

DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

Drug Control Programs

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Resource Summary

	Budget Authority (in Millions)		
	FY 2011 Final	FY 2012 Enacted	FY 2013 Request
Drug Resources by Function			
Research and Development: Prevention	\$436.149	\$437.536	\$438.052
Research and Development: Treatment	669.493	671.625	672.768
Total Drug Resources by Function	\$1,105.642	\$1,109.161	\$1,110.820
Drug Resources by Decision Unit			
National Institute on Drug Abuse	\$1,048.776	\$1,052.114	\$1,054.001
National Institute on Alcohol Abuse and Alcoholism	56.866	57.047	56.819
Total Drug Resources by Decision Unit	\$1,105.642	\$1,109.161	\$1,110.820
Drug Resources Personnel Summary			
Total FTEs (direct only)	386	386	382
Drug Resources as a Percent of Budget			
Total Agency Budget (in Millions)	\$30,391	\$30,632	\$30,623
Drug Resources Percentage	3.64%	3.62%	3.63%

PROGRAM SUMMARY

MISSION

National Institute on Drug Abuse (NIDA)

Drug abuse and addiction present tenacious public health challenges, for although preventable, they are also persistent—bringing devastating consequences to individuals, families, and all of society. The good news is that the powerful tools and the detailed knowledge produced by modern neuroscience provide extraordinary opportunities to help solve these problems. The National Institute on Drug Abuse (NIDA) will continue to leverage its scientific leadership in this country and globally to (1) achieve a better understanding of substance abuse and addiction risk and the consequences of substance use disorders (SUDs) and (2) develop increasingly effective ways to prevent and treat both.

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

Since its creation, NIAAA has led efforts to define alcohol issues as medical in nature and address them using evidence-based findings. The work supported by the Institute has transformed the understanding of alcohol abuse and dependence and their treatment. NIAAA provides leadership in the national effort to reduce alcohol-related problems, including underage drinking by: conducting and supporting research in a wide range of scientific areas including genetics, neuroscience, epidemiology, health risks and benefits of alcohol consumption, prevention, and treatment; coordinating and collaborating with other research institutes and Federal programs on alcohol-related issues; collaborating with international, national, state, and local institutions, organizations, agencies, and programs engaged in alcohol-related work; and translating and disseminating research findings to health care providers, researchers, policymakers, and the public.

METHODOLOGY

NIDA's entire budget is drug-related and therefore scored as a part of the National Drug Control Budget.

The NIAAA prevention and treatment components of its underage drinking research are scored as a part of the National Drug Control Budget. Underage drinking research is defined as research that focuses on alcohol use, abuse and dependence in minors (children under the legal drinking age of 21). It includes all alcohol related research in minors, including behavioral research, screening and intervention studies and longitudinal studies. Beginning with the reporting of FY 2010 final budget authority, NIAAA's methodology for developing budget estimates for the *Budget and Performance Summary* uses the NIH research categorization and disease coding (RCDC) fingerprint for underage drinking that allows for an automated categorization process based on electronic text mining to make this determination. Once all underage drinking projects and associated amounts are determined using this methodology, NIAAA conducts a manual review and identifies just those projects and amounts relating to prevention and treatment. This subset makes up the NIAAA drug control budget estimate.

BUDGET SUMMARY

The FY 2013 drug budget requests \$1,110.8 million for NIH's drug budget related activities, which is an increase of \$1.7 million from the FY 2012 Enacted Budget. NIH supported research has and will continue to provide the scientific basis for budget policy. For example, research reveals that universal prevention programs not only reduce drug abuse, underage drinking, and other risky behaviors that can lead to HIV and other adverse outcomes, but can also promote other positive outcomes, such as strengthening young people's sense of community, or "connection" to school—key to reducing drug use, violence, and mental health problems.

National Institute on Drug Abuse

The FY 2013 budget requests \$1,054 million for NIDA, which is an increase of \$1.9 million from the FY 2012 Enacted Budget level. NIDA's efforts consist of Basic and Clinical Neuroscience Research, Epidemiology, Services and Prevention Research, Pharmacotherapies and Medical Consequences, Clinical Trials Network, the Intramural Research Program (IRP), and Research Management and Support (RM&S). Each is discussed below.

