https://www.nia.nih.gov/research/training

Training and Career Development

NIA supports a variety of training and career development opportunities for students, early-career investigators, and clinician-researchers. More information is available in the links below.

To better understand NIA's priority research areas for training and development, please also review our Strategic Directions for Research and the Director's Overview of our Congressional

Latest Updates

- **Explore NIA's Training Portfolio.** Review the **NIA training and career development landscape** (PDF, 78K), including programs and funding for preK-12 up to senior faculty.
- Read an NIA Training Spotlight about **Andrea Gilmore-**

Part 1. Overview Information

Participating Organization(s)	National Institutes of Health (NIH)
Components of Participating Organizations	National Institute on Aging (NIA)
Funding Opportunity Title	Consequences of amyloid protein polymorphisms in Alzheimer's disease (R01 Clinical Trial Not Allowed)
Activity Code	R01 Research Project Grant
Announcement Type	New
Related Notices	None
Funding Opportunity Announcement (FOA) Number	RFA-AG-18-025

EXPIRED

This notice has expired. Check the NIH Guide for active opportunities and notices.

Notice of Special Interest (NOSI): Capturing Complexity in the Molecular and Cellular Mechanisms Involved in the Etiology of Alzheimer's Disease

Notice Number:

NOT-AG-21-041

Key Dates

Release Date:	January 6, 2022
First Available Due Date:	March 11, 2022
Expiration Date:	November 13, 2024

Related Announcements

PAR-22-093, Research on Current Topics in Alzheimer's Disease and Its Related Dementias (R01 Clinical Trial Optional)

Issued by

- Molecular, cellular, and physiological studies that aim to define the function of genetic risk factors for AD, including integrative physiological mechanisms of ApoE in AD.
- Comprehensive structural and functional characterizations of various amyloid and tau variants by high resolution X-ray crystallography, cryo-EM, solid-phase NMR, and native protein mass spectrometry to identify the structural basis underlying toxicity and spreading of misfolded protein aggregates.
- Molecular mechanisms underlying exosome-mediated AD pathogenesis and using the exosome as a potential multicellular phenotyping tool for AD biomarker discovery.
- Molecular mechanisms underlying the propagation of pathological protein assemblies in AD, including the role of glial cells and other non-neuronal cell types in the spreading of pathological protein assemblies.
- Molecular phenotyping and connectivity of single neural cells in human aging and AD brain using/developing methods (e.g., CLARITY-related approaches, axon tracing, single cell analsis and high resolution mass spectrometry imaging) for isolation and characterization (in vitro and in vivo) of neurons and glia.
- Systems biology of brain neural cells derived from human AD induced pluripotent stem cells and the development of genetic, molecular, and physiological milieu that mimics in vivo biology (e.g., 3D cell culture and aging).
- Studies that define molecular "omics" signatures of neural cells, genotype-phenotype relationships, and environmental influences.
- Molecular mechanisms by which metabolic and vascular risk factors as well as blood brain barrier permeability impact the initiation and progression of neurodegenerative changes in AD.
- Molecular mechanisms underlying the impact of sleep deficiency and chronic circadian disruption in the etiology of AD.
- Molecular mechanisms of gender-specific differences in the initiation and progression of neurodegeneration in AD, and on modulation of genetic and environmental risk factors.
- Molecular mechanisms by which peripheral systems (e.g., immune, metabolic, microbiome) interact with the brain during aging and the impact of this interaction on the initiation and progression of neurodegeneration in AD.
- Development of standardized, cost-effective, high-throughput methods to isolate neural and glial cells for “omics” profiling and drug-screening.
- Studies that determine the structural and functional roles of lipids and carbohydrates in modulating the early pathogenesis of sporadic AD.
- Development of the next generation of animal models (e.g., using genome editing) based on genetic and environmental risk and protective factors for AD.

