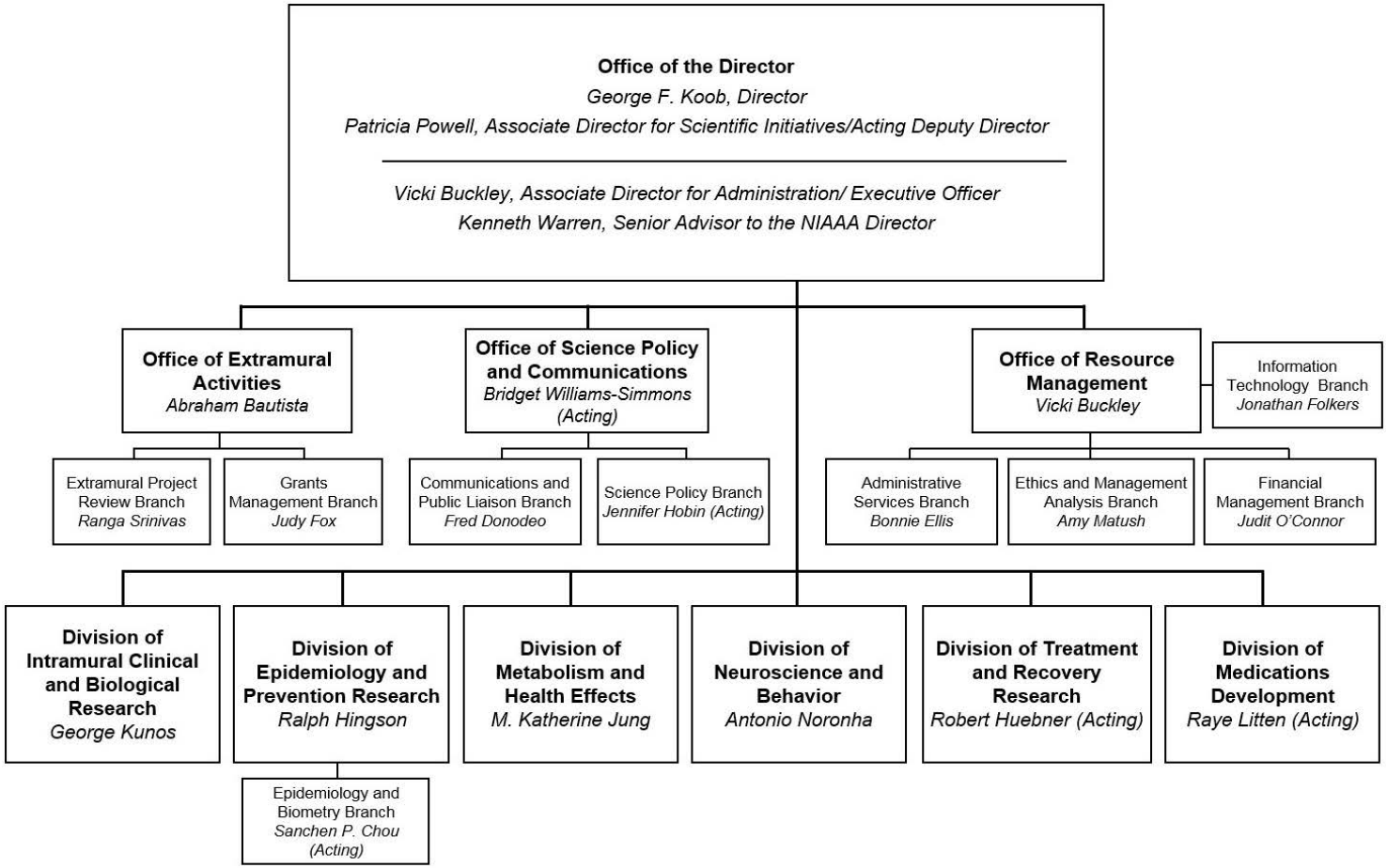
DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

National Institute on Alcohol Abuse and Alcoholism



NATIONAL INSTITUTES OF HEALTH

National Institute on Alcohol Abuse and Alcoholism

For carrying out section 301 and title IV of the PHS Act with respect to alcohol abuse and alcoholism, $361,356,000.

NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism

Amounts Available for Obligation[1]

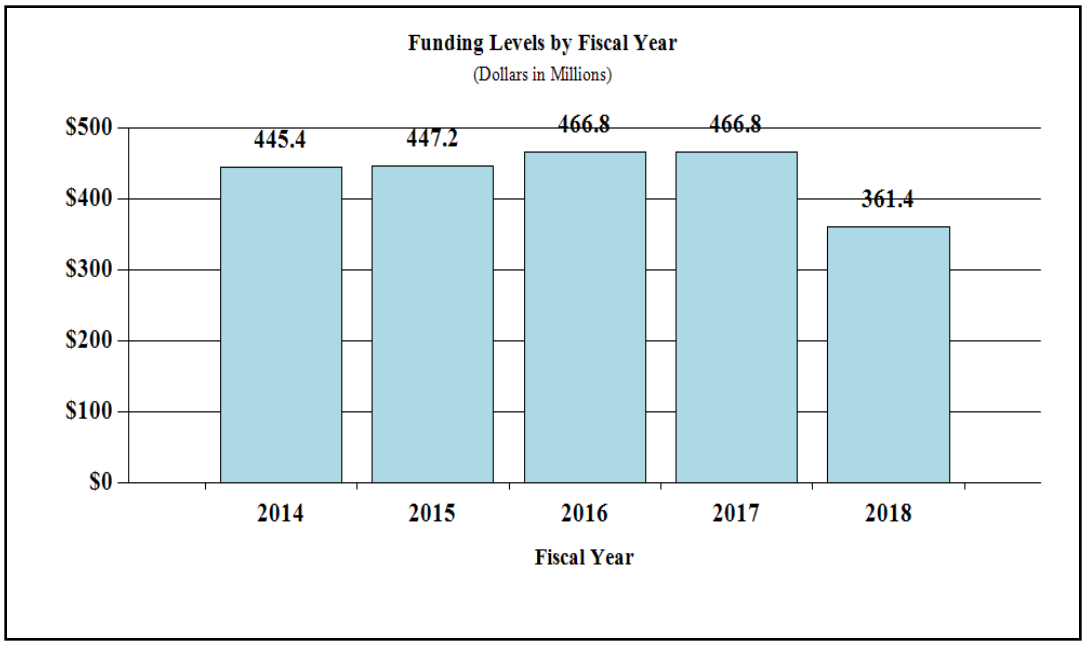
(Dollars in Thousands)

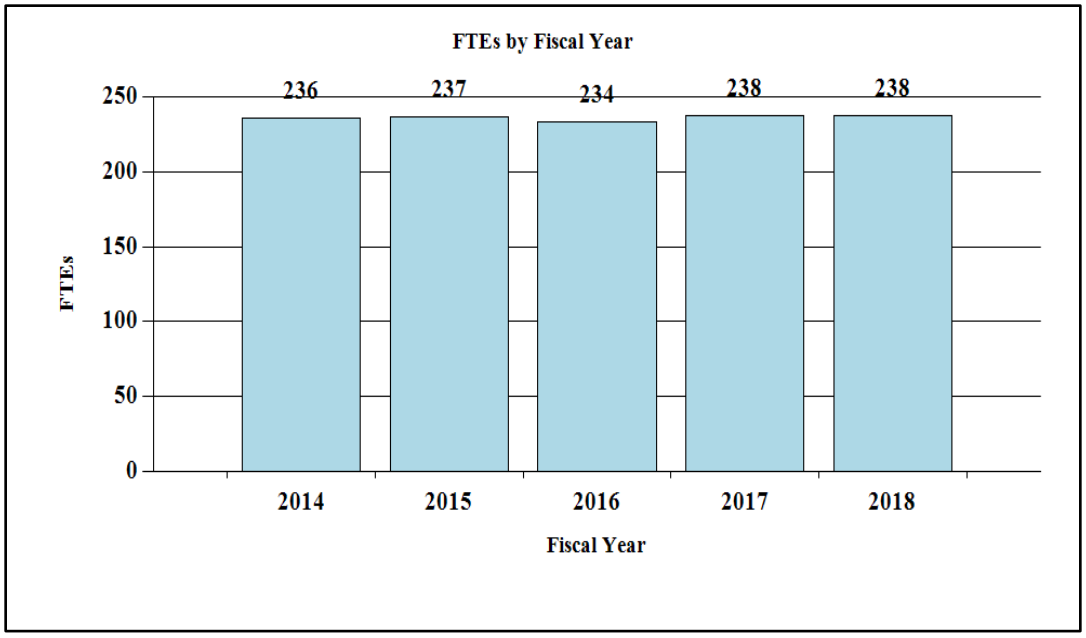
Source of Funding	FY 2016 Actual	FY 2017 Annualized CR	FY 2018 President's Budget
Appropriation	$467,700	$467,700	$361,356
Mandatory Appropriation: (non-add)			
Type 1 Diabetes	*(0)*	*(0)*	*(0)*
Other Mandatory financing	*(0)*	*(0)*	*(0)*
Rescission	0	-889	0
Sequestration	0	0	0
Zika Intra-NIH Transfer	-647	0	0
Subtotal, adjusted appropriation	$467,053	$466,811	$361,356
OAR HIV/AIDS Transfers	-255	0	0
Subtotal, adjusted budget authority	$466,798	$466,811	$361,356
Unobligated balance, start of year	0	0	0
Unobligated balance, end of year	0	0	0
Subtotal, adjusted budget authority	$466,798	$466,811	$361,356
Unobligated balance lapsing	-85	0	0
Total obligations	$466,713	$466,811	$361,356

