National Institute on Aging

CONGRESSIONAL JUSTIFICATION
FY 2024

Department of Health and Human Services
National Institutes of Health

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

National Institute on Aging (NIA)

FY 2024 Budget Table of Contents

General Notes

1. FY 2023 Enacted levels cited in this document include the effects of the FY 2023 HIV/AIDS transfer, as shown in the Amounts Available for Obligation table.
2. Detail in this document may not sum to the subtotals and totals due to rounding.

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Director's Overview

Richard J. Hodes, M.D., NIA Director

In 2021, more than 55 million Americans were age 65 and older. This number could rise to an estimated 85.7 million in 2050, representing a demographic shift that will have profound social, economic, and health impacts on our nation for many decades to come. The National Institute on Aging (NIA) leads the federal government in conducting and supporting research on aging and the health and well-being of older adults. We seek to understand the nature of aging and the aging process, and diseases and conditions associated with growing older. Now more than ever, it is critical that we support research on factors throughout the life course that promote healthy aging and research that will enable most Americans to be independent throughout their lives.

Aging itself remains the most important risk factor for many devastating disorders and conditions, including Alzheimer's disease and Alzheimer's disease-related dementias (AD/ADRD), most forms of cancer, many types of heart disease, osteoporosis and hip fracture, kidney failure, and diabetes. We are meeting the challenges presented by a growing older American population through our mission to:

- Support and conduct genetic, biological, clinical, behavioral, social, and economic research on aging;
- Foster the development of research and clinician scientists in aging;
- Provide research resources; and
- Disseminate information about aging and advances in research to the public, health care professionals, and the scientific community, among a variety of audiences.

Since NIA was established in 1974, we have pursued this mission by funding extramural research at universities and medical centers across the United States and around the world; conducting a vibrant intramural research program at NIA laboratories in Baltimore and Bethesda, Maryland; and maintaining an active communications and outreach program. We also support robust programs designed to train the next generation of diverse researchers to investigate aging. Fundamentally, we support science to enhance human health, which includes understanding and responding to health disparities related to aging. We are also addressing critical needs associated with the COVID-19 pandemic and post-acute sequelae of COVID-19, commonly known as "Long COVID." To complement these efforts, NIA is funding studies to better understand the neurological effects of COVID-19 and the mechanisms responsible for persistent symptoms. The pandemic has disproportionately affected older adults, especially minoritized groups and people living in care facilities, as well as people living with AD/ADRD. These impacts have underscored the importance of our efforts to advance research and innovation to address urgent public health needs for our aging population.

Understanding the Dynamics of the Aging Process

Aging is associated with changes in dynamic biological, physiological, environmental, psychological, behavioral, and social processes. Some age-related changes are benign, such as graying hair, whereas others result in declines in function and increased susceptibility to disease, frailty, or disability. For example, the risk of falling increases greatly as adults age, with one in

four older adults reporting falling each year. NIA is currently funding several studies on the prevention of falls, including investigating the role of the vestibular (inner ear) system on balance and fall risk.

Because aging is a major risk factor for several chronic diseases and frailty in older adults, NIA is investing in research on geroscience. Investigators in this field hypothesize that slowing the rate of aging will have a beneficial impact on the health of older adults by delaying the onset or reducing the severity of many conditions. NIA is supporting a range of studies to test this hypothesis, including clinical trials of interventions for several disorders and conditions related to aging, including cardiovascular diseases, osteoporosis, arthritis, cancer, and pain. One such NIA-supported project is the Translational Geroscience Network, through which we fund trials of interventions that target aging mechanisms. Network researchers are conducting early trials of repurposed drugs for which preclinical or clinical data already exist.

A particularly promising avenue of geroscience research involves the study of cellular senescence, a process in which cells lose normal function, including the ability to divide and replicate, but continue to release molecules that may damage neighboring cells. With our involvement, the Cellular Senescence Network (SenNet) was launched as a National Institutes of Health (NIH) Common Fund project in early 2021. Through this program, researchers seek to identify and characterize how different types of senescent cells affect multiple tissues to impact human health, disease, and lifespan. For example, one SenNet project aims to generate molecular and cellular maps of senescence in human immune system organs, helping provide a key resource for understanding cellular senescence in human development, aging, and disease.

Because events in early life and throughout life can have important health consequences, we are also initiating new research and infrastructure on the exposome, the cumulative measure of lifetime exposures an individual experiences across physical, social, economic, and psychological domains. These factors affecting human health and aging processes are unequally distributed across communities, potentially contributing to health disparities in age-related disease and disability. In 2022, NIA awarded several administrative supplements to add exposure data to existing studies, lay the groundwork for key exposome research infrastructure, and complement NIA-supported exposome research, such as examining how interactions between the exposome and a person's genetic background may influence the development of age-related diseases and conditions like AD/ADRD.

Improving the Health, Well-Being, and Independence of People Living with Dementia

NIA is the lead federal agency for research on AD/ADRD, the fifth leading cause of death for adults 65 and older and a major contributor to loss of independence, as well as emotional and financial burdens borne by affected families. Our research portfolio reflects this important responsibility: More than half of our awarded grant dollars are dedicated to research on various forms of dementia. These funds support a broad range of projects, including basic molecular and cellular studies of the aging brain; large-scale clinical trials of interventions to prevent symptoms of AD/ADRD; pragmatic clinical trials to test interventions in real-world settings; development of a robust infrastructure for drug discovery; and AD/ADRD population studies in different geographic, racial/ethnic, and socioeconomic groups. Increases in appropriations for AD/ADRD research have enabled us to bring additional focus to this critical area and to enhance investments

in key research areas necessary to use precision medicine, an approach that considers the genetics, environment, and lifestyle of a person to determine the treatment approach that could work best for that individual. As of July 2022, NIA is funding approximately 440 active AD/ADRD prevention, treatment, and caregiving clinical trials, reflecting diverse drug and mechanistic targets, as well as a range of AD/ADRD stages. Of these, approximately 200 are testing interventions for effective prevention and treatment of these diseases, and others are testing dementia care and caregiving interventions.

While we work to prevent and effectively treat dementia, we are also engaged in supporting those currently living with the disease and their care partners. For example, we fund research targeting several areas, including care and caregiving access and quality, improving models of care across different settings, and care coordination. Additionally, we support studies on the ways in which regulatory and socio-economic incentives and constraints affect care access, quality, and health outcomes. In 2022, NIA released a funding announcement soliciting studies on factors that may affect the quality, supply, and training of the dementia care workforce. To further support research in caregiving, NIA will host a National Research Summit in 2023 to identify evidence-based programs, approaches, and research that can be used to improve the care, services, and support of persons with dementia and their care partners. The summit will provide an opportunity to gather input from various stakeholder groups and identify important areas for potential future research in dementia care and caregiving.

As we work to identify gaps and opportunities for care and caregiving research with activities such as the summit described above, we remain committed to funding multiple initiatives to strengthen behavioral intervention research, as well as pragmatic clinical trials of dementia care and caregiving interventions. One important goal of this community-based research is to facilitate intervention testing in more diverse older adult populations in trials where they already live and receive care. Further, we have invested in multiple infrastructure projects aimed at improving the rigor of behavioral intervention development for dementia care and caregiver research, including the Roybal Centers for Translational Research on Dementia Care Provider Support and the NIA IMbedded Pragmatic AD/ADRD Clinical Trials (IMPACT) Collaboratory. As an example of the value of this type of infrastructure during the pandemic, researchers from the IMPACT Collaboratory quickly developed data sharing and reporting systems to track the effects of the COVID-19 vaccines administered to frail older adults, including people living with dementia. These efforts to strengthen future collaborative and innovative embedded pragmatic clinical trials have grown into a new resource for NIA-funded scientists called the Long-Term Care Data Cooperative. Through this cooperative, NIA aims to build one of the largest data resources ever assembled from nursing homes across the country to facilitate research and interventions to improve the quality of care in skilled nursing facilities.

In addition to work focused on treatment and care, we lead efforts focused on preventing age-related disease. While the effects of prevention strategies are sometimes less immediately apparent than those of treatments, data support its role in helping people lead longer, healthier lives. For example, intensive management of blood pressure may reduce the risk for mild cognitive impairment, and a growing body of literature supports an association between blood pressure control and AD/ADRD risk reduction. Moreover, we support and conduct research to identify lifestyle factors and health behaviors that directly influence health and risk of disease as

people age. NIA-funded studies are exploring lifestyle and behavioral interventions—such as cognitive training, following a healthy diet, and increasing physical activity—as potential ways to promote successful aging. As investigators more precisely identify the psychological, behavioral, and social processes that influence health and quality of life, we will be able to build an evidence base for the development of public health initiatives to reinforce prevention efforts, enhance symptom management, and preserve function among older adults. Complementing these efforts, NIA released a funding opportunity in 2022 soliciting research on the use of digital technology that could identify early changes within individuals at risk of AD/ADRD before cognitive symptoms occur. Knowing when changes may be occurring can encourage people to use prevention and treatment interventions as they become available, and to engage in advance care planning when intervention is no longer an option.

