

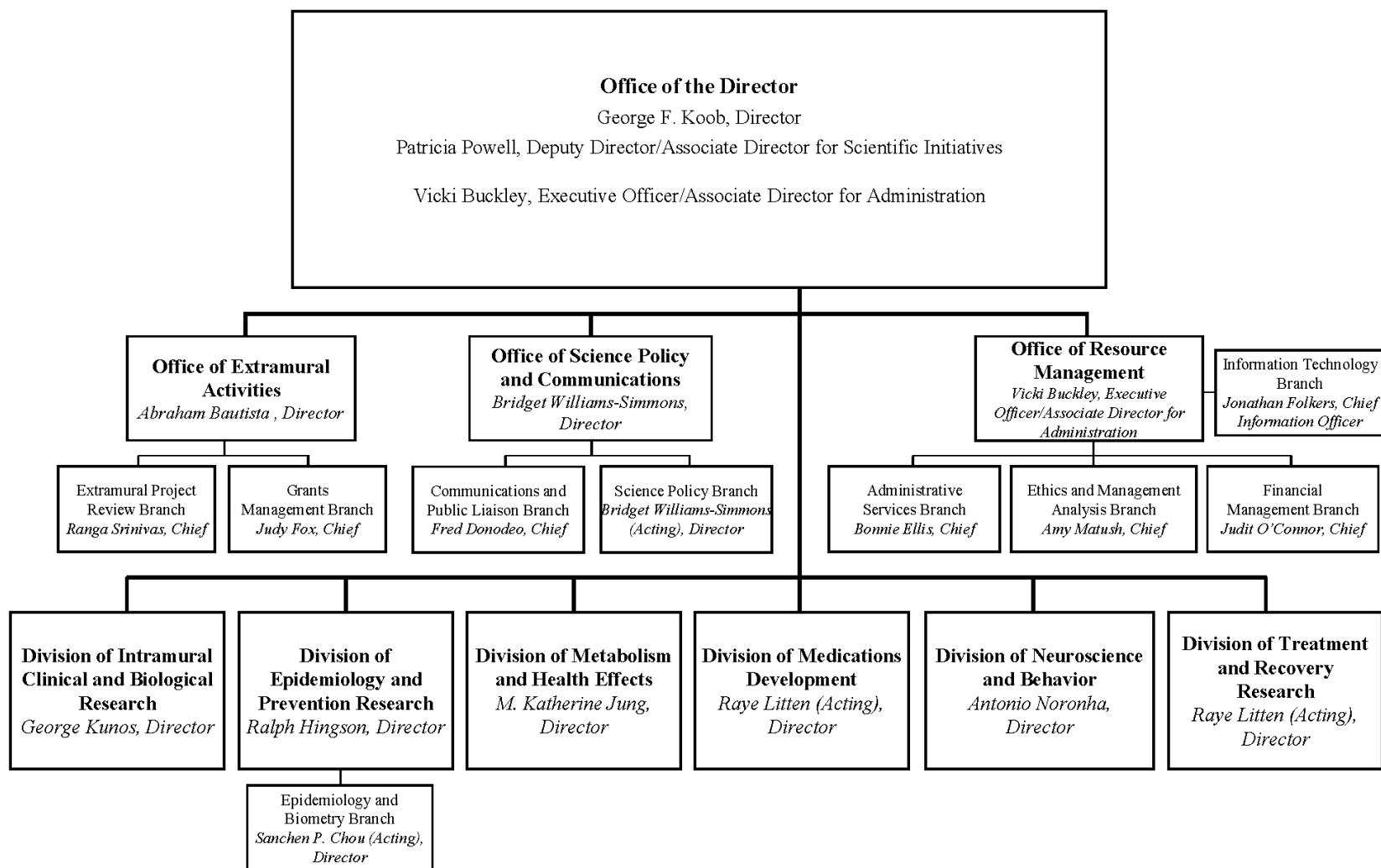
DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

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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, [~~\$525,591,000~~]*\$452,419,000*.

NATIONAL INSTITUTES OF HEALTH

National Institute on Alcohol Abuse and Alcoholism

Amounts Available for Obligation¹

(Dollars in Thousands)

Source of Funding	FY 2018 Final	FY 2019 Enacted	FY 2020 President's Budget
Appropriation	\$509,573	\$525,591	\$452,419
Mandatory Appropriation: (non-add)			
<i>Type 1 Diabetes</i>	(0)	(0)	(0)
<i>Other Mandatory financing</i>	(0)	(0)	(0)
Rescission	0	0	0
Sequestration	0	0	0
Secretary's Transfer	-1,197	0	0
Subtotal, adjusted appropriation	\$508,376	\$525,591	\$452,419
OAR HIV/AIDS Transfers	31	0	0
Subtotal, adjusted budget authority	\$508,407	\$525,591	\$452,419
Unobligated balance, start of year	0	0	0
Unobligated balance, end of year	0	0	0
Subtotal, adjusted budget authority	\$508,407	\$525,591	\$452,419
Unobligated balance lapsing	-9	0	0
Total obligations	\$508,398	\$525,591	\$452,419

¹ Excludes the following amounts (in thousands) for reimbursable activities carried out by this account: FY 2018 - \$4,402 FY 2019 - \$5,500 FY 2020 - \$5,500

NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism

Budget Mechanism - Total¹

(Dollars in Thousands)