[1] Excludes the following amounts for reimbursable activities carried out by this account:
FY 2016 - $3,918 FY 2017 - $5,000 FY 2018 - $5,000

Fiscal Year 2018 Budget Graphs

History of Budget Authority and FTEs:





NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism

Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2017 Amount Authorized	FY 2017 Annualized CR	2018 Amount Authorized	FY 2018 President's Budget
Research and Investigation	Section 301	42§241	Indefinite	$466,811,000	Indefinite	$361,356,000
National Institute on Alcohol Abuse and Alcoholism	Section 401(a)	42§281	Indefinite		Indefinite	
Total, Budget Authority				$466,811,000		$361,356,000

NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2008	$436,505,000	$436,505,000	$436,505,000	$436,256,000
Rescission				$7,757,000
Supplemental				$2,320,000
2009	$436,681,000	$451,688,000	$448,834,000	$450,230,000
Rescission				$0
2010	$455,149,000	$466,308,000	$457,887,000	$462,346,000
Rescission				$0
2011	$474,649,000		$473,904,000	$462,346,000
Rescission				$4,059,673
2012	$469,197,000	$469,197,000	$453,127,000	$460,389,000
Rescission				$870,135
2013	$457,104,000		$458,489,000	$459,518,865
Rescission				$919,038
Sequestration				($23,064,687)
2014	$463,848,000		$460,765,000	$446,025,000
Rescission				$0
2015	$446,017,000			$447,408,000
Rescission				$0
2016	$459,833,000	$456,012,000	$469,355,000	$467,700,000
Rescission				$0
2017[1]	$467,445,000	$480,330,000	$488,782,000	$467,700,000
Rescission				$889,000
2018	$361,356,000			

[1] Budget Estimate to Congress includes mandatory financing.

Justification of Budget Request

National Institute on Alcohol Abuse and Alcoholism

Authorizing Legislation: Section 301 and title IV of the Public Health Service Act, as amended.

Budget Authority (BA):

	FY 2016 Actual	FY 2017 Enacted	FY 2018 President's Budget	FY 2018+ / - FY 2017
BA	$466,798,000	$466,811,000	$361,356,000	-$105,455,000
FTE	234	238	238	0

Program funds are allocated as follows: Competitive Grants/Cooperative Agreements; Contracts; Direct Federal/Intramural and Other.

Director's Overview

Alcohol misuse has profound effects on the health and well-being of individuals, families, and communities. Nearly 16 million people in the U.S. have alcohol use disorder (AUD), and alcohol misuse cost the country $249 billion in 2010.[1,2] The National Institute on Alcohol Abuse and Alcoholism (NIAAA) supports research and related initiatives to generate and disseminate fundamental knowledge about the effects of alcohol on health and well-being, and apply that knowledge to improve the diagnosis, prevention, and treatment of alcohol-related problems, including AUD, across the lifespan.

Advancing Fundamental Science

Basic research is the foundation for medical advancement and it is integral to NIAAA's mission. Advances in neuroscience demonstrate that AUD is a chronic brain disease caused by changes in brain circuits that occur over time with repeated alcohol use. NIAAA supports research to develop a deeper understanding of these changes and translate this information into effective interventions for AUD. Illuminating how alcohol misuse affects the developing adolescent brain is a particularly important area of focus. Research shows that heavy adolescent drinking alters the trajectory of brain development, and adolescent alcohol use increases risk for AUD later in life. To elucidate further how adolescent drinking affects the developing brain, NIAAA supports the National Consortium on Alcohol and Neurodevelopment in Adolescence and the Adolescent Brain Cognitive Development study, two longitudinal studies that are examining brain structure and function in youth before and after they begin using alcohol or other drugs, alone and in combination.

[1] Center for Behavioral Health Statistics and Quality. (2016). Key substance use and mental health indicators in the United States: Results from the 2015 National Survey on Drug Use and Health (HHS Publication No. SMA 16-4984, NSDUH Series H-51). Retrieved from http://www.samhsa.gov/data/

[2] Sacks JJ et al. 2010 National and State Costs of Excessive Alcohol Consumption. *Amer. Journal of Prev. Med.* 2015;49(5):e73–e79.

NIAAA also supports fundamental research to address how alcohol affects the development and progression of diseases such as alcoholic liver disease (ALD). Four NIAAA-supported research consortia are working to elucidate mechanisms underlying alcoholic hepatitis (AH)—a form of ALD in which more than half of those most severely affected die within 60 days of diagnosis—and translate this knowledge into novel therapies. The consortia are conducting nearly 30 transdisciplinary studies to assess how AH develops, evaluate treatments for moderate and severe AH, generate a molecular classification of the disease, and identify new treatment targets and biomarkers. NIAAA also supports research to examine how moderate alcohol use affects disease risk, and is funding a large multisite, prospective, randomized controlled trial involving adults age 50 and older to study how moderate alcohol use affects their risk for cardiovascular disease and diabetes.

