

International Research Interests and Opportunities

NIDA

NATIONAL INSTITUTE
ON DRUG ABUSE

The Science of Drug Abuse & Addiction

NIDA Poster Presentations at the

**2007 NIDA International Forum:
Technological Innovations To Build Research Capacity
June 15-18, 2007**



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

International Program	1
Center for the Clinical Trials Network	2
Division of Basic Neuroscience and Behavioral Research (DBNBR)	3
Division of Clinical Neuroscience and Behavioral Research (DCNBR)	4
Division of Epidemiology, Services and Prevention Research (DESPR)	5
Division of Pharmacotherapies and Medical Consequences of Drug Abuse (DPMCDA)	6
Intramural Research Program	7
AIDS Research Program	8
Special Populations Office	Inside Back Cover
Fogarty International Center	Back Cover



National Institute on Drug Abuse
National Institutes of Health
U.S. Department of Health and Human Services

6001 Executive Boulevard, Room 5274
Bethesda, Maryland 20892, U.S.A.
Phone: +1-301-443-6480

Fax: +1-301-594-5687
Email: ip@nida.nih.gov
Web site: www.international.drugabuse.gov

Mission Statement

The NIDA International Program addresses the global burdens of addiction and related health consequences by:

- Taking advantage of unique opportunities to advance scientific knowledge through research

- Building research capacity internationally
- Sharing NIDA supported research findings with scientists, treatment providers, and policy makers.

NIDA International Goals

The International Program of the National Institute on Drug Abuse (NIDA):

- Encourages rigorous collaborative and peer-reviewed international research
- Strengthens and stimulates international drug abuse research networks by:
 - Providing professional development and technical consultation opportunities
 - Partnering with other international funding organizations
 - Developing distance learning programs and Web-based training and research opportunities.

The science-based information generated by NIDA researchers and International Program alumni contributes to international efforts to develop, adopt, and evaluate government policies, prevention programs, and treatment protocols that effectively address drug abuse and its consequences.

International collaborations introduce NIDA grantees to new perspectives and differing attitudes about the fundamentals of drug abuse research. Highly trained scientists from other nations bring unique insights to the Institute's research efforts. National variations also provide NIDA grantees with opportunities to study aspects of drug abuse not available in the United States and to examine the effect of national differences in such areas as policies, drug-using populations, abused drugs, patterns of abuse, special populations, prevention programs, and treatment protocols.

Contact Us:

Keep abreast of NIDA International Program activities through the Website and a bimonthly email listserv.

Steven W. Gust, Ph.D., Director
International Program
National Institute on Drug Abuse
6001 Executive Boulevard, Room 5274
Bethesda, Maryland 20892, U.S.A.
Phone: +1-301-443-6480
Fax: +1-301-594-5687
Email: ip@nida.nih.gov
Website: <http://www.international.drugabuse.gov>



NIDA International Fellowships and Research Exchange Programs

NIDA International Program Fellowships provide unparalleled research training, while Research Exchange Programs support direct collaborations between NIDA grantees and their colleagues from other countries. Researchers who participate in NIDA International research training and exchange programs benefit from their colleagues' differing perspectives and research approaches to successfully conduct collaborative research nationally, regionally, and globally.

NIDA International Fellowships

- **INVEST Research Fellowships** are competitive, 12-month postdoctoral appointments to U.S. institutions for scientists from other countries. Fellows complete rigorous postdoctoral research training with a NIDA grantee, attend NIDA orientations, and participate in scientific meetings. The fellowship is fully funded by NIDA. <http://www.international.drugabuse.gov/invest.html>
- **NIDA Hubert H. Humphrey Drug Abuse Research Fellowships** are competitive, 10-month fellowships for mid-career professionals from low- and middle-income countries. Fellows enroll in mentored academic study at Virginia Commonwealth University, complete a research affiliation and professional experience with a NIDA-supported scientist, and participate in scientific meetings and NIDA orientations. <http://www.international.drugabuse.gov/hhhdarf.html>



Research Exchange

- **NIDA Distinguished International Scientist Collaboration Awards (DISCA) and NIDA U.S. Distinguished International Scientist Collaboration Awards (USDISCA)** are competitive, results- and product-oriented awards that support 1- to 3-month professional visits to advance collaborative research efforts. USDISCA is for U.S. citizens and permanent residents; DISCA is for applicants from any other country. <http://www.international.drugabuse.gov/disca.html>



Grants for International Research

NIDA supports research on the biomedical and behavioral causes, consequences, prevention, and treatment of drug abuse and addiction. International research is funded through two mechanisms:

- **Foreign Grants** allow researchers from outside the United States to compete for funding within the NIH system. The actual research is conducted outside the United States. For a grant to be awarded to a foreign institution, the principal investigator must demonstrate a special opportunity to further drug abuse research through use of expertise, resources, populations, or environmental conditions not readily available in the United States.
- **Domestic Grants with a Foreign Component** enable U.S.-based principal investigators to conduct cooperative international studies with foreign partners. The foreign component is part of the original grant; the entire application is scored competitively.

FY 2007 Program Announcements

Program Announcements inform scientists about areas of science for which NIDA wants grant applications, whether for the traditional Research Project Grants, or **R01** awards; Small Grants, or **R03** awards; or the Exploratory/Developmental Research Grants, or **R21** awards. The complete list of Program Announcements is available on the NIDA Website at <http://www.drugabuse.gov/funding>. Program Announcements of particular interest to the international research community include:

- International Research Collaboration on Drug Addiction
 - **R01: PA-07-275**
 - **R03: PA-07-311**
 - **R21: PA-07-310**
- The Development of Frontal Cortex and Limbic System and Their Roles in Drug Abuse or Mental Health
 - **R01: PA-07-121**
 - **R21: PA-06-445**
- Inhalant Abuse: Supporting Broad-Based Research Approaches
 - **R01: PA-07-117**
 - **R03: PA-06-328**
 - **R21: PA-06-327**
- Neuroscience Research on Drug Abuse
 - **R01: PA-07-226**
 - **R03: PA-07-228**
 - **R21: PA-07-227**
- Drug Abuse, Risky Decision Making and HIV/AIDS
 - **R01: PAS-07-324**
 - **R03: PAS-07-326**
 - **R21: PAS-07-325**
- PAR-07-335: International Research Collaboration - Basic Biomedical (FIRCA-BB) (R03)
- PAR-06-437: International Research Collaboration - Behavioral, Social Sciences (FIRCA-BSS) (R03)

Web-Based Resources

Web-based resources permit the NIDA International Program to expand its global community through the creative use of time and technology, build research capacity through consistent learning opportunities, expand professional development opportunities, and facilitate scientific exchange among countries by providing electronic discussion forums and resource tools.

Methadone Research Web Guide

http://www.international.drugabuse.gov/methadone/methadone_web_guide/toc.html

The Methadone Research Web Guide is a quick-reference tool for the international community and NIDA grantees that presents U.S. research outcomes about methadone maintenance treatment, reviews best practices in treatment program design and implementation, and disseminates evidence-based treatment protocols.



NIDA International Virtual Collaboratory (NIVC)

<http://nivc.perpich.com>

NIVC allows drug abuse researchers to collaborate across widespread geographical regions by using live audio/video virtual meetings, discussion forums that can be stored for later access, document editing and storage tools, online resources, and a searchable and easily updated online database. Trial user groups include an Inhalants Research Working Group and former NIDA Humphrey Fellows.

Other NIDA-Supported Online Resources

- The Research Assistant
<http://www.theresearchassistant.com/index.asp>
Grant-writing for behavioral scientists
- Publishing Addiction Research Internationally
www.parint.org
Developed by the International Society of Addiction Journal Editors

Coming Soon!

- International Collaboration Opportunities and Research Partnerships
- Online International Master's Degree Program in Addiction Studies

Mission Statement

Forging partnerships to improve the quality of drug abuse treatment by studying scientifically based interventions in real world settings.



The Center for the Clinical Trials Network (CCTN) at NIDA is the home of the National Drug Abuse Treatment Clinical Trials Network (CTN). CTN currently has 17 Regional Research Training Centers (RRTCs) and 240 affiliated Community-Based Treatment Programs (CTPs) across 35 states and Puerto Rico.

CTN provides an infrastructure in which treatment researchers, community-based service providers, and NIDA collaboratively develop, validate, refine, and deliver efficacious drug abuse treatment options to patients in community-level clinical practice. This unique partnership between community treatment providers and academic research leaders enables CTN to develop interventions that are more transferable, acceptable, and sustainable in the drug abuse treatment community.

