. The third speaker talked about using conference information in her substance abuse prevention activities.

Speaker: Randy Stinchfield, Ph.D.

Dr. Stinchfield, of the University of Minnesota Medical School, believed that the 1991 conference was particularly helpful to him in that it brought both researchers and practitioners together to exchange ideas. Since the 1991 conference, he has used the information he acquired to address assessment, treatment outcome, treatment-client matching, and relapse prevention issues.

Dr. Stinchfield serves on an advisory committee for the State of Minnesota Chemical Dependency Division, which evaluates the outcome of all licensed treatment programs in the State of Minnesota. The advisory committee wanted to strengthen the State evaluation plan by including a more systematic followup component. The information available from the 1991 NIDA conference was very helpful in revising the plan.

Another issue that the advisory committee wanted to address regarding the State evaluation plan was the use of a variety of unique instruments developed by different programs. The plan needed to provide a more standardized assessment protocol. Dr. Stinchfield introduced assessment information he had obtained from the 1991 conference session on adult instruments. The committee decided to use the Addiction Severity Index, which is a more standardized instrument. The information from the 1991 conference further helped improve the method of data collection by targeting a few treatment programs and collecting information from all of those programs' cases.

Since 1991 Dr. Stinchfield also has been involved in the evaluation of an adolescent substance abuse treatment program in Minnesota. It is a large evaluation—the program sees about 1,000 youth per year. In meeting and planning the evaluation, the administrators were concerned with meeting licensure requirements and how this treatment outcome information could be used in marketing their program. Clinical staff also had expressed concern about the accuracy of self-reported drug use by youth at intake. A study using information regarding substance abuse assessment and evaluation methodology obtained at the conference was undertaken to address this concern. This study showed the value of researchers and practitioners collaborating and sharing ideas, a theme emphasized at the 1991 conference. Practitioners often have valuable ideas of a target group's behavior, but researchers have the technical skills needed to systematically test and prove or disprove these ideas. As this study showed, the counselor's belief was tested by the researchers and proved to be correct.

At this same program, the administrators also were interested in client-treatment matching, which was the topic of one 1991 conference session Dr. Stinchfield attended. It is difficult to introduce new, innovative treatment approaches to established programs. However, administrators are interested in improving treatment, and client-treatment matching was one method that was

considered. The basis of client-treatment matching is this: The patient has a characteristic that may be related to outcome; patients with the same or similar characteristics should be treated with interventions designed to address clinical issues related to this group's characteristics.

Dr. Stinchfield described a clinical program as an example of how he has tried to incorporate client-treatment matching into treatment services. The program that Dr. Stinchfield worked with found that there are differences between groups, and that it is probably better to put youth in groups according to their common characteristics than to put them in one standard treatment. Youth were categorized and then treated by counselors who expressed interest in working with a particular group. Two types of categories were established: (1) youth who act out, act disorderly, are victimizers, or are juvenile delinquents; and (2) youth who were victims of emotional, physical, or sexual abuse.

Dr. Stinchfield is now looking at the possibility of evaluating these client categories. Do standardized psychological instruments of these variables corroborate the program's categories? He also plans to examine what happens when youth are not placed in appropriate treatment groups (e.g., because the number of youth in the program is not sufficient to separate into groups). What are the outcomes of such placements and situations?

Dr Stinchfield also attended a 1991 conference session on relapse prevention. A great deal of attention is being focused on what happens after primary treatment. A proposal for a case management program has been developed in order to provide a continuum of care after primary treatment to prevent relapse. Historically, once an adolescent finishes treatment, that is the end of treatment. They are referred to aftercare services, but a minority of them actually end up participating in these programs. A case management program provides case managers that maintain contact with youth after they have completed a treatment program. Case managers do not necessarily provide direct services, but they refer youth to post-treatment services that already exist, such as halfway houses and Alcoholics Anonymous (AA). The case mangers help youth overcome barriers, such as lack of awareness, money, or transportation; psychosocial problems; and lack of motivation, parental support, or peer support. The proposal is still under review at NIDA and is another example of how information from the 1991 conference has been useful and of the value of collaboration between researchers and practitioners.

Dr. Stinchfield noted he had made several recommendations as part of the 1991 conference evaluation that were implemented for the 1993 conference. The first suggestion that was implemented was holding a forum to allow practitioners to present their clinical information and questions to researchers as possible areas for future research. He also suggested that more attention needed to be given to and research conducted on AA-based self-help treatment. It also was suggested that it would be beneficial to involve different Government institutes, such as NIAAA, CSAT, and NIMH, in a conference that encourages exchange of ideas between researchers and practitioners. Dr. Stinchfield's fourth suggestion was to include more hands-on skills building training at the conference. Lastly, he felt that more attention should be paid to the treatment process as a whole (currently, there is too much focus on the treatment outcome, what a client is like when he/she goes into treatment, and what he/she is like when treatment is finished).

Speaker: Janet Lerner, D.S.W.

Dr. Lerner, of NARCO Freedom, Inc., felt that new treatment techniques and types of treatment needed to be researched and their outcomes discussed at conferences such as the 1991 NIDA conference. Research and development is the process of gathering available information about a specific problem or topic, developing an idea, testing it, rethinking it from an objective perspective, and redeveloping or finetuning it until it works.

NARCO Freedom is a multifaceted service agency providing drug treatment, maternal and child health, and medical and social services. It is located in a part of The Bronx known as the poorest congressional district in the United States. Of the 130,000 people that live in this area, most live in public housing, and 20 percent of the adults are substance abusers. NARCO Freedom functions as a one-stop shop—clients can meet all their families' needs in one setting.

For the last 4 years, Dr. Lerner has been working on program development. She has set out to finetune existing programs, develop new programs, and provide services in the

following three areas: (1) substance abuse, (2) maternal and child health, and (3) medical treatment (particularly treatment of HIV infection). She has been quite successful. Every program developed thus far has been research based and empirically sound. She has found that funders are very receptive to program proposals that are backed with empirical data. The agency has a 75-percent success rate in obtaining funding for proposals.

NARCO Freedom also uses research information for staff development. Staff must know how to use the techniques and tools programs require. All of the staff are trained to use new techniques and instruments at regular intervals. They use research to develop treatment models, comprehensive programming, and staff development tools. Research now is being conducted to determine if this multiservices, one-stop shop approach actually works.

The 1991 conference was helpful to Dr. Lerner in forming a framework of interchange between research and practice for program development in place of simply developing research-based programs alone.

Dr. Lerner also attended the 1991 conference session on client-treatment matching and expressed the desire to see the use of "expert systems" in the near future. Expert systems are artificial intelligence systems in which client information is fed into a system and the best treatment for that client is determined. Currently, an actual expert system has not yet been developed, but in certain target cities there exist similar models. A computer is programmed to hold information about the client, the treatment programs in the area, and important facts about those programs. The computer can process this information and determine which program would be best for a certain client. If a particular program has a waiting list, case management is used to maintain contact with the client. NARCO Freedom contributed to this by recommending the case management and other variables that needed to be included.

Dr. Lerner also attended the workshops on maternal and child health, which expanded her understanding of services that need to be provided and how to provide them in a user-friendly manner. She also got ideas on where to go for funding.

Another presentation that she attended at the 1991 conference highlighted long-running demonstration programs that began as NIDA demonstrations. Many of these programs now receive funding from other sources.

Clearly, it is beneficial to have all programs eligible to receive a medicaid rate for services. When Dr. Lerner looks for funding, she looks for what is eligible for medicaid and reimbursement. If there is no current known medicaid reimbursement, they find a grant to subsidize service, show that the service is valuable, and then take their findings to medicaid officials. Given the economic situation in the agency's area, most of their clients would be medicaid eligible if they were documented, but a large portion of the population is undocumented. For HIV services, NARCO Freedom accesses Ryan White money and other funds. Such sources, however, require them to use program evaluation.

Program evaluation is another area in which research training and information from the 1991 conference have been useful; now the program is able to supply more succinct information about program evaluation as part of their grant proposals. At the program evaluation session, Dr. Lerner also learned about some creative evaluation models as well as some good instruments. She acquired a better understanding of utilizing counselor input in developing evaluation components for grants.

Dr. Lerner also went to a session on Hispanic issues because her program's patient population is 65-percent Hispanic. It is important that the program be culturally congruent with the Hispanic population. One of the central issues that Dr. Lerner confronts is that the Hispanic population is made up of many different Latino groups. For example, issues important to Puerto Ricans may not be as relevant to Mexicans. Language also poses a problem—the meaning of a Spanish word in Puerto Rico could have an entirely different and possibly offensive meaning in the Dominican Republic. To compensate for these issues, the program does special grand rounds on each culture.

The seminar Dr. Lerner attended on sexual abuse was critical to her work at NARCO Freedom and her private practice (currently, all of her private practice patients are victims of sexual abuse). Understanding that sexual abuse is not just a female issue is very critical. Other issues include the facts that some men also are victims of childhood sexual abuse and that many sexual abuse victims also are victims of other forms of abuse. It is

likely that some of the addiction problems that many abuse victims face are related to that experience. Dr. Lerner would like to test approaches to treating that abuse in the future.

Dr. Lerner made several suggestions and comments as part of the 1991 conference evaluation. She felt: (1) the 1991 conference needed to be more collaborative and collegial, with more dialogue between researchers and practitioners. Researchers have the means to look at the questions posed by clinicians and should look at how the questions can be framed in such a way that is not threatening to the clinician; (2) researchers need to communicate their findings in such a way that clinicians can absorb the information and use it in their practices. Effective dialogue between researchers and practitioners increases the value of the research and research outcomes but also generates new studies, new ideas, and questions; and (3) there is a need to generate more research questions that are based on clinical experience.

Speaker: Sharon Williams, Ed.D.

The 1991 conference helped Dr. Williams focus on prevention program strategies based on risk and protective factor research (these approaches are very similar to risk factor research on heart disease, for example). This information is conceptually easy for a layperson to pick up and use. It is also a helpful framework to communicate ideas to other people involved in prevention activities. Information on prevention research has been very helpful in focusing on risk factors and protective factors in order to develop effective program strategies, as well as in terms of program evaluation.

Information from the 1991 conference has been translated into policy or systemic changes in many ways. Dr. Williams described different examples of how she used this information.

The issue of school restructuring has been very critical in North Little Rock. There has been an effort to reconstruct the way education is delivered, with more focus on the children. It uses a concept similar to client-treatment matching—trying to match students with various educational programming, not assuming the old model of delivery works for everyone. This school restructuring and use of the client-treatment matching concept mean that substance abuse prevention service providers will be able to more specifically address the needs of individual children to make them stronger students and less likely to be involved in self-defeating behaviors such as substance abuse.

Dr. Williams uses an interdisciplinary school-based team approach model in her professional activities. The teams that the North Little Rock School District work with use an action plan format as the mechanism to convert their ideas into action. One of the changes that has resulted from the 1991 NIDA conference has been the redesign of the action plan process itself so that the teams are focusing on the risk and protective factors in writing and in practice at their individual campuses. It also has encouraged staff development changes which now include risk and protective factors in staff development training.

The rate of evaluation also has been strengthened. It is helpful for schools to know where prevention programs are going and how they tie into evaluation. In order for the school district to get program money for individual campuses, it has to submit an action plan that shows that collaborative thinking has gone on and that it has done some preliminary work about outcomes that it hopes to achieve.

As a result of using information acquired at the 1991 conference, Dr. Williams determined that if a school engages in four separate prevention activities through the course of 1 year, this results in a reduction in drug use. This may be true for a number of reasons, including the fact that sponsoring so many activities shows that the school cares about the issue. This has affected program implementation in North Little Rock. Dr. Williams now looks for a commitment from the schools to conduct at least four activities (ongoing or separate) each year. The limitations of actually sponsoring four activities include a lack of time to plan the activities, competition for student instructional time, and the reluctance of many teachers to give up math or reading time for such activities. Prevention activities need to be culturally specific. Dr. Williams attended several sessions focusing on African-American populations at the 1991 conference to become more familiar with community issues. As a result of this experience, she now collaborates with the community rather than just the schools in her prevention activities. Schools cannot solve the substance abuse problems unilaterally;

they must work with community-based programs.

The school district has also increased its efforts to hire people of the same race and similar ethnic and demographic characteristics with the youth to serve as role models.

Information at the 1991 NIDA conference also has helped Dr. Williams in serving on the prevention certification committee in Arkansas. There is a move to have a national test for prevention certification because there is a large body of prevention knowledge.

Speaker: Gerald Soucy, Ph.D.

The panelists' presentations showed the blend of practice and research. They demonstrated how research can be done and incorporated into practitioner activities. It is an artificial distinction to talk about researchers versus practitioners.

Some helpful themes that were touched on were the use of the information acquired at the 1991 conference for treatment, program planning, and evaluation planning, as well as for funding. Panelists commented that funding is more likely to be awarded when the proposal is backed up with research. Panelists also stated that pieces or components of certain conference events can be abstracted and modified for application to individual programs.

Questions, Answers, and Comments

Did the panel come with an agenda or plan of what it wanted to get out of the 1991 conference? One member stated that she came to get back in touch with her research roots. She found that she immediately identified with those sessions that were high priority issues in her own work. In those workshops, she found that she was interested in hearing about empirical research. She was able to see more clearly the gap between researchers and practitioners. Another member came with some desired outcomes and got some things out of the conference that she did not expect. She found it most helpful to say out loud how she planned to use what she learned at the 1991 conference in the future. The third member did come with an agenda to the 1991 conference, and he felt that it was helpful to him.

A suggestion was offered that at future conferences, NIDA ought to make available to the participants materials from the conference and sessions that they could not attend. It was noted that the Conference Highlights, which contains summaries of individual sessions, will be available at a later date.

IF29. TECHNOLOGY TRANSFER TO THE DRUG ABUSE COMMUNITY

Moderator: Susan Lachter David
Speakers: Thomas Backer, Ph.D.
Elaine Cardenas, M.B.A.
Eunice Diaz, M.S., M.P.H.
Audrey Yowell, Ph.D.
July 16, 8:30 a.m.-10:00 a.m.

Speaker: Susan Lachter David

This forum described the process, planning, and materials developed by NIDA to encourage the adoption of research-based technologies by the drug abuse prevention and treatment community. The primary goal of the forum was to provide concrete information about how to use NIDA's technology transfer videotapes, inservice training packages, and experiences at this conference, which are all a part of NIDA's knowledge transfer program.

NIH began to develop the concept of technology transfer only about 3 years ago. Now, like other Institutes within NIH, NIDA is trying to transfer to practitioners research-based knowledge and strategies ready for application. Furthermore, NIDA generally emphasizes behavioral areas more than do other NIH Institutes; therefore, NIDA hopes to bring into the entire NIH family more of a focus on behavioral research.

Drug abuse is a cyclical problem that will not solve itself or disappear on its own. Thus, the problem and all of its related issues must be confronted through research and the transfer of knowledge gained in research. The NIDA conference, for which organizers spent 2 years planning, serves as a model for technology transfer. The benefits gained from the early planning are evidenced by the strong focus of the workshops on training. Also, the respondents who participated in research awareness seminars, the organization of issues forums, and the question-and-answer sessions all allowed for interaction between researchers and practitioners.

Speaker: Thomas Backer, Ph.D.

A clear sign that technology transfer has reached a significant position on the public agenda is documented in the November 23, 1992, issue of *Time* magazine. It states that

"a consensus is building that the United States spends too much of its research budget on the search for new knowledge and not enough on harnessing the knowledge already gained." While this statement is subject to discussion, it is nevertheless encouraging that there is an awareness of the importance of the concept of technology transfer and an awareness of the available strategies that help guide technologically transferable activities. Since new ideas do not automatically get used, functions like the NIDA conference convene in order to facilitate the resurgence of these and other ideas.