Advancing Treatments and Cures

In 2015, less than 10 percent of individuals with AUD received treatment or help.[1] To assist people in finding the treatment they need, the Institute is developing the NIAAA Alcohol Treatment Navigator℠. This one-of-a kind resource will outline the features of evidence-based AUD treatment, describe the varied routes to recovery, and provide tools for locating the most qualified addiction specialists. NIAAA also supports research on the use of electronic health technologies to aid AUD treatment and recovery, and has stimulated the development of a discrete, wearable alcohol biosensor capable of measuring alcohol levels in near real-time (see portrait).

Developing new treatments for AUD, co-occurring mental health conditions, such as PTSD (see portrait), and other alcohol-related diseases remains a high priority. NIAAA's Clinical Investigations Group (NCIG) streamlines the AUD medications development process by conducting "fast success/fast fail" phase II clinical trials of promising compounds in collaboration with the pharmaceutical industry. NCIG recently completed a clinical trial demonstrating that ABT-436, a compound that targets brain stress systems, increased the percentage of days that participants abstained from drinking. ABT-436 was particularly effective among individuals with higher stress levels. Through its Addictions Neuroclinical Assessment initiative, NIAAA strives to develop a better understanding of how individual differences in stress and other factors contribute to alcohol misuse and AUD, identify and validate biomarkers to assess these factors, and use this information to develop individually-tailored treatments.

Health Promotion and Disease Prevention

Disseminating evidence-based information on how alcohol affects health, as well as how to prevent and treat alcohol-related problems, is critical to improving public health. NIAAA provides a youth alcohol screening guide to help healthcare providers identify youth who are at risk for alcohol use, using alcohol, or have AUD, and to intervene as appropriate (see portrait). NIAAA continues to promote its *College Alcohol Intervention Matrix* (*CollegeAIM*), a research-based, interactive decision tool and guide designed to help college and university officials address alcohol misuse on their campuses. The Institute has played a major role in developing the first ever *Surgeon General's Report on Alcohol, Drugs, and Health*. Released in November 2016, the report presents the state-of-the science of substance misuse and substance use

disorders, and provides recommendations for addressing them. NIAAA also advised HBO on the development of the documentary *Risky Drinking* that aired in December 2016.

Stewardship to Inspire Public Trust
Underpinning NIAAA's ability to advance innovative science is an unwavering commitment to responsible scientific stewardship. NIAAA supports efforts to enhance the rigor and reproducibility of research, including ensuring that sex is incorporated as a biological variable in the design, analysis, and scientific reporting of the studies it funds. This is a critical step toward ensuring that everyone, regardless of sex or gender, benefits from alcohol research advances. NIAAA also seeks to maximize the use of research resources by forging strategic partnerships with other public and private organizations to advance basic, clinical, and translational alcohol research. In addition, NIAAA remains committed to cultivating a diverse and talented research workforce through its training and career development programs, and to working with its partners to improve and expand physician training in addiction medicine.

Overall Budget Policy: The FY 2018 President's Budget request is $361.356 million a decrease of $105.455 million compared with the FY 2017 Annualized CR level. These reductions are distributed across all programmatic areas and basic, epidemiology, or clinical research.

Program Descriptions and Accomplishments

Embryo and Fetus: Alcohol consumption during pregnancy can have devastating effects on the developing embryo and fetus, including at the earliest stages and often before a woman knows that she is pregnant. Prenatal alcohol exposure is a leading preventable cause of birth defects and developmental abnormalities in the United States. Individuals who are prenatally exposed to alcohol may experience brain and other organ damage, growth retardation, facial abnormalities, and a range of neurobiological deficits that can result in lifelong physical, cognitive, behavioral, and social challenges. The broad range of developmental effects that occur as a consequence of prenatal alcohol exposure are known collectively as Fetal Alcohol Spectrum Disorders (FASD), which varies in severity and includes Fetal Alcohol Syndrome (FAS). NIAAA's research portfolio to prevent prenatal alcohol exposure and improve outcomes for children with FASD encompasses: diagnosing and treating women with alcohol misuse and AUD, developing interventions to prevent prenatal alcohol exposure, improving diagnosis of children with FASD, establishing more precise prevalence estimates of FASD in the U.S., understanding the neurobiological deficits that underlie FASD-related cognitive and behavioral impairments, and developing pharmacological and behavioral interventions to mitigate FASD-related health effects. *Recently, researchers issued improved guidelines for diagnosing FASD based on the large body of clinical and epidemiological research supported by NIAAA. The guidelines provide a more precise definition of documented prenatal alcohol exposure, advice for evaluating facial anomalies and physical deformities characteristic of FASD, and new information about the extent of cognitive and/or behavioral impairments seen in different subtypes of FASD and in children less than 3 years old.* These guidelines, which clarify and expand previous guidelines, are expected to facilitate earlier intervention for children affected by FASD.

