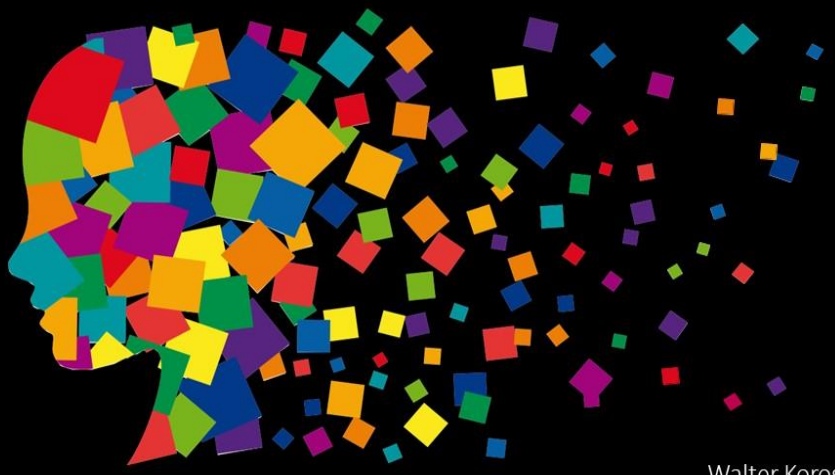
# National Institute of Neurological Disorders and Stroke (NINDS)
# ADRD Summit 2022 and Research Milestones



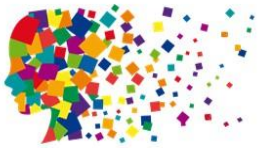
Walter Koroshetz, MD
NINDS Director
January 30, 2023

## NIH ADRD Summits Shape ADRD Research Priorities

**NAPA Goal 1: Prevent and Effectively Treat AD/ADRD by 2025**

**Triennial AD, ADRD & Care Summits** → **Research Recommendations** → **Milestones** → **Scientific Advances Toward Goal 1**

ADRD Summits



- ❑ **NIA leads NIH response to the National Plan* to Address AD/ADRD**
- ❑ **NINDS leads, across the NIH, LBD, FTD, VCID & ADRD Summits**
- ❑ **NINDS and NIA collaborate closely**
  - ➢ funding opportunities
  - ➢ supplement program to expand the field
  - ➢ pay lines
  - ➢ triennial summits

*https://aspe.hhs.gov/reports/national-plan-2022-update

NIH National Institute on Aging

NIH National Institute of Neurological Disorders and Stroke

# NIH Funding for AD/ADRD Research (in Millions)

| Fiscal Year: | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022* estimated | Difference 2015 to 2021 |
|---|---|---|---|---|---|---|---|---|---|
| AD/ADRD[1] | $631 | $986 | $1,423 | $1,911 | $2,398 | $2,869 | $3,251 | *$3,553* | 5.2-fold |
| Alzheimer's Disease (AD) | $589 | $929 | $1,361 | $1,789 | $2,240 | $2,683 | $3,059 | *$3,348* | 5.2-fold |
| ADRD[1] | $120 | $175 | $249 | $387 | $515 | $600 | $725 | *$788* | 6.0-fold |
| Frontotemporal Dementia (FTD) | $36 | $65 | $91 | $94 | $158 | $166 | $164 | *$169* | 4.6-fold |
| Lewy Body Dementia (LBD) | $15 | $22 | $31 | $38 | $66 | $84 | $113 | *$123* | 7.5-fold |
| Vascular Contributions to Cognitive Impairment and Dementia (VCID) | $72 | $89 | $130 | $259 | $299 | $362 | $455 | *$493* | 6.3-fold |

Spending Categories From NIH's Research, Condition, and Disease Categories (RCDC) System
**Source**: https://report.nih.gov/categorical_spending.aspx

1 - The Alzheimer's Disease Related Dementias (ADRD) category reflects the sum of the three existing categories: Frontotemporal Dementia, Lewy Body Dementia and Vascular Cognitive Impairment/Dementia - where duplicates are removed. Alzheimer's Disease including Alzheimer's Disease Related Dementias (AD/ADRD) reflects the sum of the two existing RCDC categories: Alzheimer's Disease (AD) and the above Alzheimer's Disease Related Dementias (ADRD) - where duplicates are removed.