The diffusion and adoption of new practices, procedures, and technologies are processes that can be stimulated by strategies that fall under two basic headings. The first approach is strategic planning. Innovation adoption for individuals in private practice in the health and social service fields, as well as for broader organizations and systems, is complicated and demands plenty of resources, energy, and money. Consequently, it is unlikely to succeed without a foundation of firm planning. In fact, the single most defining characteristic separating businesses that fail from businesses that succeed is the presence or the absence of a defined strategic plan.

The second strategy in the process of diffusing and adopting new practices, procedures, and technologies is the devotion of an adequate amount of attention to the human dynamics of change. After all, this is a human process; thus, human interaction and interpersonal contact are important factors. Those working in the field must feel individually rewarded and that they are an integral part of the organization with which they are working. These personnel are an extremely important component to the successful implementation of any changes made to a program; consequently, they must feel that they have played a vital role in the programmatic changes, thereby creating within themselves a sense of ownership. The personnel also must be comfortable with any proposed changes, which includes working through any anxieties or fears created by such changes. When the human dynamics of change are not attended to, technological advances are limited.

Technology transfer is commensurate to the leveraging of scarce resources, and in order to successfully accomplish this end, many challenges must be overcome. Fortunately, there are several behavioral science and management science strategies available for closing the gap between knowledge and its use. In fact, two equally important developments must occur in order to successfully accomplish technology transfer. One is dissemination, and the other is utilization. Attention must be paid not only to the strategies, activities, and particular procedures concerned with technology transfer but also to the application site in the form of community support.

One current development worth noting is the collaboration among NIDA, the Kauffman Foundation, and the Human Interaction Research Institute on a review of the behavioral science knowledge base. This process should lead to the identification of new strategies for technology transfer. Many other exciting developments also are under way—for instance, by the Robert Wood Johnson Foundation and other foundations.

Speaker: Elaine Cardenas, M.B.A.

The NIDA Technology Transfer Support Project develops material for practitioners based on practices that work in the field. Two kinds of products have been developed for the project: (1) clinical reports and (2) technology transfer packages. Clinical reports consist of written reports of approximately 50 to 100 pages that summarize the research on a topic and then interpret the research for the practitioners in the field. Technology transfer packages contain three main components. The first component is a flier, which is meant to seize the reader's attention. The second component is a handbook that describes how the technology works and focuses on the management of and the issues involved in implementing a program. The last part is a training curriculum, consisting of handouts, lesson plans, and other items that are necessary to train people in-house. This type of training caters to the needs of organizations that cannot afford to send their employees to other training programs. Several packages currently are in development, covering such topics as relapse prevention, program evaluation, the Addiction Severity Index, family approaches to treatment, and community-based prevention projects. Clinical reports on a number of subjects also are available. NIDA also has conducted workshops on program evaluation and relapse prevention.

The process includes four phases: (1) assessment, (2) development, (3) pilot testing, and (4) dissemination. First, information is collected from the practitioners in order to discern their interests and needs. Next, the concepts and materials are developed and tested with the practitioners. After being tested, questions and comments arising from the field are taken into consideration, and—provided that the additions do not violate the integrity of the process—they are addressed by researchers. Finally, the technology is disseminated.

Speaker: Audrey Yowell, Ph.D.

NIDA has produced a videotape series for professionals to raise awareness of the clinical applications of NIDA-sponsored research and to motivate audiences to use NIDA's inservice training packages. The audience for this series consists of drug abuse prevention and treatment staff and administrators, government agencies, and health care personnel. A written guide accompanies each videotape. The tapes are available for purchase or loan through NCADI. Four tapes are ready for distribution, covering relapse prevention, assessment, treatment issues for women, and adolescent treatment approaches. Videos on drug abuse and the brain, dual diagnosis, methadone, and prevention were scheduled to be available in fall 1993. These videos are short and easily accessible.

NIDA also has developed community education materials to assist local community groups and treatment providers in educating the community about the benefits of treatment. Over 20 new programs and several ongoing community coalitions have been established with the assistance of these materials. NIDA staff also provided technical assistance in the development of these programs and coalitions.

Experience obtained from market research maintains that attitudes can be changed by increasing people's level of awareness concerning drug treatment and its benefits, but if one seeks a change in behavior it is necessary to combine interpersonal interactions with reading materials. In addition to the videotapes and community education materials, NIDA developed a public service campaign, called Drugbusters, which includes television, radio, and print advertisements targeted toward large audiences. This campaign attempts to destigmatize people in treatment. Furthermore, NIDA has developed information for providers on how to locate sites for treatment centers. In addition, one of NIDA's most effective tools is a videotape that shows what treatment really is like, with scenes from actual treatment centers.

Speaker: Eunice Diaz, M.S., M.P.H.

For the past 4 years, the Hispanic community has engaged in a partnership with NIDA to ensure that the needs of this community are addressed by NIDA's technology transfer efforts.

As the fastest growing minority in the United States, the Hispanic community has specific needs that must be addressed. Currently there are 22 million Hispanics living in this Nation, comprising 9 percent of the population, according to census reports. The Hispanic community is a diverse and evolving people, made up of many different groups. For this reason, it is difficult to make general statements about them; however, language is a cultural bond that ties the Spanish culture together.

The partnership with NIDA has led to a communication channel between researchers, practitioners, and Hispanic community groups. With technology transfer, it is important to find and develop models that may be replicated in Hispanic communities and to make these models more culturally relevant and acceptable. This partnership was instrumental in ensuring that many of NIDA's technology transfer materials may be useful in Hispanic communities. However, many other models that appear to be based on good research do not, in fact, involve the element of working with families, which is very important in Hispanic communities. Also, issues of language, gender differences, and acculturation must be addressed. A successful partnership such as the one developed between NIDA and the Hispanic community must be based on trust and the recognition that everyone is working toward a common goal.

Often members of a community misunderstand the purpose behind research being performed in their community. In fact, some view research within their community as a process that simply introduces unfamiliar models and uses their community for experimental purposes. The key ingredients necessary for generating community involvement are (1) to fully explain to the community the purpose and components of the research

project, (2) to look for viable models that can be replicated in the community, and (3) to demonstrate to the community the exact nature of its role in the research. In order to solve problems, there must be a spirit of collaboration involved. Thus, the community must be incorporated into the process.

Within the last 6 months prior to the NIDA conference, over 130 organizations have collaborated on a joint agenda on beliefs in the Hispanic community, the enormity of the AIDS problem, and 24 priorities for the Hispanic community. This document was presented to Congress. A similar effort must be made concerning the drug problem in the Hispanic community. In fact, drugs and AIDS should be addressed together.

Questions, Answers, and Comments

What about the private-sector treatment system? How does the technology program address its needs for information and education? The technology program tries to make the material independent. Its focus is to develop materials that can stand alone. Both the private and the public sector were involved in the focus groups and assisted in the development.

Are there any things on the agenda for us to develop in the area of policy raising? A lot of the work already has been done, but the lines of communication must remain open. It would be helpful for drug abuse workers to know whom to contact about policy issues.

Comment: The videotapes and PSAs are available from NCADI at 1-800-729-6686.

SUBSTANCE ABUSE AND HIV/AIDS

IF30. SUBSTANCE ABUSE, HIV/AIDS, AND TUBERCULOSIS: IMPLICATIONS FOR TREATMENT PROGRAMS

Moderator: Alan Trachtenberg, M.D., M.P.H.
Speakers: Dulona Baker, M.P.H.
Christopher Hayden
July 15, 3:00 p.m.-4:30 p.m.

Speaker: Alan Trachtenberg, M.D., M.P.H.

The problems associated with the tuberculosis (TB) epidemic are growing nationwide. It would be wise to administer TB screening tests for all incoming patients receiving treatment for drug abuse or infectious diseases. Anergy tests also may need to be individually administered to HIV-positive patients due to the fact that they often do not react to general TB tests. Coughing should serve as a direct indicator of the possibility of the presence of TB, and subsequent tests (e.g., chest x-rays) should thus be performed. Patients who have relatively normal liver enzymes and functioning should still receive INH testing, especially if they are HIV positive. X-rays again are being used in prisons to test for TB and to detect any active and infectious diseases. Screening, diagnosis, and proper treatment of both infected and active TB patients are the most important measures to help detain the spread of the disease.

Adequate ventilation is an important factor in controlling TB. The recirculation of infected air conceivably could be hazardous in that more people could become infected by breathing infected air. Consequently, fresh air is key to reducing the spread of this disease. In addition, ultra-violet radiation of air (i.e., direct radiation of the upper-room air and radiation of the air within a ventilation duct) is another possible method that could be used to deter the spread of the active infectious TB virus.

Speaker: Christopher Hayden

Cases of TB steadily declined about 6 percent per year between 1980 and 1984; 1985 marked the first real leveling-off period and then a subsequent rise began in the number of cases reported. If the decreasing trend had continued, an estimated 50,000 fewer cases would have occurred.

The HIV epidemic is one of the main attributing factors to the recent upsurge in TB cases. The 25 to 44 age group, which happens to encompass the people at highest risk for contracting the AIDS virus, also has exhibited the greatest increase in TB cases over the past several years. The greatest increase in TB—between 1985 and 1991—has been in the Hispanic and African-American communities. The years 1985 through 1991 marked an approximately 9 percent per year decrease in the number of TB cases among Caucasians in the United States. Despite this overall decrease, the number of cases actually increased in New York City. New York City not only has the largest number of intravenous (IV) drug users and AIDS cases but also the most reported TB cases. Between 1980 and 1984 there were 1,500 to 1,600 reported cases. Since 1985 there have been 7,000 more cases than were expected under the previous trend. Similar to the

national statistics, the largest number of cases has been seen among African-Americans and Hispanics in the 25 to 44 age range.

In 1987 AIDS cases in the United States were redefined to include extrapulmonary TB among people with the HIV infection. Through June 1992 about 5,500 to 5,600 of these cases were reported. In January 1993 the definition again was redefined to include simple pulmonary TB. It is estimated that there are at least three times the amount of pulmonary TB cases as compared to the extrapulmonary TB cases. About 65 percent of all the Nation's TB/HIV cases are located in the following five States: (1) New York, (2) California, (3) Florida, (4) Texas, and (5) New Jersey.

Nearly one-half of all the extrapulmonary TB cases among people with the HIV infection occur among IV drug users. There are approximately 2,600 full-blown AIDS cases among IV drug users who also have extrapulmonary TB. Similar to the HIV cases, there are three times the amount of expected AIDS cases among IV drug users that have simple pulmonary TB. The top 5 States in the Nation account for about 68 percent of these types of cases and the top 10 States account for approximately 84 percent. There are an estimated 90 to 250 pulmonary and extrapulmonary TB cases among every 100,000 IV drug users. Pulmonary TB poses the biggest threat to the community in terms of its infectious nature.

Although a study conducted by Lee Reishman revealed that the problem of TB was a threat to IV drug users long before the AIDS epidemic, the majority of the Nation's IV related TB cases generally occur among those who are HIV positive. Another study performed by Dr. Peter Selwyn looked at a number of HIV-positive IV drug users who also had a positive skin test for inactive TB. It was determined that, over a period of 2 years, many more of these people developed active TB when compared to IV drug users that were not HIV positive (this was under the 25- to 44-year age range).

People who are coinfected with both inactive TB and HIV have about an 8-percent yearly rate of risk for developing active TB. It is estimated that about 100,000 people in the United States are coinfected, and the largest number of reported active TB cases come from people who developed inactive TB after becoming HIV positive. Another way that active TB develops is through people who have a history of inactive TB who may develop active TB when they become HIV positive. A mortality rate of between 43 and 89 percent was identified among a number of multidrug-resistance TB patients who also were HIV positive.

Some of the factors that are common to the spread of multidrug-resistance TB are as follows: inadequate patient management, which leads to the development of the organisms that cause multidrug-resistance TB; convergence of HIV and infectious TB-infected people in hospitals and prisons; and inadequate infection control practice and isolation facilities for infectious people.

To help stop the spread of TB within health care and prison settings, it is important to administer regular tuberculin skin tests to help determine who is infectious. Once this has been done, steps need to be taken to treat these people effectively and efficiently so that no additional cases result. The identifying of active infectious TB patients is one of the most important factors in stopping the spread of this disease.

Speaker: Duiona Baker, M.P.H.

There is an obvious need for State-funded health care facilities to provide an adequate amount of treatment for individuals with sexually transmitted diseases, HIV, and TB. Because many people treated at these facilities are multidiagnosed with alcohol and drug and disease problems, the programs must adapt to the large diversity of problems that arise. People with multiple drug and alcohol problems are more prone to becoming infected with diseases when compared to nondrug or alcohol abusers. The levels to which the problems develop also are much more advanced than those of their nonabusive counterparts. This evidence points toward a need for the drug and alcohol treatment facilities to work in unison with treatment professionals. This is especially important during this widespread epidemic of HIV/AIDS. When considering what approach to take when treating various patients, one needs to keep in mind medical, social, ethical, and legal factors.

Under the Substance Abuse and Prevention in Treatment Block Grant, an alcohol and drug program known as the ADAMHA Reorganization ACT was implemented in October 1992. Under this law, ADAMHA was reorganized into SAMHSA. SAMHSA also was federally mandated to work in unison with

the National Institutes of Health (NIH), the Center for Disease Control and Prevention (CDCP), and the Health Resources and Services Administration to design and update educational materials and intervention strategies to reduce the number of HIV/AIDS and TB cases among the Nation's substance abusers and people suffering from mental illness.

One Federal requirement that medical facilities must meet if they plan to treat TB-infected individuals is that all people seeking treatment for drug or alcohol problems also must be tested for the presence of TB. Referral systems also must be implemented within these facilities so that any overflow of needy clients will be directed to another facility that can effectively treat their problems. The services of a federally regulated TB treatment facility include counseling for the infected individual, testing to determine whether or not an individual's TB is infectious, and available referral services for the individual found to have an infectious case of TB.

Certain regulations surrounding the treatment of HIV infection also apply to a number of States that have surpassed the Federal quota of HIV-positive cases. One such regulation is a series of tests to verify the presence of HIV. Another test measures the level at which an HIV-positive patient's immune system has been affected by the disease. Finally, tests are conducted which help determine the most effective methods of treatment to slow the imminent deterioration of the patient's immune system.

The two primary goals of the block grant, which is aimed at regulating the facilities that treat alcohol and drug abusing individuals, are as follows: (1) a bond must be formed to help provide the most accurate network of care between treatment facilities and the State's local TB control officer and communicable disease officer and (2) individual State organizations must provide regulations and procedures to help combat the spread of TB among people already infected by the HIV/AIDS virus.

Health providers need to stress upon immune-deficient patients the importance of avoiding high-risk situations that could lead to active TB infection. In addition, alcohol and other drug officials should begin to look toward combining the knowledge and skills of their local health departments, lung associations, medical societies, and professional associations when designing individual training programs.

The understanding and application of the Federal Alcohol and Other Drug Law is one of the most important factors in furthering the linkage between the drug treatment centers and public health programs. Confidentiality within these centers and programs with regard to HIV, sexually transmitted disease, and TB cases tends to be defined in different ways by different health care providers. Because drug abuse and infectious diseases are very personal issues, the use of wholehearted confidentiality within treatment programs is imperative to the success of these programs.

Questions, Answers, and Comments

Comment: The CDCP has increased the amount of funding it provides to drug treatment facilities with the hopes that TB-positive patients can and will receive the level of care they need to rid their bodies of this infection. One way in which this is being done is through the increased hiring of various community outreach workers. These individuals need to go out into the community and ensure that people who need to be taking TB-fighting medication actually are.