Key to our efforts to treat and prevent diseases associated with aging are sustained initiatives to enhance recruitment and retention of a diverse range of participants in clinical research studies. As one example, NIA released a Request for Information in 2022 to learn more about using community-based research networks to promote the inclusion of underrepresented populations in clinical research. The goal is to move beyond traditional academic and medical research centers by working with community-based clinicians, primary care centers, assisted living facilities, and other organizations to reach people who could participate in AD/ADRD studies. These community-based research networks could play a significant role in helping scientists develop interventions that improve the lives of all people living with dementia, their care partners, and their communities. NIA also has funded the development of OutreachPro, an online tool that allows clinical researchers and community organizations to easily create and customize outreach materials for diverse audiences and in multiple languages about dementia, brain health, and AD/ADRD studies. As of 2022, the tool contains content developed for and tested with African American/Black, Hispanic/Latino, and Asian American and Pacific Islander communities.

Enhancing recruitment and retention of participants from diverse backgrounds will lead to an increased understanding of the health disparities faced by different groups of people. In additional to clinical research, we have funded hundreds of projects designed to examine health disparities related to AD/ADRD. As one example, researchers from the Alzheimer's Disease Sequencing Project (ADSP), an initiative to sequence and analyze genomic data from large AD studies worldwide, are expanding the collection of data to represent a more diverse population. Current ADSP data are derived mostly from White clinical study participants, and results based on these data might not be an accurate reflection of the genetic factors linked to AD in all populations. This study will help researchers identify both common and rare gene variants that may play an important role in AD/ADRD. To ensure findings are relevant for all people, NIA will continue to invest in initiatives that support the recruitment of diverse research participants.

Supporting the AD/ADRD Research Enterprise

NIA has launched multiple programs over the past several years to provide researchers and industry with a robust infrastructure for developing medicines and other products, including the ADSP, the Alzheimer's Disease Neuroimaging Initiative, and the Accelerating Medicines Partnership® for Alzheimer's Disease (AMP® AD). Many of these programs bring together scientists from academia and industry and from across different disciplines. Working collaboratively, NIA-supported researchers employ an open-science, open-source approach at

every step of the translational research process to discover new and better targets for treatment, produce and analyze comprehensive and shareable sets of molecular data, and develop high quality tools to move discoveries from the bench to the bedside. NIA is also supporting the research enterprise by ensuring that data can be used by advancing computing systems/processes. For example, NIA has partnered with the NIH Office of Data Science Strategy to supplement active NIA projects across several research areas. One project includes supporting collaborations that bring together expertise in biomedicine, data management, and artificial intelligence and machine learning (AI/ML) to make NIA-supported data usable for AI/ML analytics. Technologies like AI/ML will continue to improve our understanding of healthy aging and identify factors and interventions linked to disease resistance and successful treatments.

These resources also help small businesses develop care interventions, diagnostic tools, and therapies for AD/ADRD. Each year, NIA awards more than $130 million in research and development grants to small businesses through the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. As one example, NIA small business grants supported researchers at C_2N Diagnostics in developing the first blood test – PrecivityAD™ – to detect amyloid protein, plaques of which in the brain are hallmarks of AD. The blood test is comparable with the current standard (positron emission tomography, or PET, imaging), at detecting amyloid, while being quicker, easier, and cheaper to use than PET scans. An additional study found that it was equally effective at predicting early AD regardless of the race of the person being tested, reaffirming the test as an important potential tool for diagnosis. Small business funding also led to the development of ActivePERS, a wearable sensor with automatic fall detection, fall risk assessment, and activity monitoring that has been integrated into widely available medical alert devices sold at mass-market retailers. More recently, NIA launched the Healthy Aging Start-Up Challenge and Bootcamp, an initiative to fund research by individuals from underrepresented groups in health-related sciences and stimulate innovation in research on aging and age-related diseases. In 2022, 20 finalists were selected with innovative ideas, including digital health solutions and therapeutics for aging Americans. NIA will continue to invest in small businesses to help advance AD/ADRD research in FY 2024.

In addition to unique programs such as the Healthy Aging Start-Up Challenge and Bootcamp, we are increasing efforts to support a more diverse generation of scientists with expertise in biology, data science, behavioral research, engineering, and drug development. NIA currently has several training programs to bring diverse and early career scientists to the field, including the Resource Centers for Minority Aging Research (RCMAR), a mentoring program for scientists from historically underrepresented groups who conduct behavioral and social research focused on aging, health disparities in older adults, and/or AD/ADRD. Our Butler-Williams Scholars Program provides unique opportunities for junior faculty and researchers new to the field of aging to expand their networks, improve grant writing skills, and gain a broader understanding of aging research including, but not limited to, the science of health disparities research. In addition, more than 100 investigators to date have completed a novel NIA-funded multidisciplinary clinical trials training program to help increase the pool of researchers with the proper training and expertise to conduct complex clinical trials. A vibrant, diverse workforce plays a vital role in advancing aging research. As such, we continue to support training opportunities for the next generation of scientists to investigate aging and conditions faced by older adults.

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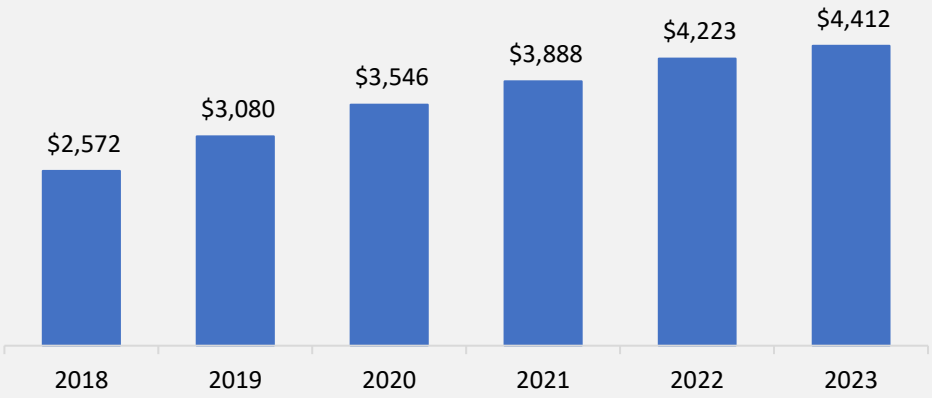
National Institute on Aging

Focus of NIA Research

The National Institute on Aging (NIA) leads the federal government in conducting and supporting research on aging and the health and well-being of older people. NIA is also the lead federal agency for research on Alzheimer's disease and Alzheimer's disease-related dementias (AD/ADRD). NIA supports a strong, diverse, and balanced research program, focusing on the genetics and biology of aging; basic and clinical studies aimed at reducing disease and disability, including AD/ADRD; age-related cognitive change; and investigations of the behavioral and social aspects of aging.

NIA Appropriations Fiscal Year 2018-2023
(Dollars, in Millions)



FY 2024 President's Budget $4,412

Current Activities

- The NIH-funded Advanced Cognitive Training and Vital Elderly (ACTIVE) study showed that a specific type of cognitive training called speed of processing training (SPT) can improve cognitive function in community-dwelling older adults. Based on these promising findings, NIA-supported researchers are conducting a clinical trial to assess whether SPT can reduce or delay the onset of mild cognitive impairment or dementia in older adults. If SPT can delay dementia onset by just one year, researchers estimate there would be 9 million fewer cases by 2050 than currently projected.
- NIH-funded researchers identified a new form of dementia, Limbic-predominant Age-related TDP-43 Encephalopathy (LATE), which can occur alone or in tandem with other forms of dementia ("mixed dementias"). To better understand this brain disorder, NIH recently convened a workshop to share the latest research findings on LATE and discuss future research directions. Further, NIH issued several funding opportunities, including one to elucidate how aggregations of a protein known as TDP-43 — the key defining characteristic of LATE — may form and the mechanisms by which they cause symptoms.

Richard J. Hodes, M.D., a leading researcher in the field of immunology, has served as NIA director since 1993. Under Dr. Hodes' stewardship, the NIA budget reflects increased public interest in aging and dementia research as America and the world grow older.

Facts and Figures

In FY 2022,
NIA supported:

- **1,158** new RPG applications
- **1,550** RPG investigators
- **37** Alzheimer's Disease Research Centers
- **8** Nathan Shock Centers
- **15** Edward R. Roybal Centers for Translational Research in the Behavioral and Social Sciences of Aging
- **15** Claude D. Pepper Older Americans Independence Centers
- **~ 440** AD/ADRD clinical trials
- **$339M** of FY 2022 AD/ADRD funding to other ICs

- In 2023, the NIH Geroscience Interest Group will host the 4th Geroscience Summit to gather experts in the field to discuss new approaches to understanding multimorbidity and geriatric syndromes, two clinical conditions that place a significant burden on older populations. The summit is anticipated to generate discussion on gaps in the field and potential future areas of research to better understand these conditions.