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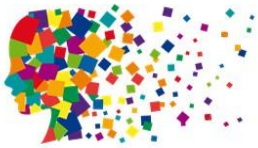
# NIH ADRD Summits Shape ADRD Research Priorities

**NAPA Goal 1: Prevent and Effectively Treat AD/ADRD by 2025**

Triennial AD, ADRD & Care Summits → Research Recommendations → Milestones → Scientific Advances Toward Goal 1

**ADRD Summits: 2013, 2016, 2019, 2022**



- ❑ **NIA leads NIH response to the National Plan* to Address AD/ADRD**
- ❑ **NINDS leads, across the NIH, LBD, FTD, VCID & ADRD Summits**
- ❑ **NINDS and NIA collaborate closely**
- ❑ **ADRD Summit 2022** occurred over 7 months with **>125 stakeholders**, including **patients, researchers**, and members of the **public**

Planning effort that: (1) **Delivers ADRD Milestones** to National Plan to Address AD & (2) Informs AD Bypass Budgets

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* https://aspe.hhs.gov/reports/national-plan-2022-update

# NIH ADRD Summits Shape ADRD Research Priorities


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NIH National Institute on Aging

## ADRD Summit 2022 Topics

- **Health Equity**
- **MED**
- **FTD**
- **VCID**
- **LBD**
- **Special Topics Related to MED**
  - Post-TBI AD/ADRD
  - LATE (TDP-43 Pathology in Common, Late-Onset Dementias)
  - COVID-19 & AD/ADRD

## Stakeholder Engagement

- ❑ Registration = 1,527 attendees (400-700 during most sessions)
- ❑ Academic, Clinical, Government, Industry, Nonprofit, & Public
- ❑ 2 days, 8 scientific sessions, 128 panelists, 44 individual talks
- ❑ 210 minutes of open mic discussions
- ❑ Strong voice of patients and caregivers – broad input
- ❑ Recordings are available:
  - Day 1: https://videocast.nih.gov/watch=45149
  - Day 2: https://videocast.nih.gov/watch=45150
- ❑ Result: 52 ADRD Research Milestones in the National Plan

# ADRD Summit 2022

ALZHEIMER'S DISEASE-RELATED DEMENTIAS SUMMIT 2022

Top Priority Recommendations from Cross-cutting Sessions

## HEALTH EQUITY

**Scientific Co-chairs: Hector González, PhD & Julie Zissimopoulos, PhD**

Rec. 1 Advance equity in AD/ADRD research via inclusion science to improve representative sampling and retention of diverse communities.

Rec. 2 Increase training support and capacity of an AD/ADRD scientific workforce of persons historically under-represented in biomedical, behavioral, and social sciences.

## NINDS ADRD Programs That Address Health Equity

### Understanding How Stroke & Comorbidities Lead to Dementia

DISCOVERY

Determinants of Incident Stroke Cognitive Outcomes and Vascular Effects on RecoverY

Determine specific subsets of incident stroke, and comorbidities, causing cognitive impairment and dementia in post-stroke populations, including in health disparities populations.

### Clinical Significance of Incidental White Matter Lesions for Dementia

DIVERSE

Large, prospective study enrolling a diverse population with cognitive complaints for in-depth MRI characterization of white matter lesions and comorbidities to build a predictive risk model for cognitive decline.

### Development and Validation of Biomarkers for VCID

Mark VCID

Multi-site national consortium to develop and validate VCID biomarkers for dementia clinical trials. Appropriately powered longitudinal validation studies, including in diverse populations.

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## NINDS ADRD Programs the Address Health Equity

detectCID

*Leading the effort to improve the quality of patient evaluations for detecting cognitive impairment in everyday clinical settings*