IF31. NEEDLE EXCHANGE AND STREET OUTREACH

Moderator: Peter Hartsock, Dr.P.H.

Speakers: Don Des Jarlais, Ph.D.
Edward Kaplan, Ph.D.
Shelgia Murphy, Ph.D.
David Vlahov, Ph.D.

July 15, 1:15-2:45 p.m.

Speaker: Peter Hartsock, Dr.P.H.

A predecessor to needle exchange research was the first AIDS-related outreach/bleach distribution research, which Peter Hartsock, Dr.P.H., worked to initiate and fund. This research took place in San Francisco in the mid-1980s, and it and its related services have since spread across the United States.

NIDA more recently has supported the first federally funded research and evaluation of needle exchange, which Dr. Hartsock and Dr. Edward Kaplan worked to get under way at Yale University.

Although there has been considerable opposition to research on both outreach/bleach and

needle exchange, this opposition has never been based on science. However, its impact has been to slow science down, particularly as related to understanding needle exchange. Rigorous research needs to be conducted in an effort to understand needle exchange better. Only upon such research can sound policy be based. Without reliable scientific findings, reliable decisions cannot be made regarding the effectiveness of needle exchange as an intervention. It is science's responsibility to evaluate any intervention—regardless if it is controversial or not—if there is any possibility that it might prove useful in coping with public problems, such as the spread of AIDS.

For either bleach or needle distribution to be successful, these interventions must take place in the context of outreach. They do not work if they are conducted in a vacuum. For instance, the German experience of distributing needles through vending machines was not successful. It was determined that the absence of human contact in this process limited the number of drug users reached and resulted in few positive results. The experience in the Netherlands, on the other hand, where needle exchange was developed and where it has always been a part of an outreach process and linked to other health and social services, has been largely successful, as has been the experience in Liverpool, England, and Australia.

Neither needle exchange nor bleach distribution should be regarded as ends in themselves, but they should be considered important parts of the outreach process, a process which builds trust. Once trust is established, life-saving information moves more quickly and—in the case of outreach with needle exchange and/or bleach—AIDS-related high-risk drug and sexual behavior is reduced among drug users.

Speaker: David Vlahov, Ph.D.

Needle exchange constitutes one of many responses to the HIV epidemic among injecting drug users. Since the beginning of the epidemic, a number of risk factors for HIV infection have been identified among intravenous drug users, including frequency of injection, cocaine injection, and injection in "shooting galleries." In a study following sero-negative drug users prospectively over time with endpoint of sero conversion, female drug users had an annual rate of 6.8 percent; male users, 4.2 percent. For sero conversion, there is a higher rate among women than men. Many active drug users stopped using drugs during the study. As the study progressed, the sero conversion rate among females who were nonusers annualized at 4.8 percent, about the same as men. Another study published in the June 1993 *Journal of Epidemiology* showed that sexual practices also played a part in HIV transmission in this population—thus, if one looks at sero conversion as an endpoint as a method for evaluating needle exchange programs, it is important to remember that there are other methods of transmission.

Several strategies may help prevent the transmission of HIV infection among intravenous (IV) drug users. First, abstinence is encouraged through treatment. Second, drug users are taught that they should use a new and sterile needle for each injection to prevent contraction of the HIV virus. Lastly, the disinfection of needles with bleach is encouraged.

In reducing the frequency of high-risk behaviors among IV drug users, ideally the provision of treatment for all users would be successful in promoting abstinence. In a recent study, researchers recruited several thousand drug users from the community into a single study clinic and followed them every 6 months for 6 years. Immediate treatment was made available at no cost to participants. Records were kept on 2,000 of the clients, 15 percent of whom already were receiving treatment. Of the 1,732 not in treatment, 9 percent elected to be seen by a drug treatment counselor. Of those, after referral, only one-third actually showed up for their appointments. One possible reason for this result is that 92 percent of the sample was injecting cocaine, but most of the treatment available to them was geared toward use of opiates. This study raises the following question: Even if treatment were instantly made available to all drug users, could the system handle the influx, and would people even take advantage of the availability?

An alternative approach is the distribution of bleach to IV drug users to clean their needles. This practice began in San Francisco when it was discovered that bleach effectively inactivates HIV and is cheap and safe to use. Bleach bottles and instructions were distributed in the community, and other sites soon followed suit. Although bleach was proven effective in a laboratory setting, it was

unclear how effective it would be at lowering the rate of new infections in a field situation. A prospective study found that drug users who used bleach or other disinfectants all of the time had a 23-percent reduction in risk of HIV contraction, as compared with drug users who never cleaned their needles. Thus, although some protection is gained, the use of bleach as practiced by most people in the field is not a substitute for clean needles or the cessation of drug abuse. One reason for the discrepancy between lab and field results is this: In lab tests, bleach acts directly on the pure virus; however, in field tests involving needles, where the virus is hidden in the blood's protein, the bleach binds to the protein and is inactivated. Many studies currently are being conducted on this issue. Another problem could be that many drug users do not clean needles correctly. A recent study showed that a minimum contact time of 30 seconds is needed for bleach to be effective. However, a study of 100 people using bleach revealed that 80 percent did not have the minimum contact time. Thus, better instruction is needed to ensure that drug users learn how to use bleach appropriately and effectively.

The distribution of sterile needles has raised many concerns, as opponents of the practice argue that it encourages drug use and that no evidence exists showing that it lowers the rate of new infection. The study of needle exchange involves sophisticated field studies. In Baltimore, researchers looked for protective effects associated with new needles by comparing diabetic drug users with nondiabetic drug users. The former groups demonstrated a 64-percent reduction in risk of HIV infection compared with the latter group. After adjusting for variables, it appeared that diabetics had a reduced risk because they had unrestricted legal access to sterile needles. This study is not definitive, but it is suggestive of the protective effects of needle exchange.

In the final analysis, it appears that a combination of all of these methods—abstinence, sterile injection equipment, disinfection of equipment, and reduced frequency of high-risk behaviors—will be most effective in stopping the HIV epidemic.

Speaker: Don Des Jarlais, Ph.D.

Syringe exchange programs are not amenable to evaluation with standard, double-blind, random-assignment, clinical control. In fact, a random-assignment study would have to involve, at the analysis level, communities in 40 to 60 cities over a lengthy time period; this is a costly endeavor not likely to be funded. However, there are other effective ways to evaluate syringe exchange programs.

An evaluation recently was conducted on a New York City syringe exchange program, based on interviews with 435 participants. After the exchange program became legalized and received funding in 1992, the number of people participating in the program dramatically increased. Clean syringes—along with alcohol pads, bleach, and condoms—were made available. The sample for the evaluation study was 68-percent male and was fairly evenly divided among African-Americans, Caucasians, and Hispanics. Participants had a mean age of 36 years and had been injecting drugs for an average of 16 years. Similar to most studies, no significant differences were found in the frequency of injection among users before and after participating in the needle exchange program. However, significant differences occurred in injection risk behavior. Thirty percent reported injection with borrowed equipment in the 30 days prior to exchange, whereas less than 20 percent reported sharing equipment after the exchange program began. The rate of renting or buying injecting equipment at shooting galleries fell from 25 to 10 percent, a result found in several other international studies. Also, a dramatic increase occurred among participants in the use of alcohol pads for disinfecting injection sites.

This study was subject to bias since interviews were conducted at the actual needle exchange site and users may have felt compelled to lie in order to receive the service. Therefore, data also were collected at two other research sites in New York City: (1) a detoxification ward and (2) a storefront site. From 1990 to 1992, the number of people reporting unsafe injection gradually declined. Also during that time, the number of people using the needle exchange program (which was operated for part of that time as an underground program) gradually increased at both sites. Although the behavioral data obtained away from the actual syringe exchange sites showed similar trends, self-reported data still are subject to some degree of suspicion. Strong evaluations ultimately may require more biological data.

Data from studies on the rate of infection of hepatitis B also have been suggestive of the effects of needle exchange programs. Pearce County in Washington State surrounds Takoma, which has a syringe exchange program. The Centers for Disease Control and Prevention has been monitoring cases of hepatitis B in Pearce County in an effort to determine the root of transmission in new cases. Incidences of the infection in IV drug users substantially declined between June and December 1989, 1 year after the start of the syringe exchange program. Of 38 injecting drug users with hepatitis B who were interviewed, 31 reported that they had never used syringe exchange. However, one-half of a control group of injecting drug users who entered drug abuse treatment and were not infected with hepatitis B reported that they had been exchanging their syringes. Thus, different types of evaluation consistently demonstrate substantial protective effects of syringe exchange.

Also, much can be learned from Great Britain's needle exchange program, which was integrated into communities with little controversy and which functions as part of the total health care program, addressing the health of the community as a whole, not just a stigmatized group of drug users.

Speaker: Sheigla Murphy, Ph.D.

The NIDA-funded evaluation of Prevention Point, a needle exchange program in San Francisco, began in the summer of 1993. The evaluation involves an ethnographic process evaluation using indepth interviews and participant observation with program providers, 50 exchangers (10 from each of the 5 sites), 50 secondary exchangers (persons who exchange needles for users), and 50 nonexchangers.

When the mayor of San Francisco declared the city in a state of medical emergency, the Public Health Department provided Prevention Point with $138,000 to fund needle exchange operations. Drug users in San Francisco have many treatment options, but the waiting periods are often lengthy; it can take up to 3 weeks to get into an outpatient detoxification program and 6 months to enter a methadone maintenance program. For the past 9 years, an urban health study has been charting social and demographic information on San Francisco's injection drug users, who number around 16,000. The largest ethnic groups of injection drug users are, in descending order, African-Americans, Caucasians, and Hispanics. The average age of users is increasing, with a current mean of 40 years. Fifty-eight percent of the sample studied were male, 81 percent were unemployed, and 34 percent were homeless.

Prevention Point was started by a group of 13 activists, many of whom had worked as HIV counselors and intimately knew people infected with HIV. Their early planning methods should be emulated by other programs: They asked potential clients what they needed, invited input from other members of the community, and served food at meetings. They solicited advice on when, where, and how to conduct needle exchange and on the type of syringes that the users preferred. On November 2, 1988, Prevention Point opened at two sites in San Francisco; a stationary team operated from a sidewalk, and a roving team walked a preset route in the city. The program has continued to exchange needles every Wednesday evening since 1988. Currently teams of volunteers exchange needles at five street locations, each open for about 2 hours once per week. In addition to clean needles, the program also provides alcohol swabs, bleach, and condoms. Each site usually serves about 200 clients during the 2 hours.

It is vitally important to understand the mechanics and history of needle exchange programs before trying to evaluate them or link them to drug referral or outreach programs; this understanding will help avoid disrupting their operations or repeating mistakes that other evaluators or treatment workers have made. Also, evaluators or others who select samples from needle exchange programs (e.g., by offering money to randomly picked participants) must be prepared to deal with disgruntled clients and not expect the program itself to appease them. Because needle exchange program volunteers often are very protective of their clients and programs, evaluators and outreach workers should consider what they can provide the program in exchange for access to its clients. For instance, evaluators of Prevention Point offered to fill bleach bottles, help with mailings, and provide feedback from the study. Adapting research in these ways to maximize good program relationships will help develop successful linkages between research and practice.

Speaker: Edward Kaplan, Ph.D.

The New Haven Health Department began distributing needles through an exchange program on November 13, 1990, a few months after legislation was signed in Connecticut legalizing such a program. The data collection system that was developed to evaluate the program introduces a new operational theory concerning the effect of needle exchange on the transmission of HIV among needle-sharing drug users. Currently a mobile van brings the program to local neighborhoods 4 days per week. Drug users may exchange one dirty needle for one clean one, with a cap of five clean needles per person. A first-time exchanger may receive a clean needle without turning in a dirty one. In addition, at enrollment, clients receive baseline counseling and complete a questionnaire concerning risky sexual and drug-related behavior as well as demographic variables. Volunteers continuously attempt to point out risky kinds of behavior to clients. Bleach and condoms also are distributed, and clients may be placed in drug treatment if they so desire. Beginning in January 1993, a medical van operated by Yale Medical School has been going into the communities with the needle exchange van to provide onsite medical care, counseling, and testing.

Each participant enrolls in the syringe exchange program under a fictitious identity of his/her choosing (i.e., one's true identity is not revealed to the program.) The New Haven Health Department decided not to require mandatory testing of clients for HIV out of concern about scaring away potential participants. The health department was interested primarily in program service, not research. The medical school researchers therefore tried to base their evaluation of the program on operational data, linking process information to HIV transmission.

Data were collected using a syringe tracking and testing system. Each syringe was identified with a marker or bar code and tracked sequentially, recording when, where, and by whom each needle was both obtained and returned. This process kept track of participation in the program and the circulation time of the needles. A sample of these needles then was tested for the HIV virus. Theoretically, if a true exchange was occurring, then the number of needles distributed should roughly equal the number returned, and an excess of needles in the community would not necessarily occur. It is most helpful to examine the rate of turnaround of the needles: If users exchange their needles several times instead of using the same one over and over, then they cut down the circulation time of the needles (i.e., the needles last a few days rather than weeks).

This theoretical basis of the program assumes that there will be less risk of HIV infection with needles having a short circulation time. An increase in needle turnaround shortens circulation time, lessens the incidence of needle sharing, reduces the chance that needles will be exposed to infected people, and lowers the risk that a person will share an infected needle because fewer infected needles will be in the population. Of course, this theory could be proven wrong if the data revealed unexpected results—that is, if the circulation time did not go down, if the number of needles in circulation did not remain the same, if the level of infection in needles did not go down, or if the fraction of program needles among those tracked in the community stayed level instead of increasing. Thus, this evaluation approach did not have a built-in, guaranteed conclusion.

This circulation theory focuses on the needles, not behavior change, and is based completely on operational data. Data results from the tracking of the needles showed that the same people were visiting the program more often; thus, it appeared that the needles were being turned around quickly. (A drop off in the program occurred in July 1992, when needles became legally available in pharmacies. However, pharmacies do not recycle needles, do not make referrals, and do not provide services; therefore, it is unclear whether the provision of needles from pharmacies is a helpful practice.) More needles were distributed by than returned to the needle exchange sites, but not by a substantial difference. However, as the program progressed, the return rates increased to 70 percent. The average circulation time of needles dropped from 1 week, at the start of the program, to 2 days. Also, the level of infection measured in needles systematically declined. Of 160 needles obtained from the street and tested, 108 tested positive, whereas 44 of 48 needles obtained at a shooting gallery tested positive. While the level of infection in needles is not the same as the level of infection in people, these data are indicative of exposure rate to infection, and risk of infection therefore appears to have gone down since the inception of the needle exchange program. While other explanations

could account for the drop in infected needles, further data on the clients do not indicate other causes at this point.

Thus, this falsifiable, conservative, operational theory of needle exchange and its effects appears to be holding together thus far. It seems reasonable to conclude that needle exchange, at least in New Haven and likely in other sites, confers considerable protective benefit from HIV infection.

IF32. STRATEGIES FOR MORE SUCCESSFUL TECHNOLOGY TRANSFER: STATE AND FEDERAL COLLABORATION

Moderator: Helen Cesari, M.S.
Speakers: Robert Aukerman, M.S.W.
Dennis McCarty, Ph.D.
Richard Needle, Ph.D.
Pamela Petersen, M.P.A.
Nancy Record
July 15, 4:45 p.m.-6:15 p.m.

Speaker: Helen Cesari, M.S.