MECHANISM	FY 2018 Final		FY 2019 Enacted		FY 2020 President's Budget		FY 2020 +/- FY 2019	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Research Projects:								
Noncompeting	485	\$191,017	590	\$228,223	550	\$207,608	-40	-\$20,615
Administrative Supplements	(36)	2,487	(25)	2,500	(24)	2,250	(-1)	-250
Competing:								
Renewal	26	10,274	13	9,250	7	2,461	-6	-6,789
New	227	79,857	174	56,098	85	28,851	-89	-27,247
Supplements	0	0	0	0	0	0	0	0
Subtotal, Competing	253	\$90,130	187	\$65,348	92	\$31,312	-95	-\$34,036
Subtotal, RPGs	738	\$283,635	777	\$296,071	642	\$241,170	-135	-\$54,901
SBIR/STTR	31	15,173	27	13,158	25	10,823	-2	-2,335
Research Project Grants	769	\$298,807	804	\$309,229	667	\$251,993	-137	-\$57,236
Research Centers:								
Specialized/Comprehensive	20	\$30,027	20	\$30,027	20	\$27,625	0	-\$2,402
Clinical Research	0	0	0	0	0	0	0	0
Biotechnology	0	0	0	0	0	0	0	0
Comparative Medicine	0	0	0	0	0	0	0	0
Research Centers in Minority Institutions	0	0	0	0	0	0	0	0
Research Centers	20	\$30,027	20	\$30,027	20	\$27,625	0	-\$2,402
Other Research:								
Research Careers	120	\$19,357	124	\$20,325	120	\$18,699	-4	-\$1,626
Cancer Education	0	0	0	0	0	0	0	0
Cooperative Clinical Research	1	7,344	1	7,391	1	6,800	0	-591
Biomedical Research Support	0	0	0	0	0	0	0	0
Minority Biomedical Research Support	0	500	2	500	2	460	0	-40
Other	52	15,883	53	16,000	50	14,720	-3	-1,280
Other Research	173	\$43,083	180	\$44,216	173	\$40,679	-7	-\$3,537
Total Research Grants	962	\$371,918	1,004	\$383,472	860	\$320,297	-144	-\$63,175
Ruth L. Kirchstein Training Awards:	FTEPs		FTEPs		FTEPs		FTEPs	
Individual Awards	112	\$4,958	119	\$5,107	113	\$4,852	-6	-\$255
Institutional Awards	193	9,726	176	10,018	167	9,517	-9	-501
Total Research Training	305	\$14,684	295	\$15,125	280	\$14,369	-15	-\$756
Research & Develop. Contracts								
(<i>SBIR/STTR</i>) (<i>non-add</i>)	42 (2)	\$34,424 (30)	43 (4)	\$37,000 (2,600)	40 (4)	\$34,039 (2,500)	-3 (0)	-\$2,961 (-100)
Intramural Research	92	52,803	99	54,387	99	51,668	0	-2,719
Res. Management & Support	135	34,578	139	35,607	139	32,046	0	-3,561
<i>Res. Management & Support (SBIR Admin) (non-add)</i>	(0)	(0)	(0)	(10)	(0)	(10)	(0)	(0)
Construction								
Buildings and Facilities		0		0		0		0
Total, NIAAA	227	\$508,407	238	\$525,591	238	\$452,419	0	-\$73,172

¹ All items in italics and brackets are non-add entries.

Major Changes in the Fiscal Year 2020 President's Budget Request

Major changes by budget mechanism and/or budget activity detail are briefly described below. Note that there may be overlap between budget mechanism and activity detail and these highlights will not sum to the total change for the FY 2020 President's Budget request for NIAAA, which is \$73.2 million below the FY 2019 Enacted level, for a total of \$452.4 million.

Research Project Grants (-\$54.9 million; total \$241.2 million): NIAAA will support a total of 642 Research Project Grant (RPG) awards in FY 2020. Noncompeting RPGs will decrease by 40 awards and competing awards will decrease by 95 awards and \$34.0 million.

Research Centers and Other Research Grants (-\$5.9 million; total \$68.3 million): NIAAA will support a total of 20 Research Centers and 173 Other Research Grants in FY 2020.

Research and Development Contracts (-\$3.0 million; total \$34.0 million): Funds are included in R&D contracts to support the expansion of clinical trials to test promising therapeutic agents for alcohol use disorders.

Intramural Research and Research Management and Support (-\$6.3 million; total \$83.7 million): This funding level will support for NIAAA laboratories within the Division of Intramural Clinical and Biological Research as well as the Intramural Office of Laboratory Animal Science.

NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism

Summary of Changes

(Dollars in Thousands)

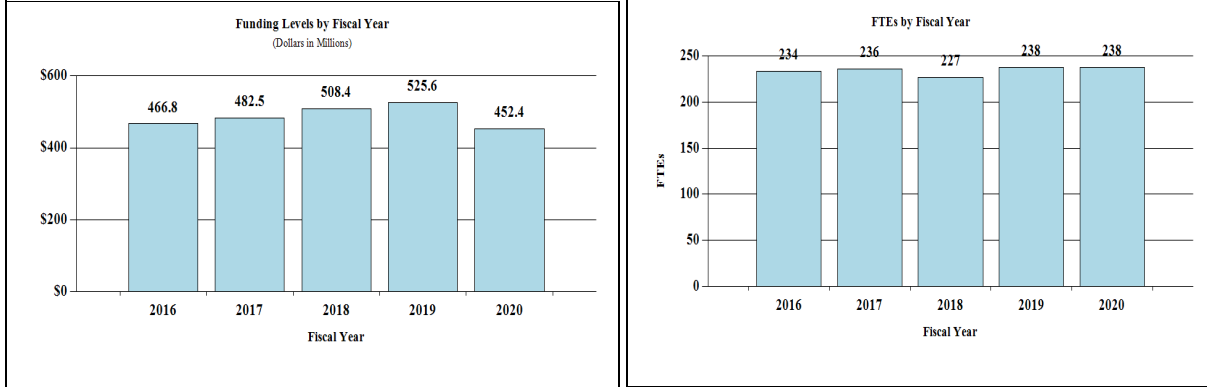
FY 2019 Enacted	\$525,591
FY 2020 President's Budget	\$452,419
Net change	-\$73,172

CHANGES	FY 2020 President's Budget		Change from FY 2019 Enacted	
	FTEs	Budget Authority	FTEs	Budget Authority
A. Built-in:				
1. Intramural Research:				
a. Annualization of January 2019 pay increase & benefits		\$18,830		\$0
b. January FY 2020 pay increase & benefits		18,830		67
c. Paid days adjustment		18,830		71
d. Differences attributable to change in FTE		18,830		0
e. Payment for centrally furnished services		8,543		-34
f. Cost of laboratory supplies, materials, other expenses, and non-recurring costs		24,295		0
Subtotal				\$105
2. Research Management and Support:				
a. Annualization of January 2019 pay increase & benefits		\$24,329		\$0
b. January FY 2020 pay increase & benefits		24,329		86
c. Paid days adjustment		24,329		92
d. Differences attributable to change in FTE		24,329		0
e. Payment for centrally furnished services		293		-33
f. Cost of laboratory supplies, materials, other expenses, and non-recurring costs		7,424		0
Subtotal				\$146
Subtotal, Built-in				\$250