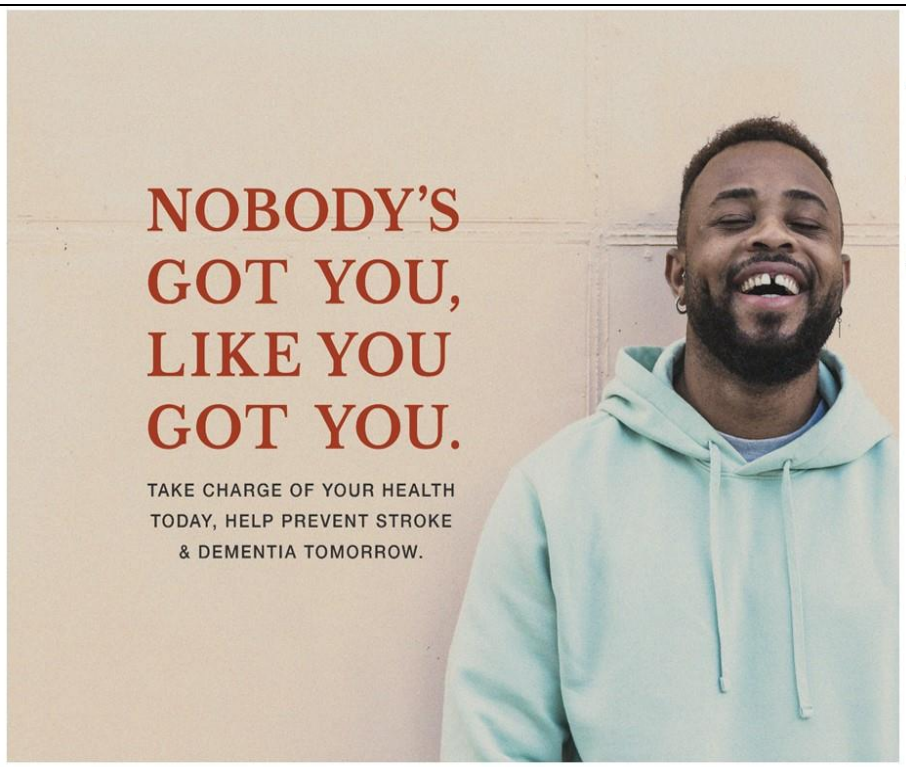
- Includes a strong focus on populations that experience health disparities

**VCID and Stroke in a Bi-racial National Cohort**

*REGARDS = REasons for Geographic and Racial Differences in Stroke*

- Epidemiologic/prospective study of stroke risk in diverse populations since ~1980
- REGARDS has shifted its focus to "VCID and Stroke in a Bi-racial National Cohort"

**AD/ADRD Research Supplements to Promote Diversity in Health-Related Research** NOT-NS-21-047




NIH Mind Your Risks®

https://youtu.be/gte5j2S0RuY

https://www.mindyourrisks.nih.gov/

Created By: NINDS ONCE Office

## ALZHEIMER'S DISEASE-RELATED DEMENTIAS SUMMIT 2022

Top Priority Recommendations from Disease Specific Sessions

### FRONTOTEMPORAL DEGENERATION (FTD)

**Scientific Co-chairs: Adam Boxer, MD, PhD & Celeste Karch, PhD**

Rec. 1 Understand FTD epidemiology and genetics in diverse populations, including how socioeconomic and ethnocultural status affects disease risk and manifestations.

Rec. 5 Advance understanding of FTD and identify therapeutic targets through the creation, validation, and use of pre-clinical and translational tools and resources.

### LEWY BODY DEMENTIAS (LBD)

**Co-Chairs: James Leverenz, MD & Kejal Kantarci, MD**

Rec. 1 Prepare for and initiate clinical trials that aim to alleviate or slow the course of LBD symptoms, and delay or prevent the onset of disease.

Rec. 5 Delineate genetic loci and their functions contributing to the onset and progression of LBDs using genetic, transcriptomic, epigenetic, and environmental characterization analyses.

### VASCULAR CONTRIBUTIONS TO COGNITIVE IMPAIRMENT & DEMENTIA (VCID)

**Scientific Chair: Donna Wilcock, PhD & Ron Petersen, MD, PhD**

Rec. 1 Establish and refine experimental models and technologies to identify disease-relevant mechanisms underlying VCID.

Rec. 4 Develop and validate markers of VCID in diverse populations using 1) cognitive, physical, or other functional assessments, and 2) biomarkers of key vascular processes, including in the most common scenario where VCID is accompanied by AD in human studies.