The National AIDS Demonstration Research Program targets out-of-treatment drug injectors through community outreach efforts. NIDA's Community Research Branch studies these drug users to investigate their behaviors regarding drug use habits, the sharing and cleaning of needles, and sexual partners. The Cooperative Agreement Program, another major research program, builds on what information has been gained in the AIDS Demonstration Research Program. NIDA's Community Research Branch focuses on HIV/AIDS research, including epidemiologic study, evaluation of behavior changes, and ethnographic studies. The majority of out-of-treatment drug abusers are minorities and live in inner cities. Because these users constitute a hard-to-reach population, outreach programs are necessary to target these people and bring them into research programs. Through its program, NIDA attempts to determine the extent of risk-taking behaviors among this population. The AIDS Demonstration Research Program is unique in that it is the only Government program that collects data on out-of-treatment injecting drug abusers.

The three basic objectives of this program are the following: (1) to gain a better understanding of the out-of-treatment injecting drug abuser, (2) to understand the role of drug abuse and sexual behavior among people in this population and their sexual partners and to determine their risk for HIV infection, and (3) to determine the effectiveness of the drug intervention programs these people are exposed to. Although the primary target group of NIDA's research program is out-of-treatment injecting drug abusers and their sexual partners, the program also targets prostitutes and runaways.

After the development of the AIDS Demonstration Research Program, NIDA communicated its ideas to the States and offered to hold workshops and help implement the program. Currently 26 programs are funded across 41 sites where these intervention methods have been established. Intervention strategies include counseling for individuals, groups, and couples; peer support systems; and training activities. As part of the program, outreach workers distributed kits to out-of-treatment drug abusers, which included condoms and information and supplies for cleaning needles. In distributing the kits, these outreach workers reached between 150,000 and 200,000 people on the streets. The outreach workers also collected baseline information on 45,000 of these people and followup information on 16,000. Forty-one percent of the followup population which was approximately 72-percent male and 28-percent female had never been in treatment. There were a large number of minorities, and the drug injectors' average age was 35. The majority of the people reached had less than a high school education, a large number were unemployed, and a small percentage were homeless. The drugs of choice for this population were cocaine, heroin, and crack-cocaine. By examining the baseline and followup information, significant decreases in both injection drug abuse and risk behaviors were noticed. About 25 percent of those people never in treatment entered treatment programs after the outreach efforts, and about 40 percent of those who previously had been in treatment returned to treatment programs.

The following three models of NIDA's program were most effective: (1) the Behavior Counseling Model, (2) the Indigenous Leader Outreach Model, and (3) the NIDA Standard. The Behavior Counseling Model was composed primarily of counselor educators who conducted sessions with out-of-treatment drug abusers. In order to implement this program, the State would need six to seven full-time employees. The Indigenous Leader Outreach Model, a peer-oriented model, uses outreach leaders who previously have been injection-drug users and who are from the

community the program is targeting. This model requires four to five outreach leaders to set up the program. The third model, the NIDA Standard, combines the best aspects of the various models tested. This model targets approximately 600 to 1,000 individuals and requires 5 full-time employees to run the program.

The information NIDA provided to those States interested in the AIDS Demonstration Research Program had to be brief, simple, and easy for the States to initiate immediately in their communities. The program focuses on individuals at high risk for HIV and tries to alter their risk-taking behavior. Thirty-six States participated in the regional meetings, which were held to inform the States about NIDA's program.

Speaker: Nancy Record

The State implementation training events, which stemmed from the regional meetings, were reviewed during this session, and the program's evaluation component was overviewed. Seven regional meetings were held in order to present the three key models to State agency directors and their staff. These regional meetings discussed the purpose, goals, and objectives of each model and explained how each model could be implemented within the particular States. After the regional meetings, if a State requested a State implementation training, it had to make a commitment to implementing NIDA's program. NIDA also guided States in ensuring that the model each State was choosing was appropriate for its situation. Each State also was asked to contribute to the cost of staff training. Seventeen States held State implementation trainings, in which more than 300 community-based programs and 500 individuals participated. These State training sessions, held from May 1992 through April 1993, provided an overview of the models' foundations as well as discussions about staffing and training needs.

The evaluation segment of the program was not begun until NIDA was about one-third of the way through its State implementation trainings. The Community Research Branch began the evaluation process because it felt this was necessary to be fiscally accountable to Congress, the Director of NIDA, and the Chief of the Community Research Branch. The program workers wanted to show that they had succeeded in both transferring knowledge and applying this knowledge. Consequently, the program convened an advisory board to perform an evaluation of the program. With the examination, NIDA wanted to analyze the type and extent of the implemented programs and collect baseline and followup information. NIDA hoped that through this evaluation, it would identify barriers to program implementation and how these barriers were overcome. The evaluation also was necessary to measure whether the State trainings were effective and evaluate the level of support from State agencies.

Speaker: Pamela Petersen, M.P.A.

About 5 years ago, a National AIDS Demonstration Research Program grant was awarded to the University of Miami. Well before funding expired, NIDA communicated with State agency directors to determine what Florida could do with the information available from the grant and how to keep the program operating. Certainly, many benefits and much data were derived from the demonstration program. It was found that about 40 percent of drug users needing treatment were not seeking treatment. In addition, many people in treatment had intravenous drug-using partners who were not in treatment. Therefore, it seemed imperative to reach this population of individuals who were not receiving treatment services. These findings spurred an interest in a needs assessment in Florida to find out (1) how many people were in need of services, (2) what could be done to get these users into treatment, and (3) why these individuals were not in treatment already. The NIDA program also expanded the State's resource allocation strategy by encouraging State leaders to channel more funds toward servicing this out-of-treatment population. Florida is beginning to use data other than those based on treatment admissions in its consideration of resource allocation. Another benefit of the NIDA program was that it provided considerable information on successful outreach methods. State agency staff and program providers received training in new outreach models based on the NIDA program's success. The NIDA program at the University of Miami also was successful in bringing 25 percent of those out-of-treatment individuals into treatment. Furthermore, the program helped and allowed the State to fulfill the new Federal mandate to provide outreach in communities where injection-drug users are served by programs.

Speaker: Dennis McCarty, Ph.D.

Technology transfer is important for the development of new skills, implementation and adaptation of new behaviors, and ultimately, positive change. Furthermore, just as clients need considerable support in changing their behaviors, so do program staff in changing their treatment approaches and methods. NIDA's process of technology transfer for its HIV risk-reduction program is a good model for other Federal agencies. One of its key elements was the recognition that manuals and publications are helpful, but more direct efforts are needed. Also, NIDA recognized that State authorities can foster a receptive environment for NIDA's suggestions and therefore worked directly with State staff in transferring technologies (e.g., for instance by holding workshops and State implementation meetings). In addition, NIDA offered a choice of models so that each State could choose the one best suited for its current situation. In Massachusetts, staff at about 12 HIV risk-reduction programs subsequently were trained on pertinent NIDA models and supported in their new efforts. Further, NIDA allowed a private firm to monitor the workshops in order to receive feedback on the research program. All of these factors contributed to the ease with which Massachusetts brought in HIV risk-reduction programs and adapted them to work in the State. Other Federal institutes do not conduct such effective technology transfer (e.g., issuing mandates based on program models) without providing direct assistance in complying with those mandates.

Speaker: Richard Needle, Ph.D.

The National AIDS Demonstration Research Program began in 1987, as resources became available for the prevention of AIDS. Although a demonstration program, it was intended to create demonstration projects that would be replicated and to provide helpful research data. The program now is at the point at which technology transfer can take place effectively.

The primary prevention research goal, for both communities and States, quite simply is to keep new infection from occurring. Behavior change has been shown to be an effective means for reducing the risk of HIV/AIDS and is a key path to prevention. Thus, in terms of prevention, NIDA's program has been successful so far. A number of models have been evaluated and shown to be effective. NIDA now can try to transfer these innovative ideas, replicate these programs, and implement them in the communities and States where these programs are not already present.

Questions, Answers, and Comments

In NIDA's National AIDS Demonstration Research Program, were not only injection drug-users targeted, but also their sexual partners? Both populations were targeted because of the risks posed to and by them. It is important that intervention efforts for these populations are not just one-time sessions or efforts and that clients be encouraged to sustain their behavioral changes and to enter and remain in treatment.

Comment: In looking at the history of HIV infection in the gay community, there already has been enormous behavior change among this population, evidenced in part by drops in the rate of sexually transmitted diseases in some areas. The primary risk factor for HIV infection, however, is needle use. Risky behavior needs to be reduced by any and all means possible. Therefore, in addition to information and equipment for needle cleaning, the NIDA demonstration projects also distributed condoms and encouraged their use.

Comment: The dynamics of the AIDS epidemic are changing greatly, as is the population with which NIDA works. Therefore, the strategies developed from the AIDS Demonstration Research Program should not be considered permanent, effective strategies. They may need revisions later on.

IF33. CRACK AND HIV: SEX FOR DRUGS—WHAT THIS MEANS ABOUT THE SPREAD OF AIDS

Moderator: Sander Genser, M.D., M.P.H.
Speakers: James Inciardi, Ph.D.
Clyde McCoy, Ph.D.
Martin Iguchi, Ph.D.
Harvey Siegal, Ph.D.
July 16, 8:30 a.m.-10:00 a.m.

Speaker: Sander Genser, M.D., M.P.H.

Many behaviors exhibited by drug users place them in high-risk categories for contracting the AIDS virus. One common practice, especially among crack-cocaine users, is exchanging sexual favors for drugs or money to buy drugs. This occurrence often happens many times a day for some chronic crack-cocaine users. Due to this fact, large numbers of

sexual partners tend to be accumulated, which invokes heightened risks of contracting AIDS. A large number of sexual partners are being serviced, and often the sexual practices being performed go unprotected (i.e., condoms and other barriers are not being used). Using such drugs as crack-cocaine and powder cocaine have been known to cause disinhibition, which in turn can place the user in a vulnerable position. This vulnerability often results in sexual victimization.

The forum focused on the risk of contracting AIDS through the practice of trading sex for drugs or money to buy drugs. Historical, psychosocial, and biological factors that have been found to lead to drug-sex behavioral linkages include the following: child abuse (physical and sexual), observations by children of drug and sexual abuse linkages, early linkages between violence and sexuality, antisocial disorders, and neuropsychological problems.

Speaker: James Inciardi, Ph.D.

A NIDA-funded study on exchanging sex for crack-cocaine was conducted within eight different cities in 1989 through 1990. A standardized interview guide was used, which yielded 52 respondents. The results of these interviews revealed that the majority of the people who exchanged sex for drugs were not casual drug users, but had been using drugs for an average of 10 years. Virtually all of the interviewees were daily crack-cocaine users and about one-half had partaken in intravenous (IV) drug use at one point in their lives. Ninety-four percent of the men and 97 percent of the women had been exchanging sex for drugs for an average of 7 years. Nearly 33 percent of the men and 90 percent of the women interviewed admitted to having more than 100 sexual partners in the 30 days prior to participating in the study. It also was discovered that condoms rarely were used during any of these sexual activities.

Some noteworthy disparities were discovered between street prostitutes who exchange sex for money to buy crack-cocaine and crack house prostitutes who exchange sex directly for crack-cocaine. Street prostitutes were determined to be less at risk of contracting the AIDS virus. This can be attributed to the fact that they generally had fewer sexual partners per day and possessed a higher level of knowledge concerning the importance of using condoms, as compared to their crack house counterparts. For a long time, crack-cocaine has been considered somewhat of an aphrodisiac due to its effect of lowering one's inhibitions; however, many chronic users have reported either disinterest in sex or a need for prolonged sexual activity in order to reach climax. These extended sexual activities often occur in crack houses among users who are exchanging sex for crack-cocaine. Due to the prolonged length of time involved in many of these sexual activities, the skin of the penis and/or vagina often tears, greatly increasing susceptibility to the HIV infection. HIV transmission also has been detected through the contact of semen with open sores on either the face or in the mouth of the partner performing oral sex. These sores are the result of many different circumstances (e.g., scratching the face to rid oneself of imaginary bugs beneath the skin's surface and blisters or sores on the lips and tongue caused by excessive exposure to the heat from the crack pipe).

Special programs addressing prevention and intervention techniques are needed for those men and women participating in high-risk sexual behaviors in exchange for crack-cocaine. Outreach programs that directly penetrate the country's numerous crack houses would be the most effective plan for remedying this growing problem of using sex to obtain crack-cocaine and the ensuing risk of HIV infection.

Speaker: Clyde McCoy, Ph.D.

Belle Glade, Florida, has been dubbed by many as the "AIDS Capital of the World," largely due to the 600 AIDS victims within a population of only 18,000. These AIDS cases are not confined to gays; on the contrary, the majority of these victims contracted AIDS through either heterosexual intercourse or IV drug use. In response to this alarming percentage of HIV-infected people, a 1989 project was formed to study the various causes of AIDS within the Belle Glade community. Over a 2-year period, 297 people were tested and interviewed, and a 24-percent HIV- or AIDS-positive rate was found. Of those who tested positive, a surprisingly low 10 percent were IV drug users. The interviews showed that more than two-thirds of the people who participated in the study had multiple sex partners, and 90 percent were crack-cocaine users. Two-thirds of these crack-cocaine users admitted to having multiple sex partners, while only one-half had ever used

condoms. As a result, 30 percent of these crack-cocaine users tested HIV positive.

The following helps explain the direct linkage between crack-cocaine use and HIV transmission: (1) HIV was thought to have been introduced originally into Belle Glade through IV drug use, (2) most HIV transmission currently is attributed to heterosexual sex in conjunction with heavy crack-cocaine use, and (3) sex parties where sex is offered in return for crack-cocaine are fairly common practice throughout Belle Glade, which adds up to very high-risk behavior.

Current Belle Glade Health Department information shows a 46-percent HIV transmission rate through heterosexual activities, and this rate of infection is increasing every year.

Speaker: Martin Iguchi, Ph.D.

From 1989 through 1991 NIDA funded a study known as the AIDS Outreach Demonstration Project. Throughout New Jersey in the Newark and Jersey City areas, 5,000 IV drug users were interviewed. People using crack-cocaine exhibited a 30-percent rate of HIV infection, while the overall HIV-positive rate for the 5,000 interviewees was 45 percent. Unlike many similar studies, the results actually showed a 15-percent decrease in HIV infection among crack-cocaine users, as compared to the rest of the population. It was determined that minority (especially African-American) women participating in IV drug use were at high risk for contracting HIV.

The following factors were found to have an effect on the probability of someone contracting the AIDS virus: (1) whether any sexual contact had been reported within the past 6 months, (2) whether intranasal or IV heroin was used, (3) having a high school education versus no high school education, and (4) whether crack-cocaine was used within the past 6 months.

Although the risk for HIV infection is lower or higher depending on a person's sex, a 30-percent infection rate was seen in males and females who had used crack-cocaine sometime during the last 6 months. There was a 10- to 15-percent differential between Caucasian, African-American, and Hispanic infection rates. Higher rates of infection were found among young IV drug users who used crack-cocaine as compared with young IV drug users who did not use crack-cocaine. There appear to be two main traits that can be attributed to lowering the infection rates of crack-cocaine users. The first is the age of the user, and the second is how many years he or she has been using drugs.

Speaker: Harvey Siegal, Ph.D.