Basic and Clinical Neuroscience Research (FY 2013 Request: \$478.9 million)

The Basic and Clinical neuroscience programs work together to expand our understanding of the neurobiological, genetic/epigenetic, and behavioral factors that underlie drug abuse and addiction. Specifically, they examine which variables influence risk of drug abuse, addiction, and drug-related disorders; how drug exposure and addiction alter the brain, including the effects of drugs on the expression or silencing of genes; and how resultant changes affect brain function and consequent behaviors.

Epidemiology, Services and Prevention Research (FY 2013 Request: \$246 million)

This program area supports integrated approaches to understand and address the interactions between individuals and environments that contribute to drug abuse and related problems. Large surveys and surveillance networks that monitor drug-related issues exemplify programs supported by this NIDA Division. Program efforts help identify substance abuse trends locally, nationally, and internationally; guide development of responsive interventions for a variety of populations; and determine optimal service delivery in real-world settings.

Pharmacotherapies and Medical Consequences (FY 2013 Request: \$130.2 million)

This program area is responsible for medications development aimed at helping people recover from drug abuse and addiction and sustain abstinence, and includes development of non-addictive pain medications. It capitalizes on research showing the involvement of different brain systems in drug abuse and addiction, beyond the reward circuit, to develop medications in response to a variety of newly defined targets. This program area also seeks means to address the medical consequences of drug abuse and addiction, including infectious diseases such as HIV.

Clinical Trials Network (FY 2013 Request: \$47.7 million)

NIDA's National Drug Abuse Treatment Clinical Trials Network (CTN) comprises 13 research nodes and more than 240 individual community treatment programs in 38 States, plus the District of Columbia and Puerto Rico. The CTN develops and tests treatment protocols for drug abuse and addiction and related conditions, such as comorbid mental health disorders and HIV, testing the real-world effectiveness of promising medication and behavioral approaches with diverse patient populations and community treatment providers. It also serves as a research training platform and helps NIDA respond to emerging public health threats.

Intramural Research Program (IRP) (FY 2013 Request: \$88.6 million)

The Intramural program performs cutting edge research within a coordinated multidisciplinary framework. The IRP attempts to (1) elucidate the nature of the addictive process; (2) determine the potential use of emerging new therapies for substance abuse, both pharmacological and psychosocial; and (3) establish the long-term consequences of drugs of abuse on systems and organs, with particular emphasis on the brain and its development, maturation, function, and structure. In addition, the IRP supports an HIV/AIDS Pathophysiology and Addiction Medications Discovery Program.

Research Management and Support (RMS) (FY 2013 Request: \$62.7 million)

RMS activities provide administrative, budgetary, logistical, and scientific support in the review, award, and monitoring of research grants, training awards, and research and development contracts. Additionally, the functions of RMS encompass strategic planning, coordination, and evaluation of NIDA's programs, regulatory compliance, international coordination, and liaison with other Federal agencies, Congress, and the public. NIDA currently oversees more than 1,800 research grants and more than 170 research and development contracts.

National Institute of Alcohol Abuse and Alcoholism

The FY 2013 budget requests \$56.8 million for NIAAA Underage Drinking activities, which is a decrease of \$0.228 million from the FY 2012 Enacted Budget level.

Underage Drinking (FY 2013 Request: \$56.8 million)

NIAAA has a strong focus on preventing and reducing underage drinking, recognizing the pervasive use of alcohol among young people and the association between early initiation of alcohol use and future alcohol problems. In 2011, NIAAA released an alcohol screening guide for health care providers to identify alcohol use, and alcohol use disorders in children and adolescents, and to identify risk for alcohol use, especially for younger children. In FY 2013, NIAAA will support studies to evaluate the guide in clinical settings. The brief, two question screener will be assessed in youth ages 9 to 18 both: as a predictor of alcohol risk, alcohol use, and alcohol problems including alcohol use disorders; and as an initial screen for other behavioral health problems, for example other drug use, smoking, or conduct disorder.

NIAAA also has a significant investment in underage drinking research.