CTN Snapshot Since 1999

- 25 trials initiated (protocol details: <http://www.nida.nih.gov/CTN/Index.htm>)
 - 19 trials completed
 - 4 trials currently recruiting
 - 2 trials in follow-up phase
- More than 8,000 participants enrolled in trials to date
- 36 papers published or in press (details: <http://ctndisseminationlibrary.org>)
- CTN dissemination library averaging more than 1,500 hits per month
- 5 different CTN trials contributed key knowledge to NIDA/SAMHSA Blending tools
- Data from 6 trials now available on CTN Website for public use
- More than two dozen additional studies using CTN network as a research platform

CTN Clinical Trial Results

Buprenorphine/Naloxone in Short Term Detox

- Key Finding: The medication was so effective that both of these trials were stopped ahead of schedule.
- Added Impact: Involvement in the CTN study itself led three treatment programs that had previously been "drug-free" to adopt this medication-aided, 13-day detox procedure.

Motivational Interviewing (MI)

- Key Finding: People whose treatment included MI were significantly more likely to remain in treatment – a key component of success – than were those who did not receive MI.
- Added Impact: This trial established a standard for MI training and delivery, and demonstrated the essential role played by clinical supervisors in ensuring effective treatment delivery. In fact, CTN community programs now report that a rigorous training and supervision program in MI has been broadly accepted in the field.

Motivational Incentives

- Key Finding: Incorporating low-cost incentives as part of treatment is effective in increasing attendance and maintaining abstinence over periods of 12 weeks.
- Added Impact: This approach proved to be very promising for treating methamphetamine abusers – no other treatments seem to have the same impact on this difficult-to-treat group. In addition, this study changed the attitudes and actions of many community programs, who previously had expressed concerns about cost or a reluctance to employ rewards to change people's behavior.

HIV Studies

The following HIV-related protocols have been completed; results are being analyzed and reported.

- CTN0012: Characteristics of Screening, Evaluation, and Treatment of HIV/AIDS, Hep C and STDs in Substance Abuse Treatment Programs (Survey)
- CTN0017: HIV and HCV Reduction Interventions in Drug Detoxification and Treatment Settings (HIV)
- CTN0018 HIV/STD: Reducing HIV/STD Risk Behaviors for Men in Methadone Maintenance or Drug-Free Outpatient Treatment Programs (Safe Sex-Men)
- CTN0019 HIV/STD: Reducing HIV/STD Risk Behaviors for Women in Methadone Maintenance or Drug-Free Outpatient Treatment Programs (Safe Sex-Women)

The following protocol is in preparation:

- CTN0032: HIV Rapid Testing and Counseling in Community Drug Treatment Programs

Opportunities for International Collaboration

CTN's International Dissemination Plan

CTN is working with the NIDA International Program to disseminate its research technology to the international community, such as encouraging CTN researchers and practitioners to include international counterparts in CTN research training activities. The following principal investigators have established research/training relationships with international counterparts:

- Dr. George Woody (Delaware Valley Node) – St. Petersburg, Russia, and South America
- Dr. Water Ling (Pacific Node) – Shanghai, China
- Dr. Peter Banyas (San Francisco-Arizona Node) – Vietnam
- Drs. Doug Denton and Susana Mendez (Texas Node) – Chiclayo, Peru

CTN as a Translational Research Expert Resource

CTN has gained substantial experience in translating behavioral and pharmacotherapeutic drug abuse treatment research into drug abuse practice. CTN encourages international drug abuse researchers or practitioners to contact CTN RRTCs or CTPs for their technical support in similar research settings. For example, binational teams could use the CTN protocols to conduct similar studies at international sites.

CTN as an International Training Resource

In order to support its research activities, CTN has established a U.S. national training network with locally recognized master trainers as well as trainers in protocol-specific research instruments such as GCP, ASI, and CIDI. These training opportunities can be readily shared with the international drug abuse research/treatment community.

CTN as Training Platform for NIDA INVEST Fellows

Interested INVEST Fellowship applicants or current Fellows should check with the NIDA International Program for details.

Data Sharing

The international community can initiate independent or collaborative secondary data analysis using CTN research data. Data sets for CTN protocols will be available after (1) the protocol study team publishes their main study findings, or (2) the data are locked for more than 18 months, whichever comes first. The CTN publicly shared data comply with the Health Insurance Portability and Accountability Act (HIPAA) and the CDISC (Clinical Data Interchange Standards Consortium) standards. Currently, 6 protocol data sets are available on the CTN Data Share Website: <http://www.nida.nih.gov/CTN/Data.html>.

- Data sets (SAS and ASCII)
- Annotated Case Report Forms
- Define file (a.k.a. data dictionary)
- Study protocol and reference to study publication of primary outcome.

Secondary Data Analysis

CCTN wants to maximize the utility of the rich data source accumulated from CTN trials. Through its Data and Statistics Center (DSC) at Duke Clinical Research Institute (DCRI), expert assistance is available to CTN grantees or international researchers conducting secondary data analyses, including:

- Informal statistical consultation
- Preparing work-files in a usable format with between 30-50 variables
- Providing complete work-files and statistical analyses for additional scientific papers.

Research Dissemination Efforts

CTN is a part of the NIDA Blending Initiative with the Substance Abuse and Mental Health Services Administration (SAMHSA) Center for Substance Abuse Treatment (CSAT). By combining resources, information, and talent, the agencies integrate science and practice to improve drug abuse and addiction treatment. The international community can benefit from the training manuals and packages available at <http://www.nida.nih.gov/Blending/>:

- Buprenorphine Awareness
- S.M.A.R.T. Treatment Planning
- Motivational Interviewing
- Buprenorphine Detoxification
- Promoting Awareness of Motivational Incentives (PAMI)

Another free public resource, the CTN Dissemination Library, contains CTN's research findings, treatment manuals, NIDA Blending Team products, and scientific publications. The CTN Library is especially useful to community drug treatment programs that may not have access to the information sources typically available to researchers in academic institutions. The Web address is: <http://ctndisseminationlibrary.org>.

Contact Us:

Carol Cushing, R.N. (For general topics)
Jeng-Jong (JJ) Pan, Ph.D (For data sharing)
Center for the Clinical Trials Network
National Institute on Drug Abuse
6001 Executive Boulevard, MSC 9557
Bethesda, Maryland 20892-9557, U.S.A.
Phone: +1-301-443-6697
Fax: +1-301-443-2317
Website: <http://www.nida.nih.gov/about/organization/CTN/Index.html>

Mission Statement

The Division of Basic Neuroscience and Behavioral Research (DBNBR) supports basic research on the causes and consequences of drug abuse and addiction, thus providing the scientific

foundation for the development and enhancement of prevention efforts and treatment approaches to drug abuse and addiction.

DBNBR Goals

The Division's primary goal is to support basic biomedical and behavioral science research that relates to the public health problem of drug abuse and addiction. DBNBR accomplishes this goal through developing and supporting an extramural program of research in the basic biomedical and behavioral sciences. DBNBR comprises four branches:

Behavioral and Cognitive Science Research Branch

Minda Lynch, Ph.D., Branch Chief
mlynch1@nida.nih.gov

Supports research focused on the study of behavioral and cognitive factors in drug addiction with human volunteers and with animal experimental models. Behavioral and cognitive processes are important antecedent variables involved in vulnerability to start, continue, or relapse to drug abuse, and as factors in the transition between these stages of abuse. In addition there is a need to understand the behavioral and cognitive consequences associated with acute and chronic drug abuse.

Chemistry and Physiological Systems Research Branch

Rao Rapaka, Ph.D., Branch Chief
rrapaka@nida.nih.gov

Supports research on all aspects of chemistry and physiological systems affected by drugs of abuse and administers the NIDA Drug Supply Program.

Functional Neuroscience Research Branch

Nancy Pilotte, Ph.D., Branch Chief
npilotte@nida.nih.gov

Supports research that focuses on understanding the regulation of the mechanisms of neurotransmission under normal, drug-exposed, and drug-withdrawn conditions. This branch supports multidisciplinary, integrated approaches to the study of drug abuse, including analysis at the levels of the single cell, protein, circuit, and behavior.

Genetics and Molecular Neurobiology Research Branch

Jonathan Pollock, Ph.D., Branch Chief
jpollock@nida.nih.gov

Supports research on the genetic basis of addiction vulnerability, the fundamental cellular mechanisms that underlie addiction and the response to drugs of abuse, and basic neurobiology.