The Ohio Department of Health provided a grant to the Wright State University School of Medicine, in Dayton, Ohio, to fund a 1990 study on sex, drugs, HIV, and other sexually transmitted diseases. The study consisted mainly of outreach programs that both interviewed and tested 150 women who claimed to have used crack-cocaine in the last 90 days. The racial makeup of the study was predominantly African-American (approximately 90 percent). Caucasians were second in terms of number (approximately 11 percent). One of the participants was Hispanic, and 3 people classified themselves into the "Other" category. The ages of the participants ranged from 18 to 45, with a mean of 29 years. The findings of the study include the following: 67 percent of the participants never finished high school; 74 percent of the participants were never legally married; 93 percent of the participants had been pregnant at one point in their lives; 49 percent of the participants had one or more children living with them; 27 percent of the participants lived in their own homes, and 50 percent lived with someone else; 7 percent of the participants lived in boarding houses, and 17 percent were homeless; 80 percent of the participants had no jobs within the prior 3 months; 85 percent of the participants had illegal sources of income; 80 percent of the participants had exchanged sex for crack-cocaine within the prior 3 months; 86 percent of the participants had exchanged sex for money to buy drugs within the prior 3 months; 70 percent of the participants were daily crack-cocaine users, 20 percent were weekly crack-cocaine users, and 2 percent were occasional crack-cocaine users; 3 percent of the participants had multiple sexual partners, and 73 percent of these used condoms at least some of the time; 85 percent of the participants performed oral sex, and 45 percent of these used condoms at least some of the time; 16 percent of the participants participated in anal sex, and 58 percent of these used condoms at least some of the time; and 67 percent of the participants reported that they would enter drug treatment if it were available.

Greater emphasis needs to be placed on the high-risk populations when the intervention

and qualitative study methods are being developed. Ethnic and cultural patient-to-treatment matching should be one of the main areas of improvement. With this in mind, outreach workers should not only be ethnically and culturally diverse in their treatment practices but also possess a high education level in the areas of community services and intervention techniques. Support groups that address the various problems of the outreach workers have been very beneficial in terms of continuing a healthy atmosphere for everyone involved in treatment counseling. The idea of empowering patients, of allowing them to have certain levels of control over their individual treatment plans, has been quite effective in many treatment facilities. Finally, ongoing evaluative research studies and surveys of data collection are necessary for the advancement and application of new and improved treatment methods.

PREVENTION

IF34. MESSAGE DEVELOPMENT FOR COMMUNITY EDUCATION

Moderator: Leona Ferguson
Speakers: Cheryl Nesbitt
Roy Walker
July 16, 4:30 p.m.-6:30 p.m.

Speaker: Leona Ferguson

The purpose of this session was to enhance the ability of drug abuse researchers, clinicians, and community educators to identify contradictory and mixed messages and to become aware of new tools to combat these messages. This session also was designed to increase participants' awareness of alternative communication channels for the delivery of prevention messages to different segments of the population.

Speakers: Cheryl Nesbitt
Roy Walker

The exercises demonstrated were developed by Advanced Resource Technologies, Inc., for NIDA and the Drug Abuse and AIDS Community Education Network. The objectives of this session were to identify mixed media and social messages about drug abuse and HIV prevention, to recognize the potential consequences of such contradictory messages, and to reinvestigate alternative communications vehicles to combat mixed messages.

The first activity fostered unity within the group. The Akan, an African Tribe in Ghana, believe that seven life souls exist, each corresponding to a day of the week. Each child is named after the life soul that represents his/her day of birth. Participants discussed their similarities in small groups. The purpose of the exercise was for participants to identify the similarities and commonalities they had based on their days of birth. Too often we see the differences in people and overlook the "sameness" of one another.

The session continued with a discussion about the design of prevention messages. In developing prevention and community education messages, consideration must be given to the characteristics of the targeted population. People are surrounded every day by unintended messages—in the media, in communications with one another, and in ordinary behavior. In a 1990 CSAP monograph, George Gebner stated, "How well and how long Americans live are no longer questions of medicine or fate. Preventable illness and premature death are now end products of a complex manufacturing and marketing process." Advertisements market products using any and all messages, both visual and sound, that will sell their clients materials (e.g., glamour, sex, immediate financial gain and status, youth, or happiness). Samples of these types of advertisements were shown and discussed with the group. When one thinks of the money, talent, and other resources available to marketing advertisers, one must question the value of American health. Aggressive, assertive marketing of health and disease prevention messages must take on the tools of the advertisement world. These tools are called message transformers.

Transformers are the avenues (e.g., the people, the process, and the vehicles) able to reach a larger cross section of the community or a targeted population. Transformers can deliver prevention information into understandable, "hearer" friendly messages. Transformers bridge generational, cultural/ethnic, socioeconomic, and other barriers. Transformers use art, music, storytelling, dance, verses/poetry, drama, puppets, pottery, and other innovative techniques to deliver messages. There is a definite need to present people with accurate, positive messages about prevention.

The group was introduced to the concept of linguistic plurals as a basic unit of transformers. Linguistic plurals are proverbs, old

time verse, and words of wisdom that have been used to express thoughts and experiences of people for many generations. The group discussed the multiple meanings of several linguistic plurals such as the following: "Even an ant may harm an elephant;" "Evil enters like a needle and spreads like an oak tree;" and "Tell me, I forget; Show me, I remember; Involve me, I understand."

Music, another transformer, is the soul's own speech and serves as a natural expression of emotions and messages across ethnic groups. Songs are composed of lyrical verses and linguistic plurals that send messages. Several songs were played, and their meanings and messages were interpreted by the group.

Storytelling is another powerful transformer that has been used throughout history. For example, storytelling is a vital tool in groups such as the natives of the Fiji Islands, who have passed stories on across generations which dictate to children the location of their home. Several advantages of storytelling were discussed, including the following: stories help create a sense of common ground and help stimulate imagination and creativity; stories facilitate audience participation; and stories convey important prevention morals such as responsibility to others and the importance of perception.

The last transformer discussed was art. Pictures can be a louder message carrier than words. Art is an alternative message vehicle that visually stimulates thought and communication processes. The group was provided materials with which to develop a visual prevention message collage. This activity demonstrated a creative and inexpensive message delivery resource available to prevention specialists.

IF35. Prevention and Primary Care

Moderator: Dorynne Czechowicz, M.D.
Speakers: Hoover Adger, Jr., M.D., M.P.H.
Mary Ann Walsh Eells, Ed.D., R.N., C.S.
Lucille Perez, M.D.
July 15, 10:30 a.m.-12:00 p.m.

Speaker: Dorynne Czechowicz, M.D.

The health and social consequences of alcohol, tobacco, and other drug (ATOD) abuse are highly significant. However, a number of studies have shown that health professionals in a variety of primary care settings do not often recognize these consequences. Several Federal agencies, including NIDA and NIAAA, have funded many initiatives to enhance the integration of ATOD abuse education in the health professions and to facilitate early recognition of alcohol and other drug (AOD) problems in patients. For example, a NIDA technology transfer package that contains screening and assessment tools and manuals soon will be available.

Primary care health providers can improve patients' outcomes by identifying AOD problems in the beginning stages of abuse. Primary care providers also can act to prevent AOD problems through the counseling they provide to patients and families and through their roles as health advocates in their communities.

Speaker: Hoover Adger, Jr., M.D., M.P.H.

Primary health care providers have the ideal opportunity to prevent, identify, and treat AOD problems in their patients. However a number of barriers prevent health care workers from maximizing this opportunity. First, primary health care providers generally fail to appreciate the magnitude of AOD problems. For instance, pediatricians often believe that AOD problems are not prevalent among the age group they treat. In fact, ATOD use and related medical problems continue to devastate the lives of children, adolescents, and adults. AOD use often leads to many other health and social problems, including birth defects, mental illness, and violence. Studies show that, of the 20 million teenagers in the United States, 10 million use alcohol at some point in their lifetime, 5 million currently use alcohol, 2½ million currently smoke cigarettes, 3 million have had some exposure to marijuana, and 1 million are current users of marijuana. Primary care providers often encounter AOD problems in their practices; the challenge now is how to address these problems.

The second problem is primary care providers' failure to identify individuals affected by AODs. Although 20 to 50 percent of adult hospital admissions are related to AOD use, many of these individuals are not identified as such. Several studies have shown that many physicians demonstrate ambivalence to this problem and lack the knowledge and skills to identify it. Health care professionals need to develop the skills necessary to appropriately screen and assess patients for ATOD use.

Third, there is a historic lack of instruction during medical training about ATOD use. Therefore, primary care providers unfortunately fail to take full advantage of the unique relationship they share with patients and their families. Although efforts have been made in the last decade to incorporate this kind of training into medical education, many schools and research programs still lack adequate curricula. Efforts by Federal agencies—such as NIDA, NIAAA, SAMHSA, and HRSA—targeted at faculty development have addressed this problem. In addition, many professional groups, such as the American Medical Association, the American Academy of Pediatrics, and the American Society of Addiction Medicine, have established practice standards stating that all clinically active physicians, at a minimum, should be responsible for AOD use screening and referral. Better linkages also need to be developed between primary health care institutions and those who provide drug abuse interventions and treatment services so that primary care providers will be able to make appropriate referrals for treatment.

Speaker: Mary Ann Walsh Eells, Ed.D., R.N., C.S.

The most important factor in the treatment of drug abuse and related problems is health manpower—that is, who provides treatment, the training that the health professional has had, and the effectiveness of that training. In 1982 substance abuse counselors accounted for 60 percent of staff delivering care in treatment centers, while nurses made up 6 percent and physicians comprised only 0.4 percent. It has been a rather recent development to prepare curricula and new training programs to give doctors, nurses, social workers, and other health professionals a greater role in the field of drug abuse prevention and treatment. At the same time, there has been a large increase in the knowledge base about substance abuse.

The percentage and variety of health care providers capable of addressing drug abuse is rapidly increasing. Faculty development programs, such as those at New York University under Madeline Nagle, Ph.D., and at Ohio State University under Elizabeth Burns, Ph.D., have helped improve the health care workforce's ability to identify and treat drug abuse problems.

Nurses usually receive training based on a conceptual framework that stresses a holistic approach involving multiple systems—for example, through concern for the individual, family, and community. Such a multimodal approach appears to work well with substance abuse. For instance, studies have indicated that substance use often is accompanied by high levels of psychological symptoms. A Johns Hopkins University study showed that newer members of Alcoholics Anonymous (AA) had higher levels of psychological symptoms than older members. During the first year of participation in AA, the number of symptoms dropped but was still relatively high. The overlap between addiction and psychological problems has been receiving more attention recently through research into dual diagnosis. Health care providers often need to provide treatment during the entire recovery period for addicted individuals. Furthermore, health care providers must get better at recognizing the early risk factors for AOD abuse and addiction, such as attention deficit disorder and conduct disorder.

Nurses comprise the largest health manpower group in the United States and therefore often encounter drug abuse problems. At the basic level, nurses provide a substantial knowledge base for screening, assessment, and provision of care for substance abusers. Faculty and curriculum changes across the country are aiming at improving undergraduate nursing education's treatment of substance abuse. At the advanced nursing practice level, many nurses are training in specialties such as community addictions, which is offered by the Community Addictions Nursing Program at the University of Maryland.

Since nurses see more patients than any other type of health care provider, nursing practice also is taking into account that the 1990s is the "Decade of the Brain." For instance, Dr. Elizabeth Burns at Ohio State University is developing modules for an advanced nursing program dealing with the brain and the effect of psychoactive drugs. Nurses in advanced practice need this kind of information to work effectively with clients who have addiction problems. To illustrate the magnitude of problems related to dual diagnosis, studies show that 9 percent of the population in the United States needs treatment for clinical depression and 44 percent of individuals with addiction problems are clinically depressed. As many as 20 percent of men have a lifelong prevalence of alcoholism; among the depressed population, as

many as 46 percent are addicted to drugs and/or alcohol. Consequently, it is vital that dual diagnosis be included in the education of nurses at both the undergraduate and advanced levels.

These data reveal the need for a new type of practitioner. Master's degree preparation leads to national certification. The American Nurses Association offers certification similar to board certification for physicians; therefore, nurses must keep up with the latest information. In another movement in nursing, State boards are beginning to credential nurses in advanced practice.

Nurses are concerned not only with individuals but with family systems in the treatment of addiction. Often others in the family system of an addicted individual are addicted as well. These family patterns must be addressed to prevent relapse for the individual.

Finally, research into any clinical problem, including addiction, and the application of that research in a community involve a very long process. This process involves basic research, applied research and clinical trials, community demonstration, and widespread implementation. It is important to recognize that researchers are a long way from proving the efficacy of research in controlled settings to demonstrating its efficiency in a community, where more variables operate. Nurses are directly involved in every step of this process. Another important aspect of developing and applying drug abuse research is analyzing the risk, cost-effectiveness, and effectiveness of the particular intervention. For instance, the University of Maryland teaches its advanced nursing students how to use meta-analysis to determine trends and effectiveness of interventions. At the Community Addictions Nursing program, 38 students are pursuing advanced nursing degrees and preparing to contribute to this overall process. Nurses have the potential to contribute greatly to the field of substance abuse in future years.

Speaker: Lucille Perez, M.D.

In October 1992 OSAP became CSAP. OSAP had been part of ADAMHA until the reorganization. Currently CSAP, CSAT, and Mental Health Services are components of SAMHSA.

The Faculty Development Program, which now operates within CSAP, was established in 1986 by NIDA and NIAAA. This was about the same time that crack-cocaine hit New York City. The effects of this epidemic also reached Far Rockaway, in rural New York, where individuals' lives underwent rapid, devastating changes due to crack-cocaine abuse in both low-income and middle-class communities. In 1986 at Woodhall Hospital, 60 percent of the infants born tested positive for illicit drugs. Concern over this type of situation across the United States led to the formation of OSAP in 1986.

The question we must address is as follows: "How do we put research into practice and then apply that practice to primary health care?" A very important aspect of this question simply involves the type of people we are. At this year's International AIDS Conference in Berlin, top researchers responded to questions from the audience and essentially revealed how much is still not known about AIDS treatment and related issues. A primary distinction between many of the individuals in the research studies who had long-term survival and those who did not is that the survivors had access to health care and had a good support system.

On what principle then do we operate when we do research? We should ask ourselves the following questions: Will the research make a difference? Is the work for a personal sense of gratification or to make a difference?

The issues of for whom, how much, and why research is conducted also have not always been addressed. When one looks at the people who make up primary health care, it seems that medicine increasingly consists of people who do not have the "passion"; something has been taken away from the practice of medicine—the art, the person. Many primary care providers are becoming more involved in their communities and knowledgeable about issues such as drugs and violence. In this way, the human component is being integrated into primary health care.

CSAP examines the relationship of many issues to drug use and abuse—for instance, the mixed messages that are given to patients and society. There is a lack of consistency in messages about drug abuse and related problems. For instance, the health field recognizes that there is a direct relationship between alcohol consumption during pregnancy and fetal alcohol syndrome.

The actual racial makeup of current illicit drug users often differs from common percep-

tions. CSAP's By Our Own Hands program addresses the misperception that African-American youth use more drugs than any other racial or ethnic group. In fact, African-American youth use less drugs than any other racial or ethnic group.

Primary care providers must be able to recognize drug abuse, intervene effectively, and make proper referrals when necessary—and caring makes a world of difference.

IF36. Use of the Media in Prevention and Treatment Awareness

Moderator: Avraham Forman, M.S.W., M.P.H.
Speakers: Linda Bass
Brian Dyak
July 16, 10:15 a.m.-11:45 a.m.

Speaker: Linda Bass

The Department of Health and Human Services-sponsored prevention awareness program "By Our Own Hands" is a media-based campaign that focuses on African-American youth, ages 9 through 13, who live in high-risk environments. Over 10 years of market research went into the program development phase, and youth and community members were instrumental in its formulation.