PERFORMANCE

National Institute on Drug Abuse

This section on NIDA’s FY 2011 performance is based on agency GPRA performance reports and other information. NIH’s GPRA measures are “representative” of Institute contributions to NIH’s priorities regarding specific scientific opportunities, identified public health needs, and Presidential priorities. Such measures reflecting NIH’s broad and balanced research portfolio, are not Institute-specific. Each measure is trans-NIH, encompassing lead and contributory Institutes and Center (ICs).

NIDA continues to contribute to a number of trans-NIH scientific research outcomes (SRO). One of these, indicative of NIDA’s contribution to the prevention of substance abuse and addiction, is SRO-3.5: “By 2013, identify and characterize at least 2 human candidate genes that have been shown to influence risk for substance use disorders and risk for psychiatric disorders using high-risk family, twin, and special population studies.” By identifying genetic factors involved in the various stages of the addiction process, this outcome aids in the development of improved primary (stop drug use before it starts) and secondary (prevent relapse) prevention programs.

NIDA also contributes to SRO-8.7: “By 2015, identify three key factors influencing the scaling up of research-tested interventions across large networks of service systems such as primary care, specialty care, and community practice.” By studying treatment implementation, this outcome improves the translation of research into practice.

National Institute on Drug Abuse		
Selected Measures of Performance	FY 2011 Target	FY 2011 Achieved
» SRO-3.5, by 2013, identify and characterize at least 2 human candidate genes that have been shown to influence risk for substance use disorders and risk for psychiatric disorders using high-risk family, twin, and special population studies.	Replicate/validate genetic markers that identify differences in treatment response and/or vulnerability to drug dependence in a minority population	Research identified genetic markers associated with response to the smoking cessation medications varenicline and bupropion. Research also identified genetic markers of smoking initiation, smoking quantity, and smoking cessation among Korean smokers.
» SRO-8.7, by 2015, identify three key factors influencing the scaling up of research-tested interventions across large networks of service systems such as primary care, specialty care and community practice.	Field 2 studies to test 3 implementation strategies for incorporating research-supported treatment interventions in the criminal justice system.	Two studies (MATICCE and HIV-STIC) have been fielded to test 4 implementation strategies for incorporating research-supported treatment interventions for either drug abuse or HIV in the criminal justice system.

Discussion

Prevention – SRO-3.5

NIDA contributes to NIH's scientific research goal of identifying and characterizing human candidate genes that influence risk for substance use disorders and risk of psychiatric disorders, by funding research on disease vulnerability and on optimizing treatment response as a means for preventing relapse.

Vulnerability: Multiple genome-wide and targeted association studies have revealed significant associations between variants in the CHRNA5-CHRNA3-CHRNA4 (CHRNA5/A3/B4) nicotinic receptor subunits gene cluster with tobacco dependence in subjects of European origin. However, few studies have replicated these findings in populations of other ethnicities. A recent NIDA-funded study demonstrated associations of variants in the CHRNA5/A3/B4 cluster with smoking initiation, smoking quantity, and smoking cessation in Korean smokers providing strong evidence for their contribution to the underlying causes of these behaviors in this Asian population.

Relapse Prevention: NIDA funded investigators identified genetic markers associated with treatment response to two smoking cessation medications, varenicline and bupropion. Specifically, they demonstrated that continuous abstinence during weeks 9-12 of treatment with varenicline was associated with a variant in the nicotinic receptor subunit genes CHRNA2, CHRNA5, and CHRNA4 while continuous abstinence under bupropion treatment was associated with a variant of the genes for the CYP2B6 metabolizing enzyme and the nicotinic receptor delta subunit CHRNA1. They also found that the time to relapse after successfully quitting with either treatment was linked to a variant in the 5HT3 receptor gene. Finally, they identified variants in several nicotinic receptor subunit genes that were associated with nausea, a common side effect of varenicline treatment. These results suggest that specific genetic loci may provide clinically useful markers to guide treatment decisions in the future thereby preventing relapse among certain populations.