Department of Health and Human Services

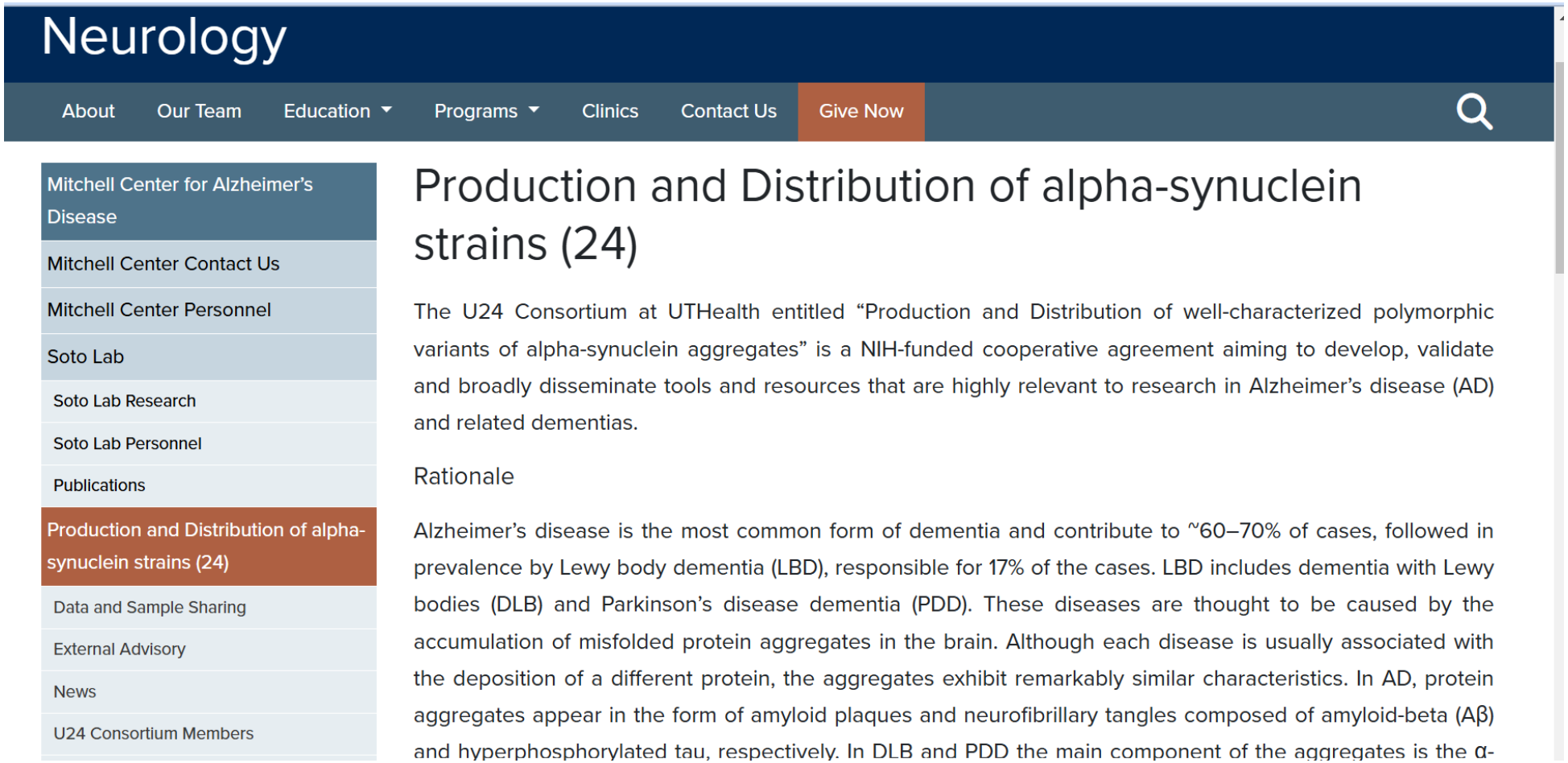
Part 1. Overview Information

Participating Organization(s)	National Institutes of Health (NIH)
Components of Participating Organizations	National Institute on Aging (NIA)
Funding Opportunity Title	Resource Networks for Protein Polymorphisms in Alzheimer's Disease and its Related Dementias (AD/ADRD) (U24 Clinical Trial Not Allowed)
Activity Code	U24 Resource-Related Research Projects Cooperative Agreements
Announcement Type	New