Youth/Adolescence (Ages 0-17): Adolescence is a period of significant biological, social, and environmental changes. It is also when the brain undergoes widespread changes, and the frontal cortex—the region of the brain responsible for planning, decision-making, and other executive functions—is still developing. Adolescence is also when drinking, binge drinking (consuming five or more drinks on one occasion for men or four or more drinks on one occasion for women), and heavy drinking (binge drinking five or more times in the past 30 days) all increase dramatically. Protecting the developing body and brain from alcohol exposure is an important investment in short- and long-term health. NIAAA continues to support the National Consortium on Alcohol and Neurodevelopment in Adolescence (NCANDA), an accelerated longitudinal study of more than 800 youth ages 12-21 to assess the vulnerability of the adolescent brain to alcohol exposure. NCANDA has laid the methodological foundation for the NIH Adolescent Brain Cognitive Development (ABCD) study, the largest long-term study of brain development and child health in the United States. Over 11,000 9- to 10-year olds are being invited to participate in the ABCD study, which will use brain imaging and neuropsychological and behavioral assessments to track the biological and behavioral development of youth before and after they start to use alcohol and/or other addictive substances. These two studies are expected to illuminate the neurobiological, cognitive, and behavioral precursors of alcohol and other drug misuse and ultimately inform preventive and treatment strategies. Complementing NCANDA and ABCD, NIAAA's Neurobiology of Adolescent Drinking in Adulthood initiative is enabling investigators to examine, in animal models, the molecular, cellular, and circuit-level mechanisms by which adolescent drinking affects brain structure and function in the short- and long-term and how the changes observed during this critical period persist into adulthood. NIAAA will continue to encourage universal alcohol screening for youth in health care and other settings, and support studies to elucidate the factors that contribute to underage drinking and develop evidence-based strategies to prevent, delay, and reduce alcohol use by underage individuals.

Young Adult (Ages 18-29): Young adults are also vulnerable to the adverse effects of alcohol misuse, in part because their frontal cortex is still developing and will not fully mature until their early twenties. In fact, this provides a neurobiological basis for the minimum legal drinking age of 21 years. For this population, NIAAA focuses on risk assessment and screening, universal and selective prevention, early intervention (before problems escalate and/or become chronic), and timely treatment for those who need it. Given the pervasiveness of binge drinking and AUD among young adults, efforts to alter drinking trajectories at this stage have life-changing potential and can significantly reduce the burden of illness resulting from alcohol-related problems. Binge and high-intensity drinking among college students are particularly troubling as they increase risks for alcohol-related blackouts, overdoses, sexual assault, sexually transmitted diseases, and other detrimental consequences. To assist college and university officials in addressing alcohol misuse on their campuses, NIAAA developed the College Alcohol Intervention Matrix (*CollegeAIM*), a user-friendly guide and website that rates nearly 60 evidence-based alcohol interventions in terms of effectiveness, costs, and other factors. NIAAA embarked on a multifaceted effort throughout FY 2016 to promote and disseminate *CollegeAIM*, including presentations at national higher education conferences, and regional workshops demonstrating use of *CollegeAIM*. In FY 2016, the *CollegeAIM* website received 32,137 visitors, NIAAA distributed 10,711 print copies of the *CollegeAIM* booklet, and the booklet was downloaded 4,027 times. Recognizing the effectiveness of alcohol screening and brief

interventions among young adults, NIAAA will continue research on implementation of alcohol screening and brief interventions in standard clinical practice, and encourage the development of effective screening and brief interventions for young adult populations disproportionally affected by the adverse effects of alcohol misuse.