## National Consortium to Develop & Validate Clinical Trial Ready VCID Biomarkers

Mark VCID

**National consortium validating, for use in large clinical trials, predictive, diagnostic & progression biomarkers for VCID.**

***Independent of Dementia Diagnosis***

### IMAGING BIOMARKERS:

**Arteriolosclerosis Kit**: MRI (MPRAGE, FLAIR, DTI) with post processing to generate maps of white matter hyperintensities (WMH), diffusion anisotropy, & WM

**Cerebrovascular Reactivity Kit**: MRI BOLD (blood-oxygenation level-dependent) during $CO_2$ challenge (CVR)

**MRI Free Water Kit:** MRI DTI (diffusion tensor imaging) - derived mean WM free water fraction

**Peak Skeletonized Mean Diffusivity Kit:** MRI DTI-derived mean Diffusivity Dispersion in the WM Skeleton

### FLUID BIOMARKER:

**Neurofilament Light (NfL) Kit:** Plasma, Single Molecule Array (Simoa) immunoassay

- UC San Francisco & Davis
- U. of Southern California
- U. of New Mexico Health Sciences
- Mayo Clinic Rochester
- U. of Kentucky
- Johns Hopkins Medical Center
- Rush Medical Center & Illinois Inst. of Tech.
- Washington U., U. of Texas Southwestern
- CHARGE - Boston U., U. of Vermont & UT Houston

Coordinating Center: Mass. General Hospital

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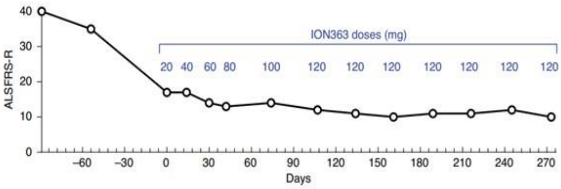
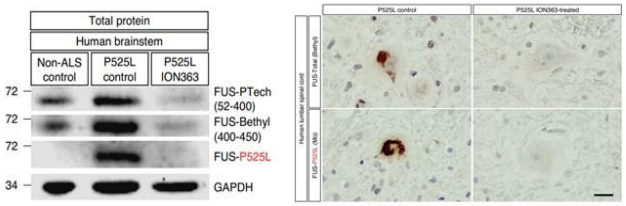
## Recent Investigator-Initiated Scientific Advance: Antisense Oligonucleotides as a Potential Therapeutic in ALS/FTD

Targeting Mutant FUS (ION363, non-allele-specific FUS antisense oligonucleotide)

First in Human: Physical Function With Treatment




Proof of Concept: Marked Reduction in FUS Protein in a Patient




**Korobeynikov *et al., Nature Medicine* (2022)**

- Fused in sarcoma (FUS) gene encodes an RNA-binding protein
- Certain FUS mutations cause ALS and/or FTD (FUS P525L: toxic gain of function, with insolubility of FUS and related RNA-binding protein)
- In an ALS patient with FUS P525L, ION363 lowered wild-type and mutant FUS protein levels in central nervous system

**Korobeynikov et al., Nature Medicine 28,104-116 (2022)** (Supported by NIH grant R01NS106236; Tow Foundation, Project ALS and the ALS Association, Nancy Pzerlman and Tom Klingenstein, the Judith and Jean Pape Adams Charitable Foundation)

Also see **Tran et al., Nature Medicine 28,117-124 (2022)** for suppression of mutant C9orf72 using ASO. (Supported by NIH grant R01NS111990, the Angel Fund for ALS Research, the Ono Pharmaceutical Foundation, ALSOne, ALS Finding a Cure, the Cellucci Fund for ALS Research, and the Max Rosenfeld Fund)

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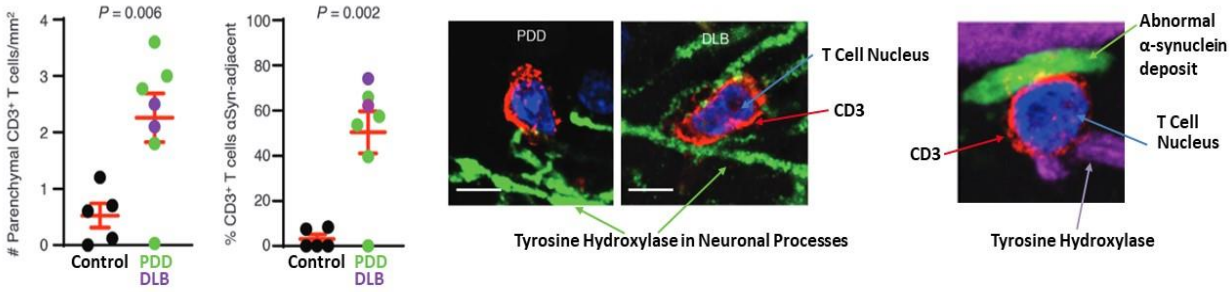
## T Cells In LBD: Adaptive Immunity as a Potential Therapeutic Target in Humans

