NIDA Makes Behavioral Science a Priority for Public Health

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I am pleased to have this opportunity to address the members of the American Psychological Society and to highlight some of the activities that the National Institute on Drug Abuse is supporting in the behavioral research area. Given the complex nature of drug abuse and addiction, behavioral and social services research continue to be integral components of NIDA’s research portfolio, with approximately $400 million spent in these areas in FY2003. NIDA is interested in increasing the impact of behavioral science research on public health, especially by using our knowledge in this area to steer children and young adults away from drug use.

Adolescents, young adults, and those who suffer from mental illnesses are some of the most vulnerable groups to develop problems with drug abuse and addiction. Moreover, women who abuse drugs do so at the highest rates during their childbearing years, risking harm to not only themselves, but to future generations as well. The field of psychological science can provide new ideas and strategies to reduce and prevent drug use in these populations, and can inform us how to appropriately treat individuals who are already abusing drugs to prevent their escalation to addiction and its myriad health and mental health complications, including HIV.

Volkow

Adolescence is the age at which drug use and other risky behaviors usually begin. Thus, NIDA will be concentrating its research efforts on understanding why this is one of the riskiest periods for drug experimentation and abuse in the lifespan of the individual. The research will include an investigation of the brain structural, functional, and neurochemical characteristics and their associated behavioral changes that occur during childhood and adolescence. Once we begin to more thoroughly understand the unique cognitive and emotional processes characteristic of adolescence such as judgment, decision-making, learning and conditioned responses, sensitivity to reinforcers, group dynamics, and risk-taking behaviors, among others, we will be better poised to design interventions to reduce drug experimentation and addiction.

The role that genetics and the environment play in both vulnerability and resilience of adolescents to addiction is also a priority in NIDA’s research portfolio. For example, once we have a better comprehension of which genes may put a subject at risk for drug abuse and addiction, and a solid understanding of the neurobiological processes underlying those genetic risks and how this translates into behavior, we will use these findings to guide interventions to counteract them. Particularly, an understanding of how environment can facilitate or protect a subject with genetic vulnerability to drug abuse will allow us to create behavioral interventions to either protect him/her from environmental risks or to strengthen environmental protective effects. Equally important is discerning what the impact of licit and illicit drug use is on the brain during this growth period in adolescence.
NIDA also plans to encourage research that does not just look at the individual person, but at the interactions that occur in groups. By drawing upon the expertise of social scientists, cognitive scientists, and neurobiologists, NIDA hopes to begin to understand the dynamics of decision making in group situations. Specifically, we are concerned with how peers and social networks impact on the choices made by adolescents and young adults.

Because drug abuse is not a disorder that typically occurs in isolation, but rather is one that can impact the onset and course of other diseases and problems – including AIDS and mental disorders – NIDA is committed to addressing co-morbidity.

Co-morbidity between drug abuse and mental illness is common. Recent epidemiologic studies show that between 30 and 60 percent of drug abusers have concurrent mental health diagnoses, including personality disorders, major depression, schizophrenia, and bipolar disorder. Similarly, those afflicted with mental illness are at a higher risk for drug abuse and addiction. These co-morbidities affect the clinical outcome and the effectiveness of therapeutic interventions. For example, in adolescent substance abusers, concomitant depression or attention-deficit/hyperactivity disorder, known as ADHD, is associated with early dropout and poor outcomes in drug abuse treatment interventions. Research to investigate the mechanisms underlying this co-morbidity is likely to be informative, not only to the understanding of addiction but also to mental illness.

We have already made much progress in developing behavioral/psychosocial interventions for substance use disorders. Controlled trials now provide solid evidence that several psychosocial treatment approaches can be effective in reducing drug use while also improving associated behavioral, familial, and psychosocial outcomes. These outcomes are enhanced when a combination of modalities are offered in a comprehensive, integrated treatment plan that addresses drug abuse and a broad range of biopsychosocial problems, skills deficits, and co-morbid psychiatric problems. For example, having families involved in the treatment program increases the likelihood of success in youth. A behavioral approach that has shown success in small research settings is the Brief Strategic Family Therapy. This is one of the treatments we are preparing to test in communities through NIDA’s Clinical Trials Network. If successful, we will work with our sister agency, the Substance Abuse Mental Health Services Administration, to promote the dissemination of this intervention to providers in communities everywhere. That is another important component of NIDA’s research strategy for the coming years – the deployment of more evidence-based interventions in a variety of community venues, including schools and prisons.