Midlife/Senior Adult: Significant research advances have been made in elucidating the pathophysiology of AUD, but challenges remain in understanding how individual differences contribute to risk for AUD, AUD-related health outcomes, and response to treatment. NIAAA's research focus for the midlife/senior population is to address the factors that contribute to vulnerability and resilience to AUD and other alcohol-related consequences. These efforts include: 1) identification of mechanisms by which alcohol causes tissue and organ pathologies; 2) development of behavioral and pharmacotherapy treatment strategies for AUD; and 3) treatment of individuals with co-occurring physical and mental health conditions. To help advance promising compounds through the medications development pipeline, NIAAA has established a Human Laboratory Program to bridge the gap between animal studies and early human testing. The Institute also utilizes the Small Business Innovation Research/Small Business Technology Transfer programs to help businesses conduct early stage studies needed for an Investigational New Drug application to the FDA. NIAAA's Clinical Investigations Group will continue to coordinate multi-site Phase II clinical trials of novel and re-purposed compounds for treating AUD. Disseminating evidence-based information about risky drinking and resources for prevention and treatment remains a high priority, and the Institute is developing an online treatment navigator to guide individuals through a step-by-step process for finding evidence-based care for themselves or a loved one with AUD. NIAAA will continue to support research on novel behavioral interventions for AUD, and the use of neuroimaging to measure treatment response and predict risk of relapse. The mid-life/senior adult stage is also the time when diseases such as hypertension, diabetes, stroke, and heart disease are more prevalent. NIAAA recently launched the Moderate Alcohol and Cardiovascular Health Trial, a multi-site, randomized, controlled clinical trial to determine the effects of moderate alcohol use (about 1 standard drink per day) on risk of cardiovascular disease and diabetes. This study will follow 7,800 adults, age 50 and older with above-average cardiovascular risk, over an average of six years to determine if moderate alcohol use increases or decreases their cardiovascular and diabetes risks. This project is a collaboration of NIAAA, the National Institute of Neurological Disorders and Stroke, and the National Institute on Aging.

Intramural Research: The goal of the NIAAA Intramural Program is to provide an incubator for cutting-edge, innovative research and training in many important research areas related to alcohol use: the genetic and neurobiological bases of AUD and related behaviors; the impact of alcohol on brain structure and function; the patterns of alcohol use and prevalence of AUD and co-occurring disorders in the United States; and the molecular and cellular processes underlying the effects of alcohol exposure on the body. The Intramural Research Program will continue research to identify novel therapeutic targets for the treatment of AUD and alcohol-related diseases, and identify and evaluate compounds with promise for treating these diseases. Recently, intramural researchers demonstrated, using animal models, that a single agent blocking two distinct therapeutic targets was effective in slowing the progression of liver fibrosis and lessening established liver fibrosis. These results provide evidence of a novel therapeutic strategy for treating alcohol-related and non-alcohol related liver fibrosis, a health condition for

which no effective treatments currently exist. Intramural investigators are also leading the development of the "Addictions Neuroclinical Assessment", a framework for classifying individual differences in AUD based on the genetic, neurobiological, cognitive, and behavioral characteristics and traits that correspond to an individual's disorder.

Research Management and Support (RMS): 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. RMS functions also encompass strategic planning, coordination, and evaluation of the NIAAA's programs, regulatory compliance, and liaison with other Federal agencies, Congress, and the public.

Alcohol Screening and Brief Interventions for Adolescents: Advances in Research

Underage alcohol use remains a significant public health problem in the United States that threatens the physical, mental, and social well-being of our nation's youth. Alcohol screening and brief intervention in primary care has been recognized as a leading preventive service for reducing harmful alcohol use in adults, and a growing body of evidence demonstrates its effectiveness in preventing and reducing alcohol misuse in youth. Research indicates that youth are not routinely asked about drinking when they interface with the health care system. To facilitate universal screening for youth in health care settings, NIAAA developed *Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide* to help primary care providers identify 9- to 18-year olds who are at risk for alcohol use, are using alcohol, or have AUD, and to intervene as appropriate. It introduces a two-question screening tool and an innovative youth alcohol risk estimator to help clinicians overcome time constraints and other common barriers to conducting alcohol screening and brief interventions. NIAAA is currently supporting studies to evaluate the effectiveness of the youth screening guide in primary care. In a recent study, researchers used a computer-administered assessment to examine alcohol involvement in a large sample of adolescents seen in rural primary care settings. The researchers found that a single question on past year drinking frequency as recommended in NIAAA's youth screening tool performed very well in identifying youth whose AUD risk ranged from moderate to the highest level of risk.

Youth alcohol screening can also be a useful tool for identifying alcohol misuse in settings other than primary care, and NIAAA is supporting studies to evaluate the effectiveness of the youth screening guide in emergency department, juvenile justice, and academic settings, and with youth who have a chronic condition. Recently, researchers compared the use of the two-question NIAAA youth screening tool to a lengthier, widely used instrument for identifying past year alcohol use and AUD, with children aged 9-18 who were being treated for Type 1 diabetes, asthma, cystic fibrosis, inflammatory bowel disease, or juvenile idiopathic arthritis. The researchers found that NIAAA's youth alcohol screening tool is highly efficient for identifying alcohol use and AUD among this population. Studies demonstrating the utility of the youth screening guide are expected to encourage the adoption of youth alcohol screening in healthcare and other appropriate settings. Furthermore, these and other findings on the effectiveness of youth alcohol screening in health care provide support for adolescent alcohol screening and brief intervention as a routine clinical preventive service which could substantially increase the number of youth who receive these services.