PREVIEW

https://www.utmb.edu/pprn/home

https://med.uth.edu/neurology/mitchell-center/u24-grant/



NIA ADRC program and Related Resources

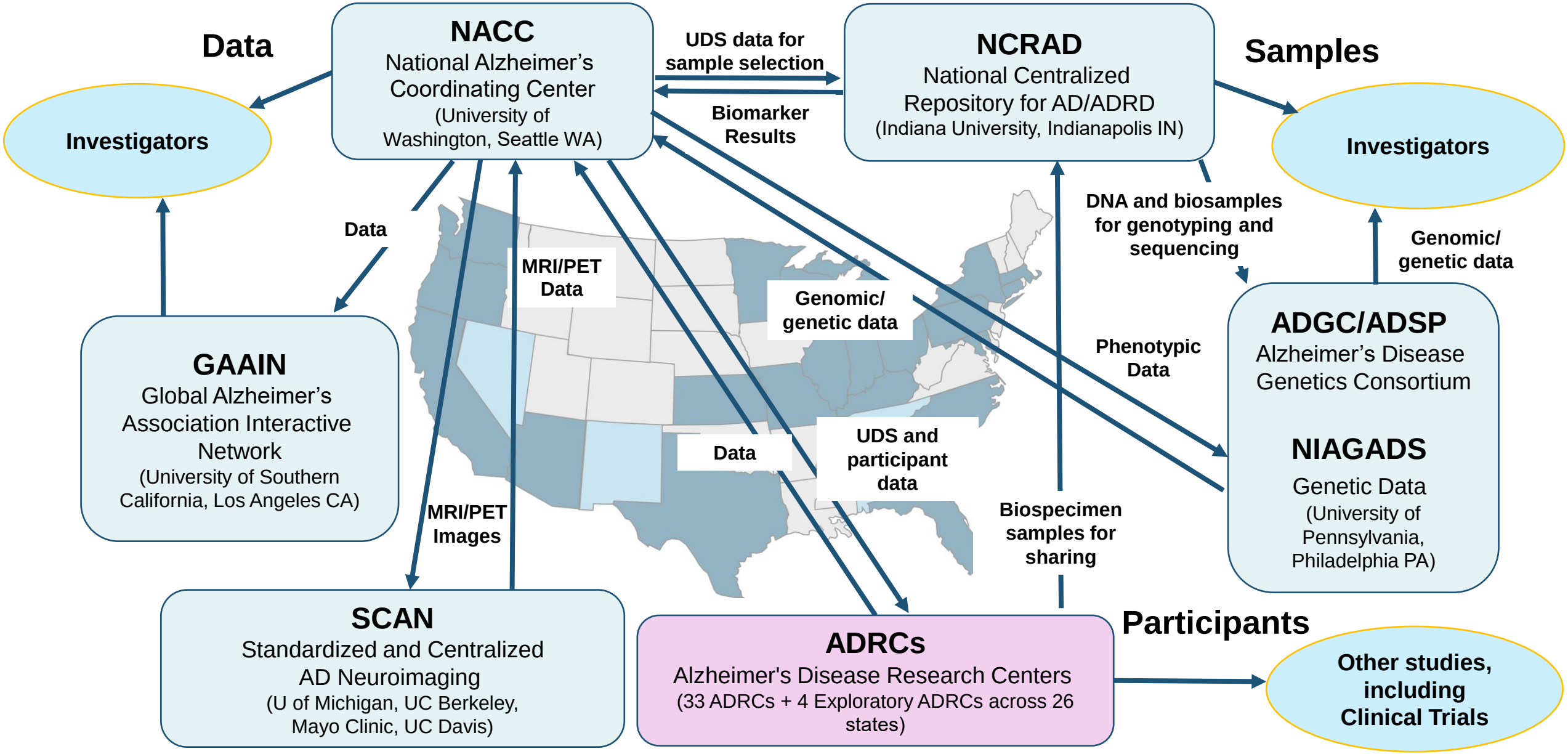
CJD Foundation, Inc

November 14, 2024

Nina Silverberg

silverbergn@mail.nih.gov

ADRC Data and Sample Sharing Infrastructure



NCRAD

https://ncrad.iu.edu/

420K

Aliquots distributed by NCRAD

Request Samples →

129K

Participants with samples at NCRAD

Participate in a study →

1000+

Publications using NCRAD samples and data

View publications →

75+

Studies with samples banked at NCRAD

Bank Samples →

NACC serves as the centralized data repository and data, collaboration, and communication hub for NIA's ADRC Program