Given that the proportion of AIDS cases resulting from drug abuse has steadily increased over the course of the past two decades, with those most heavily affected including racial and ethnic minorities, women, adolescents, and gay and bisexual men, NIDA will maintain a strong HIV/AIDS research portfolio to find effective ways to reduce the risk of infection in vulnerable populations. Of concern continues to be the dissemination through intravenous drug use, but also the deleterious effects that drug intoxication has on the judgment of the individual and on his/her decision to engage in risky sexual behavior.

Behavioral research will continue to play a major role in preventing the role that drugs of abuse have on the spread of this and other diseases.

In addition to prevention, treatment, and HIV, NIDA will prioritize the training of future researchers. NIDA is committed to cultivating researchers who can develop innovative basic and clinical research
that help us understand normal and pathological behavior and apply it to the burden of disease. NIDA will use the widest variety of mechanisms to bring researchers to the field of drug abuse. For example, the Behavioral Science Track Award for Rapid Transition – B/START – was renewed in July 2003 and invites newly independent investigators to submit applications for small-scale, exploratory, or pilot research projects related to NIDA’s behavioral sciences mission. Funding of B/START awards is allowing for the support of cutting edge science. In 2003, 14 grants were funded. NIDA’s research training portfolio has also added training grants in areas that have been previously under-represented, including social work and health services research. NIDA recently added a K-25 (Mentored Quantitative Research Career Development Award) mechanism to bring investigators with quantitative and engineering backgrounds to work in the biomedical and behavioral research area.

In addition to our commitment to engage clinicians in drug abuse research, we have recently launched a major initiative to reach out to primary care physicians and other health care providers to raise their awareness of the impact that drug use has on the overall health of their patients. Earlier recognition, assessment, and intervention with substance-abusing patients will be beneficial to patients, families, and society as a whole.

These are very exciting times for the behavioral sciences; the increasing knowledge from neurobiology and genetics coupled with technological advances, such as brain imaging, have opened the possibility to investigate the neurobiological processes underlying healthy human behavior and its disruption by drugs of abuse and addiction. The challenge ahead of us is to integrate the findings from these diverse disciplines to start to build the landscape that will allow us to understand the interaction between the brain and behavior such that we can use this knowledge to prevent drug abuse and to treat addiction.

A Strong B/START
The B/START (Behavioral Science Track Award for Rapid Transition) program gives young investigators the resources to develop pilot data, supporting the future generation of behavioral science researchers at an important time in their career.

A study in 1988 by the former Alcohol, Drug Abuse and Mental Health Administration (ADAMHA) documented a decline among young behavioral science researchers. The B/START program has been significant in reversing that trend.

First launched in 1994 by the National Institute of Mental Health, the B/START program started with a conversation between APS Executive Director Alan G. Kraut and then-acting NIMH Director Alan I. Leshner. The two examined the “graying” of behavioral science and sought to increase the opportunities available to young researchers.

A decade later, these efforts have paid off. For some researchers at NIMH, the grant program has laid the groundwork for a long-term research focus. Other B/START researchers claim the program helped them become better grant writers, which subsequently gave them the opportunity to effectively break into the grant business. (For reflections on first-time experiences with the NIMH B/START program, see the October 2002 issue of the Observer at www.psychologicalscience.org(observer/1002/bstart.cfm.)

Since B/START’s beginnings at NIMH, other NIH Institutes have adopted similar grant programs. In 1996, the National Institute on Drug Abuse issued its first request for applications, and the National
Institute on Alcohol Abuse and Alcoholism began inviting proposals in 1999. The scientific growth and opportunity created by B/START programs continues to expand among the NIH Institutes, including the National Institute on Aging and the National Institute on Child Health and Human Development. For more information, please visit www.nimh.nih.gov/be/behavioraltrack.cfm.