Website: <http://www.nida.nih.gov/about/organization/DBNBR/index.html>

Research Interests

Research supported by DBNBR investigates the neurobiological and behavioral effects of drugs of abuse and provides fundamental information to prevent or intervene in drug abuse and addiction.

- **Genetic Basis of Vulnerability of Drug Addiction.** All aspects of the genetic basis of vulnerability to drug addiction are of interest to DBNBR.
- **Models of Addiction.** Neural circuits underlying natural and drug reward; biobehavioral models of craving, relapse, and compulsive behavior; neural systems and drug/behavior interaction; vertebrate and invertebrate models.
- **Drug-Induced Neuroadaptation and Neuropathology in Brain Systems.** Consequences of acute or chronic exposure to addictive drugs; neurotoxicity and its behavioral, physiological, or biochemical consequences; neuroAIDS; adaptation (sensitization, tolerance, and plasticity).
- **Pain and Analgesia.** Modulation of acute and chronic pain by brain and spinal mechanisms; antinociceptive actions of opioids, cannabinoids, and peptides; cellular processes of pain, analgesia, and tolerance; alternative pain therapies (i.e., virtual reality); the abuse of prescription pain drugs.
- **Cognitive Processes.** The cognitive antecedents of drug abuse and the neural mechanisms of drug-induced modification of cognitive processes (learning, memory, attention, associations, decision making).
- **Social Neuroscience.** Drug abuse frequently occurs in a social context, and its consequences typically include a large social component. DBNBR is thus interested in the genetics and neurobiology of social behavior related to drug abuse.
- **Developmental Effects.** Consequences of *in utero* and perinatal drug exposure on the nervous system and other organs; ontogenetic effects throughout the life span; adaptation and developmental cellular biology (nonclassical neural communication).
- **Neuropsychopharmacology of Drugs of Abuse.** Relating drugs of abuse to neural systems (mechanism of action of psychomotor stimulants on monoaminergic systems or nicotine and cholinergic neurotransmission); behavioral consequences of receptor subtype activation; regulation of neural systems; function of endogenous systems (endorphins, anandamide, excitatory amino acids) in health and disease.
- **Neuroimmune Relationships, Including Studies of HIV and AIDS Related to Neural or Infectivity Processes.** Cytokine and chemokine modulation of neural function, amplification/diminution of these processes by toxins; interaction of these systems with the immune system and modulation of disease.
- **Innovative Chemical Design of New Entities and Probes.** Design, development, and characterization of molecular probes, imaging agents, receptor selective ligands, potential new drug candidates using methods of computer aided drug design, the study of structure-activity relationships, combinatorial chemistry, screening technologies, and other related approaches.

International Focus

DBNBR supports international research and promotes international scientific cooperation and communication through a variety of mechanisms:

- DBNBR supports international research grants and U.S. and international research collaborations.
- DBNBR sponsors numerous major international meetings, including the College on the Problems of Drug Dependence (CPDD) Annual Meeting and the International Narcotics Research Conference (INRC).
- DBNBR also co-sponsors meetings with organizations that promote international research (e.g., CPDD, INRC, International Union of Pharmacology, International Brain Research Organization, International Cannabinoid Research Society, and International Drug Abuse Research Society).
- DBNBR participates in the Interagency Committee on Drug Control (ICDC), which makes international scheduling recommendations and resulting obligations with respect to drug control.
- DBNBR oversees the NIDA Drug Supply Program, under which several hundred investigators, including international researchers, receive compounds free-of-charge for research purposes. For more information on this program, contact:
Hari H. Singh, Ph.D.
Chemistry & Physiological Systems Research Branch
Division of Basic Neuroscience and Behavioral Research
Phone: +1-301-435-1310
Fax: +1-301-594-6043
Email: hs87j@nih.gov

Funding Opportunities

International Neuroscience Fellowship (INF)

DBNBR and three other NIH Institutes—the National Institute of Neurological Disorders and Stroke (NINDS), the National Institute of Environmental Health Sciences (NIEHS), and the National Institute on Aging (NIA)—have created INF (PAR-06-227; <http://grants.nih.gov/grants/guide/pa-files/PAR-06-227.html>) to provide 1 to 2 years of research training in the United States for qualified junior or mid-career foreign neuroscientists. The INF will advance the training of qualified foreign neuroscientists by enhancing their basic or clinical research skills in a research setting in the United States, preparing awardees for future leadership positions in research, academia, or public health institutions in their home countries. It is hoped that the INF will enhance the quality and quantity of international neuroscience research, while fostering long-lasting collaborations between foreign and U.S. neuroscientists.

International Neuroscience Fellowship research proposals focusing on, but not limited to, the following areas are encouraged:

- The transition to addiction (i.e., from controlled use to uncontrolled, compulsive use of drugs).
- The consequences of drug abuse and addiction (e.g., drug-induced neuroadaptations, neurotoxicity, altered cognitive and behavioral processes, developmental deficits).
- The antecedents to drug addiction and relapse (e.g., genetics, stress, environmental precipitants).
- The neurobiological bases of pain and its alleviation by opiates, other analgesics, adjunctive medications, and alternative therapies (e.g., acupuncture, virtual reality).
- The neurobiological bases of drug abuse and addiction.
- The complex interrelationship among HIV/AIDS progression, transmission, and drug abuse.

Applicants must have a sponsor in the United States who is affiliated with an eligible U.S. organization, be proficient in English, hold a doctoral or similar degree, and procure both the endorsement of their home institution and a guaranteed appointment in an institution in their home country upon completion of the fellowship. Preference will be given to applicants from low- to middle-income countries.

Contact Us:

David Shurtleff, Ph.D.
Director
Division of Basic Neuroscience and Behavioral Research
National Institute on Drug Abuse
6001 Executive Boulevard
Room 4273, MSC 9555
Bethesda, Maryland 20892, U.S.A.
Phone: +1-301-443-1887
Fax: +1-301-594-6043
Email: dshurtle@nida.nih.gov

Mission Statement

The Division of Clinical Neuroscience and Behavioral Research (DCNBR) aims to provide a translational approach to drug abuse

within a clinical research context to advance our understanding of brain, behavior, and health.

DCNBR Goals

The overarching goal of DCNBR is to promote high-caliber research to identify the key developmental, genetic, social, and brain mechanisms associated with drug abuse, and to translate resultant findings into therapeutic interventions that decrease the extent and burden of drug abuse. We believe that conceptualizing drug abuse as a human developmental neurobiological disorder will generate important scientific findings that advance NIDA's mission to lead the Nation in bringing the power of science to bear on drug abuse and addiction.

To accelerate progress toward this goal, DCNBR's organizational structure intentionally promotes collaboration and translation across three branches: Behavioral and Brain Development Branch (BBDB), Clinical Neuroscience Branch (CNB), and Behavioral and Integrative Treatment Branch (BITB). Highlights from recent published reports exemplify the developmental, mechanistic, and translational goals of DCNBR.

• Behavioral and Brain Development Branch

Results show greater memory impairment and concomitant functional aberrations (via fMRD) during nicotine withdrawal among adolescent smokers who experienced, compared to those who did not, gestational exposure to maternal smoking (Jacobsen, Slotkin, Westerveld, Menci, & Pugh. *Neuropsychopharmacology*, 31, 1550-1561, 2006).

• Clinical Neuroscience Branch

Among treatment-seeking methamphetamine addicts, individual differences in activation of specific brain regions (e.g., right insula and left cingulate gyrus via fMRI) correctly predicted 91 percent and 94 percent of remitters and relapsers, respectively, after 1 year (Paulus, Tapert, & Schuckit. *Archives of General Psychiatry* 62, 761-768, 2005).

• Behavioral and Integrative Treatment Branch

Smokers who received both extended psychological and extended pharmacological therapy were most likely to be smoke free at the 1-year follow-up. The 50 percent abstinence rate among this group is approximately double that of the most intensive and widely accepted treatments for nicotine addiction (Hall, Humfleet, Reus, Munoz, & Cullen. *American Journal of Psychiatry* 161, 2100-2107, 2004).

Research Interests

• Behavioral and Brain Development Branch

The Behavioral and Brain Development Branch (BBDB) supports research, research training, and career development designed to increase understanding of how human developmental processes and outcomes are affected by drug use/exposure and related factors (e.g., environment, HIV/AIDS), and to increase understanding of the role of human brain and behavioral processes in drug use, abuse, addiction, relapse, and associated risk behaviors. BBDB also supports research on interventions designed to prevent or ameliorate negative consequences of drug use/exposure and related factors on human development.