Going forward, NIAAA will continue to evaluate the effectiveness of its youth screening guide, and pursue research to better understand how service delivery setting, modality (e.g., computerized vs. in-person), and individual characteristics (e.g., age and gender) influence the acceptability, effectiveness, and broader implementation of adolescent alcohol screening and brief interventions. The Institute will work with its Federal partners to explore methods for jointly screening and intervening with the use of alcohol and other addictive substances, including tobacco and marijuana. NIAAA will also continue to work with professional organizations to integrate alcohol prevention, screening and brief intervention, and treatment into primary care and preventive medicine training.

Harnessing the Power of Technology to Improve Diagnosis, Prevention, and Treatment of Alcohol Problems

The use of smart phones, tablets, text messaging, social media applications, biological sensors and other devices, has transformed the way we receive, use, and share health information. NIAAA-supported research is applying these technological advancements to improve upon and expand the diagnosis, prevention, and treatment of alcohol misuse, alcohol use disorder (AUD), and co-occurring conditions, and help individuals sustain recovery from AUD.

Real-time alcohol monitoring can enhance understanding and treatment of alcohol misuse and AUD, and of the health conditions exacerbated by alcohol use, such as HIV/AIDS. In 2015, NIAAA held a public competition to encourage the development of a discreet, wearable alcohol biosensor device that could aid researchers, clinicians, therapists, and individuals by providing more accurate information about how much an individual is drinking in real time. The winning prototype, the BACtrack Skyn, is a smartphone-compatible device that is worn on the wrist and detects alcohol released through a person's sweat. NIAAA is building on this success, and is holding a second competition to stimulate development of a wearable alcohol biosensor capable of monitoring alcohol levels in real-time, using innovative, non-invasive technologies that detect alcohol directly in blood or interstitial fluid. Complementary to this effort, NIAAA is soliciting grant applications from small businesses to encourage the development of these devices.

NIAAA-supported research is capitalizing on the use of mobile health and web-based technologies to facilitate continuing care for patients treated for AUD. For example, the Addiction–Comprehensive Health Enhancement Support System (A-CHESS), a smartphone application designed to provide ongoing monitoring and individualized support for patients treated for AUD, was shown effective in reducing problem drinking and increasing abstinence. NIAAA will continue to support research that optimizes the use of mobile devices and web-based platforms to facilitate the delivery of low-cost, personalized interventions and support where and when individuals need it most.

Social media platforms such as Facebook and Twitter are widely used sources of information that play a key role in shaping health behaviors. NIAAA, NIDA, and NCI, through the Collaborative Research on Addictions at NIH, are supporting research that leverages social media platforms to advance understanding of substance use patterns, risk factors, and associated behaviors, and to improve the reach and effectiveness of preventive and treatment interventions.

Optimizing and facilitating the widespread adoption of these electronic health technologies across the continuum of care holds great promise for increasing the number of people with access to evidence-based, personalized interventions that effectively prevent and treat alcohol misuse and AUD.

Brain Stress Systems: A Target for Treating Alcohol Use Disorder and Co-occurring Stress Disorders

Many individuals use alcohol to cope with negative feelings, such as stress, anxiety, and depression. Although alcohol may provide temporary relief, prolonged alcohol misuse exacerbates these conditions. Chronic alcohol misuse causes neurobiological changes that decrease activation of the brain's reward systems, making it difficult to experience the pleasures of daily living, increase activation of the brain's stress systems, and impair the brain's executive functions, such as impulse control and emotional regulation. Together, these changes contribute to compulsive alcohol use and the development and perpetuation of alcohol use disorder (AUD). The persistent nature of changes in the reward and stress systems, and in executive functioning, also put individuals in recovery from AUD at risk of relapse.

An estimated 30-60 percent of patients seeking treatment for AUD meet criteria for post-traumatic stress disorder (PTSD), and approximately one-third of individuals who have had PTSD have had AUD at some point in their lives. Both disorders are linked to dysregulation of brain stress systems, and alcohol use may increase the risk of PTSD by altering the brain's ability to recover from traumatic experiences. NIAAA supports animal and clinical studies to identify the mechanisms through which stress contributes to the development and maintenance of AUD and co-occurring PTSD, as well as stress-related biomarkers that predict relapse. A major need in this area of research is the development and validation of animal models that more closely reflect the human AUD-PTSD condition. NIAAA is partnering with Cohen Veterans Bioscience, a non-profit organization focused on PTSD research, to develop appropriate animal models that can facilitate studies on the underlying neurobiological mechanisms common to both disorders. Developing a better understanding of the neurobiological mechanisms that underlie resilience or vulnerability to stress has the potential to inform new treatment approaches for co-occurring AUD and PTSD. In a recent study, NIAAA-supported investigators used neuroimaging to examine brain activation patterns generated in response to highly stressful stimuli, and identified a pattern that helped predict those who could regain emotional and behavioral control following a stressful experience. Individuals who did not show the resilience (stress control) brain activation pattern reported higher levels of binge drinking, angry outbursts, and other maladaptive coping behaviors and may be at increased risk for AUD or emotional dysfunction.