NIH National Institute on Aging

Recent Research Accomplishments

- NIA-supported researchers have developed innovative "disease-in-a-dish" models for Alzheimer's, which enable scientists to study the biology of dementias in ways that more closely represent the disorder in the human brain. Not only do these models offer robust new ways of identifying and validating the molecular mechanisms underlying AD, but they may provide a fast and inexpensive way to screen promising therapeutics.
- NIA's small business research program funding supported the development of the PrecivityAD blood test, which is the first commercially available blood test for biomarkers of Alzheimer's. A recent study found that it was equally effective at predicting early Alzheimer's disease regardless of the race of the person being tested, while some other blood tests in development perform differently in Black individuals compared to White individuals.
- Cellular senescence — a process in which cells lose normal function but continue to secrete molecules that damage neighboring cells— may contribute to many age-related conditions. NIA-funded scientists found that senescent immune system cells are potentially among the most harmful of all senescent cells because they cause rapid aging across other organs and systems.

On the Horizon

- The exposome is the measure of all the lifetime exposures an individual experiences across physical, social, economic, and psychological domains. NIA is working to understand how these factors can impact the health of older adults and may increase risk of AD/ADRD.
- Communication among cells, tissues, and organs takes place through networks called interorgan communication networks (ICN). Changes in the ICN have been implicated in many diseases. Because aging is a primary driver of organ dysfunction, aging-related change in one organ may affect other organs. NIA investigators seek to better understand how age and other factors may cause changes in the ICN.
- Real-world data (RWD) are data relating to patient health status and/or the delivery of health care collected from electronic health records and a variety of sources. NIA aims to develop a platform for RWD that captures data from 80% of those living with AD/ADRD in the U.S. in order to provide access to a more diverse pool of individuals for recruitment into clinical trials and research.

NIA Research Highlights

Exposure to social stress, including discrimination, trauma, and other life events, is associated with accelerated aging of the immune system.

The Cocoa Supplement and Multivitamin Outcomes Study of the Mind (COSMOS-Mind) found that daily multivitamin use for 3 years improved global cognition, memory, and executive function in older adults.

Ten years ago, 10 genes were linked to Alzheimer's; there are now more than 70 associated genetic areas to potentially be studied in future research.

Cellular senescence is a possible contributing factor to many age-related conditions. NIA-supported scientists found that senescence of the immune system drives aging throughout the body and shortens lifespan in mice.

The first commercial blood test for amyloid is available, thanks to years of NIA investment, including small business funding. It compares with PET imaging, the current standard at detecting amyloid.

Scientists found an association between coronavirus infection and a higher risk of new AD diagnosis among people 65 years and older within 1 year of an initial COVID-19 diagnosis.

Major Changes in the Budget Request

Major changes by budget mechanism and/or budget activity detail are briefly described below. Note that there may be overlap between budget mechanisms and activity detail, and these highlights will not sum to the total change for the FY 2024 President's Budget request for NIA, which is $4,412.1 million, the same as the FY 2023 Enacted level. The FY 2024 President's Budget reflects the administration's fiscal policy goals for the federal government. Within that framework, NIA will pursue its highest research priorities through strategic investments and careful stewardship of appropriated funds.

Non-Competing Research Project Grants (+$122.1 million; total $2,259.2 million):
NIA will continue to support its established non-competing Research Project Grants (RPGs) by awarding a total of 2,604 RPGs, an increase of 138 from FY 2023. The change is a result of the large number of competing RPGs that NIA awarded during previous fiscal years.

Competing Research Project Grants (-$101.7 million; total $779.3 million):
NIA will award a total of 782 competing RPGs, a decrease of 102 from FY 2023. The decrease in competing RPG funds is due to the expansion of research center grants and the transition of previously awarded RPGs into non-competing status.

Research Centers (+$39.0 million; total $304.3 million):
NIA will award a total of 152 Research Centers grants, an increase of 20 from FY 2023. This is due to an expansion of centers focusing on Alzheimer's disease.

Research Management and Support (+$8.0 million; total $150.6 million):
NIA oversees 4,452 research grants, 983 full-time training positions, and 47 research and development contracts. Funding will be used to cover the expenses associated with providing for the effective administrative, planning and evaluation, public information and communications, and scientific leadership of the institute.

NATIONAL INSTITUTES OF HEALTH

National Institute on Aging

Budget Mechanism*

(Dollars in Thousands)

Mechanism	FY 2022 Final		FY 2023 Enacted		FY 2024 President's Budget		FY 2024 +/- FY 2023	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Research Projects:								
Noncompeting	2,040	$1,768,007	2,466	$2,137,035	2,604	$2,259,162	138	$122,127
Administrative Supplements	*(482)*	$152,374	*(459)*	$145,097	*(220)*	$69,481	*-(239)*	-$75,616
Competing:								
Renewal	90	$183,532	69	$140,088	61	$123,921	-8	-$16,167
New	1,067	$969,531	814	$740,028	720	$654,629	-94	-$85,399
Supplements	1	$1,141	1	$871	1	$771	0	-$100
Subtotal, Competing	**1,158**	**$1,154,204**	**884**	**$880,987**	**782**	**$779,321**	**-102**	**-$101,666**
Subtotal, RPGs	3,198	$3,074,585	3,350	$3,163,119	3,386	$3,107,964	36	-$55,155
SBIR/STTR	175	$138,870	181	$143,875	181	$143,832	0	-$43
Research Project Grants	3,373	$3,213,455	3,531	$3,306,994	3,567	$3,251,796	36	-$55,198
Research Centers								
Specialized/Comprehensive	129	$258,705	132	$263,898	152	$302,893	20	$38,995
Clinical Research	0	$0	0	$0	0	$0	0	$0
Biotechnology	0	$0	0	$0	0	$0	0	$0
Comparative Medicine	0	$3,467	0	$1,439	0	$1,447	0	$8
Research Centers in Minority Institutions	0	$0	0	$0	0	$0	0	$0
Research Centers	**129**	**$262,171**	**132**	**$265,337**	**152**	**$304,340**	**20**	**$39,003**
Other Research:								
Research Careers	500	$81,211	547	$88,897	547	$88,897	0	$0
Cancer Education	0	$0	0	$0	0	$0	0	$0
Cooperative Clinical Research	0	$0	0	$0	0	$0	0	$0
Biomedical Research Support	0	$0	0	$0	0	$0	0	$0
Minority Biomedical Research Support	0	$1,046	0	$1,038	0	$1,038	0	$0
Other	158	$125,343	186	$147,583	186	$147,583	0	$0
Other Research	**658**	**$207,599**	**733**	**$237,518**	**733**	**$237,518**	**0**	**$0**
Total Research Grants	4,160	$3,683,225	4,396	$3,809,849	4,452	$3,793,654	56	-$16,195
Ruth L Kirschstein Training Awards:	FTTPs		FTTPs		FTTPs		FTTPs	
Individual Awards	268	$12,839	331	$16,233	326	$16,233	-5	$0
Institutional Awards	575	$33,436	666	$40,928	657	$40,928	-9	$0
Total Research Training	**843**	**$46,275**	**997**	**$57,161**	**983**	**$57,161**	**-14**	**$0**
Research & Develop. Contracts	49	$157,692	47	$177,938	47	$181,883	0	$3,945
SBIR/STTR (non-add)	*(4)*	*($2,890)*	*(4)*	*($2,918)*	*(4)*	*($2,918)*	*(0)*	*($0)*
Intramural Research	245	$212,819	258	$224,552	260	$228,811	2	$4,259
Res. Management & Support	273	$122,623	342	$142,590	390	$150,581	48	$7,991
SBIR Admin. (non-add)		*($2,274)*		*($2,333)*		*($2,333)*		*($0)*
Construction		$0		$0		$0		$0
Buildings and Facilities		$0		$0		$0		$0
Total, NIA	**518**	**$4,222,634**	**600**	**$4,412,090**	**650**	**$4,412,090**	**50**	**$0**

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

NATIONAL INSTITUTES OF HEALTH

NATIONAL INSTITUTE ON AGING

For carrying out section 301 and title IV of the PHS Act with respect to aging,

[$4,407,623,000]*$4,412,090,000*.