**T Cells are Adjacent to Dopaminergic Neurons and to α-Synuclein Deposits**



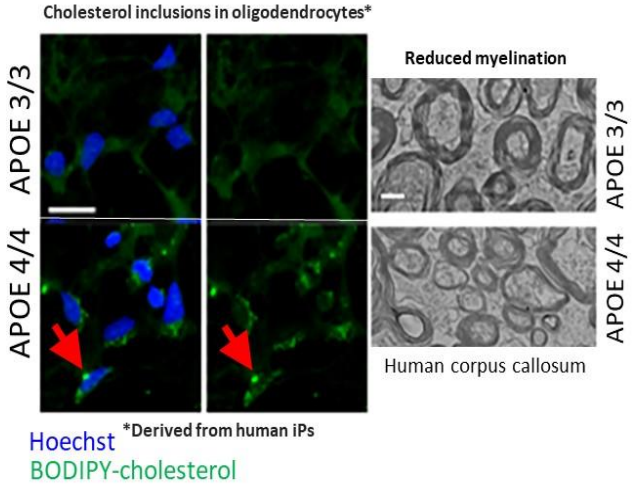

- Cerebrospinal fluid (CSF) from LBD patients contained inflammatory and autoimmune T helper 17 ($T_H17$) cells that highly expressed CXCR4 (chemokine receptor gene).
- In postmortem LBD brains, CXCR4-expressing T cells were found in the perivascular space near chemokine ligand (CXCL12)-expressing cerebrovascular endothelial cells.
- CXCL12 concentrations in CSF from LBD patients were increased and positively correlated with neurodegeneration (NfL).

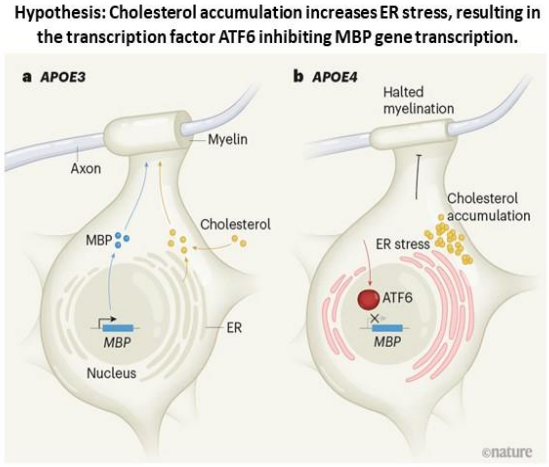
***If CXCR4-CXCL12 signaling drives migration of T cells into the brain to destroy neurons, then therapies that turn off this mechanism may help treat or prevent neurodegenerative disease.***

Tyrosine Hydroxylase: Dopamine enzyme
CD3: T cell marker
DLB: Dementia with Lewy bodies
PDD: Parkinson's disease dementia

Gate *et al.*, *Science* **374**, 868-874 (2021)
Iba et al. Journal of Neuroinflammation **17**:214 (2020)

## Recent Science Advance:
## APOE4 Impairs Myelination Via Cholesterol Dysregulation in Oligodendrocytes




**Blanchard, J.W *et al. Nature* (2022)**

**Blanchard, J.W. et al. Nature 611, 769-779 (2022)** for the impact of APOE4 on myelination via cholesterol dysregulation in oligodendrocytes (supported by NIH grants R01NS114239-01A1, UG3NS115064, RF1AG062377, RF1AG054012-01, U54HG008097, R01AG058002, K24AG062786, R01AG015819, RF1-AG0540124, RF1AG062377, the Robert A. and Renee E. Belfer Family, the JPB Foundation, the Carol and Gene Ludwig Family Foundation, the Cure Alzheimer's Fund, MIT BCS Broshy Graduate Student Fellowship and the MIT BCS Halis Graduate Student Fellowship)