Treatment - SRO-8.7

NIDA also contributes to NIH's scientific research goal of identifying effective implementation strategies that enhance the uptake of research-tested interventions in service systems such as primary care, specialty care, and community practice. NIDA recognizes that despite major strides in treatment research, only limited improvements have occurred in non-research settings. For example, the rates of drug abuse among people involved with the criminal justice system are very high (e.g., 70-85 percent of state inmates) yet few receive treatment while incarcerated (approximately 13 percent), jeopardizing both public health and public safety. To improve drug treatment within the criminal justice system, NIDA continues to support a national multisite research program, the Criminal Justice-Drug Abuse Treatment Studies (CJ-DATS), which tests strategies for how best to implement effective treatment within the criminal justice system. In the past year, CJ-DATS research protocols (described in the FY 2010 performance discussion) began data collection. Specifically, the MATICCE (Medication-Assisted Treatment Implementation in Community Correctional Environments) protocol is testing implementation approaches aimed at improving service coordination between community correctional agencies and local treatment agencies, to increase the number of persons in corrections who are provided medication-assisted treatment (MAT); and improving community corrections agents' knowledge

and perceptions about MAT and intent to refer appropriate individuals to community-based MAT services. The interventions to be tested are the Knowledge, Perception, and Information (KPI) intervention and the KPI + organizational linkage (OL) intervention. The KPI intervention consists of professional training for correctional staff on use of medications in addiction treatment. The KPI + OL intervention is intended to improve correctional staff knowledge, perceptions, and capacity for inter-organizational relationships to improve referral to, utilization of, and support for medication-assisted treatment appropriate for individuals with substance use disorders. All of the 9 participating research centers have completed preliminary work (e.g., training, strategic planning) to set the stage for them to begin data collection in the upcoming year.

The HIV Services and Treatment Implementation in Corrections (HIV-STIC) protocol will test an organizational intervention strategy for more effectively implementing improvements in HIV services for preventing, detecting, and treating HIV in offenders under correctional supervision. The interventions to be tested are an HIV Training for corrections intervention and Local Change Team (LCT) Process Improvement intervention. The HIV training includes basic training on the fundamentals of HIV infection, prevention, testing, and treatment, as well as information about the HIV services continuum and its implications. The process improvement using LCT guides the team through a structured series of quality improvement techniques intended to identify key change targets and to make incremental organizational changes that will improve the quality and coordination of HIV services across correctional and community agencies. As of September 2011, all of the participating centers have selected sites for the study and have completed preliminary work (e.g., training, site randomization) to set the stage for them to begin data collection in the upcoming year.

Research Highlights

Buprenorphine vs. methadone treatment in pregnancy causes less distress in babies

Opioid dependence during pregnancy can lead to multiple adverse maternal and neonatal consequences, so treatment is crucial—and better options can improve public health and reduce associated medical costs. To that end, a NIDA-supported study comparing treatment with buprenorphine versus methadone found that buprenorphine results in 43% less time in hospital, 60% shorter treatment duration, and 89% less morphine administered for withdrawal symptoms in neonatal abstinence syndrome. More than 100,000 opioid-exposed babies are born each year, with about 23,000 born to mothers receiving methadone. If buprenorphine were adopted as the standard of care for women of childbearing age, not only would that dramatically improve outcomes for those children but it could result in a savings of nearly \$260M per year.

Opioid prescription practices evince concern

Prescription opioid pain relievers, though important in treating pain, have high rates of abuse in the U.S. One contributor to continuing high rates may be prescription practices related to controlled medications. A recent study, analyzing prescribing practices in this country found that most of the projected 202 million opioid prescriptions dispensed in the U.S. in 2009 were for products containing hydrocodone (e.g., Vicodin) and Oxycodone (e.g., OxyContin) for short treatment course, and most (45.7%) were written for people between 40 and 59 years old; still, 9.3 million (11.7%) were for patients between 1- and 29 years old. For 10-19 year-olds, dentists were the main prescribers. Notably, across all the physician specialties analyzed, 56 percent of

opioid prescriptions were dispensed to patients who had filled another opioid prescription within the past month. This unique analysis identifies important questions for further investigation, particularly given the severity of potential consequences, including addiction and even death: the rates of unintentional overdose deaths from opioid pain relievers have quadrupled since 1999, now outnumbering those from heroin and cocaine.