NATIONAL INSTITUTES OF HEALTH
National Institute on Aging

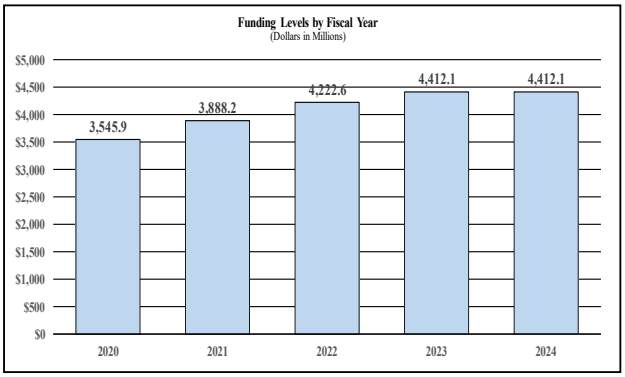
Summary of Changes
(Dollars in Thousands)

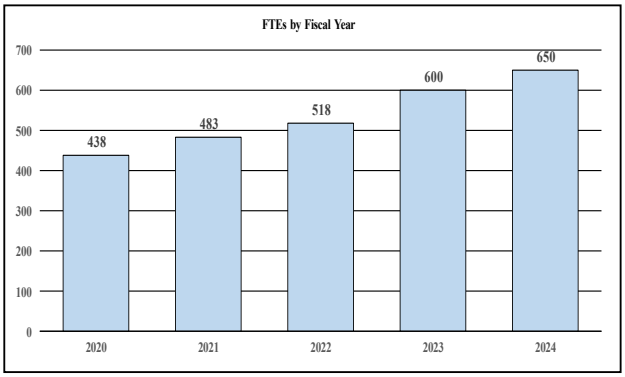
FY 2023 Enacted	$4,412,090
FY 2024 President's Budget	$4,412,090
Net change	$0

CHANGES	FY 2023 Enacted FTEs	FY 2023 Enacted Budget Authority	FY 2024 President's Budget FTEs	FY 2024 President's Budget Budget Authority	Built-In Change from FY 2023 Enacted FTEs	Built-In Change from FY 2023 Enacted Budget Authority
A. Built-in:						
1. Intramural Research:						
a. Annualization of FY 2023 pay and benefits increase		$60,722		$63,971		$674
b. FY 2024 pay and benefits increase		$60,722		$63,971		$2,329
c. Paid days adjustment		$60,722		$63,971		$234
d. Differences attributable to change in FTE		$60,722		$63,971		$471
e. Payment for centrally furnished services		$27,062		$27,495		$433
f. Cost of laboratory supplies, materials, other expenses, and non-recurring costs		$136,768		$137,345		$3,014
Subtotal						$7,154
2. Research Management and Support:						
a. Annualization of FY 2023 pay and benefits increase		$59,571		$66,519		$658
b. FY 2024 pay and benefits increase		$59,571		$66,519		$2,279
c. Paid days adjustment		$59,571		$66,519		$229
d. Differences attributable to change in FTE		$59,571		$66,519		$8,361
e. Payment for centrally furnished services		$10,049		$10,210		$161
f. Cost of laboratory supplies, materials, other expenses, and non-recurring costs		$72,970		$73,852		$1,212
Subtotal						$12,900
Subtotal, Built-in						$20,054

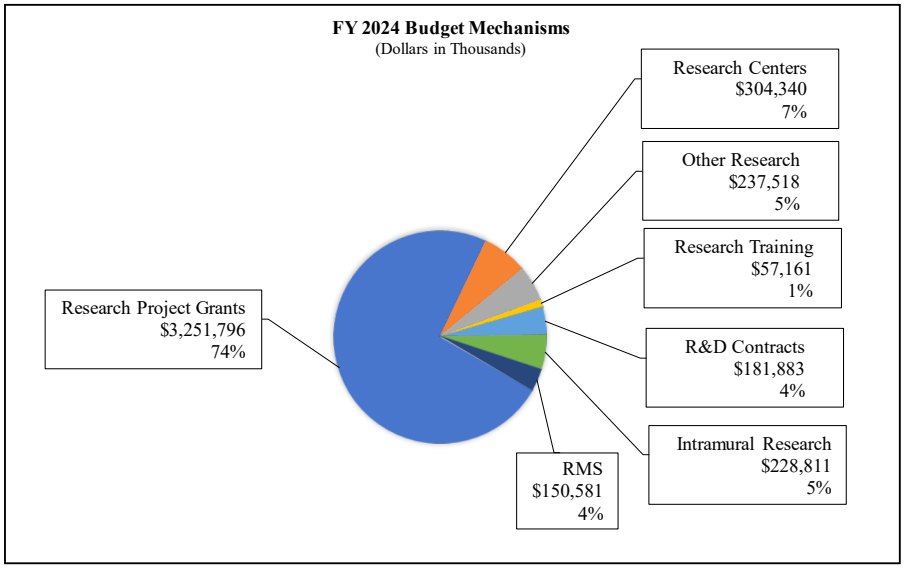
CHANGES	FY 2023 Enacted No.	FY 2023 Enacted Amount	FY 2024 President's Budget No.	FY 2024 President's Budget Amount	Program Change from FY 2023 Enacted No.	Program Change from FY 2023 Enacted Amount
B. Program:						
1. Research Project Grants:						
a. Noncompeting	2,466	$2,282,132	2,604	$2,328,643	138	$46,511
b. Competing	884	$880,987	782	$779,321	-102	-$101,666
c. SBIR/STTR	181	$143,875	181	$143,832	0	-$43
Subtotal, RPGs	3,531	$3,306,994	3,567	$3,251,796	36	-$55,198
2. Research Centers	132	$265,337	152	$304,340	20	$39,003
3. Other Research	733	$237,518	733	$237,518	0	$0
4. Research Training	997	$57,161	983	$57,161	-14	$0
5. Research and development contracts	47	$177,938	47	$181,883	0	$3,945
Subtotal, Extramural		$4,044,948		$4,032,698		-$12,250
6. Intramural Research	258	$224,552	260	$228,811	2	-$2,895
7. Research Management and Support	342	$142,590	390	$150,581	48	-$4,909
8. Construction		$0		$0		$0
9. Buildings and Facilities		$0		$0		$0
Subtotal, Program	600	$4,412,090	650	$4,412,090	50	-$20,054
Total built-in and program changes						$0

History of Budget Authority and FTEs:

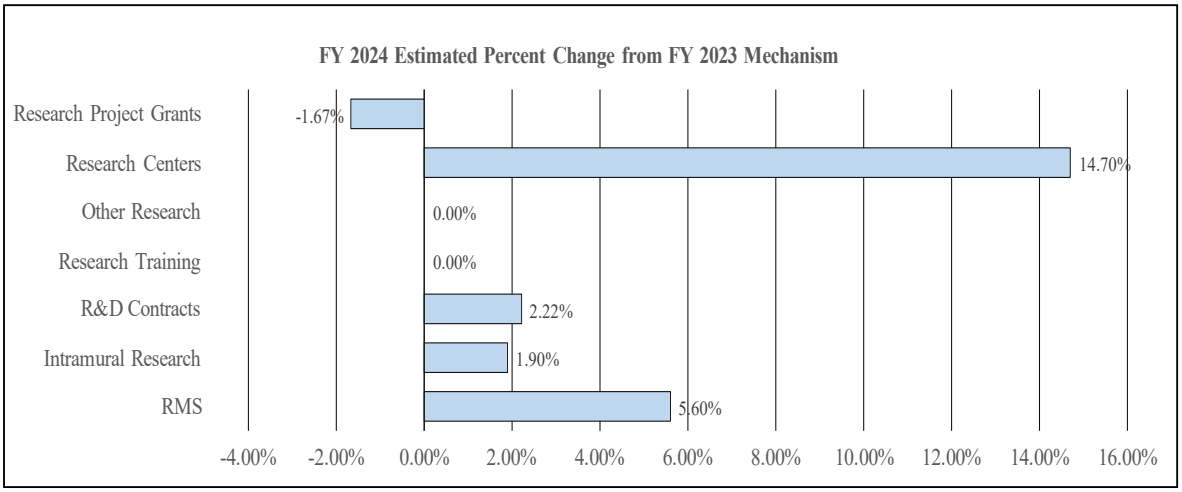




Distribution by Mechanism:

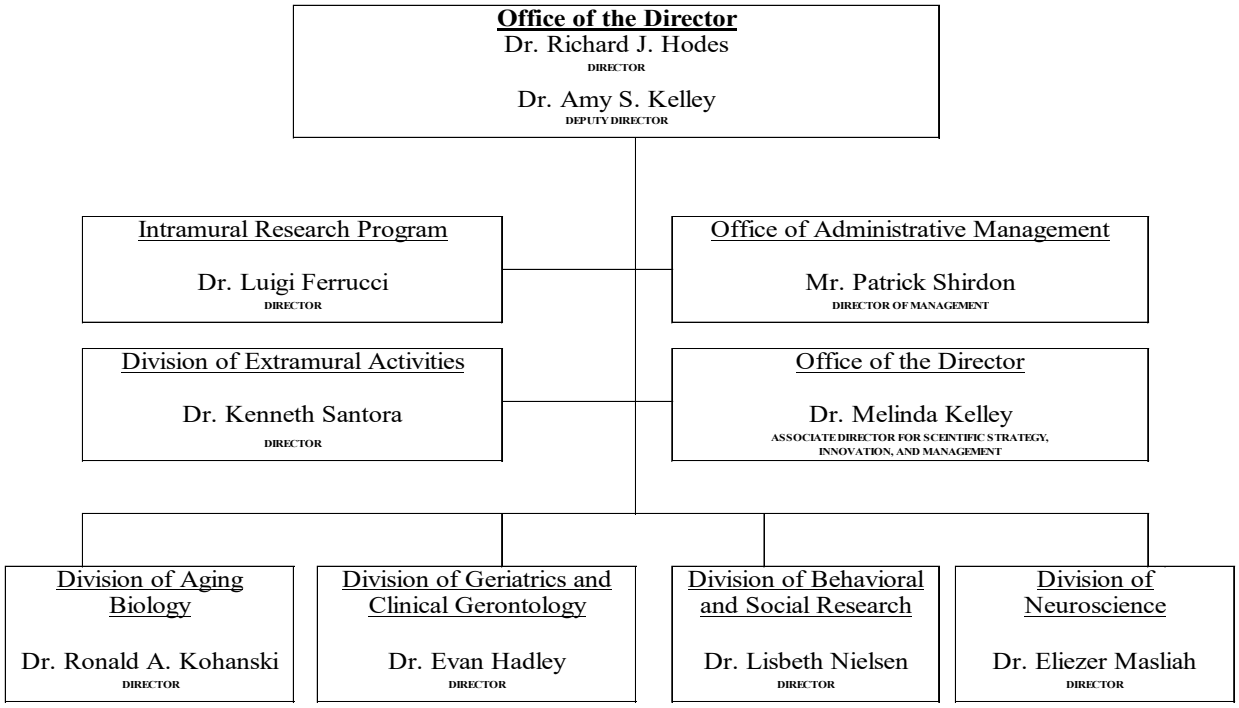


Change by Selected Mechanisms:



NATIONAL INSTITUTES OF HEALTH
National Institute on Aging

Organizational Structure



NATIONAL INSTITUTES OF HEALTH
National Institute on Aging

Budget Authority by Activity *
(Dollars in Thousands)

	FY 2022 Final		FY 2023 Enacted		FY 2024 President's Budget		FY 2024 +/- FY 2023 Enacted	
Extramural Research	**FTE**	**Amount**	**FTE**	**Amount**	**FTE**	**Amount**	**FTE**	**Amount**
Detail								
Aging Biology		$381,955		$404,522		$403,297		-$1,225
Behavioral & Social Research		$641,888		$673,142		$671,103		-$2,039
Neuroscience		$2,514,160		$2,602,757		$2,594,875		-$7,882
Geriatrics & Clinical Gerontology		$349,189		$364,527		$363,423		-$1,104
Subtotal, Extramural		**$3,887,192**		**$4,044,948**		**$4,032,698**		**-$12,250**
Intramural Research	**245**	**$212,819**	**258**	**$224,552**	**260**	**$228,811**	**2**	**$4,259**
Research Management & Support	**273**	**$122,623**	**342**	**$142,590**	**390**	**$150,581**	**48**	**$7,991**
TOTAL	**518**	**$4,222,634**	**600**	**$4,412,090**	**650**	**$4,412,090**	**50**	**$0**

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

National Institute on Aging

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

Budget Authority (BA):

	FY 2022 Final	FY 2023 Enacted	FY 2024 President's Budget	FY 2024 +/- FY 2023
BA	$4,222,634,000	$4,412,090,000	$4,412,090,000	$0
FTE	518	600	650	+50

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

Overall Budget Policy: The FY 2024 President's Budget request for NIA is $4,412.1 million, the same as the FY 2023 Enacted level. This will allow NIA to continue supporting existing research across its program areas while adding new research to its portfolio.

Program Descriptions

Division of Aging Biology (DAB)
Aging is a primary risk factor for many diseases and conditions, including frailty. DAB supports research to determine the basic biological and genetic mechanisms underlying the processes of aging at the cellular, tissue, and organ levels, and the ways these changes are communicated throughout the cells and tissues of the body. NIA-supported investigators study changes in molecular and cellular structures and functions that characterize normal aging in diverse laboratory organisms, spanning yeast to nonhuman primates, working to bring those insights to studies of human health. The division also supports research on mechanisms and interventions that may affect the rates of aging in humans across diverse and inclusive populations, as well as programs to understand the biological aspects related to the heterogeneity of aging and health disparities. In addition, DAB funds research in people living with variations in biological mechanisms of aging such as centenarians and individuals with progeroid syndromes, who undergo premature physical aging.

DAB coordinates the groundbreaking NIH-wide GeroScience Interest Group (GSIG). To test the hypothesis that slowing the biological rate of aging will have beneficial impacts on multiple health outcomes related to aging, GSIG promotes studies on the connections between the biology of aging, diseases associated with aging, and age-related loss of resilience. More than 20 NIH Institutes and Centers participate in the GSIG, developing a collaborative community that includes scientific societies, the biopharmaceutical industry, and experts in emerging biotechnology to accelerate research into the basic mechanisms driving aging, which could lead

to improved clinical interventions. Additionally, DAB supports studies on the "hallmarks of aging," including cellular senescence, which have emerged as important contributors to aging and age-related disease and are key targets for therapeutic development.

DAB also supports eight Nathan Shock Centers of Excellence, which provide national leadership and research resources in the basic biology of aging. Additionally, DAB supports several resources for biology of aging research, including colonies of aging rodents, as well as collections of cells derived from rodent, non-human primate, and human longitudinal studies of aging, and from individuals affected by premature aging disorders.

Budget Policy:
The FY 2024 President's Budget request is $403.3 million, a decrease of $1.2 million or 0.3 percent compared with the FY 2023 Enacted level.

Geroscience

Understanding and slowing the molecular and cellular mechanisms responsible for aging could address multiple diseases and conditions simultaneously, leading to a healthier population. This is the focus of a cross-disciplinary field called geroscience, which aims to increase the years of healthy life.

Mechanisms of aging, such as changes in certain genes and proteins or the loss of stem cells, are the basis of much geroscience research. Collectively known as hallmarks of aging, these changes can indicate either accelerated or delayed aging or signal the presence of disorders. Better understanding of these hallmarks can help in diagnosing, preventing, or treating various diseases. A particularly promising avenue of research involves cellular senescence, a process in which cells lose function, including the ability to divide and replicate, but continue to secrete molecules that damage neighboring cells. With NIA involvement, the Cellular Senescence Network was launched as an NIH Common Fund project to better understand how such cells affect multiple tissues and impact human health and lifespan.

In addition, NIA-supported investigators have found that treatment with senolytics, compounds that selectively remove senescent cells, extended lifespan and healthspan in naturally aging mice. NIA is now funding trials in humans to test senolytic compounds for the prevention or alleviation of frailty, diabetic kidney disease, idiopathic pulmonary fibrosis (a serious lung disease), and more recently to boost protection from COVID-19. These trials will advance our understanding of how targeting the aging process may delay age-related conditions.

Beyond senolytics, NIA has several other geroscience-related priorities. The NIH GeroScience Interest Group (GSIG) is planning the 2023 Geroscience Summit to discuss new approaches to understanding multimorbidity and geriatric syndromes, two clinical conditions that place a significant burden on older populations. GSIG is also interested in building a more diverse and interdisciplinary geroscience workforce. To address that need, NIA released a funding opportunity to support educational programs aimed at expanding broader awareness of geroscience.

Division of Behavioral and Social Research (DBSR)
DBSR supports research to elucidate the pathways by which social, psychological, economic, and behavioral factors throughout the life course affect health and health disparities at older ages, to identify the causal mechanisms that account for observed associations, and ultimately to target these mechanisms to modify individual behaviors and social contexts to promote health and prevent disease. DBSR's portfolio is broad and spans topics ranging from understanding how genetic and genomic influences link social, psychological, and behavioral processes with health and well-being over the life course, to sweeping demographic studies with a global reach. DBSR also supports transdisciplinary research networks to develop the infrastructure and research capacity to address behavioral and social science challenges to understanding aging and AD/ADRD.

In addition, DBSR supports a range of research endeavors on AD/ADRD related to cognitive and dementia epidemiology, behavioral and social risk and resilience factors, and measurement of dementia-related functional and psychological changes. These investments may help to better

The Health and Retirement Study

The Health and Retirement Study (HRS) is the nation's leading source of combined data on health and socioeconomic circumstances of Americans over age 50 and provides an invaluable and growing body of multidisciplinary data that researchers and policymakers can use to address important questions about the challenges and opportunities of aging. Launched in 1992, the HRS surveys more than 20,000 Americans over the age of 50 every 2 years, including more than 12,000 Black and Hispanic Americans living in a diverse group of settings nationally. This representative sample ensures HRS data is generalizable to the broader United States population.

To date, the study has collected information on demographic, health, and functional measures, including those relevant to Alzheimer's and related dementias. Examples of data collected by the HRS include but are not limited to income, work, assets, pension plans, health insurance, disability, physical health and functioning, cognitive functioning, and health care expenditures. Many genome-wide association studies rely on HRS genotype data to replicate and validate new discoveries, and the more recently initiated collection of venous blood in the cohort has opened a new generation of studies connecting behavioral and social factors to health outcomes via the analysis of a growing set of biomarkers relevant to aging.

Researchers have used HRS data to study how social and economic factors influence health and to estimate the costs, both to the individual and to society, of age-related diseases and conditions, including AD/ADRD. Analyses of HRS data are facilitated by linkages to Social Security Administration earnings and benefit data, Medicare files, data from the National Death Index, and more. In 2018, the HRS implemented a Harmonized Cognitive Assessment Protocol to measure and understand AD/ADRD risk, designed to be comparable with similar assessments in HRS companion studies around the world, including those in Mexico, China, India, England, and Europe. This tool provides the research community with rich data to study the prevalence, predictors, outcomes, and future trends in cognitive functioning and AD/ADRD on a global scale.