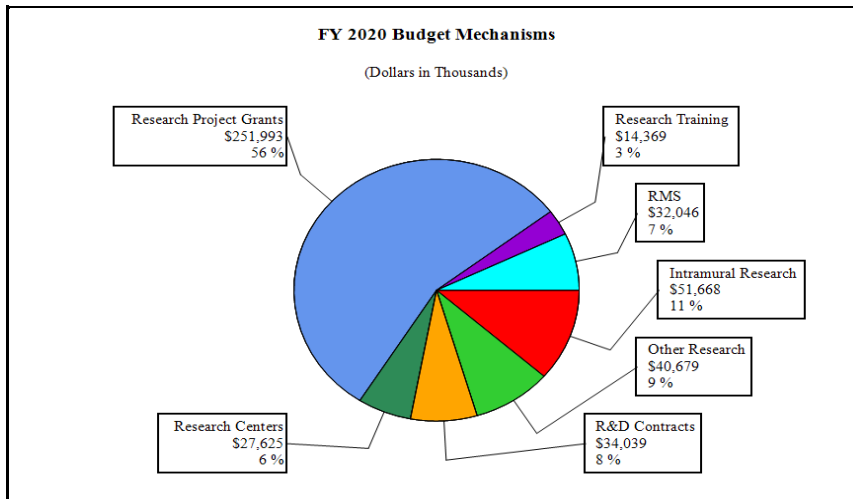
CHANGES	FY 2020 President's Budget		Change from FY 2019 Enacted	
	No.	Amount	No.	Amount
B. Program:				
1. Research Project Grants:				
a. Noncompeting	550	\$209,858	-40	-\$20,865
b. Competing	92	31,312	-95	-34,036
c. SBIR/STTR	25	10,823	-2	-2,335
Subtotal, RPGs	667	\$251,993	-137	-\$57,236
2. Research Centers	20	\$27,625	0	-\$2,402
3. Other Research	173	40,679	-7	-3,537
4. Research Training	280	14,369	-15	-756
5. Research and development contracts	40	34,039	-3	-2,961
Subtotal, Extramural		\$368,705		-\$66,892
6. Intramural Research	<u>FTEs</u> 99	\$51,668	<u>FTEs</u> 0	-\$2,824
7. Research Management and Support	139	32,046	0	-3,707
8. Construction		0		0
9. Buildings and Facilities		0		0
Subtotal, Program	238	\$452,419	0	-\$73,422
Total changes				-\$73,172

Fiscal Year 2020 Budget Graphs

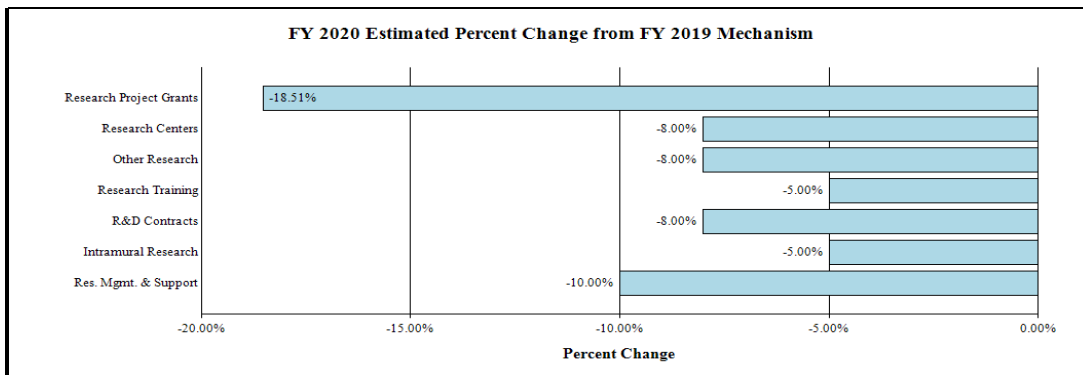
History of Budget Authority and FTEs:



Distribution by Mechanism:



Change by Selected Mechanism:



**NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism**

Budget Authority by Activity¹
(Dollars in Thousands)

	FY 2018 Final		FY 2019 Enacted		FY 2020 President's Budget		FY 2020 +/- FY2019	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Extramural Research								
<i>Detail</i>								
Embryo and Fetus		\$16,841		\$17,424		\$14,748		-\$2,676
Youth/Adolescence		42,103		43,560		36,871		-6,689
Young Adult		189,462		196,018		165,917		-30,101
Mid-Life/Senior Adult		172,621		178,595		151,169		-27,426
Subtotal, Extramural		\$421,026		\$435,597		\$368,705		-\$66,892
Intramural Research	92	\$52,803	99	\$54,387	99	\$51,668	0	-\$2,719
Research Management & Support	135	\$34,578	139	\$35,607	139	\$32,046	0	-\$3,561
TOTAL	227	\$508,407	238	\$525,591	238	\$452,419	0	-\$73,172

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

**NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism**

Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2019 Amount Authorized	FY 2019 Enacted	2020 Amount Authorized	FY 2020 President's Budget
Research and Investigation	Section 301	42§241	Indefinite		Indefinite	
National Institute on Alcohol Abuse and Alcoholism	Section 401(a)	42§281	Indefinite	\$525,591,000	Indefinite	\$452,419,000
Total, Budget Authority				\$525,591,000		\$452,419,000

NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and **Alcoholism**

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
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	\$483,363,000
Rescission				\$0
2018	\$361,356,000	\$490,796,000	\$500,491,000	\$509,573,000
Rescission				\$0
2019	\$469,109,000	\$515,658,000	\$525,867,000	\$525,591,000
Rescission				\$0
2020	\$452,419,000			

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 2018 Final	FY 2019 Enacted	FY 2020 President's Budget	FY 2020 +/- FY 2019
BA	\$508,407,000	\$525,591,000	\$452,419,000	-\$73,172,000
FTE	227	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 88,000 people die each year from alcohol-related causes, and approximately 15 million people in the United States have alcohol use disorder (AUD).^{1,2} Binge drinking is on the rise among women and older adults, consistent with an increase in alcohol-related emergency department (ED) visits among these groups. Alcohol has played a significant role in the opioid epidemic, contributing to a sizeable portion of opioid-related ED visits, hospitalizations, and deaths. According to the most recent cost estimate, alcohol misuse cost the country \$249 billion a year.³

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) is committed to reducing the toll of alcohol misuse on society. NIAAA's mission is to generate and disseminate fundamental knowledge about the effects of alcohol on health and well-being and to apply that knowledge to improve the diagnosis, prevention, and treatment of alcohol-related problems, including AUD, across the lifespan.

