

Mission

To seek fundamental knowledge about the brain and nervous system and to use that knowledge to reduce the burden of neurological disease.

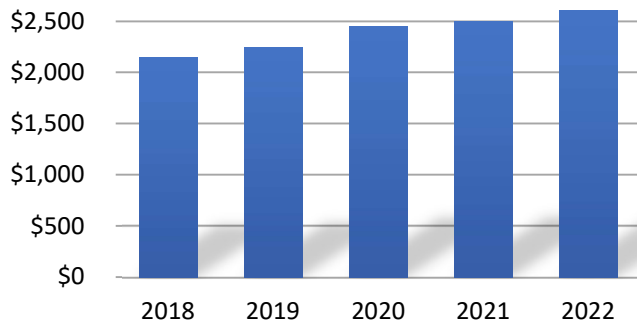
Neurological disorders include common and rare conditions that affect people of all ages. By some measures, they account for a greater burden than any other group of diseases.



NINDS

- Supports and performs basic, translational, and clinical neuroscience research to understand the nervous system in health and disease and to develop and test new and improved therapies.
- Funds and conducts research training and career development programs to ensure a vibrant, talented, and diverse neuroscience workforce.
- Disseminates neuroscience discoveries and their implications for health to the public, health professionals, researchers, and policy-makers.

NINDS Funding History (Dollars in Millions)



FY 2023 Enacted: \$2,809 million

FY 2024 President's Budget: \$2,825 million

Facts and Figures FY 2022

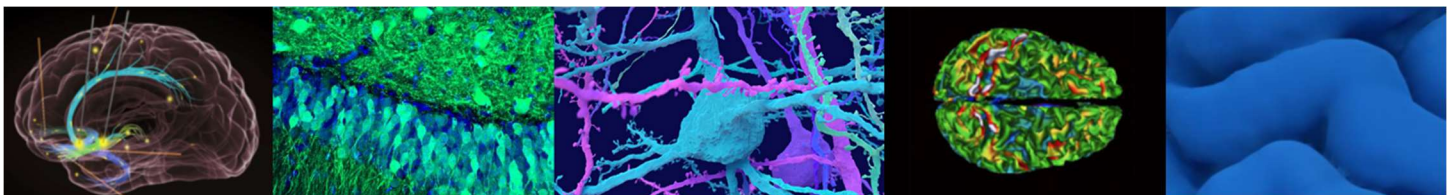
- 601 Full Time Employees
- 947 Research Project Grants¹
- 1,214 Extramural Principal Investigators²
- 157 Extramural Early Stage Investigators^{1,3}
- 49 Intramural Principal Investigators

¹ Competing awards only. ² Includes Principal Investigators and Multiple Principal Investigators. ³ Early Stage Investigators are within 10 years of their final research degree or end of post-graduate clinical training and have not received a substantial independent research grant from NIH.

Research Highlights

Research supported and conducted by NINDS has contributed to:

- Decades of decline in stroke deaths, due to advances in prevention and treatment including the clot-busting drug t-PA, clot retrieval devices, and innovative acute stroke imaging methods.
- New therapies for common and rare neurological disorders such as epilepsy, multiple sclerosis, migraine, spinal muscular atrophy, and muscular dystrophy.
- Devices that connect to the nervous system to restore functions lost or impaired due to disease or injury, including adaptive brain stimulation for movement disorders, epilepsy, and spinal cord injury, and brain-computer interfaces that aid communication in people who cannot speak.
- Growing evidence for vascular contributions to dementia, which may inform new approaches to prevent cognitive decline and promote healthy brain aging.
- Cutting-edge tools for neuroscience research allowing studies to classify the many cell types in the human brain, map complex neural circuits, and observe brain activity in unprecedented detail.



braininitiative.nih.gov/news-events/show-us-your-brains-photo-video-contest

Recent successes

Non-invasive, broadly accessible biomarkers for neurodegenerative diseases may soon be a reality.