National Institute on Aging (NIA)
Alzheimer's Disease Research Center Program

Penn Memory Center
University of Pennsylvania Health System
KU Alzheimer's Disease Center
The University of Kansas Medical Center
Massachusetts Alzheimer's Disease Research Center
Arizona Alzheimer's Disease Research Center
Alzheimer's Disease Research Center
Yale School of Medicine
Wake Forest University School of Medicine
Rush University
Mayo Clinic
Icahn School of Medicine at Mount Sinai
Stanford Medicine
Stanford Alzheimer's Disease Research Center
Principal funding from the NIH / National Institute on Aging
UCI MIND
UC San Diego
Department of Neurosciences
UT Health San Antonio
Cleveland Alzheimer's Disease Research Center
Emory University
Goizueta Alzheimer's Disease Research Center
Vanderbilt Memory & Alzheimer's Center
UC Davis Health
Alzheimer's Disease Research Center
OHSU
Layton Aging and Alzheimer's Disease Research Center
School of Medicine
Indiana Alzheimer's Disease Research Center
Cleveland Clinic
Cleveland Clinic Nevada
UCSF Weill Institute for Neurosciences
Memory and Aging Center
Columbia
Taub Institute for Research on Alzheimer's Disease and the Aging Brain
Johns Hopkins School of Medicine
Alzheimer's Disease Research Center
University of Pittsburgh
Alzheimer's Disease Research Center
1Florida ADRC
BU Research
Alzheimer's Disease Research Center
UNM Health
Northwestern Medicine
Feinberg School of Medicine
UK Sanders-Brown Center on Aging
NYU Langone Health
USC University of Southern California
ADRC
Alzheimer Disease Research Center
Michigan ADRC
Alzheimer's Disease Research Center
Washington University School of Medicine in St. Louis
Department of Neurology
Knight Alzheimer Disease Research Center
UAB The University of Alabama at Birmingham
Alzheimer's Disease Center
Heersink School of Medicine
University of Washington
ADRC
Alzheimer's Disease Research Center

State with NIA-Designated Center(s)

State with Exploratory Center

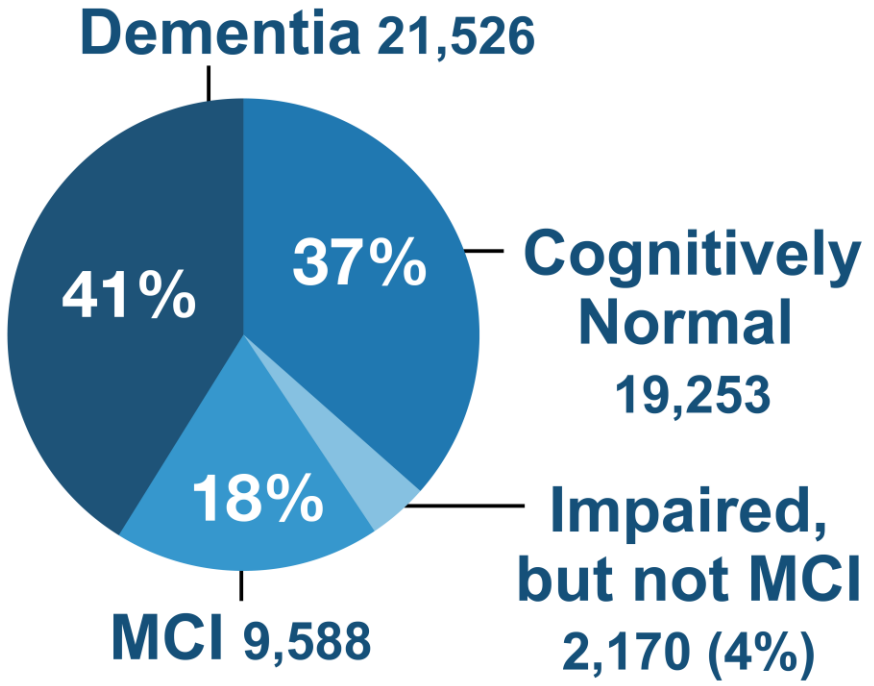
NACC https://naccdata.org/

University of Washington

NACC's Uniquely Valuable and Expanding Database!

UDS Impact

- **52,500+** Participants (19,000+ active)
- **195,000+** Clinical assessments (1-20 visits/per)
- **8,150+** Neuropathology datasets (58% deceased)