The media, when properly applied to the areas in greatest need of help, acts as a "catalyst for positive change" but traditionally, through racially motivated stereotypes, the media has depicted negative images of the inner-city population that this program targets. Elaine Johnson, acting administrator of the SAMHSA, states that the media presents the inner-city as a place without hope and as an environment that is destructive; therefore, many African-American youth feel that the only path open to them is drug use. But studies show that African-American teenagers between the ages of 12 and 17 exhibit lower rates of drug and alcohol use and abuse than their white counterparts. "By Our Own Hands" highlights the resilience of these youth by presenting a message of choice: "We don't use drugs. Why? We have better things to do." Alternatives to drug use are presented, such as music, sports, and education. The program focuses on successful prevention systems as opposed to unsuccessful ones. It emphasizes community and church involvement and celebrates the African-American youth that resist drug use. CSAP provides advertising materials (e.g., billboards, bus cards, print advertisements, posters, and television and radio spots) that emphasize these themes and promotes "By Our Own Hands," in addition to those materials provided by the community.

"By Our Own Hands" is still active in the 14 cities where it originally was implemented and 7 more cities currently want to implement the program. Because the program is media based, it is usable with ongoing prevention efforts.

Speaker: Avraham Forman, M.S.W., M.P.H.

In 1988 a prevention program was created that focused on the relationship between drug use and AIDS. The target audience for this program was initially the injecting drug user. Recently, the focus of this prevention-oriented, national media campaign changed to encompass young adults between the ages of 18 and 24. The program, "Get High, Get Stupid, Get AIDS," attempts to get across the message that drug use not only increases the spread of AIDS through injection drug use, but that drug use in general can promote the spread of AIDS through risky sexual practices. This program was developed in collaboration with the Advertising Council, an organization that locates and organizes different advertising agencies, broadcasters, and newspaper people to implement public service campaigns. Sixteen focus groups of 18- to 24-year-olds were conducted to better understand the attitudes and behaviors of this age group. It was found that among those surveyed, there was a high level of awareness concerning the detrimental physical and psychological effects of drug and alcohol use and the primary facts about HIV/AIDS. Because a scare tactic approach to the problem was shown to be ineffective with this age group, humorous cartoons were used to address the risks of contracting AIDS as a result of impaired judgment due to intoxication by alcohol and other drugs, which in turn can lead to risky sexual practices. Widespread distribution of public service announcements has resulted in an average of 2,500 plays per month throughout the country's television stations—an incredibly high showing for a public service announcement. The messages have been received in a very positive manner. The main problem facing the program now is finding a way to continue with this positive momentum. Unfortunately, even though the Advertising Council sends out their public service television, radio, and print advertisements, it does not mean that these definitely are being played on radio or

television or placed in print media around the country. This fact indicates that, in order for these types of programs to be successful, there is a need for increased community participation.

Speaker: Brian Dyak

Problems have arisen when dealing with the issue of selling treatment and prevention ideas to the public. Rough edges need to be smoothed in the areas of promotion, marketing, and selling of these services nationwide. Treatment tends to be portrayed in the media—through news stories and/or updates preceding motion picture—as a series of negative shortcomings or lack of accomplishments. An example of this is the way the media points out the negative aspects of treatment instead of focusing on the positive ones; for example, the media will focus on a certain program that was not passed in the legislature sooner than it will on one that was. To instill confidence in the treatment system, it is important for the media to cover human interest stories regarding the positive effects of treatment—such as how someone's completion of a treatment program has lead him/her to a life of personal fulfillment and prosperity.

The following treatment aspects were considered to be important by the speaker and the audience: increased family values, recovery and renewed health, increased hope, reduction of crime, increased social values, and the reduction of health care costs. The session's participants also agreed that regardless of how noble and true these aspects may be to the treatment system, they are very difficult to promote and sell to the public. Barriers to selling many of these treatment aspects to the media are the stigma associated with treatment, the high cost of treatment, the fear of loss of confidentiality, the denial of those who need treatment, and the overall lack of resources. Before any real steps can be taken toward a solution, a universal set of definitions for these terms needs to be documented. This would place the treatment providers and the media on a more common ground from which they could better sell treatment values to the public.

Questions, Answers, and Comments

Comment: Information needs to reach those who can make better use of it in terms of employing all of the country's media resources.

How are ethnic populations being addressed? All of the radio advertisements, posters, and cartoons provided by CSAP are also available in Spanish. Beyond the national level, other methods that better address the needs of ethnic populations within the communities need to be found.

Has any thought been given to making public service announcement campaign materials available to treatment providers who have a use for them within their facilities? It was never thought that treatment providers would be interested in straightout prevention campaign tactics, but if there is an interest, they certainly will be made accessible.

What is the feeling toward applying public service messages within the treatment facilities, in the hopes of stimulating dialogue that could serve as in-house training for staff and clients? Materials even could be packaged into little treatment kits that could be applied directly to clients in the treatment facilities. Using local newspapers to help distribute the public service announcements would be beneficial.

Are there any programs being created that will focus directly on the seventh-grade age group, which has been seen to be the most transitional group in terms of the increases in drug and alcohol use? Public service messages are being programmed into video games and tied into various music video contests, which seem to be widely used and viewed by adolescents belonging to this age group.

The following workshops were offered at the conference. Information on all NIDA-sponsored workshops is available through the Community and Professional Education Branch, NIDA, Parklawn Building, 5600 Fishers Lane, Room 10A39, Rockville, Maryland 20857, (301) 443-1124.

WS01. RECOVERY TRAINING AND SELF-HELP: A RELAPSE PREVENTION MODEL

(NIDA sponsored)
(Three 1½-hour sessions)

This workshop focused on the Recovery Training and Self-Help (RTSH) model, combining client coping skills with peer support and other activities supporting recovery. RTSH clinical interventions/protocols were described. Implementation issues were discussed. Meeting agendas, topics, and discussion guidelines and exercises for clients participating in an RTSH relapse prevention program were provided, as well as materials for training agency staff. Group exercises and roleplays familiarized participants with the RTSH program. Issues that may arise when implementing this program were discussed.

WS02. CUE EXTINCTION

(NIDA sponsored)
(Two 1½-hour sessions)

This workshop presented a cue extinction model for reducing or eliminating drug cravings among recovering clients in response to certain situations, emotions, and/or thoughts by helping them to identify drug craving cues and teaching them skills for managing these cravings. Clinical interventions/protocols used in the model were described and training materials for program staff were reviewed. Participants were familiarized with cue extinction by taking part in group exercises and roleplays. Implementation issues were discussed.

WS03. CONTINGENCY MANAGEMENT IN METHADONE TREATMENT PROGRAMS

(NIDA sponsored)
(Two 1½-hour sessions)

This workshop described contingency management clinical interventions used successfully to help clients at various phases of treatment in methadone maintenance programs. Training materials for program staff were reviewed, and group exercises and roleplays were used to familiarize participants with the clinical approaches that utilize a reward and deterrent approach for clients to remain drug free and develop positive lifestyle behaviors. Implementation issues were discussed.

WS04. CONTINGENCY MANAGEMENT IN DRUG-FREE PROGRAMS

(NIDA sponsored)
(Two 1½-hour sessions)

This workshop presented Contingency Management as a useful tool for helping clients during treatment and aftercare in drug-free treatment programs to remain drug free and develop positive lifestyle behaviors using a reward and deterrent approach. Contingency management clinical interventions were described, and training materials for program staff were reviewed. Participants took part in group exercises and roleplays to familiarize themselves with clinical approaches, and implementation issues were discussed.

WS05. EVALUATING DRUG ABUSE TREATMENT PROGRAMS

(NIDA sponsored)
(Four 1½-hour sessions)

This workshop presented a detailed management plan for use by providers in conducting process and outcome program evaluations in their agencies; it included design, implementation, and reporting. Participants used a manual addressing a variety of technical evaluation issues in practical, applied terms, and an extensive case history provided practical examples. Group exercises related to the stages of carrying out a program evaluation.

WS06. ASSESSMENT OF ADULT DRUG ABUSE CLIENTS USING THE ADDICTION SEVERITY INDEX (ASI)

(NIDA sponsored)
(Two 1½-hour sessions)

This workshop reviewed the Addiction Severity Index form and accompanying user manual, recently revised to address clinical staff questions on administering the ASI, and explored issues related to incorporating the

ASI into a program's screening and assessment services. A videotape and facilitator's guide for training clinical staff in ASI administration were previewed, and group exercises and roleplays were used.

WS07. Family Approaches to Treatment

(NIDA sponsored)
(Four 1½-hour sessions)

This workshop provided an overview of models of family therapy and their value in drug abuse treatment and of the administrative issues that must be addressed in implementing such programs. The workshop included a special focus on Hispanic families. Specialized materials included an administrator's handbook, a photonovella for clients, and materials for clinical staff.

WS08. Communitywide Drug Abuse Prevention Approaches

(NIDA sponsored)
(Four 1½-hour sessions)

This workshop presented a research-based substance abuse prevention model with involvement of major community agencies as a major feature. Participants reviewed materials and processes for involving schools, parents, youth, media, community leaders, and policymakers and took part in group exercises and roleplays. Strategies for overcoming potential obstacles to implementation were discussed.

WS09. A School-Based Prevention Program for High-Risk Youth

(NIDA sponsored)
(Four 1½-hour sessions)

This workshop presented a school-based substance abuse prevention program for high-risk adolescents with a curriculum that is comprehensive and psychoeducational and includes peer support and school personnel components. An extensive curriculum guide was provided, as well as materials for recruiting high-risk adolescents and training teachers in the program's implementation; group exercises and roleplays illustrated their use. Potential obstacles to implementation were discussed.

WS10. AIDS Prevention: Reaching Women at Risk

(Cosponsored by NIDA and CSAT)
(Four 1½-hour sessions)

This workshop focused on counseling services for women at risk for HIV/AIDS; it consisted of women-specific information on health, cultural, lifestyle, and psychosocial issues relevant to developing and implementing HIV/AIDS prevention programs. Exercises, group discussions, and roleplays helped to develop intervention skills for HIV/AIDS prevention activities targeted to women.

WS11. HIV/AIDS Prevention for African-Americans

(Cosponsored by NIDA and CSAT)
(Four 1½-hour sessions)

This workshop presented a model for counseling services to African-Americans addressing HIV/AIDS issues, focusing on culturally specific information, values, and perceptions and the development of strategies and skills to assist clients to assess personal risk and to support them in developing and carrying out action plans to change risk behaviors. Group exercises, discussions, and roleplays helped to build skills in developing HIV/AIDS prevention strategies for African-Americans.

WS12. HIV/AIDS Prevention for Hispanic Women

(Cosponsored by NIDA and CSAT)
(Four 1½-hour sessions)

This workshop focused on counseling services addressing HIV/AIDS issues with Hispanic/Latino women; it included women-specific and Latino culturally specific information, values, and perceptions and the development of strategies and skills to assist clients to assess personal risk and support them in changing risk behaviors. Cultural diversity within the Latino community was explored. Group exercises, discussions, and roleplays developed skills in HIV/AIDS prevention.

WS13. HIV/AIDS High-Risk Adolescent Prevention

(Cosponsored by NIDA and CSAT)
(Four 1½-hour sessions)

This workshop was designed for a wide range of youth services professionals who work with high-risk adolescents, such as substance

abuse counselors, youth and family services counselors, youth outreach workers, and adolescent health personnel. These highly interactive training modules included techniques and roleplays for developing effective communication skills, self-esteem building, and HIV/AIDS risk awareness and risk reduction.

WS14. Assessing the Extent of Drug Use and Abuse in the Community

(NIDA sponsored)
(Four 1½-hour sessions)

This workshop provided skills in collecting data on the extent of drug use in the local community. Using a local committee for information-gathering from a variety of sources—including medical emergency rooms, medical examiners' offices, local drug treatment programs, and law enforcement resources—it provided the key to evaluating the nature of the local problem. A manual and other resources were made available.

WS15. Siting Drug Abuse Treatment Facilities Successfully

(NIDA sponsored)
(Two 1½-hour sessions)

This workshop presented a model for avoiding the "Not In My Back Yard" (NIMBY) syndrome when establishing new treatment facilities. It provided information, manuals, and media materials and used case histories, exercises, group discussions, and roleplays to develop skills in minimizing neighborhood opposition to new facilities and building community support for treatment.

WS16. Building Local Support for Drug Abuse Treatment

(NIDA sponsored)
(Two 1½-hour sessions)

This workshop focused on establishing communitywide efforts to build support for treatment. It examined strategies for identifying and involving local opinion leaders in promoting treatment, and for developing effective linkages both among treatment providers and between treatment providers and other community health professionals. The workshop used case histories, exercises, groups discussions, and roleplays to develop skills; manuals and media materials were provided.

WS17. Improving Effectiveness of Treatment for Chemically Dependent Women Through Specialized Training

(NIDA sponsored)
(Four 1½-hour sessions)

This workshop presented a model for teaching sexual assertiveness skills that are sensitive to the cultural and lifestyle differences among chemically dependent women to help them recognize and claim their personal and sexual rights and develop a communication style that asserts those rights while respecting the rights of others. An interactive style was used to demonstrate strategies for working with women on such issues as effective communication styles, personal rights, sexual health and safe sex options, holistic sexuality, and becoming sexually assertive. The workshop discussed field experiences with "Time Out! For Me," a client-centered training manual developed by the Drug Abuse Treatment for AIDS Risk Reduction project to address assertiveness and sexuality issues with chemically dependent women. The last portion of the workshop showcased an aftercare transition training package designed to help both women and men make a successful passage from treatment to aftercare.

These films are available through CSAP's National Clearinghouse for Alcohol and Drug Information, (800) 729-6686.

RELAPSE PREVENTION
24.11 Minutes

What do we really know about relapse, and how can we help clients avoid it? The videotape addresses these questions by providing information on the phenomenon of relapse and its often chronic appearance in the lives of substance abusers. The changing focus in treatment toward relapse, i.e., that relapse is a part of the treatment process, is explored via the application of various techniques, such as recognizing the concept of craving, employing imaging techniques, understanding the biochemistry and neuroanatomy of addiction, and implementing behavioral approaches. Promises for the future of relapse prevention continue through NIDA's Medications Development Division. The accompanying user's guide provides information on the components of relapse prevention.

ASSESSMENT
22.09 Minutes

What is the assessment process, and why is it so important to understand? Standardized tools facilitate the clinician's job by eliciting accurate information and helping the clinician make the right decisions with a client. The videotape provides an overview of the assessment process and makes clinicians more comfortable conducting assessments and selecting diagnostic tools during the various phases of a client's treatment. Specific adult and adolescent tools examined include the Addiction Severity Index (ASI), the Problem Oriented Screening Instrument for Teenagers (POSIT), the Adolescent Problem Severity Index (APSI), and the Personal Experience Inventory (PEI). The user's guide provides general information on assessment as well as information on a host of specific tools.

TREATMENT ISSUES FOR WOMEN
22.22 Minutes

Why is it important to identify, understand, and treat the special needs of drug-dependent women? Specific issues, methods, and techniques are presented in such a way as to help viewers understand the multifaceted dimensions of treating women who abuse drugs. The videotape represents an integration of research and clinical practice and addresses the physical, psychological, and sociological needs of women. The unique set of challenges that women bring to treatment is examined along with mechanisms for dealing with relationship building, sexual and physical abuse, anger, and role confusion. Scenes from several innovative treatment programs exemplify how treatment services have been enhanced to serve women. The user's guide directs clinicians to resources for greater understanding.

ADOLESCENT TREATMENT APPROACHES
25.10 Minutes

What kinds of problems do adolescents bring with them when they enter treatment, and what techniques will best treat them? The multidimensional issues that surround adolescent substance abuse are identified along with strategies for helping these high-risk youth. The videotape stresses the importance of understanding the specific needs that accompany adolescents' development as the key to success in treatment. This understanding begins with accurate assessment and continues with aftercare monitoring. The role of the family in the treatment of substance-abusing adolescents and the role of family therapy are examined. Other types of treatment programs also are presented. Clinicians are encouraged to broaden their perspectives in particular topical areas through use of the user's guide.