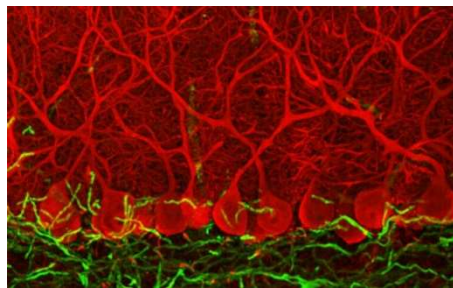
Biomarkers for detecting and monitoring disease have long been a goal for research on neurodegenerative disorders. Such markers could aid clinical trials to test new treatments and allow patients to receive future preventive or disease-modifying therapies early, when benefits are most likely. Growing evidence from research supported by NINDS and the National Institute on Aging (NIA) point to blood and cerebrospinal fluid levels of a protein called neurofilament light (NfL) as promising diagnostic, prognostic, and monitoring markers for neurodegenerative diseases. For example, in people with frontotemporal dementia (FTD), a comprehensive longitudinal and cross-sectional analysis showed that NfL levels in blood plasma increase prior to symptom onset and associate with measures of disease severity. To move this biomarker toward commercial development, a new project through the Foundation for the NIH Biomarkers Consortium will identify the best blood tests for NfL in people with FTD.



Future Initiatives

- NINDS is engaging researchers and individuals with lived experience to develop strategic research priorities for amyotrophic lateral sclerosis (ALS) and ME/CFS.
- A new program supports clinical studies using data from expanded access to investigational therapies for ALS, a provision of the Accelerating Access to Critical Therapies for ALS Act (ACT for ALS).
- The new Office of Neural Exposome and Toxicology (ONETOX) leads collaborative initiatives to understand how a broad range of environmental and nonheritable factors contribute to neurological disorders.
- NINDS leads trans-NIH support for the Undiagnosed Diseases Network (UDN) to sustain this successful program initiated through the NIH Common Fund.
- A new NINDS Team Science initiative encourages creative, inter-disciplinary teams to cross technical and conceptual boundaries to achieve ambitious goals in basic, translational, and clinical research.

The 2022 Kavli Prize in Neuroscience honors NINDS-funded neuroscientists Harry Orr, Christopher Walsh, and Huda Zoghbi, as well as Jean-Louis Mandel of France, for finding genetic causes of brain diseases including Rett syndrome, spinocerebellar ataxia, and rare forms of epilepsy. Such discoveries, along with advances in gene editing and other precision medicine technologies, open exciting opportunities for gene-targeted treatments.



Purkinje cells (red) in the brain's cerebellum degenerate in spinocerebellar ataxia 1, a disease caused by mutations in the ATAXIN1 gene discovered by Harry Orr and Huda Zoghbi. Credit: Ludovic Collin

Trans-NIH neuroscience research

NINDS is a leading partner in NIH-wide neuroscience initiatives, reflecting the nervous system's role in many aspects of human health, development, and disease.

- The **REsearching COVID to Enhance Recovery (RECOVER) Initiative** aims to understand, prevent, and treat long COVID, including prolonged neurological effects.
- The **Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative**[®] is an ambitious effort to develop and use new technologies to study brain circuits and their functions, and ultimately to understand and treat brain diseases.
- Within the **NIH Helping to End Addiction Long-term[®] (HEAL) Initiative** NINDS focuses on non-addictive treatments for pain. NINDS also leads the **NIH Pain Consortium**, joining 23 Institutes and Centers on pain research.
- NINDS and NIA are partners in research on **Alzheimer's Disease and Alzheimer's Disease-Related Dementias (ADRD)**, including the Center for Alzheimer's and Related Dementias at NIH.
- The **NIH Blueprint for Neuroscience Research** is a collaboration among NIH Institutes, Centers, and Offices to address cross-cutting needs for neuroscience research and research training.
- NINDS and the National Institute of Allergy and Infectious Diseases (NIAID) lead the trans-NIH **Myalgic Encephalomyelitis/ Chronic Fatigue Syndrome (ME/CFS) working group**.