Data Usage — **1,350+ Publications**

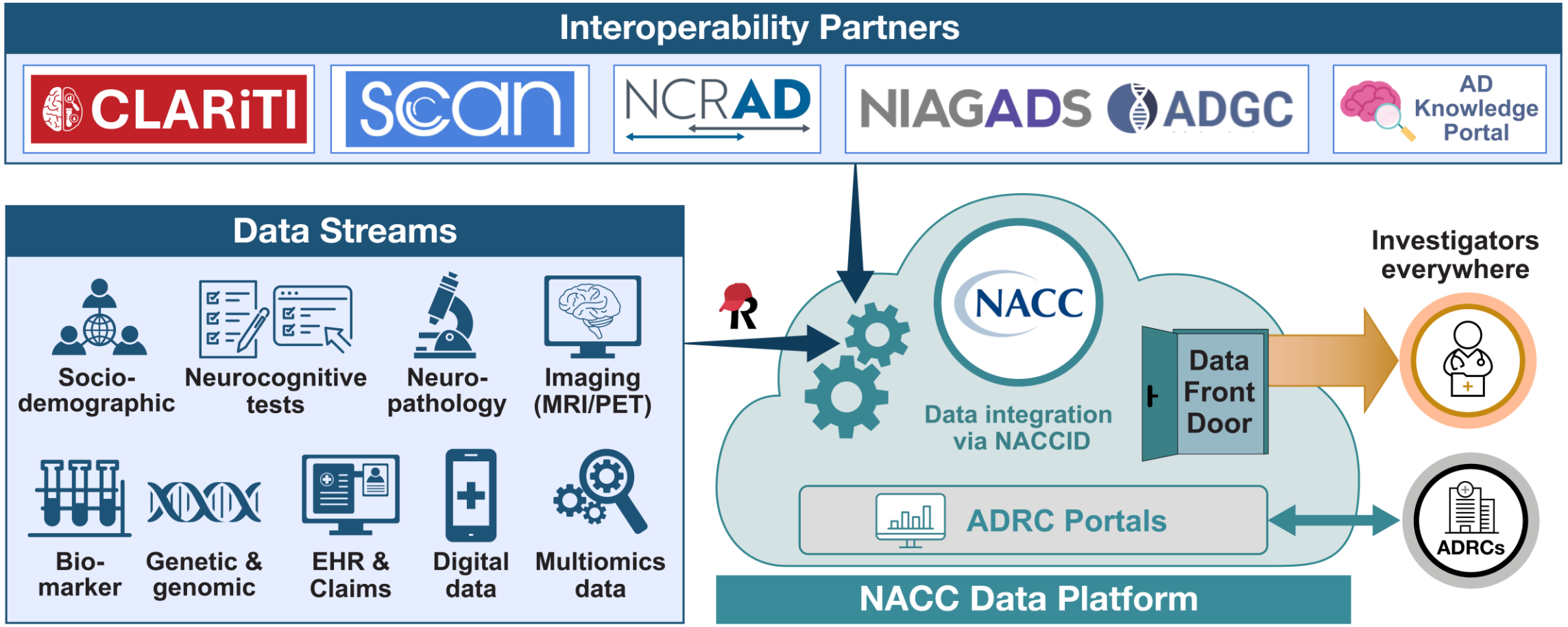
26% Increase since 2021!

Diverse pure and mixed etiologies are well-represented within the NACC cohort

NACC

UNIVERSITY of WASHINGTON

NACC Data Platform: Advanced ADRC Participant Data Integration, Harmonization, Interoperability, and Access



Overview of Brain Tissue Resources

ADRC Neuropathology Cores

35 sites
Focused cohorts
Longitudinal, deep-phenotype data
Research driven
Locally coordinated
Minimum standardized diagnostic w/u
Local and site-specific catalog and tissue sharing mechanisms

HTORR/NDRI

Human Tissue and Organ Research Resource
U42 awarded to the National Disease Research Interchange (NDRI), a 501(c)(3) corporation, supported by ORIP and 6 ICs (NIAID, NHLBI, NEI, NINDS, NIDDK, and NIAMS).
National Resource based on tissue donor network
Customized procurement protocols

NCRAD

- **NCRAD Family Study Brain Tissue:** Fixed and frozen tissue available from 258 subjects and 187 families.
  - Families with 2+ with early or late onset AD/ADRD
  - Online catalog available to order samples: https://www.ncrad.org/catalogs.html?catalog=BRAIN
- **The Gift to Life Brain Collection:** Fixed tissue from 94 participants and mixed frozen tissue from 227 participants (DNA extractions)
  - Program at the University of Utah
  - 67% AD, 20% DLB, 7% FTD, 4% PSP

NBB

6 sites: U Miami, MD, Harvard, Mt Sinai, Pitt, The Human Brain and Spinal Fluid Resource Center
Broad range of donors
Retrospective data; includes GWAS, tox screen
Resource driven
Centrally coordinated
Varied diagnostic workup
Centralized catalog and tissue sharing mechanisms

Ways to Stay Informed and Connected

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https://www.nia.nih.gov/approved-concepts

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