IF YOU CHANGE YOUR MIND
31.24 Minutes

This video uses the experiences of four recovering addicts as a framework for educating children about the biological consequences of drug abuse and for demonstrating that biomedical research can be exciting and fun. Designed to generate discussion among teachers and their students, the video, student magazine, and teachers' curriculum present information about how the brain works, social issues related to drug abuse, and the biological consequences of drug use. The activities in both the student magazine and the teachers' guide are designed to help students learn by doing—to become producers of information related to drug use rather than passive consumers of information.

REMOTELY SCIENCE
22 Minutes

Remotely Science is a documentary produced for NIDA by eighth-grade students in Maryland. The video is designed to show elementary school students that science is fun as well as to discourage drug use by students. The video contains strong messages that encourage an interest in science among female and minority students.

Drug Abuse and the Brain

25.55 Minutes

This videotape provides a detailed look at the biological basis of drug addiction. Through animation and interviews with experts in the field, clinicians will come to understand how the brain and its reward system work and how drug abuse can cause fundamental changes in the way the brain works. Topics in this videotape include understanding the electrochemical transmission system of the brain, recognizing the effects of drugs on neurotransmission, understanding how two types of pharmacotherapy work, and understanding how the effects of drug abuse on the brain affect approaches to treatment for counselors.

Dual Diagnosis

27.04 Minutes

This videotape focuses on the complex problem of mental illness in drug-addicted populations. Experts believe that more than 50 percent of all addicts suffer from serious psychiatric disorders. These include a wide spectrum of mood, anxiety, and personality disorders. The challenge of treating both mental illness and drug addiction requires new approaches on the part of drug counselors and mental health professionals. The following topics are included in this videotape: understanding the prevalence of dual-diagnosis disorders, recognizing specific psychiatric problems common among drug abusers, identifying ways of evaluating and treating those clients with dual disorders, and understanding the need for close collaboration between drug abuse counselors and mental health professionals.

The Door to Recovery: Community Drug Abuse Treatment

25 Minutes

This videotape describes several community treatment programs across the country, emphasizing the need for addicts to develop responsibility and to participate in aftercare groups. The videotape also addresses the need for others in the community to see these treatment centers as nonthreatening and part of a community healing process.

Robert M. Bray, Ph.D.
Michael L. Dennis, Ph.D.
Jutta Thornberry

Overview of the Washington, D.C. Metropolitan Area Drug Study (DC*MADS) and Selected Findings From the Homeless and Transient Population Study

Elizabeth R. Brown, M.D.

Women's Treatment Approaches: A Clinical Perspective

George De Leon, Ph.D.
Graham Staines, Ph.D.

Day Treatment With Methadone Clients

Laurence Greenfield, Ph.D.

Methadone Treatment Issues in the District of Columbia

Robert L. Hubbard, Ph.D.

DATOS Research Program: A Coordinated Interactive Alliance of Research Practice

Nancy Jainchill, Ph.D.

Adolescents in Therapeutic Community Treatment: Issues of Motivation, Maturation, and Success

M. Marlyne Kilbey, Ph.D.

Smoking, Nicotine Dependence, and Other Psychiatric Disorders

Karol L. Kumpfer, Ph.D.

Family Intervention Issues

Wayne E.K. Lehman, Ph.D.

Management Information and Evaluation System for Drug Testing Programs

Janet Lerner, D.S.W.

Effective Case Management Methods with Drug Addicts

David Mactas, M.A.

Residential Treatment, Day Treatment, and Therapeutic Communities

Nelia C. Nadal, M.P.H., CHES

CSAP Resource Center on Substance Abuse, Prevention, and Disability

Michael Rahav, Ph.D.
James Rivera, Psy.D.

Family Background and Dual Diagnosis

Elizabeth Rahdert, Ph.D.

Introduction to the Problem Oriented Screening Instrument for Teenagers (POSIT)

James Rivera, Psy.D.

Validity of the "Dual Diagnosis" in Determining Eligibility for MICA Treatment Programs

John Robertson, M.S.W.
Judith Waters, Ph.D.

An HIV Prevention Program With Male Substance Abusers in Jail

Jack B. Stein, L.C.S.W.

AIDS Training Curriculum for Substance Abuse Training

James L. Sorenson, Ph.D.

Acupuncture Heroin Detoxification: A Single-Blind Clinical Trial

Lorand B. Szalay, Ph.D.

Assessing Program Effects by Measuring Changes in Vulnerabilities

Bill Taylor, CADAC

Whitman-Walker Clinic Programs

Wayne Wiebel, Ph.D.

The Potiental for Reducing the Spread of HIV Among IDU: An Evaluation of the Indigenous Leader Outreach Model

Audrey M. Yowell, Ph.D.

NIDA's Technology Transfer Program

LUNCHEON TABLE TOPICS

1. **Multicultural Aspects of Prevention Research Program**
   Lula Beatty, Ph.D.

2. **Mobile Methadone Vans**
   Joseph Brady, Ph.D.

3. **National Health Care Reform**
   William Butynski, Ph.D.

4. **Reproductive Health Issues: Asian/Pacific Islanders**
   Marissa Castro

5. **Minority Training Programs**
   Timothy Condon, Ph.D.

6. **DSM-IV**
   Dorynne Czechowicz, M.D.

7. **Substance Abuse, HIV/AIDS, and TB Implications for Treatment**
   Katherine Davenny

8. **Research and Treatment Issues as They Relate to Homeless Individuals**
   Peter Delany, D.S.W.

9. **Recovery-Oriented Theory**
   George De Leon, Ph.D.

10. **Hispanic Research and Technology Transfer**
    Eunice Diaz, M.S., M.P.H.

11. **Preventing Steroid Use and Abuse**
    Lynda Erinoff, Ph.D.

12. **Conducting Community-Based Research in Ethnic Minority Communities**
    Patricia E. Evans, M.D., M.P.H.

13. **AIDS and Drug Abuse Community Education Network**
    Leona Ferguson

14. **Special Needs of Women in Methadone Treatment**
    Loretta Finnegan, M.D.

15. **NIDA/CSAT Hotline**
    Pamela Goodlow
    Donna Simms d'Almeida

16. **Houston Crackdown**
    Janice Griffin

17. **Matching Patients and Treatments**
    Barbara Havassy, Ph.D.

18. **NIDA/Urban League Project**
    Anne Hill, M.A.

19. **DATOS Research Program**
    Robert Hubbard, Ph.D.

20. **Post-Traumatic Stress Disorder and Substance Abuse**
    Coryl Jones, Ph.D.
    Richard Lopez, M.D.

21. **Medical Outcomes for Children of Substance Abusers**
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22. **NAADAC**
    Linda Kaplan, M.A., C.A.E.

23. **What is Needed Nationally to Improve Drug Abuse Treatment**
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24. **Adolescent Drug Use**
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25. **National Asian/Pacific Islander Families Against Substance Abuse**
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26. **Helping Teachers Meet the Needs of Children of Substance Abusers**
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27. **Special Issues in Women's Assessment**
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28. **Family Violence**
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29. **Triplicate Prescriptions**
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32. **Building Communitywide Support**
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33. **The D.C. Initiative: A Federal/State Research Project**
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36. **Women's Health Care Program at NIDA**
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38. **Science Education**
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39. **Marketing Your Campaign Materials**
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40. **Aids Prevention: Reaching Women at Risk**
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41. **Aftercare**
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42. **NIDA's HIV/AIDS Program**
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43. **Drug Testing: Current Issues**
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44. **Perceptual and Motivational Dispositions Related to Substance Abuse**
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45. **New Medications Development**
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46. **Safe Sex Practices in Drug Abuse Treatment**
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47. **Child Protection and Support**
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48. **Use of Drugs to Control Pain**
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49. **National Prevention Network**
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50. **Project Lead**
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51. **Recruiting Ethnic Minority Staff to NIDA**
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52. **The Indigenous Leader Outreach Intervention Model: Progress and Prospects**
Wayne Wieble, Ph.D.

53. **The Washington, DC Metropolitan Area Drug Study (DC*MADS)**
Elizabeth Lambert
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54. **The Washington, DC Metropolitan Area Drug Study (DC*MADS)**
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RS38: Physical and Sexual Abuse

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RS36: Risk and Protective Factors in Adolescent Drug Use and Abuse

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RS28: Effective Case Management Methods With Drug Addicts: Research-Based Approaches

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RS42: HIV/AIDS and Women

IF07: Current Perspectives on Models of Case Management

IF20: Drug Abuse Research Along the U.S./Mexico Border

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RS10: Drugs in the Workplace—Research Issues

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IF14: Juvenile Justice

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IF29: Technology Transfer to the Drug Abuse Community

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RS09: Update on Drugs—Anabolic Steroids

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IF30: Substance Abuse, HIV/AIDS, and Tuberculosis: Implications for Treatment Programs

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IF36: Use of the Media in Prevention and Treatment Awareness

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IF22: Child Abuse and Neglect

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WS01: Recovery Training and Self-Help: A Relapse Prevention Model

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RS02: Recent Trends in Drug Abuse Research

RS04: Update on Drugs—Marijuana, Hallucinogens, and Inhalants

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RS10: Drugs in the Workplace—Research Issues

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IF09: Cigarette Smoking Policies in Treatment Programs

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RS28: Effective Case Management Methods With Drug Addicts: Research-Based Approaches

IF07: Current Perspectives on Models of Case Management

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IF05: Addressing Special Population Needs: Native Americans

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RS34: Prevention Research Evaluation

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IF08: Methadone Treatment Issues

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RS27: Aftercare and Relapse Prevention

IF12: Recovery With and Without Treatment

IF15: Evaluation Results To Improve Program Functioning

IF23: The Changing Drug Abuse Treatment System: Service and Research Implications

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RS24: Women's Assessment Procedures

RS25: Women's Treatment Approaches: A Clinical Perspective

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RS18: The Effectiveness of Methadone Maintenance Treatment: Special Consideration for Pregnancy and the Prevention of HIV Infection

IF02: Addressing Special Population Needs: African-Americans

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RS32: Valid and Reliable Drug-Testing Techniques

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IF26: Public-Sector Funding Resources

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WS05: Evaluating Drug Abuse Treatment Programs

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IF21: NIDA Meets With Practitioners About Future Research Needs

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IF29: Technology Transfer to the Drug Abuse Community

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IF16: Treatment and Prevention in Rural Settings

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RS19: Behavioral Treatments for Drug Dependence

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IF03: Addressing Special Population Needs: Asians and Asian/Pacific Islanders

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RS35: Multicultural Aspects of Prevention Research Programs

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IF32: Strategies for More Successful Technology Transfer: State and Federal Collaboration

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RS36: Risk and Protective Factors in Adolescent Drug Use and Abuse

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WS17: Improving Effectiveness of Treatment for Chemically Dependent Women Through Specialized Training

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RS05: Update on Drugs—Cocaine and Stimulants

RS17: Medications in Drug Abuse Treatment

WS02: Cue Extinction

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RS34: Prevention Research Evaluation

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WS15: Siting Drug Abuse Treatment Facilities Successfully

WS16: Building Local Support for Drug Abuse Treatment

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RS25: Women's Treatment Approaches: A Clinical Perspective

RS26: Treatment for Pregnant and Postpartum Women and Their Infants

RS38: Physical and Sexual Abuse

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IF19: Questions and Answers on Drug Addiction and the Brain

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RS32: Valid and Reliable Drug-Testing Techniques

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IF08: Methadone Treatment Issues

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IF10: Selecting Pharmacologic Treatments for Use in Drug Abuse Treatment Programs

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WS02: Cue Extinction

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RS08: Update on Drugs—Prescription Drugs

IF13: Patient Placement and Treatment Outcome

IF35: Prevention and Primary Care

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WS11: HIV/AIDS Prevention for African-Americans

WS13: HIV/AIDS High-Risk Adolescent Prevention

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RS39: Communitywide Drug Abuse Prevention Approaches

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IF23: The Changing Drug Abuse Treatment System: Service and Research Implications

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IF30: Substance Abuse, HIV/AIDS, and Tuberculosis: Implications for Treatment Programs

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IF29: Technology Transfer to the Drug Abuse Community

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RS40: Family and School Prevention Programs for High-Risk Youth

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RS31: Treatment Alternatives for Criminal Justice Clients

IF14: Juvenile Justice

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RS37: The Drugs and Violence Connection: Underlying Psychosocial Factors

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RS20: Residential Treatment, Day Treatment, and Therapeutic Communities

RS29: Improving Drug Abuse Treatment: Findings From NIDA's Research Demonstration Projects

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RS37: The Drugs and Violence Connection: Underlying Psychosocial Factors

IF14: Juvenile Justice

IF18: Use of the Problem Oriented Screening Instrument for Teenagers (POSIT) in Case Management and Clinical Practice

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RS43: Effectiveness of Teaching Safe Sex Practices With Drug Abusers

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RS41: Substance Abuse and HIV/AIDS

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IF04: Addressing Special Population Needs: Hispanics

IF29: Technology Transfer to the Drug Abuse Community

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RS37: The Drugs and Violence Connection: Underlying Psychosocial Factors

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Plenary: Twenty Years of Drug Abuse Research: Former NIDA Directors Look at What Has Been Learned

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IF01: Addressing Special Population Needs: Gays and Lesbians

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IF36: Use of the Media in Prevention and Treatment Awareness

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IF35: Prevention and Primary Care

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IF25: Legislative Issues in Drug Abuse

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RS40: Family and School Prevention Programs for High-Risk Youth

WS09: A School-Based Prevention Program for High-Risk Youth

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RS09: Update on Drugs—Anabolic Steroids

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RS30: Drug Abuse Treatment Outcome Study (DATOS) Research

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IF21: NIDA Meets With Practitioners About Future Research Needs

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IF04: Addressing Special Population Needs: Hispanics

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IF34: Message Development for Community Education

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RS23: Specialized Treatment for Pregnant and Parenting Teenagers

IF18: Use of the Problem Oriented Screening Instrument for Teenagers (POSIT) in Case Management and Clinical Practice

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RS11: Outcomes of Children of Substance Abusers

RS25: Women's Treatment Approaches: A Clinical Perspective

RS26: Treatment for Pregnant and Postpartum Women and Their Infants

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RS30: Drug Abuse Treatment Outcome Study (DATOS) Research

IF17: Providing Ancillary Services in Drug Abuse Treatment

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RS30: Drug Abuse Treatment Outcome Study (DATOS) Research

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IF25: Legislative Issues in Drug Abuse

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IF36: Use of the Media in Prevention and Treatment Awareness

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RS03: Update on Drugs—Heroin and Synthetic Opioids

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IF26: Public-Sector Funding Resources

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RS41: Substance Abuse and HIV/AIDS

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RS01: Understanding Drug Addiction and the Brain

IF19: Questions and Answers on Drug Addiction and the Brain

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IF26: Public-Sector Funding Resources

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IF33: Crack and HIV: Sex for Drugs—What This Means About the Spread of AIDS

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RS02: Recent Trends in Drug Abuse Research

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IF06: Substance Abuse and Disability Issues

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IF26: Public-Sector Funding Resources

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IF10: Selecting Pharmacologic Treatments for Use in Drug Abuse Treatment Programs

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RS07: Applications of Relapse Prevention to Addicted Populations: Problems, Prospects, and Promises

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RS16: Drug Abuse-Associated Medical Problems and Their Impact on Daily Life

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IF01: Addressing Special Population Needs: Gays and Lesbians