NIA continues to support and enrich the HRS with new data. For example, a recent pair of awards will enable researchers to add data relevant to the exposome, such as lifetime occupation exposure and heavy metals exposure, to the HRS.

characterize and understand disparities in dementia etiology and burden of illness and inform the design of interventions for prevention of cognitive decline, promotion of cognitive and brain health, and the provision of goal-concordant care for people living with dementia and support of their care partners. DBSR has recently funded several awards to build a research infrastructure that addresses the role of diverse physical, chemical, social, psychological, and economic exposures (collectively known as the exposome) across the life course in the causes and social disparities of AD/ADRD. Further, to support the millions of Americans currently living with these conditions, as well as their loved ones and care partners, DBSR leads the NIA effort in dementia care and caregiving research.

DBSR recently transitioned the NIH-wide Science of Behavior Change program, previously supported by the NIH Common Fund, to being funded by NIA and multiple other NIH Institutes, Centers, and Offices. The program seeks to accelerate the investigation of common mechanisms of behavior change that cut across a broad range of health behaviors. DBSR leverages this investment to develop a growing research program in the prevention of AD/ADRD by enhancing long-term maintenance of health behaviors associated with reduced dementia risk beginning in midlife. An additional focus is on scaling up behavioral interventions to have population-level relevance. For example, DBSR has supported recent "megastudies" that simultaneously test dozens of different interventions to encourage healthy behaviors, such as getting a flu shot or exercising, in hundreds or thousands of people to rapidly determine which interventions are the most effective.

The value of large studies to shed light on the aging process is also exemplified in longitudinal studies following groups of people over time. DBSR supports several longitudinal studies

including the Health and Retirement Study, the nation's largest and most comprehensive population-representative longitudinal study of older adults. The division also coordinates several active centers programs, including the Centers on the Demography and Economics of Aging, the Edward R. Roybal Centers for Translational Research on Aging, and the RCMARs. In addition to their individual activities, the Centers also interact with each other.

DBSR helps to coordinate work across these Centers and plays a key role in helping researchers tap into and manage data from multiple sources. For example, DBSR initiated agreements with CMS to enable NIA-funded studies to be linked with Medicare and Medicaid claims data. The significant amounts of data coming in from existing longitudinal studies and centers, combined with new linkages to vast data sources, offer exciting and innovative opportunities. DBSR is helping lead NIA efforts to harness this tremendous flow of data, with the goal of ensuring that data are usable with innovative statistical and data science methodologies, opening the doors to applying these powerful methodologies to aging research.

DBSR also supports a suite of research focused on the behavioral, social, and economic health challenges faced by older adults. For example, recent work found that social stress, like discrimination, trauma, or unemployment, contributed to a reduced ability of the immune system to respond to new challenges, and that lifestyle factors in those with high social stress, such as smoking, alcohol use, and elevated body mass index, may explain this association. Other recent work revealed that opioid use disorder among older adults more than tripled from 2013 to 2018, with significant disparities experienced by low-income individuals, Black Americans, and American Indians/Alaska Natives.

Budget Policy:
The FY 2024 President's Budget request is $671.1 million, a decrease of $2.0 million or 0.3 percent compared with the FY 2023 Enacted level.

Division of Geriatrics and Clinical Gerontology (DGCG)
DGCG promotes clinical and translational research on health and disease in older adults, as well as research on aging across the human lifespan. This includes support of trials on the effectiveness of interventions in clinical settings; translational research for the development of new interventions for age-related conditions; prevention and treatment of multiple chronic conditions in older individuals through targeting of fundamental aging mechanisms, such as cellular senescence and other geroscience-related processes; and studies to inform evidence-based geriatric care and policies affecting this group. In addition, DGCG provides critical research resources to the scientific community, including the AgingResearchBioBank, a unique platform for sharing data and biospecimens, and an online Clinical Research Investigators Toolbox for NIH-supported researchers and staff involved in clinical research.

Along with research on a range of age-related diseases and conditions, DGCG also supports research on AD/ADRD, including the Pragmatic Evaluation of Events and Benefits of Lipid-Lowering in Older Adults (PREVENTABLE) clinical trial, which examines the benefits and risks of the commercially available cholesterol-lowering drug atorvastatin in 20,000 adults aged 75 or older without cardiovascular disease. The trial, expected to be completed in July 2026, will help determine whether the drug can help prevent dementia and disability in this age group,

in addition to preventing heart attacks and cardiovascular-related deaths, without increasing adverse health outcomes. To address research gaps in optimizing emergency care of older adults with AD/ADRD, DGCG has led efforts to develop a collaborative research and resource network, the Geriatric Emergency Care Applied Research (GEAR) Network. GEAR research studies currently focus on adults in emergency care settings who may be vulnerable to misdiagnosis, inappropriate tests or treatments, inability to provide informed consent to treatment, and unsafe discharge — including members of minoritized groups. DGCG also recently released a new funding opportunity to establish a national consortium for personalization of diagnostic tests for AD/ADRD in older adults living with multiple chronic conditions to help to align diagnostic testing with the needs and priorities of an aging population.

Beyond efforts in AD/ADRD, DGCG supports a diverse array of research on topics in aging. This includes research which examines persons and families who maintain health into very old age to identify factors that contribute to long healthspan. These studies have identified genetic and other factors that may provide a basis to test new interventions in clinical trials to promote long, healthy lives. For instance, DGCG has supported investigations of longevity-associated genetic variants and their potential protective effects for health, including for the cardiovascular system, metabolism, and cognition. The DGCG-supported Longevity Consortium, which identifies genomic and other factors underlying exceptional human longevity, is slated for renewal to accomplish several key objectives. These include investigations of new longevity-related mechanisms and targets related to cognitive resilience and AD/ADRD risk, as well as exploration of longevity-related factors in more diverse populations than those reflected in current cohorts. One project funded through the Longevity Consortium, called The Centenarian Project, will bring together four extreme longevity (EL) studies that have agreed to share their individual level genetic and phenotypic data for more powerful genetic association analyses of human EL. Analyses of these data will be used to search for healthy aging therapeutics. Additionally, DGCG recently released a new funding opportunity announcement to solicit AI/ML-based strategies to identify determinants of exceptional health and lifespan.

DGCG also supports the United States Deprescribing Network, which seeks to reduce or stop the use of unnecessary and potentially harmful medications to improve the health and well-being of older adults. One study examined the impact of using individualized reports that would inform primary care clinicians of potentially inappropriate medications. Although these clinicians were not likely to deprescribe medications, they were more likely to perform a thorough medication reconciliation and discuss potentially inappropriate medications with patients. Relatedly, DGCG supports studies on the safety of long-term use of anticholinergic medications. Prescribed to treat overactive bladder and other conditions, these drugs may also increase the risk of developing AD/ADRD and may thus be important targets for deprescribing. Additionally, DGCG supports research on pain, pain management, and opioid use in aging, and has indicated sustained interest in this area with the release of Notices of Special Interest in FY 2022.

Further, DGCG is funding new demonstration projects to study the feasibility of and develop best practices for using interoperable health information from older adult research participants. Interoperable electronic health records (EHR), shared by participants and collected from providers across health networks and geographic regions, may enable researchers to overcome fragmentation of these records that can be particularly pronounced in the records of older

individuals. Interoperable EHRs may also provide added value for detecting the co-occurrence of two or more chronic conditions, common among older adults.

Budget Policy:
The FY 2024 President's Budget request is $363.4 million, a decrease of $1.1 million or 0.3 percent compared with the FY 2023 Enacted level.

Down Syndrome Research and AD/ADRD

People with Down syndrome (DS) have a high risk of developing Alzheimer's disease (AD) because they are born with an extra copy of chromosome 21. This chromosome carries a gene that produces a specific protein called the beta-amyloid precursor protein. Having an extra copy of this gene leads to a buildup of beta-amyloid clumps in the brain, and these clumps are a hallmark of AD. Accordingly, almost all adults living with DS have AD-related brain changes by age 40.

The Alzheimer's Biomarkers Consortium-Down Syndrome (ABC-DS) is a longitudinal study that is funded in collaboration with the NIH *Eunice Kennedy Shriver* National Institute of Child Health and Human Development and the NIH INCLUDE Project. ABC-DS aims to identify early biomarkers of AD in adults with DS. In 2021, based in part on ABC-DS data, researchers discovered that people with DS have a biomarker profile like that of people with a gene variant that causes an inherited form of AD. Results from this project will help doctors and scientists better understand the onset and progression of AD in people who have DS and aid in therapy development.

Recently, researchers developed a vaccine, ACI-24, aimed at preventing harmful plaques from forming in the brain of adults with DS. An NIA-funded Phase 1 clinical trial found that the vaccine was safe, well-tolerated, and effective at producing antibodies against beta-amyloid. The vaccine will soon enter Phase 2 trials.