• Clinical Neuroscience Branch

The Clinical Neuroscience Branch (CNB) supports research, research training, and career development on the clinical neuroscience and biological etiology of drug abuse and addiction. The CNB accomplishes this mission by promoting research for clinical (human) and parallel infra-human investigations integrating neurobiology, cognitive/behavioral neuroscience, and genetics. The scope of research supported by CNB includes studies of both normal and dysfunctional processes associated with all aspects of drug use from predisposition through drug seeking, initiation, abuse, addiction, and relapse. CNB serves a translational purpose by drawing upon advances in preclinical research to provide the foundation for human investigations of brain, behavior, and genetics that can inform prevention and treatment strategies.

• Behavioral and Integrative Treatment Branch

The Behavioral and Integrative Treatment Branch (BITB) supports broad research, research training, and career development programs directed toward: (1) development, refinement, and testing of behavioral/psychosocial treatments and complementary/alternative interventions for drug abuse, alone and in combination with medications; (2) development, refinement, and testing of interventions to promote adherence to treatment; (3) development, refinement, and testing of HIV prevention interventions for use in drug abuse treatments; (4) development and validation of screening and diagnostic methods and instruments; and (5) translational treatment research including the development of behavioral interventions drawing on findings from basic research as well as development of behavioral interventions to make them more amenable to practice and community settings.

International Focus

• Behavioral and Brain Development Branch

- Long-term (infancy to adolescence and early adulthood) outcomes associated with *in utero* exposure to marijuana and tobacco in Canada
- Prenatal methamphetamine exposure and early (infant) developmental outcomes in New Zealand
- Developmental outcomes of prenatal exposure to MDMA/"Ecstasy" in England

• Clinical Neuroscience Branch

- Establishment of brain imaging capabilities in South Africa
- Training investigators from China, South Korea, Ireland, and South Africa in brain imaging
- Investigation of cognitive dysfunction in drug abusers in Bulgaria and Russia
- Neuroimaging studies of MDMA, methamphetamine, and cannabis abusers

• Behavioral and Integrative Treatment Branch

- Testing the feasibility of delivering evidence-based behavioral treatments in pharmacological drug abuse treatment clinics in two sites in Vinnitsya, Ukraine
- Testing a screening and brief advice intervention for drug-using adolescents in primary care settings in the Czech Republic
- Testing a method of training community-based treatment providers in South Africa to deliver cognitive-behavioral therapy for drug abusers
- Modifying and pilot testing a cognitive-behavioral therapy for HIV+ drug abusers in Trinidad and Tobago, with emphasis on developing a culturally relevant behavioral treatment approach
- Incorporating tobacco-relevant content into the medical school and other health professional curricula, to engage opinion leaders in tobacco cessation activities and to encourage and promote quitting among health professionals in India and Indonesia

International Funding Priorities

• Behavioral and Brain Development Branch

- Health and development of drug- and HIV/AIDS-exposed children and youth
 - Drug-exposed includes: *in utero* exposure, drug use during childhood or adolescence, and exposure to drug-using environments
 - HIV/AIDS-exposed includes: HIV-infected, HIV/AIDS-exposed *in utero* but not infected with HIV, and affected by HIV/AIDS (e.g., living with caregivers, family, peers, or in communities with HIV/AIDS)

• Clinical Neuroscience Branch

- Train non-U.S. investigators in state-of-the-art-methods in clinical and cognitive neuroscience
- Research targeting unique populations or expertise not available in the United States to advance understanding of clinical neuroscience of drug addiction

• Behavioral and Integrative Treatment Branch

- Research utilizing unique technologies, populations, or expertise not available in the United States to develop and/or test behavioral and/or HIV risk reduction interventions
- Studies focused on improving adherence to HIV treatment in different cultures or populations
- Studies of ways to disseminate behavioral interventions internationally via distance learning or other paradigms

Contact Us:

Please feel free to contact Dr. Joseph Frascella for help in finding the DCNBR Program Officer who fits best with your research to further discuss DCNBR activities and help identify NIDA funding opportunities.

Joseph Frascella, Ph.D.
Director
Division of Clinical Neuroscience and Behavioral Research (DCNBR)
National Institute on Drug Abuse
6001 Executive Boulevard, Suite 3155
Bethesda, Maryland 20892-9593, U.S.A.
Telephone: +1-301-443-4877
Fax: +1-301-443-6914
Email: jfrascel@nida.nih.gov

Mission Statement

To improve public health by promoting integrated approaches to understand and address interactions between individuals and environments that contribute to the continuum of problems related to drug use and addiction. DESPR consists of three branches:

Epidemiology Research Branch (ERB), Services Research Branch (SRB), and Prevention Research Branch (PRB). The ultimate goal is to develop scientific knowledge with clear applications to public health practice and policy.

DESPR Goals and Research Foci

• Epidemiology Research Branch (ERB)

• Goal:

ERB promotes a national and international extramural research program that examines individual, developmental, and social/environmental factors associated with drug abuse. Findings generated will be used to inform prevention and services research to reduce the burden of drug abuse on the nation's public health.

• Research Focus:

- Basic Epidemiologic Research: Studies that assess and examine rates (e.g., prevalence, incidence), emerging and current patterns, and trends of drug use/abuse and associated behavioral, social, and health consequences (e.g., HIV/AIDS, crime) in general and defined populations, with special attention to health disparities issues.
- Etiology: Studies of the origins of and pathways to drug abuse focusing on studies of individual-, familial-, and community-level risk and protective factors and their interactions with emphasis on human developmental processes associated with initial drug use and the transition from drug use to drug addiction, contextual factors, genetic factors, and comorbidity.
- Context and Consequences: Studies of the dynamic interaction between contextual- and individual-level factors in contributing to and/or protecting against the adverse behavioral and social consequences as well as interventions that attempt to mitigate drug use/abuse and its adverse consequences.
- Methodology: Methodological studies to improve the accuracy, efficiency, scope, timeliness, and analytical field of drug abuse epidemiologic data and research in the areas specified above.

• Services Research Branch (SRB)

• Goal:

The SRB mission is to enhance the access to and delivery of effective drug treatment care at a reasonable cost to all those who need it, and to eliminate health disparities by meeting the unique treatment needs of individuals—including co-occurring psychiatric and other medical problems.

• Research Focus:

- Organizational Factors: Factors that affect the delivery of drug and/or alcohol abuse prevention, treatment, and related services: social factors, personal behaviors and attributes, financing, organization, management, and health technologies.
- Access and Quality: Dimensions of drug and/or alcohol abuse prevention, treatment, and related services: accessibility, utilization, quality, effectiveness, and costs.
- Research Implementation/Adoption: Processes of
 - Blending evidence-based drug and/or alcohol abuse prevention and treatment practices into community-based care.
 - Translating the questions of concern to practitioners into rigorous research.
- Research Tools: Development and refinement of research tools—including study designs, measurement instruments, and data analysis methods—to facilitate higher quality health services research on drug and/or alcohol abuse.

• Prevention Research Branch (PRB)

• Goal:

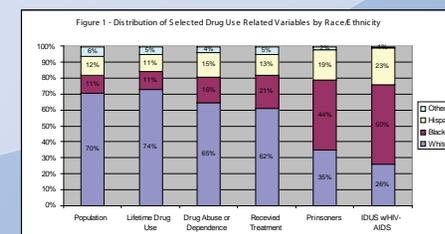
PRB supports basic, clinical, and services research on the development, testing, and translation of prevention interventions that target the initiation of drug use, the progression to abuse and dependence, and the transmission of HIV infection among diverse populations and settings.

• Research Focus:

- Basic Prevention Science Research: Small-scale pilot or feasibility studies that:
 - Test emerging findings for their potential in augmenting or developing prevention programs, practices, and policies; and
 - Explore underlying biological, social, and environmental mediators contributing to intervention success.
- Efficacy and Effectiveness Research: Randomized control or equivalent design studies testing the efficacy of:
 - Theory-based or empirically derived prevention approaches using relatively small, well-defined and controlled samples; and
 - Implementing such approaches in controlled studies with larger, more diverse samples in real-world settings.
- Systems Research: Studies that take effective interventions to scale in existing or new service delivery systems to examine factors that affect program sustainability and dissemination.
- Methodology: Studies considering missing data in randomized trials, intervention fidelity, or multi-level longitudinal analyses.