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RS11: Outcomes of Children of Substance Abusers

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IF11: Acupuncture and Other Alternative Treatments

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RS17: Medications in Drug Abuse Treatment

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WS06: Assessment of Adult Drug Abuse Clients Using the Addiction Severity Index

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RS36: Risk and Protective Factors in Adolescent Drug Use and Abuse

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IF06: Substance Abuse and Disability Issues

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RS23: Specialized Treatment for Pregnant and Parenting Teenagers

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WS14: Assessing the Extent of Drug Use and Abuse in the Community

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WS01: Recovery Training and Self-Help: A Relapse Prevention Model

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RS06: Update on Drugs—Tobacco

RS15: Relapse and Relapse Prevention: The Why and How of It

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RS40: Family and School Prevention Programs for High-Risk Youth

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RS31: Treatment Alternatives for Criminal Justice Clients

IF20: Drug Abuse Research Along the U.S./Mexico Border

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RS01: Understanding Drug Addiction and the Brain

RS04: Update on Drugs—Marijuana, Hallucinogens, and Inhalants

RS05: Update on Drugs—Cocaine and Stimulants

IF19: Questions and Answers on Drug Addiction and the Brain

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IF31: Needle Exchange and Street Outreach

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IF23: The Changing Drug Abuse Treatment System: Service and Research Implications

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WS09: A School-Based Prevention Program for High-Risk Youth

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RS13: Matching Patients and Treatments

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RS41: Substance Abuse and HIV/AIDS

RS45: Substance Abuse, HIV/AIDS, and Tuberculosis

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IF30: Substance Abuse, HIV/AIDS, and Tuberculosis: Implications for Treatment Programs

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WS11: HIV/AIDS Prevention for African-Americans

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RS16: Drug Abuse-Associated Medical Problems and Their Impact on Daily Life

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RS32: Valid and Reliable Drug-Testing Techniques

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RS22: Family-Based Treatment for Adolescents

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RS06: Update on Drugs—Tobacco

IF09: Cigarette Smoking Policies in Treatment Programs

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RS04: Update on Drugs—Marijuana, Hallucinogens, and Inhalants

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WS09: A School-Based Prevention Program for High-Risk Youth

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RS19: Behavioral Treatments for Drug Dependence

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RS33: The D.C. Initiative: A Federal/State Research Project

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IF13: Patient Placement and Treatment Outcome

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WS05: Evaluating Drug Abuse Treatment Programs

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RS07: Applications of Relapse Prevention to Addicted Populations: Problems, Prospects, and Promises

RS15: Relapse and Relapse Prevention: The Why and How of It

RS28: Effective Case Management Methods With Drug Addicts: Research-Based Approaches

IF06: Substance Abuse and Disability Issues

IF07: Current Perspectives on Models of Case Management

IF15: Evaluation Results To Improve Program Functioning

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RS13: Matching Patients and Treatments

RS30: Drug Abuse Treatment Outcome Study (DATOS) Research

IF23: The Changing Drug Abuse Treatment System: Service and Research Implications

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IF33: Crack and HIV: Sex for Drugs—What This Means About the Spread of AIDS

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RS28: Effective Case Management Methods With Drug Addicts: Research-Based Approaches

RS31: Treatment Alternatives for Criminal Justice Clients

IF14: Juvenile Justice

IF33: Crack and HIV: Sex for Drugs—What This Means About the Spread of AIDS

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Plenary: Drug Abuse Prevention and Treatment: Building the Infrastructure

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RS02: Recent Trends in Drug Abuse Research

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IF22: Child Abuse and Neglect

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RS18: The Effectiveness of Methadone Maintenance Treatment: Special Consideration for Pregnancy and the Prevention of HIV Infection

RS24: Women's Assessment Procedures

RS26: Treatment for Pregnant and Postpartum Women and Their Infants

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RS11: Outcomes of Children of Substance Abusers

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IF31: Needle Exchange and Street Outreach

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IF21: NIDA Meets With Practitioners About Future Research Needs

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RS33: The D.C. Initiative: A Federal/State Research Project

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IF20: Drug Abuse Research Along the U.S./Mexico Border

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RS06: Update on Drugs—Tobacco

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RS38: Physical and Sexual Abuse

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Plenary: NIDA's New Role at NIH

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Plenary: Research and Practice: Point/Counterpoint

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RS02: Recent Trends in Drug Abuse Research

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RS05: Update on Drugs—Cocaine and Stimulants

IF10: Selecting Pharmacologic Treatments for Use in Drug Abuse Treatment Programs

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WS14: Assessing the Extent of Drug Use and Abuse in the Community

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Plenary: Looking Toward the 21st Century

RS03: Update on Drugs—Heroin and Synthetic Opioids

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RS16: Drug Abuse-Associated Medical Problems and Their Impact on Daily Life

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RS01: Understanding Drug Addiction and the Brain

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RS40: Family and School Prevention Programs for High-Risk Youth

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RS35: Multicultural Aspects of Prevention Research Programs

IF03: Addressing Special Population Needs: Asians and Asian/Pacific Islanders

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RS12: Genetics and Drug Abuse

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IF27: Private-Sector Funding Resources

WS08: Communitywide Drug Abuse Prevention Approaches

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RS10: Drugs in the Workplace—Research Issues

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IF28: Using Information From This Conference in Day-to-Day Practice

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RS07: Applications of Relapse Prevention to Addicted Populations: Problems, Prospects, and Promises

RS20: Residential Treatment, Day Treatment, and Therapeutic Communities

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IF13: Patient Placement and Treatment Outcome

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IF26: Public-Sector Funding Resources

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Plenary: Research and Practice: Point/Counterpoint

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RS22: Family-Based Treatment for Adolescents

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RS04: Update on Drugs—Marijuana, Hallucinogens, and Inhalants

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IF14: Juvenile Justice

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IF08: Methadone Treatment Issues

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RS30: The Drug Abuse Treatment Outcome Study (DATOS) Research

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Plenary: Research and Practice: Point/Counterpoint

IF12: Recovery With and Without Treatment

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RS31: Treatment Alternatives for Criminal Justice Clients

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RS43: Effectiveness of Teaching Safe Sex Practices With Drug Abusers

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RS15: Relapse and Relapse Prevention: The Why and How of It

RS19: Behavioral Treatments for Drug Dependence

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RS24: Women's Assessment Procedures

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RS28: Effective Case Management Methods With Drug Addicts: Research-Based Approaches

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RS11: Outcomes of Children of Substance Abusers

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RS27: Aftercare and Relapse Prevention

WS01: Recovery Training and Self-Help: A Relapse Prevention Model

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IF32: Strategies for More Successful Technology Transfer: State and Federal Collaboration

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RS44: HIV/AIDS Outreach Intervention Research

IF33: Crack and HIV: Sex for Drugs—What This Means About the Spread of AIDS

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IF16: Treatment and Prevention in Rural Settings

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RS14: Dual Diagnosis and Drug Abuse Treatment

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RS35: Multicultural Aspects of Prevention Research Programs

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RS13: Matching Patients and Treatments

IF11: Acupuncture and Other Alternative Treatments

IF13: Patient Placement and Treatment Outcome

WS06: Assessment of Adult Drug Abuse Clients Using the Addiction Severity Index

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RS07: Applications of Relapse Prevention to Addicted Populations: Problems, Prospects, and Promises

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RS12: Genetics and Drug Abuse

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RS21: Adolescent Diagnostic Assessment

IF17: Providing Ancillary Services in Drug Abuse Treatment

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RS38: Physical and Sexual Abuse

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RS05: Update on Drugs—Cocaine and Stimulants

IF17: Providing Ancillary Services in Drug Abuse Treatment

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Plenary: Drug Abuse Research and Practice: Applying Today's Knowledge in Tomorrow's Programs

IF21: NIDA Meets With Practitioners About Future Research Needs

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WS03: Contingency Management in Methadone Treatment Programs

WS04: Contingency Management in Drug Free Programs

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IF02: Addressing Special Population Needs: African-Americans

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WS13: HIV/AIDS High-Risk Adolescent Prevention

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IF31: Needle Exchange and Street Outreach

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Plenary: Looking Toward the 21st Century

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RS44: HIV/AIDS Outreach Intervention Research

IF32: Strategies for More Successful Technology Transfer: State and Federal Collaboration

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RS43: Effectiveness of Teaching Safe Sex Practices With Drug Abusers

RS44: HIV/AIDS Outreach Intervention Research

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IF34: Message Development for Community Education

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WS09: A School-Based Prevention Program for High-Risk Youth

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Plenary: Speaking Out for People in Recovery

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IF12: Recovery With and Without Treatment

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IF20: Drug Abuse Along the U.S./Mexico Border

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RS19: Behavioral Treatments for Drug Dependence

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RS42: HIV/AIDS and Women

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RS33: The D.C. Initiative: A Federal/State Research Project

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IF08: Methadone Treatment Issues

IF21: NIDA Meets With Practitioners About Future Research Needs

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IF26: Public-Sector Funding Resources

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RS39: Communitywide Drug Abuse Prevention Approaches

WS08: Communitywide Drug Abuse Prevention Approaches

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IF35: Prevention and Primary Care

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IF32: Strategies for More Successful Technology Transfer: State and Federal Collaboration

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IF05: Addressing Special Population Needs: Native Americans

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WS11: HIV/AIDS Prevention for African-Americans

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RS12: Genetics and Drug Abuse

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RS20: Residential Treatment, Day Treatment, and Therapeutic Communities

RS29: Improving Drug Abuse Treatment: Findings From NIDA's Research Demonstration Projects

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Plenary: Twenty Years of Drug Abuse Research: Former NIDA Directors Look at What Has Been Learned

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RS16: Drug Abuse-Associated Medical Problems and Their Impact on Daily Life

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IF25: Legislative Issues in Drug Abuse

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IF25: Legislative Issues in Drug Abuse

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RS21: Adolescent Diagnostic Assessment

RS22: Family-Based Treatment for Adolescents

RS23: Specialized Treatment for Pregnant and Parenting Teenagers

IF18: Use of the Problem Oriented Screening Instrument for Teenagers (POSIT) in Case Management and Clinical Practice

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RS08: Update on Drugs—Prescription Drugs

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IF32: Strategies for More Successful Technology Transfer: State and Federal Collaboration

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Plenary: Looking Toward the 21st Century

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Plenary: Speaking Out for People in Recovery

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RS14: Dual Diagnosis and Drug Abuse Treatment

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WS09: A School-Based Prevention Program for High-Risk Youth

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Plenary: Research and Practice: Point/Counterpoint

RS07: Applications of Relapse Prevention to Addicted Populations: Problems, Prospects, and Promises

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RS39: Communitywide Drug Abuse Prevention Approaches

WS08: Communitywide Drug Abuse Prevention Approaches

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RS42: HIV/AIDS and Women

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RS14: Dual Diagnosis and Drug Abuse Treatment

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IF26: Public-Sector Funding Resources

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IF16: Treatment and Prevention in Rural Settings

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WS13: HIV/AIDS High-Risk Adolescent Prevention

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IF09: Cigarette Smoking Policies in Treatment Programs

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RS06: Update on Drugs—Tobacco

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RS10: Drugs in the Workplace—Research Issues

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RS39: Communitywide Drug Abuse Prevention Approaches

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IF03: Addressing Special Population Needs: Asians and Asian/Pacific Islanders

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RS08: Update on Drugs—Prescription Drugs

RS26: Treatment for Pregnant and Postpartum Women and Their Infants

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Plenary: Twenty Years of Drug Abuse Research: Former NIDA Directors Look at What Has Been Learned

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WS10: AIDS Prevention: Reaching Women at Risk

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RS06: Update on Drugs—Tobacco

IF09: Cigarette Smoking Policies in Treatment Programs

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RS40: Family and School Prevention Programs for High-Risk Youth

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RS45: Substance Abuse, HIV/AIDS, and Tuberculosis

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IF06: Substance Abuse and Disability Issues

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WS13: HIV/AIDS High-Risk Adolescent Prevention

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RS15: Relapse and Relapse Prevention: The Why and How of It

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IF01: Addressing Special Population Needs: Gays and Lesbians

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RS28: Effective Case Management Methods With Drug Addicts: Research-Based Approaches

IF07: Current Perspectives on Models of Case Management

IF33: Crack and HIV: Sex for Drugs—What This Means About the Spread of AIDS

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RS29: Improving Drug Abuse Treatment: Findings From NIDA's Research Demonstration Projects

WS05: Evaluating Drug Abuse Treatment Programs

WS17: Improving Effectiveness of Treatment for Chemically Dependent Women Through Specialized Training

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Ir'09: Cigarette Smoking Policies in Treatment Programs

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WS07: Family Approaches to Treatment

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RS41: Substance Abuse and HIV/AIDS

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IF15: Evaluation Results To Improve Program Functioning

IF28: Using Information From This Conference in Day-to-Day Practice

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RS27: Aftercare and Relapse Prevention

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IF11: Acupuncture and Other Alternative Treatments

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RS34: Prevention Research Evaluation

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RS37: The Drugs and Violence Connection: Underlying Psychosocial Factors

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IF16: Treatment and Prevention in Rural Settings

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WS10: AIDS Prevention: Reaching Women at Risk

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WS03: Contingency Management in Methadone Treatment Programs

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RS25: Women's Treatment Approaches: A Clinical Perspective

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IF15: Evaluation Results To Improve Program Functioning

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IF02: Addressing Special Population Needs: African-Americans

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Plenary: Speaking Out for People in Recovery

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RS36: Risk and Protective Factors in Adolescent Drug Use and Abuse

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WS15: Siting Drug Abuse Treatment Facilities Successfully

WS16: Building Local Support for Drug Abuse Treatment

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RS29: Improving Drug Abuse Treatment: Findings From NIDA's Research Demonstration Projects

IF23: The Changing Drug Abuse Treatment System: Service and Research Implications

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RS45: Substance Abuse, HIV/AIDS, and Tuberculosis

IF30: Substance Abuse, HIV/AIDS, and Tuberculosis: Implications for Treatment Programs

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IF21: NIDA Meets With Practitioners About Future Research Needs

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IF11: Acupuncture and Other Alternative Treatments

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IF31: Needle Exchange and Street Outreach

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RS01: Understanding Drug Addiction and the Brain

RS03: Update on Drugs—Heroin and Synthetic Opioids

RS17: Medications in Drug Abuse Treatment

IF19: Questions and Answers on Drug Addiction and the Brain

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IF34: Message Development for Community Education

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Plenary: Research and Practice: Point/Counterpoint

IF02: Addressing Special Population Needs: African-Americans

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IF24: Questions and Answers on Drug Abuse and Legal Issues

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IF25: Legislative Issues in Drug Abuse

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RS42: HIV/AIDS and Women

RS43: Effectiveness of Teaching Safe Sex Practices With Drug Abusers

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WS07: Family Approaches to Treatment

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RS08: Update on Drugs—Prescription Drugs

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IF10: Selecting Pharmacologic Treatments for Use in Drug Abuse Treatment Programs

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IF22: Child Abuse and Neglect

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IF28: Using Information From This Conference in Day-to-Day Practice

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RS21: Adolescent Diagnostic Assessment

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RS45: Substance Abuse, HIV/AIDS, and Tuberculosis

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RS09: Update on Drugs—Anabolic Steroids

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IF29: Technology Transfer to the Drug Abuse Community

WS16: Building Local Support for Drug Abuse Treatment

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RS27: Aftercare and Relapse Prevention

WS01: Recovery Training and Self-Help: A Relapse Prevention Model

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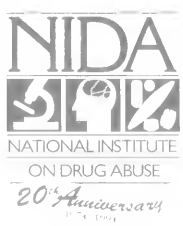

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