Basic research is integral to this mission. Breakthroughs in neuroscience, aided by innovative technologies, have revolutionized our understanding of alcohol addiction as a chronic brain disease with the potential for recovery and recurrence.⁴ As individuals progress from alcohol use to misuse to addiction, changes occur in brain structure and function that drive the transition from responsible, controlled alcohol use to chronic, compulsive drinking. Dysregulation of emotional states plays a key role in addiction and other psychiatric conditions and may contribute to the "deaths of despair" linked to alcohol misuse. Using cutting-edge functional neurocircuit tracing techniques, NIAAA-

¹ Centers for Disease Control and Prevention (CDC). Alcohol and Public Health: Alcohol-Related Disease Impact (ARDI). Average for United States 2006–2010 Alcohol-Attributable Deaths Due to Excessive Alcohol Use.

² Center for Behavioral Health Statistics and Quality. (2018). 2017 National Survey on Drug Use and Health: Detailed Tables. Substance Abuse and Mental Health Services Administration, Rockville, MD.

³ Sacks, J.J.; Gonzales, K.R.; Bouchery, E.E.; et al. 2010 national and state costs of excessive alcohol consumption. *American Journal of Preventive Medicine* 49(5):e73– e79, 2015. PMID: 26477807

⁴ Alcohol addiction refers to the most severe form of alcohol use disorder (AUD). AUD ranges from mild to severe.

supported researchers recently identified key brain circuits that drive specific positive and negative emotional states in an animal model; this discovery could pave the way for improved addiction treatment in humans.

NIAAA has also made a major commitment to basic research aimed at advancing our understanding of how alcohol affects the developing body and brain. One such initiative, NIAAA's National Consortium on Alcohol and Neurodevelopment in Adolescence (NCANDA), is examining brain structure and function longitudinally in approximately 800 youth before and after they begin using alcohol or other addictive substances. NCANDA researchers recently demonstrated that adolescents who initiated heavy alcohol use during the course of the study experienced faster declines in brain gray matter volume and slower expansion of brain white matter relative to those who engaged in no or low alcohol consumption during the same time.

The Institute has a long history of support for basic research on the biological underpinnings of fetal alcohol spectrum disorders (FASD) and is advancing the development of innovative technologies such as three-dimensional facial imaging and fetal ultrasound to facilitate earlier FASD diagnosis. FASD remains a significant public health concern; a recent NIAAA-supported study of more than 6,000 first-graders across four U.S. communities estimated that as many as one to five percent of first-grade children have FASD. This finding provides further evidence that strategies to expand FASD screening, diagnosis, prevention, and treatment are needed. NIAAA also seeks to understand how prenatal alcohol exposure affects the health of adults with FASD, including the development of diseases not typically associated with FASD.

Alcohol misuse can lead to alcohol-associated liver diseases (AALD), a group of serious and potentially fatal conditions that include fatty liver, alcoholic hepatitis, cirrhosis, and liver cancer. Alcohol misuse now accounts for nearly 50 percent of all liver disease deaths in the United States. NIAAA supports efforts across the translational science continuum to diagnose, prevent, and treat AALD. Basic research studies have identified numerous molecular targets in liver inflammation that may have therapeutic potential for AALD. NIAAA also participated in a workshop with the Food and Drug Administration (FDA) to address challenges in AALD clinical trial design and drug development and in parallel, established an Alcoholic Hepatitis Clinical and Translational Network to streamline processes for designing, initiating, and conducting clinical trials of promising therapeutics.

Findings from basic research on the epidemiology of alcohol use and related outcomes emphasize a continued need for prevention strategies across the lifespan. NIAAA's commitment to improve prevention interventions includes support for studies to develop and promote evidence-based prevention programs for underage and college drinking (see portrait 1) as well as research on the impact of state and local alcohol policies on alcohol-related outcomes (see portrait 2). Binge drinking⁵ and high intensity drinking (i.e., two or more times the gender-specific binge drinking thresholds) among young people remain a significant concern and increase their likelihood of negative consequences. NIAAA recently convened an expert panel to better understand the social and cultural determinants of high-intensity drinking to inform the development of targeted

⁵ NIAAA defines binge drinking as a pattern of drinking that increases an individual's blood alcohol concentration to 0.08 percent or higher. This typically occurs after 4 drinks for women and 5 drinks for men – in about 2 hours.

interventions. NIAAA is also promoting a greater focus on the development of prevention strategies that consider the unique needs of girls and women.

Advances in alcohol research have led to effective behavioral therapies and three FDA-approved medications. Yet, they work better for some people than for others, which underscores the need for a broader array of treatment options. NIAAA has a robust medications development program to facilitate the translation of basic and clinical research into new AUD pharmacotherapies, and supports research to improve the effectiveness of behavioral treatments. Given that AUD and opioid use disorder (OUD) often co-occur, the Institute encourages new research on strategies for implementing clinical interventions that address AUD in the context of OUD treatment, pain pathology, and pain treatment (see portrait 3). Even with effective interventions, fewer than 10 percent of people with AUD in the United States receive AUD treatment. NIAAA supports research to evaluate the accessibility, affordability, and appeal of AUD treatments and recovery models, and to test strategies to increase their adoption in real-world settings. The Institute recently issued funding announcements to advance such research, including studies to identify methods for increasing the use of FDA-approved AUD medications and to leverage the use of electronic clinical records in research evaluating AUD treatment in routine clinical care. NIAAA also continues to promote the NIAAA Alcohol Treatment Navigator[®] which offers a comprehensive approach to help people search for professionally-led, evidence-based alcohol treatment. Following on the success of the Navigator, NIAAA is developing a companion resource designed for physicians.