Distribution of Selected Drug Use Related Variables by Race/Ethnicity

One of DESPR's foci is to monitor drug use in the United States. This systemic monitoring indicates that drug use and drug use disorders are distributed across the major race/ethnic groups in approximately the same proportions as these groups are represented in household populations (Figure 1). However, when some of the most serious consequences of drug use are examined, for example, imprisonment and AIDS, African Americans and Hispanics are disproportionately represented, indicating a need for interventions.



International Foci and Funding Opportunities

<http://www.drugabuse.gov/about/organization/despr/GrantsInfo.html>

• Epidemiology Research Branch (ERB)

ERB supports a developing program of international research on the etiology and epidemiology of drug abuse and co-occurring behavioral, developmental, social, and health and medical problems of drug abuse, including HIV/AIDS and other blood-borne infections. ERB's current international research portfolio includes both grants and small research supplements in such countries as Canada, Brazil, Argentina, Nicaragua, Chile, Costa Rica, and along the U.S.-Mexico border, Russia and Eastern Europe (e.g., Lithuania and Bulgaria), Vietnam, India, China, Tanzania, South Africa, and Malawi. In addition, through NIDA's National Hispanic Science Network, ERB is facilitating the establishment of a Latin American epidemiology network on drug abuse. Along with the other DESPR branches, ERB is fostering an important and growing collaborative research relationship with the NIH Fogarty International Center (FIC), partly through NIDA's participation in a number of FIC program initiatives and announcements, and partly through its own outreach to promising international scientists to encourage their development and submission of inter- and multidisciplinary epidemiological research proposals in response to Fogarty's requests for applications and program announcements.

• Services Research Branch (SRB)

SRB supports international grants, in collaboration with the Fogarty International Center, in Africa, Southeast Asia, Central America, and North America to improve the quality of treatment services for HIV and TB; train clinical researchers to conduct services research; provide treatment services for tobacco/nicotine use; and develop a drug use screening instrument. An ICOHRTA grant will develop short- and long-term training curricula in Haiti in clinical, operational, and health services research methodology and in ethics, program management and scientific writing. A grant in Uganda will expand that nation's capacity to address the public health and scientific challenges of the evolving HIV and TB epidemics through clinical, operational and health services research. In China and Thailand, a study will examine and compare characteristics of Therapeutic Communities (TC) and the process of TC treatment with those in the United States to improve the quality of TC care and foster collaborative research. A multi-center prospective cross-sectional and descriptive study seeks to determine the prevalence and characteristics of administration of antenatal corticosteroids to women who have preterm deliveries in hospitals in Uruguay, Ecuador, and El Salvador, as well as to assess the knowledge, attitudes, practices, and barriers of the health care providers for such administration.

• Prevention Research Branch (PRB)

PRB funds international research training, in collaboration with the Fogarty International Center, in Peru, Chile, China, India, Thailand, Vietnam, Burma, and Laos, as well as supporting grants and cooperative agreements in South Africa, Thailand, Norway, Russia, Hungary, Bulgaria, and Canada. A collaboration between the Oregon Social Learning Center (OSLC), the Norwegian Center for the Study of Behavioral Problems and Innovative Practice, and the Institute for Social Research is evaluating the adoption, adaptation, and implementation of evidence-based parent management training throughout Norway. Norway funds the implementation and NIDA supports the research. In South Africa, a randomized control efficacy study is investigating a 2-year, school-based universal drug abuse and HIV/AIDS prevention intervention for 14- to 16-year-olds. Working with complete social networks of young adult Roma in Russia, Hungary, and Bulgaria, researchers are investigating whether social diffusion models of HIV prevention can be implemented through informal network leaders to reduce sexual and drug use risks for HIV. Another group seeks to reduce and prevent methamphetamine use in Thailand. A cross-national study in Ukraine, Poland, and Russia is studying the World Health Organization rapid policy assessment and response process in relation to legal and structural barriers to HIV prevention among injection drug users.

Contact Us:

Samia Dawud Noursi, Ph.D.
Health Scientist Administrator
Office of the Director
Division of Epidemiology, Services and Prevention Research (DESPR)
National Institute on Drug Abuse
6001 Executive Boulevard
Room 5164, MSC 9589
Bethesda, Maryland 20892-9589, U.S.A.
Phone: +1-301-443-6504
Fax: +1-301-443-2636
E-mail: snoursi@mail.nih.gov

Mission Statement

To improve drug abuse treatment throughout the nation using science as the vehicle to ensure the identification, evaluation, and development of new and improved treatments to include pharmacotherapeutic and immunological treatment

agents which will address the unmet needs of the drug abuse treatment community, and support research on the medical consequences of drug abuse and infections including HIV.

DPMCD A Goals

The Division of Pharmacotherapies and Medical Consequences of Drug Abuse (DPMCD A) was created to fulfill NIDA's congressional mandate to establish a medications development program (MDP). The MDP is modeled after a typical pharmaceutical company with the ability to conduct all phases of medications development, from synthesis and screening of potential drug entities to preparing submissions for New Drug Applications (NDAs). Our goal is to develop proprietary compounds and marketed medications that show promise for the treatment of drug dependence, employing two approaches to obtaining compounds: top down (marketed medications) and bottom up (basic science, discovery). DPMCD A has an extensive clinical trial infrastructure administered through contracts and interagency agreements. This infrastructure is capable of conducting Phase I clinical pharmacology studies and Phase II and Phase III multicenter clinical trials.

DPMCD A actively seeks collaborators (from pharmaceutical, academic research institutions, and other commercial entities) to exchange resources, expertise, and data for the progression of a medications project. The Division utilizes six types of agreements to accomplish these goals and has had several successful collaborations with pharmaceutical companies.

Medications development projects must undergo a series of multilevel consent and safety reviews and requirements which include special expert consultant reviews, Institutional Review Boards, Data Safety Monitoring Boards, the U.S. Food and Drug Administration, and medical (Serious and Adverse Event Reporting) and protocol monitors (GCP adherence).

DPMCD A also supports research on medical consequences of drugs of abuse and co-occurring viral and bacterial infections, including HIV, hepatitis (B, C, and D), tuberculosis, STIs, and other human infections (special studies are supported in women, minorities, children and adolescents, and underserved populations). Research may include, but is not limited to, studies of the impact of drug addiction on medical/health conditions and the spread of infectious diseases and other conditions that might impact on all physiological or biochemical systems.

DPMCD A's medications development program has a proven success record – it has obtained three NDA approvals:

- LAAM
- Buprenorphine
- Buprenorphine/Naloxone

DPMCD A's research activities are administered through the following branches:

- Medical Consequences Branch
- Medications Research Grants Branch
- Chemistry and Pharmaceutics Branch
- Clinical Medical Branch
- Medications Discovery and Toxicology Branch

Research Interests

DPMCD A currently operates five medications development programs (MDPs):

- **Cannabis** – New scientific findings prompted DPMCD A to start this MDP:
 - Availability of newly marketed medications whose mechanisms of actions may have potential therapeutic effects on the clinical manifestations of cannabis dependence.
 - Recent discovery of an endogenous cannabinoid system with specific receptors and endogenous ligands.
 - The availability of genetically engineered knockout mice that lack functional cannabinoid receptors permits us to study genetic predispositions to the effects of cannabinoids.
 - Reliable preclinical models have been developed to study the rewarding and addiction-producing effects of THC.
 - New chemical entities, some of them already being investigated at the clinical level, target the cannabinoid system and have potential therapeutic benefits.
- **Cocaine** – In its largest MDP effort, the Division and its contractors have tested 68 pharmacotherapies to treat cocaine dependence. Several of these pharmacotherapies (including Naltrexone) have shown some efficacy in double blind, placebo-controlled studies and are undergoing further testing via the grants and contract mechanisms.
- **Methamphetamine** – The second-largest MDP program currently funds 16 Phase I studies and 6 Phase II studies via the grants and contracts mechanisms.
- **Nicotine**
- **Opiates**

DPMCD A also supports research and development of monoclonal antibodies or vaccines for the treatment of substance use disorders, drug overdose indications, and nicotine dependence.