Poor childhood self-control predictive of adult addiction, and other health and social problems

The development of successful drug abuse prevention interventions requires understanding modifiable drug abuse risk and protective factors. A recent study that followed a cohort of 1,000 children from birth found that those who showed poor self-control in childhood—as early as age 3—were more likely to have problems with physical health, substance dependence, and personal finances, and to be convicted of a criminal offense by 32 years of age, regardless of intelligence and socioeconomic status. Interestingly, while some of these outcomes were the result of problem behaviors that began in adolescence (e.g., smoking, dropping out of high school, becoming parents), poor self-control in childhood was still predictive of problems in adulthood, even in adolescents who did not experience these early setbacks. Therefore, early childhood interventions that enhance self-control have the potential to have a great impact, likely more so than addressing problem behaviors in adolescence alone.

Is nicotine a gateway drug? Animal research shows that nicotine primes the brain to enhance cocaine's effects

Tobacco and alcohol are the most commonly used drugs in the U.S. and other Western societies. They also generally precede the use of marijuana, cocaine, and other illicit substances among drug users and therefore have been dubbed “gateway drugs.” NIDA-supported researchers have identified a molecular mechanism that may explain how nicotine use could predispose a person to the rewarding effects of cocaine. Mice that were exposed to nicotine for a week showed an increased response to cocaine. This priming effect depended on a previously unrecognized effect of nicotine on gene expression: nicotine changes the structure of the tightly packaged DNA molecule, reprograms the expression pattern of specific genes, including delta FosB—a gene linked to addiction—and ultimately alters the behavioral response to cocaine. If nicotine is found to have similar effects in humans, these findings suggest that effective smoking prevention efforts would not only prevent the negative health consequences associated with smoking but could also decrease the risk of progression and addiction to cocaine and possibly other illicit drug use.

Communities That Care prevention program a smart public health investment

A cost-benefit analysis of the Communities That Care (CTC) prevention system found long-term reductions in drug use and other risky behaviors as well as monetary benefits relative to the cost of conducting the intervention. CTC trains coalitions of community stakeholders to use local epidemiological data to identify elevated risk factors and depressed protective factors in their communities, and then choose and implement appropriate evidence-based prevention programs to address their specific profiles. The present analysis was based on outcomes from a panel of students followed from Grades 5 through 8 in a randomized controlled trial involving 24 communities in 7 states. It showed that CTC prevention programs result in savings of between \$5 and \$10 for every \$1 invested, returns that increase over time. Benefits stem from anticipated reductions in smoking-related mortality, improved health, lower medical expenses, and, mainly, from lower criminal justice system and crime victimization costs over the life course of program

participants. This study shows CTC to be a cost-effective preventive intervention and a good public health investment, even with conservative assumptions.

National Institute of Alcohol Abuse and Alcoholism

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NIAAA continues to contribute to a number of trans-NIH scientific research outcomes (SRO). One which is indicative of NIAAA's contribution to the prevention of substance abuse and addiction is SRO-3.5: "By 2013, identify and characterize at least 2 human candidate genes that have been shown to influence risk for substance use disorders and risk for psychiatric disorders using high-risk family, twin, and special population studies." By identifying genetic factors involved in the various stages of the addiction process, this outcome aids in the development of improved primary (stop drug use before it starts) and secondary (prevent relapse) prevention programs.

In addition NIAAA contributes to SRO-8.7: "By 2015, identify three key factors influencing the scaling up of research-tested interventions across large networks of service systems such as primary care, specialty care and community practice." By focusing on treatment implementation, this outcome improves the translation of research into practice. SRO-8.7 is indicative of NIAAA's efforts to more broadly bring evidence-based treatments for substance addiction to the people who need them.

NIAAA also contributes to SRO-4.5: "By 2011, identify genetic and environmental factors which predispose to three complex diseases." Identification of genetic variants that confer risk for alcohol use and psychiatric disorders will help to identify individuals at higher risk for a more severe and complicated disease course, many of whom initiate alcohol use early and ultimately become dependent on more than one substance. In addition, genetic variants that influence the effectiveness of behavioral or pharmacological interventions, including prevention and treatment programs, are under investigation, both for underage and adult drivers.