Overall Budget Policy:

The FY 2020 President's Budget request is \$452.4 million, a decrease of \$73.2 million or 13.9 percent compared with the FY 2019 Enacted level. NIAAA continues to focus on spreading knowledge about the effects of alcohol misuse and to improve the diagnosis, prevention, and treatment of alcohol-related problems, including AUD.

Program Descriptions and Accomplishments

Embryo and Fetus

Prenatal alcohol exposure is a leading preventable cause of birth defects and developmental abnormalities in the United States. The range of these effects, known collectively as fetal alcohol spectrum disorders (FASD), can include growth deficiencies, facial abnormalities, and organ damage, including to the brain. Brain damage caused by prenatal alcohol exposure can contribute to lifelong deficits in physical, cognitive, behavioral, and social functioning. A major focus in FASD research has been efforts to establish more accurate FASD prevalence estimates in the United States. This work is challenging, in part, because FASD can be difficult to distinguish from other developmental disorders that share certain learning and behavioral deficits. Also, individuals can have FASD without the hallmark facial features of fetal alcohol syndrome, the most severe form of FASD. Using a comprehensive approach consisting of school-based assessments, a common methodology and classification system, and expert in-person evaluations, NIAAA's Collaboration on FASD Prevalence recently found FASD rates ranging from one to five percent among more than 6,000 first-graders across four U.S. communities (see Director's Overview). Importantly, the research findings suggest that children with FASD often go undiagnosed or misdiagnosed. NIAAA also supports the Collaborative Initiative on Fetal Alcohol Spectrum Disorders (CIFASD), a multidisciplinary consortium of domestic and international projects that encompasses basic,

clinical, and translational FASD research projects. CIFASD researchers recently found that alcohol consumption during pregnancy results in specific patterns of alterations in the maternal immune system, and they identified maternal immune signatures linked to alcohol-related neurodevelopmental delays in children.

Budget Policy: The FY 2020 President's Budget request is \$14.7 million, a decrease of \$2.7 million or 15.4 percent compared with the FY 2019 Enacted level. FASD will continue to be a focus for NIAAA.

Youth/Adolescence (Ages 0-17)

Many people first begin using alcohol during adolescence, and the prevalence of drinking and binge drinking increases dramatically during this time. Not only are adolescents at increased risk of injuries and accidents while under the influence, but those who begin drinking early are at increased risk of alcohol problems later in life. Moreover, preclinical and clinical research indicate that alcohol exposure during adolescence can affect brain development and compromise cognitive function in both the short- and long-term. To elucidate further how adolescent drinking affects the developing brain, NIAAA supports NCANDA, a longitudinal study of approximately 800 youth (see Director's Overview). NCANDA researchers recently demonstrated that youth with a history of alcohol use exhibit weakened connections between brain networks involved in the regulation of emotional and cognitive functioning. NCANDA laid the methodological foundation for NIH's Adolescent Brain Cognitive Development (ABCD) study, the largest long-term study of brain development and child health in the United States. ABCD researchers are tracking the biological, cognitive, and behavioral development of participating youth over a 10-year period with the goal of collecting data before and after they start to use alcohol or other substances. In October 2018, ABCD completed study enrollment with 11,874 participants. The study has already released de-identified brain imaging and non-imaging assessment data from the first 4,500 participants through the National Institute of Mental Health Data Archive and future data releases to the scientific community are planned on an annual basis. Complementing NCANDA and ABCD, NIAAA's Neurobiology of Adolescent Drinking in Adulthood Initiative is enabling investigators to examine, in animal models, the mechanisms by which adolescent drinking leads to changes in brain structure and function that persist into adulthood.

Considering the adverse consequences associated with adolescent drinking, preventing and reducing adolescent drinking is a key NIAAA research priority. Alcohol screening and brief intervention in primary care has been recognized as a leading preventive approach for reducing harmful alcohol use in adults, and a growing body of evidence indicates that it is effective among adolescents. To facilitate youth alcohol screening in primary care, NIAAA developed *Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide*. The *Guide* introduces a two-question screening tool and a youth alcohol risk estimator to help clinicians overcome time constraints and other barriers to alcohol screening and brief interventions. Several studies have demonstrated the utility of the youth screening guide in various health care settings.

Budget Policy: The FY 2020 President's Budget request is \$36.871 million, a decrease of \$6.689 million or 15.4 percent compared with the FY 2019 Enacted level. Researching effects of adolescent drinking, as well as, prevention and reduction of adolescent drinking will continue to be a focus for NIAAA.

Young Adult (Ages 18-29)

Each year, more than 5,000 18- to 24-year-olds die from unintentional injuries related to alcohol, and an NIAAA analysis of survey data found that alcohol-related hospitalizations and overdose deaths among this group increased between 1998 and 2014. Many young adults engage in binge and high-intensity drinking which increase their risks for blackouts, sexual assault, sexually transmitted diseases, alcohol overdose, injuries, death, and AUD. NIAAA has a broad portfolio of research aimed at preventing, reducing, and treating alcohol misuse and its consequences for young adults. The Institute supports studies on alcohol screening and brief intervention; the development and implementation of individual-, family-, community-, and policy-level interventions; and early intervention and treatment for those who need it.

Thirty-five percent of college students reported binge drinking according to a 2017 national survey. To assist college and university officials in addressing alcohol misuse on their campuses, NIAAA developed the College Alcohol Intervention Matrix (*CollegeAIM*). Since its launch in 2015, the *CollegeAIM* website has received more than 60,000 visitors, the digital *CollegeAIM* booklet was downloaded more than 12,000 times, and NIAAA distributed more than 16,000 print copies of the booklet. NIAAA is in the process of updating *CollegeAIM* to ensure that it reflects recent research on evidence-based alcohol interventions for college-age individuals.

Budget Policy: The FY 2020 President's Budget request is \$165.9 million, a decrease of \$30.1 million or 15.4 percent compared with the FY 2019 Enacted level. Research aimed at preventing, reducing, and treating alcohol misuse and its consequences, in addition to assisting colleges and universities will continue to be a focus for NIAAA.