Division of Neuroscience (DN)
DN supports basic, translational, clinical, and epidemiological research, as well as training opportunities, to further our understanding of both normal and pathological age-related changes to the nervous system and the influence of these changes on cognition and behavior. DN also supports basic and clinical research aimed at maintaining or improving sleep, sensory, and motor function with age, and studies exploring alterations in blood flow in the brain as a possible contributor to gait dysfunction and falls. A primary focus of the division is research on AD/ADRD. As such, DN supports studies to understand the molecular, cellular, and genetic underpinnings of AD/ADRD; biomarker discovery and validation; epidemiological studies to establish prevalence and incidence estimates and identify risk and resilience factors; and efforts to identify, develop, and test therapeutics to treat or prevent AD/ADRD as well as to address neuropsychiatric symptoms of these diseases. DN also supports research on the important relationship between AD and Down syndrome.

Additionally, ongoing and recent research initiatives into AD/ADRD have focused on the development of new biomarkers, the investigation of sex differences, understanding senescence in brain aging and AD/ADRD, defining the vulnerability and adaptability of brain cells and neural connectivity in aging and AD/ADRD, clarifying the relationship between delirium and AD/ADRD, exploring the role of infectious agents, and understanding common mechanisms and interactions among neurodegenerative diseases, among many other topics.

NIA is also committed to ensuring AD/ADRD research outcomes and advances, including any effective treatment and prevention options, meet the needs of the diverse United States population. To support this priority, DN is expanding efforts to understand the causes and consequences of health disparities in AD/ADRD risk and prevalence, as well as potential modifiable factors to reduce or mitigate these disparities. For example, researchers with the

newly established Health & Aging Brain - Health Disparities (HABS-HD) study — a large-scale longitudinal study of AD biomarkers in Mexican Americans, African Americans, and non-Hispanic Whites — found in 2022 that a specific protein was associated with neurodegeneration in Mexican Americans but not in non-Hispanic Whites. These findings reinforce that results identified in a single population cannot be assumed to represent the entire U.S. population. Additionally, NIA is now funding the ADSP Follow-Up Study 2.0: The Diverse Population Initiative, which will expand ADSP data to reflect much more representative populations, with the aim of revealing more AD/ADRD genetic risk or protective factors.

NIA has also established robust, cutting-edge infrastructure to advance AD/ADRD research. For example, DN supports a national network of 37 AD Research Centers (ADRCs) that work to translate research discoveries into diagnostics and drug treatment interventions, as well as carry out a wide range of studies to enhance understanding of AD/ADRD. DN also funds several research consortia, such as Model Organism Development & Evaluation for Late-Onset Alzheimer's Disease, through which scientists are developing new animal models for AD based on human data, and Target Enablement to Accelerate Therapy Development for AD, focused on accelerating and diversifying the AD/ADRD drug development pipeline. These research consortia also serve as crucial pieces of NIA infrastructure to promote transparency and accessibility of AD/ADRD data and resources.

Budget Policy:
The FY 2024 President's Budget request is $2,594.9 million, a decrease of $7.9 million or 0.3 percent compared with the FY 2023 Enacted level.

Intramural Research Program (IRP)
Through its IRP, NIA supports basic, behavioral, clinical, epidemiological, and translational research with the goal of understanding the physiological changes and adaptability of the human body in response to age and stress. Knowledge about the biology of aging and chronic disease is necessary to develop effective interventions that reduce the burden of disease and disability in the older population. IRP investigators use this understanding to characterize the impact of age-related diseases and help create novel therapeutics and interventions for these conditions. IRP is comprised of seven scientific laboratories; the Translational Gerontology Branch; and the Roy Blunt Center for Alzheimer's and Related Dementias (CARD), a new intramural facility described in more detail in the feature below**.** While these different units each focus on specific areas of research, they work synergistically on many common projects with the goal of expanding our knowledge of the aging process and age-related disease.

NIH Roy Blunt Center for Alzheimer's and Related Dementias (CARD)

In 2020, NIA launched CARD in partnership with the NIH National Institute of Neurological Disorders and Stroke. Housed in the recently opened Roy Blunt Center for Alzheimer's Disease and Related Dementias Research building on the NIH main campus in Bethesda, CARD brings together experts from across NIH, as well as visiting investigators from around the globe, to accelerate the translation of scientific findings into real-world applications. CARD is designed to complement efforts of the extramural community by leveraging the unique resources available on the NIH campus, including the NIH Clinical Center, to address key scientific gaps.

CARD supports the largest-ever genome engineering project for human induced pluripotent stem cells (iPSCs, or cells, such as blood or skin, donated by individuals and "reprogrammed" into stem cells to generate other cell types, such as neurons), the iPSC Neurodegenerative Disease Initiative (iNDI project). Recently, iNDI researchers launched an online portal for scientists around the globe to access a catalog of neurodegenerative disease human iPSC lines, including more than 100 variants associated with AD/ADRD across 73 genes. The portal team validates and conducts quality control of AD/ADRD cell lines, dramatically reducing the effort and expense for researchers to adopt iPSC models in their own programs and creating a standard for the AD/ADRD research enterprise.

One of CARD's focus areas is career development and training for a diverse next generation of AD/ADRD researchers. CARD employs postdoctoral fellows who gain training and experience designing and running independent research programs, while working with a mentoring committee of preeminent researchers in the field. CARD also offers the Alzheimer's and Related Dementias Independent Scholars (ARDIS) program, which grants early-career researchers a time-limited, independent principal investigator appointment, generous resources, and access to CARD and other NIH research resources.

IRP investigators conduct research in three focus areas: aging biology, neuroscience, and translational gerontology. Specific areas of interest include epidemiological research, behavioral research, genetics and genomics, clinical and translational research, and neuroscience and neurogenetics. Age-associated diseases that are priority areas of research include AD/ADRD, Parkinson's disease, diabetes, cardiovascular diseases, stroke, osteoporosis and osteoarthritis, autoimmune diseases such as multiple sclerosis and lupus, and cancers.

IRP's longitudinal cohort studies have contributed greatly to progress in aging research over decades. Prominent studies include the trailblazing Baltimore Longitudinal Study of Aging, which explores the determinants and measures of healthy biological aging over time and is the nation's longest running scientific study of human aging; the Healthy Aging in Neighborhoods of Diversity across the Life Span study, which researches the impact of racial and socioeconomic diversity on health disparities and healthy aging; and the Genetic and Epigenetic Signatures of Translational Aging Laboratory Testing study, which is aimed at discovering biomarkers and their connections to aging and the development of physical and cognitive disability. In 2020, IRP launched the Drug Repurposing for Effective Alzheimer's Medicines (DREAM) study, which aims to determine whether approved medicines currently used to treat conditions other than dementia can help prevent or treat AD. The approach focuses the search on drugs that have already been shown safe and effective for other conditions and that act on pathways thought to be linked to AD.

IRP also supports training programs for students and recent graduates that provide young and diverse scientists with opportunities to learn skills in basic and clinical aging research in the biomedical and behavioral sciences. This will help address the nation's need for researchers and clinician-scientists focused on aging research.

Budget Policy:
The FY 2024 President's Budget request is $228.8 million, an increase of $4.3 million or 1.9 percent compared with the FY 2023 Enacted level.

Research Management and Support
NIA research management and support (RMS) activities provide administrative, budgetary, logistical, and scientific support in the review, award, and monitoring of research grants and research and development contracts. RMS functions also encompass communications, strategic planning, coordination, and evaluation of the institute's programs, regulatory compliance, international coordination, and liaison with other federal agencies, Congress, and the public. Recent initiatives include a management and tracking system for clinical research recruitment, and IT modernization programs that help NIA more efficiently administer grants, such as projects to automate business processes.

Budget Policy:
The FY 2024 President's Budget request is $150.6 million, an increase of $8.0 million or 5.6 percent compared with the FY 2023 Enacted level.

NATIONAL INSTITUTES OF HEALTH
National Institute on Aging

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2015	$1,170,880,000			$1,199,468,000
Rescission				$0
2016	$1,267,078,000	$1,518,421,000	$1,548,494,000	$1,600,191,000
Rescission				$0
2017 [1]	$1,598,246,000	$1,982,102,000	$2,067,138,000	$2,048,610,000
Rescission				$0
2018	$1,303,541,000	$2,458,733,000	$2,535,539,000	$2,574,091,000
Rescission				$0
2019	$1,988,200,000	$3,005,831,000	$3,084,809,000	$3,083,410,000
Rescission				$0
2020	$2,654,144,000	$3,356,107,000	$3,606,040,000	$3,543,673,000
Rescission				$0
2021	$3,225,782,000	$3,609,150,000	$4,015,333,000	$3,899,227,000
Rescission				$0
2022	$4,035,591,000	$4,258,049,000	$4,180,838,000	$4,219,936,000
Rescission				$0
2023	$4,011,413,000	$4,443,196,000	$4,343,005,000	$4,407,623,000
Rescission				$0
2024	$4,412,090,000			

[1] Budget Estimate to Congress includes mandatory financing.