National Institute on Alcohol Abuse and Alcoholism

Selected Measures of Performance	FY 2011 Target	FY 2011 Achieved
» SRO-3.5, by 2013, identify and characterize at least 2 human candidate genes that have been shown to influence risk for substance use disorders and risk for psychiatric disorders using high-risk family, twin, and special population studies.	Conduct functional studies of candidate genes in different populations.	NIAAA-supported researchers conducted functional studies of gene variants that are associated with increased risk for alcohol dependence through population-based research in European-Americans and African Americans.
» SRO-8.7, by 2015, identify three key factors influencing the scaling up of research-tested interventions across large networks of service systems such as primary care, specialty care and community practice.	Continue to support research on the implementation and adoption of interventions for alcohol use disorders in primary care and general mental health care and continue to disseminate multimedia products that promote the use of such interventions in various health care settings for underage and adult populations.	NIAAA developed multimedia products that promote implementation of screening and brief intervention in pediatric primary care, and continued to support research on the implementation of screening and brief intervention in primary care, including pediatric care.
» SRO-4.5, by 2011, identify genetic and environmental factors which predispose to three complex diseases.	Support research on biological, behavioral and environmental factors that influence risk for problem drinking, including alcohol use disorders.	NIAAA supported research on the interplay of genetic and environmental factors and found two alleles (DRD4 and 5-HTTLPR) that affect alcohol use or responsiveness to interventions in adolescents and adults.

Discussion

Prevention – SRO-3.5

NIAAA contributes to NIH's scientific research goal of identifying and characterizing human candidate genes that influence risk for substance use disorders and risk of psychiatric disorders.

Numerous genes and gene variants have been associated with increased risk for alcohol dependence in various racial and ethnic populations. Some of these findings need to be replicated by independent studies and/or the variants studied for function at the levels of transcription and/or protein synthesis. In one study, NIAAA-supported investigators combined and reanalyzed two alcohol-relevant datasets to identify new genetic risk variants for alcohol dependence using genome wide association studies. They also sought to replicate the associations between alcohol dependence and previously identified variants, and to conduct functional studies of variants previously shown to have significant associations with alcohol dependence. The study identified three genes with genome wide significance in European Americans, two of which replicated prior studies. Variants in one of the three genes, *KIAA0040*, were replicated in African Americans. Functional analysis of *KIAA0040* variants indicated that these variant were involved in regulating expression of the gene itself.

Genes encoding two classes of alcohol metabolizing enzymes -- the alcohol dehydrogenases (ADH) and aldehyde dehydrogenases (ALDH) -- have been extensively studied and previously associated with risk for alcohol dependence in various populations. For example, previous research has shown that the inactive ALDH2-2 variant is exclusive to populations of East Asian descent, and protective against heavy alcohol consumption and therefore alcohol dependence. The reduced risk that is conferred by ALDH2-2 is enhanced by the presence of the ADH1B-2 variant. A recent case control study investigated whether polymorphisms in the ADH class of genes and two ALDHs were associated with risk for alcohol dependence in four non-East Asian populations, i.e. Finnish Caucasians, African Americans, Plains American Indians and Southwestern American Indians. The study revealed modest associations between alcohol dependence and certain types of variants in the ALDH1A1 gene in Finnish Caucasians and Southwest American Indians as well as an association with an ADH4 variant in Plains American Indians.

Treatment - SRO-8.7

The integration of alcohol screening, brief intervention and referral to treatment (SBIRT) as a routine procedure in primary care has the potential to reach a large number of individuals who are either experiencing or are at risk for alcohol-related problems who may not be identified elsewhere. Alcohol SBIRT has been recognized as a top preventive measure in primary care and standard alcohol screening guidelines are now available for both youth and adults; however, integrating routine alcohol SBIRT into primary care still poses challenges for many practices. Research to inform the implementation of SBIRT in primary care and other clinical settings for underage and adult populations continues to be a priority of NIAAA. A NIAAA-supported randomized controlled trial is comparing two different modes of SBIRT delivery, both based on

NIAAA guidelines, in one of the nation's largest private health care organizations. In the first mode, SBIRT will be conducted by primary care physicians. In the second mode, screening will be conducted by medical assistants with brief intervention and referral delivered by non-physician providers, e.g. behavioral medicine specialists, clinical nurses and health educators. Both the control and experimental conditions involve the use of the electronic medical record which includes the alcohol screening questions. In addition to various implementation outcomes, the study will examine implementation and intervention costs, characteristics that predict SBIRT implementation as well as barriers, and facilitators and feasibility of the implementation process. Now in its second year, the study has recruited, randomized and trained the primary care practices, and will soon begin providing quarterly performance feedback to the clinics.