Midlife/Senior Adult

Midlife is the time when people with AUD are most likely to seek alcohol treatment. Pharmacotherapy is an important component of the AUD treatment tool box, and NIAAA supports studies to develop a wider array of safe and effective AUD medications. Through the Small Business Innovation Research/Small Business Technology Transfer programs, NIAAA supports research on promising, early-stage compounds to enable researchers to submit an investigational new drug application to the U.S. Food and Drug Administration. NIAAA's Human Laboratory Program was initiated to screen candidate compounds for potential effectiveness before embarking on more expensive and time-consuming clinical trials. Human laboratory studies allow researchers to better understand treatment responses by using experimental manipulations designed to probe mechanisms underlying alcohol use. Through the NIAAA Clinical Investigations Group (NCIG) and in collaboration with the pharmaceutical industry and the National Center for Advancing Translational Sciences, (NCATS), NIAAA supports a network of research sites to validate findings from human laboratory studies. NIAAA also prioritizes research to develop new and improved behavioral interventions for AUD and co-occurring conditions and to elucidate the recovery process. In addition to AUD, many of the other pathological health consequences associated with chronic alcohol misuse emerge during mid-life. These include alcohol-associated liver diseases, acute and chronic pancreatitis, kidney failure, alcoholic cardiomyopathy, and neurodegeneration. A recent study found that alcohol misuse exacerbates age-related changes in brain volume, particularly in the frontal cortex, which may lead to impaired cognitive functioning. Although considerable progress has been made toward understanding the effects of alcohol on human health

and disease, the complex mechanisms through which alcohol exerts its effects are not fully understood. NIAAA supports research to elucidate these processes and to develop effective interventions to diagnose, prevent, and treat the myriad conditions associated with alcohol misuse. NIAAA will continue to promote the inclusion of addiction medicine in routine health care and is developing a core resource of information that every health professional should know about alcohol to help them better recognize its effects in their patients and deliver improved care for those whose drinking may be affecting their health.

Budget Policy: The FY 2020 President's Budget request is \$151.2 million, a decrease of \$27.4 million or 15.4 percent compared with the FY 2019 Enacted level. Research aimed at preventing, reducing, and treating alcohol misuse and its consequences will continue to be a focus for NIAAA.

Intramural Research

NIAAA's Intramural Research Program is an incubator for innovative alcohol research and training. The program supports research on the biological and behavioral bases of AUD; the impact of alcohol on brain structure and function; processes underlying the effects of alcohol on the body; and treatments for AUD and other alcohol-related conditions. Intramural investigators recently demonstrated that alcohol use is linked to epigenetic changes in a key regulator of cholesterol, providing insight into mechanisms through which alcohol may affect cardiovascular disease risk. Another intramural study found that people with an inactive form of aldehyde dehydrogenase 2 (ALDH2), an enzyme that detoxifies a harmful byproduct of alcohol metabolism, have significantly elevated levels of immune-suppressing stress hormones, which may contribute to the increased risk of alcohol-related cancers observed in individuals with inactive ALDH2. Intramural researchers are also investigating the role of cannabidiol, a non-psychoactive constituent of marijuana that exhibits anti-inflammatory effects, as a possible treatment for alcohol-associated liver diseases using animal models. The Intramural Research Program is also actively pursuing several lines of inquiry into AUD medications development, including studies to examine the role of ghrelin, an appetite-stimulating hormone associated with alcohol craving, and oxytocin, a hormone which plays a role in regulating stress and social affiliation, in AUD.

Budget Policy: The FY 2020 President's Budget request is \$51.7 million, a decrease of \$2.7 million or 5.0 percent compared with the FY 2019 Enacted level. Alcohol research and training in the Intramural Research Program will continue to be a focus for NIAAA.

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, international coordination, and liaison with other Federal agencies, Congress, and the public.

Budget Policy: The FY 2020 President's Budget request is \$32.0 million, a decrease of \$3.6 million or 10.0 percent compared with the FY 2019 Enacted level. The support and success of alcohol research will continue to be a focus for RMS at NIAAA.

Program Portrait 1: Advancing Underage Drinking Prevention Research

FY 2019 Level: \$50.7 million

FY 2020 Level: \$43.6 million

Change: -\$7.1 million

NIAAA's prevention portfolio includes research designed to develop, improve, or evaluate strategies to prevent and reduce alcohol misuse, alcohol use disorder (AUD), and alcohol-related consequences. Alcohol exposure during pregnancy and adolescent alcohol use are particularly important targets for preventive intervention due to the unique risks associated with alcohol exposure early in development. For example, adolescents are not only at increased risk of injuries and accidents while under the influence, but those who begin drinking before age 15 are four times more likely to report symptoms of AUD at some point in their lives relative to those who wait until age 21 or older. Thus, although the prevalence of underage drinking has declined by nearly one-third over the past decade, underage drinking continues to be a significant public health concern.

Recent research funded by NIAAA has evaluated the efficacy of interventions designed to reduce underage drinking in at-risk populations. Both individual- and environmental-level interventions reduced measures of drinking among underage youth in rural California and Oklahoma tribal communities. Environmental-level strategies focused on outreach and reducing access and sales of alcohol to minors, whereas individual-level interventions included motivational interviewing (a commonly used counseling approach), education, or alcohol screening and brief intervention. NIAAA has also supported development of preventive interventions for underage and college populations by funding research designed to improve alcohol screening and brief interventions, to advance understanding of how alcohol policies influence alcohol-related behaviors and outcomes, and to reduce the risk for sexual assault among college students by targeting alcohol misuse.

Translating research findings into resources for intervening with harmful and underage drinking is also a major priority of the Institute. 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. A recent NIAAA-supported study validated the Guide in primary care clinics serving racially and ethnically diverse patients. Recognizing that harmful and underage drinking are significant problems on college campuses, NIAAA developed *CollegeAIM*, a tool to assist colleges and universities in choosing among nearly 60 evidence-based college drinking interventions based on their effectiveness, anticipated costs, and barriers to implementation. An updated version of *CollegeAIM* that reflects more recent research is expected to be released in early 2019. Although a large body of evidence demonstrates that prevention is effective, preventive interventions are under-utilized. NIAAA is working to develop a lay-friendly web-based core prevention resource to help individuals, families, schools, and communities find evidence-based individual-level interventions and environmental-level strategies and policies that may best meet their needs.