Karl, C. & Gonçalo Castelo-Branco Nature 611, 670-671 (2022) Alzheimer's risk variant APOE4 linked to myelin-assembly malfunction

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## ALZHEIMER'S DISEASE-RELATED DEMENTIAS SUMMIT 2022
## Top Priority Recommendations from Cross-cutting Sessions

### MULTIPLE ETIOLOGY DEMENTIAS (MED)

**Scientific Chair: Katherine Possin, PhD**

Rec. 1 Evaluate pragmatic approaches to objectively detect cognitive impairment and link to quality care when a patient, care partner, or clinician reports cognitive, behavioral or functional changes.

Rec. 1 Conduct clinical studies on approved or promising interventions and treatments to mitigate risk for cognitive decline.

*Special Topic:* **Post-Traumatic Brain Injury (TBI) AD/ADRD**
**Scientific Chair: Kristen Dams-O'Connor, PhD**

Rec. 1 Promote collaboration among TBI and dementia researchers through working groups, retrospective and prospective data and measurement harmonization, and interdisciplinary research.

*Special Topic:* **LATE (TDP-43 In Common Late-Onset Dementias)**
**Scientific Chair: Julie Schneider, MD, MS**

Rec. 1 Define LATE (pathologic, clinical, genetic, molecular) classification and diagnostic boundaries across FTLD-TDP, AD and other dementia related pathologies and their syndromes to enhance diagnosis, research, and awareness assuring diversity, inclusion and equity.

*Special Topic:* **Impact of COVID-19 on AD/ADRD Risk and Outcomes**
**Scientific Chair: Sudha Seshadri, MD**

Rec. 1 Establish research infrastructure enabling clinical, epidemiological and basic research studies of COVID-19 impact on AD/ADRD risk and outcomes, prioritizing disproportionally affected populations and clinical trials readiness.

## Priority: Detecting Cognitive Impairment, Including Dementia, in Everyday Care Settings in 10 Minutes or Less, With EHR Follow-up Recommendations


### DetectCID Assessments in Pragmatic Clinical Trials

**UCSF Paradigm (TabCAT-BHA):** Two required tests: *Favorites* and *Match*

**Einstein Paradigm (5-Cog):** Three components: *Picture-based Memory Impairment Screen, Timed walk* and *Paper-Match*

**Northwestern Paradigm (MyCog):** Based on two modified NIH Toolbox Cognition Batteries: *Picture Sequence Memory* and *Dimensional Change Card Sort*

"Recent finding highlight promising approaches to improving the detection of cognitive impairment, as well as approaches to partnering with primary care that could be useful across specialties"

Sideman, A.B. et al., J. Alzheimers Dis. (2022)

**Detecting Cognitive Impairment, Including Dementia, in Primary Care and Other Everyday Clinical Settings for the General Public and Health Equity, Pragmatic Clinical Trials** (RFA-NS-22-009)

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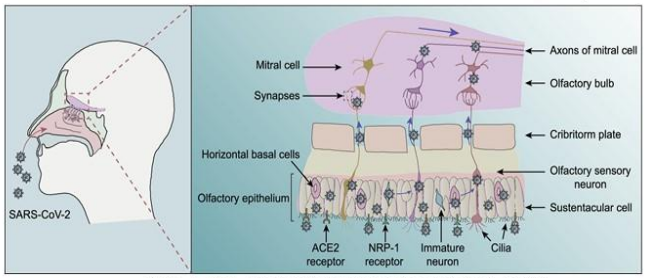
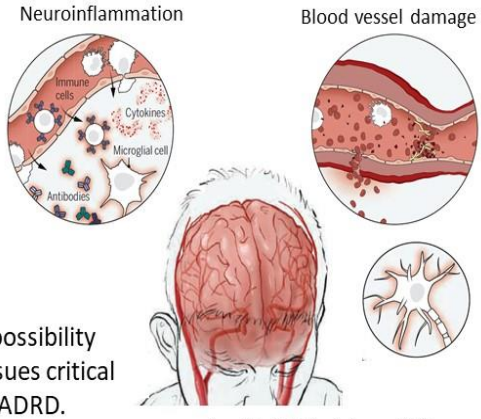
## Priority: Impact of COVID-19 on Risk and Outcomes of ADRD

**Possible route of the virus from nose to the CNS via olfactory nerve**




Chen, F. et al., Translational Neurodegeneration, 2022

**Putative neuropathogenic effects of COVID-19**




Spudich & Nath, *Science*, 2022

Clinical & pathological observations of COVID-19 have raised the possibility that it is a risk factor for dementia. NIH support research that pursues critical knowledge needed to understand the impact of COVID-19 on AD/ADRD.