NIAAA is also exploring pharmacologic interventions that target the brain's stress systems as potential treatments for co-occurring AUD and stress-related disorders, including PTSD. In a recent multi-site, randomized controlled clinical trial of ABT-436, a novel compound that reduces the activation of a stress hormone receptor in the brain, researchers showed that participants who received ABT-436 experienced more days of alcohol abstinence. Participants who reported high levels of stress, in particular, responded better to ABT-436 as evidenced by decreases in both the frequency of drinking and the number of heavy drinking days. Behavioral interventions are another important component of AUD-PTSD treatment; however, they are not universally effective. NIAAA will also pursue research to develop and evaluate novel behavioral interventions for AUD and co-occurring stress-related disorders that target emotional regulation, stress responsivity, and cognitive function.

NIAAA's efforts to develop a deeper understanding of the relationship between alcohol and stress, and its work to develop interventions to treat AUD and co-occurring stress-related disorders, including PTSD, offer hope to the many veterans, service members, and trauma victims who suffer the combined burden of these disorders.

NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism

Detail of Full-Time Equivalent Employment (FTE)

OFFICE/DIVISION	FY 2016 Actual			FY 2017 Est.			FY 2018 Est.		
	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Division of Epidemiology and Prevention Research									
Direct:	15	-	15	18	-	18	18	-	18
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	15	-	15	18	-	18	18	-	18
Division of Intramural Research Program									
Direct:	90	3	93	92	1	93	92	1	93
Reimbursable:	7	-	7	7	-	7	7	-	7
Total:	97	3	100	99	1	100	99	1	100
Division of Medications Development									
Direct:	4		4	5		5	5		5
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	4		4	5		5	5		5
Division of Metabolism and Health Effects									
Direct:	10	-	10	10	-	10	10	-	10
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	10	-	10	10	-	10	10	-	10
Division of Neuroscience and Behavior									
Direct:	15	-	15	14	-	14	14	-	14
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	15	-	15	14	-	14	14	-	14
Division of Treatment and Recovery Research									
Direct:	6	-	6	6	-	6	6	-	6
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	6	-	6	6	-	6	6	-	6
Office of Extramural Activities									
Direct:	19	-	19	20	-	20	20	-	20
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	19	-	19	20	-	20	20	-	20
Office of Resource Management									
Direct:	36	-	36	36	-	36	36	-	36
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	36	-	36	36	-	36	36	-	36
Office of Science Policy and Communications									
Direct:	16	-	16	16	-	16	16	-	16
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	16	-	16	16	-	16	16	-	16
Office of the Director									
Direct:	13	-	13	13	-	13	13	-	13
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	13	-	13	13	-	13	13	-	13
Total	231	3	234	237	1	238	237	1	238
Includes FTEs whose payroll obligations are supported by the NIH Common Fund.									
FTEs supported by funds from Cooperative Research and Development Agreements.	0	0	0	0	0	0	0	0	0

FISCAL YEAR	Average GS Grade
2014	13.0
2015	12.8
2016	12.7
2017	12.7
2018	12.7

NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism

Detail of Positions[1]

GRADE	FY 2016 Actual	FY 2017 Annualized CR	FY 2018 President's Budget
Total, ES Positions	1	1	1
Total, ES Salary	167,449	169,123	170,815
GM/GS-15	31	31	31
GM/GS-14	51	53	53
GM/GS-13	41	43	43
GS-12	25	25	25
GS-11	9	9	9
GS-10	1	1	1
GS-9	5	5	5
GS-8	4	4	4
GS-7	7	7	7
GS-6	2	2	2
GS-5	1	1	1
GS-4	1	1	1
GS-3	1	1	1
GS-2	0	0	0
GS-1	0	0	0
Subtotal	179	183	183
Grades established by Act of July 1, 1944 (42 U.S.C. 207)	0	0	0
Assistant Surgeon General	0	0	0
Director Grade	1	1	1
Senior Grade	0	0	0
Full Grade	0	0	0
Senior Assistant Grade	0	0	0
Assistant Grade	0	0	0
Subtotal	1	1	1
Ungraded	84	84	84
Total permanent positions	175	177	177
Total positions, end of year	265	269	269
Total full-time equivalent (FTE) employment, end of year	234	238	238
Average ES salary	167,449	169,123	170,815
Average GM/GS grade	12.7	12.7	12.7
Average GM/GS salary	111,902	113,021	115,224

[1] Includes FTEs whose payroll obligations are supported by the NIH Common Fund.