Program Portrait 2: Advancing Alcohol Policy Research to Prevent and Reduce Alcohol Misuse

FY 2019 Level: \$8.8 million

FY 2020 Level: \$7.6 million

Change: -\$1.2 million

Alcohol policies are the Federal, state, or local statutes and regulations that govern a wide range of alcohol issues, including beverage pricing and taxation, alcohol availability, and rules about underage drinking. A large body of evidence has shown that alcohol policies can effectively reduce alcohol misuse and related problems among youth and adults. For example, studies have consistently found that higher alcohol prices and raising the minimum legal drinking age are associated with reductions in alcohol consumption and alcohol-related problems, including alcohol-impaired driving.

NIAAA supports a wide variety of research that studies the influence of policy on alcohol-related behaviors and outcomes. For example, one current project is examining the impact of repealing alcohol exclusion laws on alcohol treatment-seeking behavior. These laws, which allow insurance companies to deny coverage for injuries sustained by alcohol-impaired individuals, have been identified as a potential barrier to seeking treatment for alcohol use disorder. Another project involves longitudinal assessment of the relationship between changes in local alcohol policy and policy enforcement and excessive alcohol use and alcohol-impaired driving. Other active research areas include the impact of alcohol outlet density on local alcohol problems, the relationship between alcohol policy and alcohol-related mortality, and the effects of cannabis (marijuana) policy on alcohol use and related mortality. NIAAA will continue to encourage new policy studies through funding opportunity announcements.

In addition to directly funding a research portfolio of policy studies, NIAAA supports the Alcohol Policy Information System (APIS), a database containing detailed information on a wide variety of state and Federal alcohol-related policies in the United States. APIS was designed to facilitate research on the effects and effectiveness of alcohol policies. It also contains a wealth of information relevant to non-researchers with an interest in alcohol policy issues, including state-by-state policy information on: alcoholic beverage control; taxation and pricing; transportation, crime, and public safety; health care services and financing; and alcohol and pregnancy. The database tracks policy changes over time and includes maps that provide graphic information about policy differences across the country. Recently, APIS was expanded to include policies related to the recreational use of marijuana.

Program Portrait 3: Advancing Research on the Intersection of Alcohol and Opioid Misuse and Chronic Pain

FY 2019 Level: \$5.2 million

FY 2020 Level: \$4.5 million

Change: -\$0.7 million

Understanding the role of alcohol in opioid overdose is important, particularly in light of the national opioid crisis. Epidemiological analyses conducted by NIAAA have demonstrated that alcohol is involved in 15 percent of emergency department visits, 20 percent of hospitalizations, and 15 percent of deaths related to opioid overdoses. Between one-quarter to one-third of people with opioid use disorder (OUD) meet diagnostic criteria for alcohol use disorder (AUD). Each of these substances suppresses brain areas that control vital functions such as breathing; using them together can synergistically suppress an individual's respiratory function and increase their risk for overdose death.

Chronic pain is present in a significant portion of people who misuse alcohol and/or opioids and may be a driver of substance misuse. Research has shown that alcohol use can reduce sensitivity to pain, while alcohol withdrawal increases pain sensitivity. This suggests a bidirectional relationship between pain and both alcohol and opioid misuse such that pain contributes to alcohol and opioid misuse, and alcohol and opioid misuse contribute to pain. Emerging evidence suggests that AUD, OUD, and chronic pain share certain biological mechanisms and may comprise an integrated syndrome; however, more research is needed to clarify the relationships among these conditions and overdose.

NIAAA supports research to elucidate the relationships between alcohol and opioid misuse and is pursuing opportunities to expand research in this area. For example, the Institute is exploring collaborative opportunities to stimulate research on the effects of alcohol on opioid-induced respiratory depression and overdose; how alcohol-opioid interactions contribute to the misuse of each substance and to pain; and the effects of pain on alcohol and opioid use, interactions, and overdose. As part of NIH's Helping to End Addiction Long-term (HEAL) initiative, NIAAA is encouraging studies that address alcohol use in the context of pain management and its implications for the delivery and effectiveness of evidence-based pain management practices; studies on candidate biomarkers, novel non-opioid targets, and pain screening platforms that can be used to facilitate the development of non-opioid pain therapeutics for individuals with both chronic pain and AUD; and studies that test strategies to implement evidence-based clinical interventions for addressing alcohol misuse in individuals with OUD. In addition, NIAAA will continue to partner with the National Institute on Drug Abuse and the National Cancer Institute through the Collaborative Research on Addiction at NIH (CRAN) initiative to advance research on multi-substance use and treatment.

NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism

Budget Authority by Object Class¹

(Dollars in Thousands)