DPMCD A is interested in the following types of targets:

- D1 receptor agonists
- D3 receptor agonists and antagonists
- Glutamate modulators
- CRF-1 antagonists
- CB-1 antagonists
- GABA-mimetics
- Orexin receptor antagonists
- VMAT-2 inhibitors (methamphetamine)
- Muscarinic M5 agonists and antagonists
- ORL-1 receptor agonists

Current International Projects

Baum, DA16551 – Botswana clinical trial of antioxidant micronutrients to slow HIV disease progression

Dobs, DA14098 – (under consideration) Study metabolic (including nutritional) and endocrine disorders in Chinese IDUs

Gorbach, DA13868 – (1) Pilot work on metabolic (nutritional) consequences of HIV infection and substance abuse in India and Vietnam; (2) (under consideration) study nutritional consequences of HIV infection and substance abuse in Argentina through the Center for Drug Abuse and AIDS Research

Gorbach, DA022163 – Metabolic and nutritional variations in HIV-infected drug abusers in India and Vietnam.

Kumar, DA13550 – A pilot study of cognitive impairment of marijuana and HIV infection in India

Lai, DA15020 – Cardiovascular complications of methamphetamine and HIV infection in China

Lai, DA21119, China MACS – Exploratory study of a multicity cohort of SMS in China

Morse, DA15024 – Interactions between traditional medicine and antiretroviral drugs in HIV-infected substance abusers

Kosten, DA018863 – A study to evaluate Naltrexone, Lofexidine, and their combination in conjunction with psychosocial treatment to prevent relapse in Russian detoxified heroin addicts

Fischer, DA018417 – A study in Austria to assess in opioid-dependent pregnant women the efficacy of Buprenorphine for reducing neonatal abstinence syndrome relative to methadone

Selby, DA015741 – A study in Canada to assess in opioid-dependent pregnant women the efficacy of Buprenorphine for reducing neonatal abstinence syndrome relative to methadone

Woody, DA017317 – Comparison of impact of depot injectable Naltrexone vs. oral Naltrexone on retention and outcome in detoxified heroin addicts in Russia

Margaret Compton, DA15463 – Analyzing and interpreting the Electric Stimulation technique, which is a valid control for the hyperalgesia measures obtained in this Australian collaboration

Raskin, TW006674 – A study to facilitate the development of the natural product-based pharmaceutical capabilities in Uzbekistan and Kyrgyzstan while encouraging biodiversity conservation and exploration

International supplements:

Kleber, DA009236 – Studying an implant formulation of Naltrexone in Australia

Husbands, DA007315 – Designing and synthesizing new compounds as potential pharmacotherapies for cocaine addiction (United Kingdom)

International Opportunities

NIDA supports research on drug abuse and co-occurring infections such as HIV, hepatitis C, TB, STDs, and others. It invites applications for international collaborative research on drug abuse and drug addiction, medical consequences of drug abuse, and behavioral interventions. DPMCD A has funded international collaborative research through the following NIDA Program Announcements (PAs):

- **International Research Collaboration on Drug Addiction.** These announcements solicit proposals for collaborative research on drug abuse and addiction that take advantage of special opportunities that exist outside the United States, including research on HIV/AIDS and drug abuse, methamphetamine abuse, inhalant abuse, smoking during pregnancy, and drugs and driving. Applicants may choose one of three funding mechanisms:

- R01: PA-07-275 <http://grants.nih.gov/grants/guide/pa-files/PA-07-275.html>
- R03: PA-07-311 <http://grants.nih.gov/grants/guide/pa-files/PA-07-311.html>
- R21: PA-07-310 <http://grants.nih.gov/grants/guide/pa-files/PA-07-310.html>

- **Collaborative Clinical Trials in Drug Abuse.** R01: PAR-07-232, <http://grants.nih.gov/grants/guide/pa-files/PAR-07-232.html>. This announcement requests research proposals implementing common clinical trials across different sites in order to study patient outcomes, patient factors, provider factors, setting characteristics, interactions of these, or other effects where pooled samples are appropriate and necessary for the hypotheses.

Another source for international funding is the **HIV Network for Prevention Trials (HIVNET)**, a multicenter, collaborative research network (with sites located both in the United States and abroad) whose mission is to carry out HIV prevention efficacy trials. The HIVNET evaluates the safety and effectiveness of promising interventions to prevent the transmission of HIV. Sites recruit patients for research and provide HIV counseling and testing, risk-reduction counseling, and referrals to health care providers. HIVNET can be accessed via <http://www.scharp.org/ccgt/>.

The U.S. National Institutes of Health **Fogarty International Center** (<http://www.fic.nih.gov>) offers training and international research grants. The DPMCD A is considering a grant proposal to conduct research and training on the neuroscience of suicide and addictive behaviors.

Contact Us:

Aida Klun, M.B.A.
Program Analyst
Division of Pharmacotherapies and Medical Consequences of Drug Abuse
National Institute on Drug Abuse
6001 Executive Boulevard
Room 4135, MSC 9551
Bethesda, Maryland 20892, U.S.A.
Phone: +1-301-443-1122
Fax: +1-301-443-2599
Email: ak102w@nih.gov

Intramural Research Program

International Activities and Interests

Mission Statement

Promote international collaborative research that facilitates the elucidation of brain mechanisms underlying drug addiction and relapse, chronic pain, and the development of new treatment modalities.

Provide extended predoctoral and postdoctoral training for foreign investigators and collaborative research experience for senior foreign investigators in state-of-the-art techniques for studying drug addiction and pain at the molecular, neurobiological, preclinical, and clinical levels.

Behavioral Neuroscience Research Branch

Roy Wise, Ph.D. – Branch, Section Chief
Steven R. Goldberg, Ph.D. – Section Chief
Yavin Shaham, Ph.D. – Section Chief
Eliot Gardner, Ph.D. – Section Chief
Toni Shippenberg, Ph.D. – Section Chief

Have

- State-of-the-art animal behavioral screening models for preclinical pharmacological profiles believed to be predictive of anti-addiction, anti-craving, and anti-relapse efficacy at the human level.
- State-of-the-art *in vivo* and *ex vivo* models for assessing neurochemical and neuroanatomical bases for elucidating underlying mechanisms for addiction, relapse, and persistent pain.
- State-of-the-art primate cannabinoid (THC) and nicotine self-administration models to assess potential human abuse liability efficacy and determine pharmacological profiles of potential new anti-smoking or anti-cannabis medications.
- State-of-the-art live cell imaging techniques to permit visualization and quantification of protein/protein interactions in real-time.
- State-of-the-art analytical chemical techniques for minute-by-minute quantification of neurotransmitter release in the behaving animal.

Seek

- Highly potent and selective receptor agonists, partial agonists, and antagonists for different receptor subtypes thought to modulate or mediate addictive processes.
- New experimental approaches to assess interactions between different neurotransmitter-neuromodulator systems, receptor-receptor interactions, and heteromeric receptor complexes.
- New cannabinoid compounds that selectively modulate the actions of endogenous cannabinoid systems, with potential beneficial effects for the treatment of psychiatric disorders or drug dependence.

Recent Examples

- Collaboration with the University of Barcelona, Spain, on adenosine 2A-cannabinoid CB1-dopamine D2 heteromeric receptor complexes and their function in addictive brain reward processes.
- Collaborations with the University of Sydney, Australia, and University of Barcelona, Spain, on the role of novel signaling molecules in inflammatory pain.
- Collaboration with the University of Strasbourg, France, on the role of endogenous opioid peptide systems in modulating psychostimulant and opiate addiction.
- Collaboration with Université de Poitiers, France, on endocannabinoid mediation of addictive processes.
- International collaboration on regulation of dopamine transporter function by G-protein coupled receptors.
- Collaboration with University of Toronto, Canada, on evaluation of medications for smoking cessation.
- Collaboration with Institute of Experimental Medicine, Budapest, on endocannabinoid modulation of cognition, anxiety and other emotional disorders.

Molecular Neurobiology Branch

George Uhl, M.D., Ph.D. – Branch, Section Chief

Have

State-of-the-art molecular genetics and molecular neurobiology of addictions and related conditions in humans and mouse model systems.

Seek

- Well-characterized samples from substance-dependent individuals who are successful vs. unsuccessful in quitting.
- Well-characterized substance dependent and matched control individuals.
- Well-characterized samples from individuals with individual differences in regional brain volumes and/or activation patterns and mnemonic systems.
- Collaborations in characterizing knockout mice with related phenotypes.