A similar study is being conducted to examine the implementation, effectiveness and cost-effectiveness of SBIRT in reducing adolescent alcohol and other drug use in pediatric care. In this study pediatric practices in the same health care system mentioned in the study above are randomized to three conditions, i.e. usual care, SBIRT delivered by primary care physicians and SBIRT delivered by behavioral medicine specialists. SBIRT in this study is based on the CRAFFT screening tool plus referral to treatment. In the usual care condition, screening and intervention is optional. Also, physicians in this mode of the study do not receive training on SBIRT and they do not have access to a behavioral medicine specialist.

Prevention – SRO-4.5

Previous research has shown that genotypic variability in the promoter region of the serotonin transporter gene (5-HTTLPR) influences response in rural African American adolescents to a preventive intervention aimed at parenting behavior. Building on that finding, a recent study examined variability at the dopamine D4 receptor gene (DRD4) for effects on escalation of substance use in African American rural adolescents who participated in the intervention. The study found that youth carrying the 7-repeat allele in the DRD4 gene not only were more responsive to the intervention than youth with the 4-repeat DRD4 allele, but also that they reduced past month alcohol or marijuana use over a 29 month period. This was in comparison to youth with the 7-repeat allele and no intervention. Furthermore, parents with the 7-repeat allele who were randomized to a control group with no intervention exhibited less change in the parenting behavior that was targeted by the intervention. Taken together with the previous finding that the long allele of 5-HTTLPR influences initiation of adolescent substance use, the results suggest different genes may influence different phases of substance use and highlights potential opportunities to match individuals to prevention programs based on genotype.

Treatment – SRO-4.5

Analyses of data from the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC) have shown that early alcohol use is associated with future alcohol dependence as well as dependence at an earlier age. A recent clinical trial examined the interaction of age of onset of alcohol dependence and variation in 5-HTTLPR with response to the medication sertraline, a selective serotonin reuptake inhibitor (SSRI) that is commonly prescribed for depression. The preliminary results showed that the long allele of 5-HTTLPR influenced

response to sertraline while the short allele had no significant effects. Among individuals who carried the long allele, those who had late-onset of alcohol dependence (defined as older than age 25) experienced fewer drinking and heavy drinking days in response to sertraline than those with early onset alcohol dependence.

Research Highlights

New Youth Alcohol Screening Guidelines for Health Practitioners

National surveys have shown that 71% of high school seniors have used alcohol in their lifetime and that past month alcohol use increases from 14% to 41% between 8th and 12th grades. By 12th grade, 27% of those surveyed report having been drunk in the past month and 23% report having an episode of binge drinking in the past two weeks. Although alcohol use in youth continues to be of great concern, it often goes undetected. To encourage alcohol screening of youth, NIAAA recently released *Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide*. Targeted to youth aged 9-18, the Youth Guide is a developmentally appropriate, empirically-based 2-question alcohol screener and risk estimator that provides a quick, user-friendly way for clinicians to screen for alcohol use, assess risk for current and future alcohol problems, and provide brief advice or interventions based on level of risk. By helping clinicians overcome common barriers to alcohol screening, the guide can help them intervene earlier to prevent both short and long term problems associated with underage alcohol use. In FY 2012, NIAAA will begin the next step in this research, which is to evaluate the effectiveness of the two-question screener as a predictor of alcohol risk/use/problems including alcohol use disorders and as an initial screen for other behavioral health problems such as other drug use, smoking, or conduct disorder. Continuing Medical Education (CME) training will also be developed to further encourage use of the guide.