	FY 2019 Enacted	FY 2020 President's Budget	FY 2020 +/- FY 2019
Total compensable workyears:			
Full-time equivalent	238	238	0
Full-time equivalent of overtime and holiday hours	0	0	0
Average ES salary	\$185	\$187	\$2
Average GM/GS grade	12.9	12.9	0.0
Average GM/GS salary	\$122	\$123	\$0
Average salary, grade established by act of July 1, 1944 (42 U.S.C. 207)	\$154	\$155	\$1
Average salary of ungraded positions	\$124	\$125	\$0
OBJECT CLASSES	FY 2019 Enacted	FY 2020 President's Budget	FY 2020 +/- FY 2019
Personnel Compensation			
11.1 Full-Time Permanent	21,220	21,300	81
11.3 Other Than Full-Time Permanent	7,958	7,988	30
11.5 Other Personnel Compensation	663	665	3
11.7 Military Personnel	146	151	5
11.8 Special Personnel Services Payments	3,096	3,108	12
11.9 Subtotal Personnel Compensation	\$33,083	\$33,213	\$130
12.1 Civilian Personnel Benefits	9,638	9,820	182
12.2 Military Personnel Benefits	122	126	4
13.0 Benefits to Former Personnel	0	0	0
Subtotal Pay Costs	\$42,843	\$43,159	\$316
21.0 Travel & Transportation of Persons	648	356	-292
22.0 Transportation of Things	54	46	-8
23.1 Rental Payments to GSA	0	0	0
23.2 Rental Payments to Others	0	0	0
23.3 Communications, Utilities & Misc. Charges	201	115	-86
24.0 Printing & Reproduction	7	6	-1
25.1 Consulting Services	209	129	-80
25.2 Other Services	6,964	4,549	-2,415
25.3 Purchase of goods and services from government accounts	55,126	49,632	-5,495
25.4 Operation & Maintenance of Facilities	115	75	-40
25.5 R&D Contracts	13,611	13,749	137
25.6 Medical Care	158	140	-18
25.7 Operation & Maintenance of Equipment	774	542	-232
25.8 Subsistence & Support of Persons	7	6	-1
25.0 Subtotal Other Contractual Services	\$76,965	\$68,821	-\$8,143
26.0 Supplies & Materials	3,463	2,998	-465
31.0 Equipment	2,812	2,250	-562
32.0 Land and Structures	0	0	0
33.0 Investments & Loans	0	0	0
41.0 Grants, Subsidies & Contributions	398,597	334,666	-63,931
42.0 Insurance Claims & Indemnities	0	0	0
43.0 Interest & Dividends	1	1	0
44.0 Refunds	0	0	0
Subtotal Non-Pay Costs	\$482,748	\$409,260	-\$73,488
Total Budget Authority by Object Class	\$525,591	\$452,419	-\$73,172

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

NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism

Salaries and Expenses
(Dollars in Thousands)

OBJECT CLASSES	FY 2019 Enacted	FY 2020 President's Budget	FY 2020 +/- FY 2019
Personnel Compensation			
Full-Time Permanent (11.1)	\$21,220	\$21,300	\$81
Other Than Full-Time Permanent (11.3)	7,958	7,988	30
Other Personnel Compensation (11.5)	663	665	3
Military Personnel (11.7)	146	151	5
Special Personnel Services Payments (11.8)	3,096	3,108	12
Subtotal Personnel Compensation (11.9)	\$33,083	\$33,213	\$130
Civilian Personnel Benefits (12.1)	\$9,638	\$9,820	\$182
Military Personnel Benefits (12.2)	122	126	4
Benefits to Former Personnel (13.0)	0	0	0
Subtotal Pay Costs	\$42,843	\$43,159	\$316
Travel & Transportation of Persons (21.0)	\$648	\$356	-\$292
Transportation of Things (22.0)	54	46	-8
Rental Payments to Others (23.2)	0	0	0
Communications, Utilities & Misc. Charges (23.3)	201	115	-86
Printing & Reproduction (24.0)	7	6	-1
Other Contractual Services:			
Consultant Services (25.1)	209	129	-80
Other Services (25.2)	6,964	4,549	-2,415
Purchases from government accounts (25.3)	42,292	38,887	-3,405
Operation & Maintenance of Facilities (25.4)	115	75	-40
Operation & Maintenance of Equipment (25.7)	774	542	-232
Subsistence & Support of Persons (25.8)	7	6	-1
Subtotal Other Contractual Services	\$50,361	\$44,188	-\$6,174
Supplies & Materials (26.0)	\$3,463	\$2,998	-\$465
Subtotal Non-Pay Costs	\$54,735	\$47,709	-\$7,025
Total Administrative Costs	\$97,578	\$90,869	-\$6,709

**NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism**

Detail of Full-Time Equivalent Employment (FTE)

OFFICE/DIVISION	FY 2018 Final			FY 2019 Enacted			FY 2020 President's Budget		
	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Division of Epidemiology and Prevention Research									
Direct:	18	-	18	18	-	18	18	-	18
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	18	-	18	18	-	18	18	-	18
Division of Intramural Research Program									
Direct:	81	1	82	88	1	89	88	1	89
Reimbursable:	10	-	10	10	-	10	10	-	10
Total:	91	1	92	98	1	99	98	1	99
Division of Medications Development									
Direct:	5	-	5	6	-	6	6	-	6
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	5	-	5	6	-	6	6	-	6
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:	14	-	14	14	-	14	14	-	14
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	14	-	14	14	-	14	14	-	14
Division of Treatment and Recovery Research									
Direct:	5	-	5	6	-	6	6	-	6
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	5	-	5	6	-	6	6	-	6
Office of Extramural Activities									
Direct:	20	-	20	20	-	20	20	-	20
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	20	-	20	20	-	20	20	-	20
Office of Resource Management									
Direct:	35	-	35	37	-	37	37	-	37
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	35	-	35	37	-	37	37	-	37
Office of Science Policy and Communications									
Direct:	15	-	15	15	-	15	15	-	15
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	15	-	15	15	-	15	15	-	15
Office of the Director									
Direct:	13	-	13	13	-	13	13	-	13
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	13	-	13	13	-	13	13	-	13
Total	226	1	227	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								
2016	12.8								
2017	12.8								
2018	12.9								
2019	12.9								
2020	12.9								

NATIONAL INSTITUTES OF HEALTH
National Institute on Alcohol Abuse and Alcoholism

Detail of Positions¹

GRADE	FY 2018 Final	FY 2019 Enacted	FY 2020 President's Budget
Total, ES Positions	1	1	1
Total, ES Salary	181,113	184,735	186,583
GM/GS-15	30	32	32
GM/GS-14	50	53	53
GM/GS-13	45	48	48
GS-12	22	24	24
GS-11	9	10	10
GS-10	1	1	1
GS-9	5	5	5
GS-8	5	5	5
GS-7	4	4	4
GS-6	1	1	1
GS-5	0	0	0
GS-4	0	0	0
GS-3	0	0	0
GS-2	0	0	0
GS-1	0	0	0
Subtotal	172	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	63	63	63
Total permanent positions	177	188	188
Total positions, end of year	237	248	248
Total full-time equivalent (FTE) employment, end of year	227	238	238
Average ES salary	181,113	184,735	186,583
Average GM/GS grade	12.9	12.9	12.9
Average GM/GS salary	121,204	122,246	122,711

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