Recent Examples

- Humans
 - Collaboration with Taiwan Methamphetamine Genetics Collaboration which has produced more than 500 million person/genotype in methamphetamine abusers and ethnically matched controls.
 - Collaboration with Japanese Genetics of Drug Abuse Consortium, which has produced more than 124 million person/genotype equivalents from amphetamine abusers and ethnically matched controls.
 - International multi-site collaborations for samples with narcolepsy has confirmed second human gene variant for this disorder.
 - International multi-site collaboration for PD confirmed and ruled out several candidate gene loci for PD.
- Mice
 - Collaboration with Japan on studies of mouse models for human allelic variants that differ between addicts and control individuals.

Neuroimaging Research Branch

Elliot Stein, Ph.D. – Branch, Section Chief

Have

State-of-the-art instruments and techniques for real-time imaging of brain chemistry, structure, and function in humans and experimental animals (MRI, MRS, DTI, fMRI).

Seek

- New collaborative opportunities to develop novel MRI techniques.
- Novel tasks to probe human decision making as it applies to drug abuse treatment and prevention.
- New MR-contrast agents to reveal cellular and molecular information of the brain.

Recent Examples

- Collaboration with Trinity College, Dublin, on cognitive task development in healthy controls and applications in Baltimore (NIDA) using fMRI in drug-dependent subjects.
- Collaboration with Institute of Psychiatry, Kings College (London) on the affective (emotion) effects of marijuana.
- Collaboration with Cambridge University (United Kingdom) on implicit memory deficits in cocaine addiction.

Medications Discovery Research Branch

Jonathan L. Katz, Ph.D. – Acting Branch, Section Chief
Amy H. Newman, Ph.D. – Section Chief
Richard Rothman, M.D., Ph.D. – Section Chief

Have

- Novel ligands, including irreversible and fluorescent compounds, that have high affinity and selectivity for the: (1) dopamine transporter, (2) dopamine D3 receptor, or (3) mGluR5 receptor.
- State-of-the-art analysis of behavior for preclinical assessment of pharmacological profiles.
- Assessments of the neurochemical effects of abused drugs (receptor binding and *in vivo* microdialysis).

Seek

- Selective receptor agonists, partial agonists, and antagonists with affinity for targets involved in drug abuse.
- Collaborative opportunities to use these novel tools in models of drug abuse that will contribute to our understanding of the molecular basis of cocaine addiction and provide new strategies for drug design.

Molecular Neuropsychiatry Research Branch

Jean Lud Cadet, M.D. – Branch, Section Chief
Barry J. Hoffer, M.D., Ph.D. – Section Chief

Have

State-of-the-art methods for cDNA microarray analysis of gene expression and proteomics for identification of biomarkers using clinical samples from drug-dependent individuals.

Seek

Well-characterized samples from drug-dependent individuals and matched control individuals.

Recent Example

Collaboration with Université de Poitiers, France, on effects of methamphetamine using cDNA array and other molecular techniques.

Cellular Neurobiology Research Branch

William Freed, Ph.D. – Branch, Section Chief

Have

- State-of-the-art methods for microarray and Q-PCR assessment of gene expression and proteomics for identification of biomarkers using clinical samples from drug-dependent individuals.
- Cell lines of many types and differentiated ES cells which respond to drugs of abuse *in vitro*.

Seek

- Collaborations on *in vitro* studies (e.g., treating cell preparations with drugs and providing protein or RNA for further experiments).
- Well-characterized post-mortem human brain samples from substance-dependent and matched control individuals.
- Determination of changes in gene expression which occur in human substance abusers.

Clinical Pharmacology and Therapeutics Research Branch

Kenzie Preston, Ph.D. – Branch Chief, Section Chief
Marilyn Huestis, Ph.D. – Section Chief
Stephen J. Heishman, Ph.D. – Unit Chief

Have

- State-of-the-art questionnaires for collection of self-report data from users of licit (tobacco/nicotine) and illicit (e.g., marijuana, heroin, cocaine) drugs in inpatient and outpatient studies.
- State-of-the-art gas-chromatography mass spectrometry and liquid chromatography tandem mass spectrometry methods for the analysis of illicit drugs and metabolites in biological fluids and tissues.
- Mathematical models for differentiating new drug use from residual drug excretion.
- Conceptual designs for monitoring blood, urine, oral fluid, sweat, and hair in pregnant drug addicts during gestation and detection of *in utero* drug exposure in the infant.
- State-of-the-art laboratory procedures for studying reactivity to smoking cues and direct effects of nicotine on cognitive functioning.
- State-of-the-art facility to treat adolescents seeking help to quit smoking.

Seek

- Collaborators able to translate questionnaires into their native language and administer them to samples of drug users of various ages from a variety of locations, including reports of experiences with withdrawal and coping techniques.
- Controlled drug administration studies in humans.
- *In utero* drug exposure of licit pharmacotherapies and illicit drugs.
- Biological monitoring in treatment studies.
- Driving under the influence of drugs.
- Workplace drug testing.
- Anti-doping studies.
- Alternative routes of cannabinoid agonist delivery.
- Cannabinoid antagonist administration studies.

Recent Examples

- Collaboration with French and Russian investigators who are creating French- and Russian-language versions of a Marijuana Quitting questionnaire.
- Discussions with colleagues in Latin America about translating the questionnaire into Spanish, collecting data at various sites using the same instrument, and sending the data to NIDA for analysis and cross-site comparisons.

Contact Us:

Barry J. Hoffer, M.D., Ph.D.
Director
Intramural Research Program
National Institute on Drug Abuse
5500 Nathan Shock Drive, MSC 9411
Baltimore, Maryland 21224, U.S.A.
Phone: +1-410-550-1538
Fax: +1-410-550-1645
Email: bhoffer@intra.nida.nih.gov

Mission Statement

NIDA's AIDS Research Program (ARP) supports the development, planning, and coordination of HIV/AIDS priority research within NIDA's intramural and extramural programs, as well as with other NIH Institutes and DHHS agencies, to achieve an integrated vision and strategy to guide HIV/AIDS research throughout NIDA.

ARP Goals

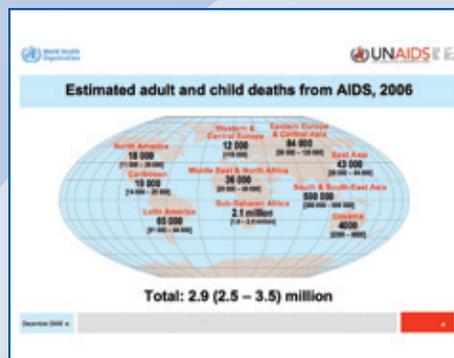
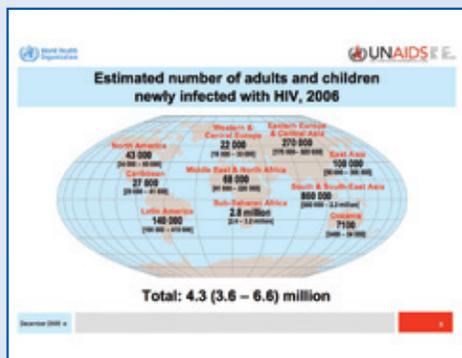
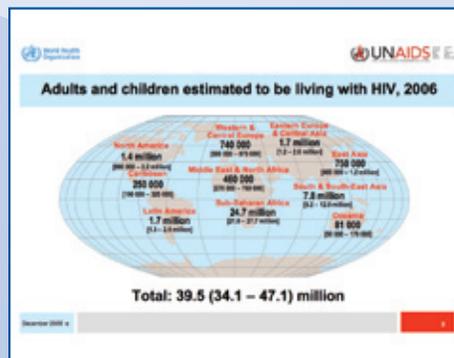
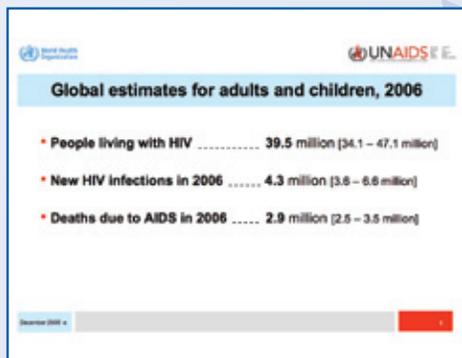
ARP provides direction and leadership for the development of an innovative and multidisciplinary HIV/AIDS research portfolio that addresses the unique dimensions of drug use and abuse as they relate to HIV/AIDS. The development and implementation of NIDA's HIV/AIDS research program is guided by the role of drug use and its related behaviors in the evolving dynamics of HIV/AIDS epidemiology, natural history/pathogenesis, treatment, and prevention, in coordination with the current priorities and objectives of the NIH Office of AIDS Research strategic plan for HIV/AIDS research.