NATIONAL INSTITUTES OF HEALTH
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Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2023 Amount Authorized	FY 2023 Enacted	2024 Amount Authorized	FY 2024 President's Budget
Research and Investigation	Section 301	42§241	Indefinite	$4,412,090,000	Indefinite	$4,412,090,000
National Institute on Aging	Section 401(a)	42§281	Indefinite		Indefinite	
Total, Budget Authority				$4,412,090,000		$4,412,090,000

NATIONAL INSTITUTES OF HEALTH

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Amounts Available for Obligation [1]

(Dollars in Thousands)

Source of Funding	FY 2022 Final	FY 2023 Enacted	FY 2024 President's Budget
Appropriation	$4,219,936	$4,407,623	$4,412,090
OAR HIV/AIDS Transfers	$2,698	$4,467	$0
Subtotal, adjusted budget authority	$4,222,634	$4,412,090	$4,412,090
Unobligated balance, start of year	$0	$0	$0
Unobligated balance, end of year (carryover)	$0	$0	$0
Subtotal, adjusted budget authority	**$4,222,634**	**$4,412,090**	**$4,412,090**
Unobligated balance lapsing	-$66	$0	$0
Total obligations	$4,222,568	$4,412,090	$4,412,090

[1] Excludes the following amounts (in thousands) for reimbursable activities carried out by this account:
FY 2022 - $12,545 FY 2023 - $20,000 FY 2024 - $20,000

NATIONAL INSTITUTES OF HEALTH
National Institute on Aging

Budget Authority by Object Class[1]
(Dollars in Thousands)

		FY 2023 Enacted	FY 2024 President's Budget	FY 2024 +/- FY 2023
Total compensable workyears:				
	Full-time equivalent	600	650	50
	Full-time equivalent of overtime and holiday hours	1	1	0
	Average ES salary	$214	$224	$11
	Average GM/GS grade	12.5	12.5	0.0
	Average GM/GS salary	$127	$134	$6
	Average salary, Commissioned Corps (42 U.S.C. 207)	$114	$119	$6
	Average salary of ungraded positions	$180	$189	$9
	OBJECT CLASSES	**FY 2023 Enacted**	**FY 2024 President's Budget**	**FY 2024 +/- FY 2023**
	Personnel Compensation			
11.1	Full-Time Permanent	$56,592	$62,169	$5,577
11.3	Other Than Full-Time Permanent	$19,912	$21,153	$1,241
11.5	Other Personnel Compensation	$3,085	$3,369	$284
11.7	Military Personnel	$167	$176	$9
11.8	Special Personnel Services Payments	$10,255	$10,815	$560
11.9	**Subtotal Personnel Compensation**	**$90,012**	**$97,683**	**$7,671**
12.1	Civilian Personnel Benefits	$30,132	$32,647	$2,515
12.2	Military Personnel Benefits	$149	$160	$11
13.0	Benefits to Former Personnel	$0	$0	$0
	Subtotal Pay Costs	**$120,293**	**$130,490**	**$10,197**
21.0	Travel & Transportation of Persons	$3,039	$3,112	$73
22.0	Transportation of Things	$865	$885	$21
23.1	Rental Payments to GSA	$229	$235	$6
23.2	Rental Payments to Others	$24	$24	$1
23.3	Communications, Utilities & Misc. Charges	$319	$327	$8
24.0	Printing & Reproduction	$4	$4	$0
25.1	Consulting Services	$53,641	$54,632	$991
25.2	Other Services	$66,535	$67,646	$1,111
25.3	Purchase of Goods and Services from Government Accounts	$216,668	$220,511	$3,843
25.4	Operation & Maintenance of Facilities	$6,202	$6,202	$0
25.5	R&D Contracts	$39,482	$40,430	$948
25.6	Medical Care	$12,442	$12,953	$510
25.7	Operation & Maintenance of Equipment	$5,320	$3,010	-$2,311
25.8	Subsistence & Support of Persons	$0	$0	$0
25.0	**Subtotal Other Contractual Services**	**$400,292**	**$405,384**	**$5,092**
26.0	Supplies & Materials	$15,852	$16,232	$380
31.0	Equipment	$15,671	$16,047	$376
32.0	Land and Structures	$1,719	$1,760	$41
33.0	Investments & Loans	$0	$0	$0
41.0	Grants, Subsidies & Contributions	$3,853,766	$3,837,571	-$16,195
42.0	Insurance Claims & Indemnities	$0	$0	$0
43.0	Interest & Dividends	$2	$2	$0
44.0	Refunds	$0	$0	$0
	Subtotal Non-Pay Costs	**$4,291,797**	**$4,281,600**	**-$10,197**
	Total Budget Authority by Object Class	**$4,412,090**	**$4,412,090**	**$0**

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

NATIONAL INSTITUTES OF HEALTH

National Institute on Aging

Salaries and Expenses

(Dollars in Thousands)

Object Classes	FY 2023 Enacted	FY 2024 President's Budget	FY 2024 +/- FY 2023
Personnel Compensation			
Full-Time Permanent (11.1)	$56,592	$62,169	$5,577
Other Than Full-Time Permanent (11.3)	$19,912	$21,153	$1,241
Other Personnel Compensation (11.5)	$3,085	$3,369	$284
Military Personnel (11.7)	$167	$176	$9
Special Personnel Services Payments (11.8)	$10,255	$10,815	$560
Subtotal, Personnel Compensation (11.9)	**$90,012**	**$97,683**	**$7,671**
Civilian Personnel Benefits (12.1)	$30,132	$32,647	$2,515
Military Personnel Benefits (12.2)	$149	$160	$11
Benefits to Former Personnel (13.0)	$0	$0	$0
Subtotal Pay Costs	**$120,293**	**$130,490**	**$10,197**
Travel & Transportation of Persons (21.0)	$3,039	$3,112	$73
Transportation of Things (22.0)	$865	$885	$21
Rental Payments to Others (23.2)	$24	$24	$1
Communications, Utilities & Misc. Charges (23.3)	$319	$327	$8
Printing & Reproduction (24.0)	$4	$4	$0
Other Contractual Services			
Consultant Services (25.1)	$53,641	$54,632	$991
Other Services (25.2)	$66,535	$67,646	$1,111
Purchase of Goods and Services from Government Accounts (25.3)	$92,536	$94,017	$1,481
Operation & Maintenance of Facilities (25.4)	$6,202	$6,202	$0
Operation & Maintenance of Equipment (25.7)	$5,320	$3,010	-$2,311
Subsistence & Support of Persons (25.8)	$0	$0	$0
Subtotal Other Contractual Services	**$224,236**	**$225,507**	**$1,272**
Supplies & Materials (26.0)	$15,868	$16,248	$381
Subtotal Non-Pay Costs	**$244,354**	**$246,108**	**$1,754**
Total Administrative Costs	**$364,647**	**$376,599**	**$11,952**

NATIONAL INSTITUTES OF HEALTH
National Institute on Aging

Detail of Full-Time Equivalent Employment (FTE)

Office	FY 2022 Final			FY 2023 Enacted			FY 2024 President's Budget		
	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Division of Neuroscience									
Direct:	51	-	51	61	-	61	77	-	77
Total:	51	-	51	61	-	61	77	-	77
Office of the Director									
Direct:	33	-	33	53	-	53	55	-	55
Total:	33	-	33	53	-	53	55	-	55
Intramural Research Program									
Direct:	244	1	245	257	1	258	259	1	260
Total:	244	1	245	257	1	258	259	1	260
Office of Administrative Management									
Direct:	50	-	50	67	-	67	73	-	73
Total:	50	-	50	67	-	67	73	-	73
Division of Extramural Affairs									
Direct:	69	-	69	79	-	79	89	-	89
Total:	69	-	69	79	-	79	89	-	89
Division of Aging Biology									
Direct:	22	-	22	24	-	24	25	-	25
Total:	22	-	22	24	-	24	25	-	25
Division of Geriatrics & Clinical Gerontology									
Direct:	17	-	17	21	-	21	22	-	22
Total:	17	-	17	21	-	21	22	-	22
Division of Behavioral & Social Research									
Direct:	31	-	31	37	-	37	49	-	49
Total:	31	-	31	37	-	37	49	-	49
Total	517	1	518	599	1	600	649	1	650
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**								
2020	12.3								
2021	12.3								
2022	12.5								
2023	12.5								
2024	12.5								

NATIONAL INSTITUTES OF HEALTH
National Institute on Aging

Detail of Positions[1]

GRADE	FY 2022 Final	FY 2023 Enacted	FY 2024 President's Budget
Total, ES Positions	1	1	1
Total, ES Salary	$203,700	$213,600	$224,387
General Schedule			
GM/GS-15	62	74	80
GM/GS-14	95	113	124
GM/GS-13	111	132	145
GS-12	71	84	93
GS-11	36	43	47
GS-10	0	0	0
GS-9	32	38	42
GS-8	3	4	4
GS-7	15	18	20
GS-6	2	2	3
GS-5	3	4	4
GS-4	1	1	1
GS-3	1	1	1
GS-2	0	0	0
GS-1	1	1	1
Subtotal	433	515	565
Commissioned Corps (42 U.S.C. 207)			
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	122	125	125
Total permanent positions	430	515	565
Total positions, end of year	557	642	692
Total full-time equivalent (FTE) employment, end of year	518	600	650
Average ES salary	$203,700	$213,600	$224,387
Average GM/GS grade	12.5	12.5	12.5
Average GM/GS salary	$121,476	$127,380	$133,812

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