International Focus

AIDS knows no borders; it is an international as well as a U.S. public health threat. HIV/AIDS has now become a pandemic; worldwide, more than 25 million people have already died. More than 40 million people are estimated to be living with HIV/AIDS. While AIDS is a global phenomenon, the nature of the epidemic varies geographically and risk factors vary within and across populations. NIDA supports international research to elucidate the pivotal role of drug use and abuse in the transmission and progression of HIV/AIDS and to evaluate preventive interventions such as drug abuse treatment.

International Funding Priorities

- Development of new methods for gathering HIV epidemiological data and tracking HIV diffusion
- Influence of immigration and migration on the spread of HIV
- Development of prevention strategies addressing HIV/IDU epidemics in different geographic areas (Russia, China, Southeast Asia, India, Eastern/Central Europe)
- Assessment of behavioral and pharmacological drug abuse treatment as HIV prevention
- Development of models for combined HIV and drug treatment
- Impact of emerging drugs (e.g., methamphetamine) and development of interventions
- Prevention strategies among adolescents (e.g., vulnerability of young women, young male injectors)
- HIV/HCV co-infection



Contact Us:

Lynda Erinoff
 AIDS Research Program
 National Institute on Drug Abuse
 6001 Executive Boulevard
 Room 5274, MSC 9581
 Bethesda, Maryland 20892-9581, U.S.A.
 Phone: +1-301-402-1972
 Fax: +1-301-594-5610
 Email: lc30q@nih.gov

SPO Goals

In 1993, NIDA established the Special Populations Office (SPO) to address:

- The underrepresentation of research on drug abuse and addiction as it affects racial/ethnic minority and other special population groups.
- The underrepresentation of racial/ethnic minority scientists involved in NIDA-supported and other drug abuse research.

The SPO has made concerted efforts to develop and support programs and initiatives that address the development of racial/ethnic minority scientists and the scientific knowledge base on drug abuse and addiction in racial/ethnic minority groups and other special populations. These efforts have been executed through a number of programs, initiatives, and workgroups including:

- Research Supplements to Promote Diversity and Health-Related Research (“Diversity Supplements”)
- Special Populations Research Development Seminar Series
- Summer Research with NIDA
- The Minority Institutions’ Drug Abuse Research Program (MIDARP)
- Minority Workgroups of Researchers and Scholars
- Health Disparities Initiative
- Historically Black Colleges and Universities Initiative (HBCU)
- Southern Africa Initiative
- African American Initiative
- Minority Recruitment and Training Program (an intramural program)

Contact Us:

Lula Beatty
Chief, Special Populations Office
National Institute on Drug Abuse
6001 Executive Boulevard
Room 4216, MSC 9567
Bethesda, Maryland 20892-9567 U.S.A.
Phone: +1-301-443-0441
Fax: +1-301-480-8179
Email: lb75x@nih.gov

International Focus

The Special Populations Office has limited ongoing international activities. The Office is home to the Southern Africa Initiative and is active in the newly formed NIDA Latin America Initiative.

• Southern Africa Initiative

The Southern Africa Initiative’s primary goal is to stimulate binational collaborative drug abuse research between the United States and Southern Africa in the areas of:

- ♦ Epidemiology
- ♦ Early interventions
- ♦ Clinical, prevention, treatment, and health services research aimed at reducing drug abuse and addiction and its associated adverse behavioral, social, and health consequences (e.g., violence and infectious diseases such as HCV, HIV/AIDS, or pulmonary diseases).

The Special Populations Office held a follow-up meeting, *Southern Africa Initiative: Research Progress and Perspectives*, in April 2007 to discuss ongoing research in Southern Africa and the impact of NIDA funding on research, capacity development, and barriers encountered while conducting research in the region.

• Latin America Initiative

The Latin America Initiative is a multi-component set of activities designed to enhance the research and research capabilities of Latin American countries. The activities include those to:

- ♦ Increase training in medical schools and schools of nursing on early detection and evaluation of drug use disorders
- ♦ Increase training in secondary data analysis to mine existing data sets to provide information useful to policy makers
- ♦ Increase access to NIDA materials in Spanish
- ♦ Increase training and participation in clinical trials
- ♦ Improve and stimulate the creation of regional networks to enhance surveillance and research.

The Special Populations Office works closely with the International Program and other components of the Latin America Initiative to assist NIDA in identifying and interacting with other Federal partners working in the region. In addition, the Office coordinates the involvement of the National Hispanic Science Network in the initiative.

JOHN E. FOGARTY INTERNATIONAL CENTER

FOR ADVANCED STUDY IN THE HEALTH SCIENCES

Mission Statement

The Fogarty International Center, the international component of the NIH, addresses global health challenges through innovative and collaborative research and training programs and supports and advances the NIH mission through international partnerships.

Fogarty International Center Goals

The Fogarty International Center (FIC) forges collaborations with domestic and international partners in international research and training to pursue three core objectives to:

- Accelerate the pace of discovery and its application by enabling scientists worldwide to share conceptual insights, analytic methods, data sets, patient cohorts, or special environments.
- Engage and assist both young and established U.S. investigators to address scientific challenges related to global health.
- Help develop a cadre of highly capable young foreign investigators positioned to cooperate with U.S. scientists in areas of the world that – due to geography, population structure, or disease burdens – provide unique opportunities to understand disease pathogenesis, anticipate disease trends, or develop interventions.

These objectives form the conceptual basis for current FIC programs related to HIV/AIDS, emerging infectious diseases, maternal and child health, population research and demographic science, medical informatics, drug discovery from biodiversity, as well as fellowship programs for young Americans, with emphasis on underrepresented minorities. The disciplinary fields described are pursued through a range of funding mechanisms, including:

- Institutional training grants
- Cooperative agreements
- Small research grants
- Fellowships
- Multilateral initiatives involving international organizations

Website: www.fic.nih.gov

Contact Us:

Ken Bridbord, M.D., M.P.H.
Director
Division of International Training and Research
Fogarty International Center
National Institutes of Health
31 Center Drive - MSC: 2220
Bethesda, Maryland 20892, U.S.A.
Phone: +1-301-496-1653
Fax: +1-301-402-0779
Email: bridbord@mail.nih.gov

Fogarty Center NIDA Programs

Research Grants

- The **Global Health Research Initiative Program for New Foreign Investigators (GRIP)** supports the return of NIH-trained foreign investigators to their home countries to enhance the scientific research infrastructure in developing countries and to stimulate research of high-priority global health-related issues. Former NIDA INVEST Fellows are eligible to compete for GRIP awards.
- **Brain Disorders in the Developing World (BRAIN)** supports collaborative research and capacity-building projects on brain disorders in developing countries.
- The **Fogarty International Research Collaboration - Behavioral, Social Sciences Award (FIRCA-BSS)** and the companion **Fogarty International Research Collaboration - Basic Biomedical Award (FIRCA-BB)** facilitate collaborative research between scientists supported by NIDA and investigators in developing and transitional countries.
- The **International Cooperative Biodiversity Groups Program (ICBG)** addresses the interdependent issues of drug discovery, biodiversity conservation, and sustainable economic growth.
- The **International Tobacco and Health Research and Capacity Building Program (TOBAC)** supports transdisciplinary research on tobacco consumption in low- or middle-income nations.
- The **Stigma and Global Health Research Program (STIGMA)** supports interdisciplinary research on the etiology, prevention, or mitigation of stigma and related public health outcomes.

Research Training Grants

- **AIDS International Training and Research Program Awards (AITRP)** support biomedical and behavioral research training in developing and transitional countries on HIV/AIDS and related tuberculosis (TB), and research on prevention of HIV infection among drug-using populations.
- **International Clinical, Operational, and Health Services Research and Training Awards (ICOHRTA)** support institutional training programs for collaborative, multidisciplinary, international research in developing and transitional countries. **ICOHRTA-AIDS/TB** awards support training programs in developing and transitional countries where AIDS, TB, or both are significant problems.
- **International Bioethics Education and Career Development Awards (BIOETH)** support institutional grants to develop bioethics curricula on research in low- and middle-income nations.
- The **International Collaborative Genetics Research Training Program (GENE)** provides research training and capacity building in developing and transitional countries with an institutional infrastructure to sustain advances in genetic science.