- **Impact of COVID-19 on Dementia Risk, Progression and Outcomes in ADRD Populations** (NOT-NS-21-037)
- **Neuropathological Interactions Between COVID-19 and ADRD** (Planned Initiative)

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# NIH ADRD Summits Shape ADRD Research Priorities


**Common Themes**

- Achieving **health equity** in AD/ADRD is a major unmet need.
- Need for research & implementation of **pragmatic approaches** and solutions in ADRD (includes pragmatic clinical trials).
- **Precise biomarkers** are needed to identify underlying disease processes in individuals.
- Personalized approaches to prevention and treatment are needed that by design address health equity and diverse populations.
- In *clinical* research: prevention, pre-symptomatic vigilance, and concerted attention should be paid to the **immediate needs** of individuals living with dementia.
- In *basic* research, needs include **novel strategies and tools** (models, biology paradigms) and/or seeking synergies, maximizing divergence in pathways.

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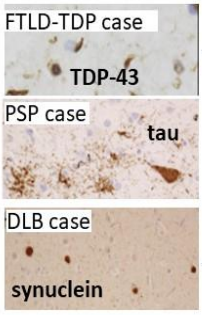
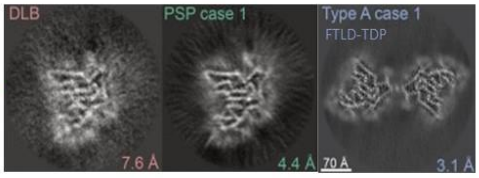
# Recent Science Advance: Cryo-EM Structural Biology Approaches Discover Insoluble Protein Aggregates of TMEM106B Across AD/ADRD Diagnoses

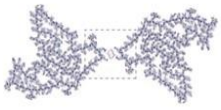



Immuno-stained postmortem human brain tissue. Brains also used to isolate insoluble protein for high resolution Cryo-EM of aggregates.

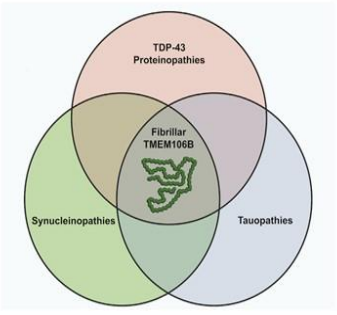
**Cryo-EM reconstructions of TMEM106B fibrils**




Cryo-EM density & atomic model
**TMEM106B doublet fibril:**



- TMEM106B is a lysosomal transmembrane protein
- Previously identified as a risk gene for FTD-TDP




**Chang, A., *et al*. *Cell* (2022)**

- **Structural Biology of ADRD Proteinopathies** (RFA-NS-18-015), U01NS110438 (Fitzpatrick)
- **Lewy Body Dementia Center without Walls** (RFA-NS-19-013), U54NS110435 (Dickson)


**Chang, A. *et al. Cell* 185, 1346-1355 (2022)** (Supported by NIH grants U01NS110438, U54NS110435, the Association for Frontotemporal Degeneration, Canadian Institutes of Health Research, and MCDB Neurodegenerative Disease Fund)

**Jiang, Y.X., *et al. Nature* 605, 304-309 (2022)** (Supported by NIH grants RF1AG054022, R56AG061847, R01GM103479, T32GM007185, P30AG062677, P01AG003949, U19AG063911 & P01NS084974, NSF, UCLA, and National Facility for Translational Medicine (Shanghai))

**Schweighauser, M., *et al. Nature* 605, 310-314 (2022)** (Supported by NIH grants P30AG010133, U01NS110437, RF1AG071177, MRC, EU/EFPIA/Innovative Medicines Initiative, Indiana University School of Medicine, Japan Agencies for Science and Technology and Medical Research and Development, the Japan Society for the Promotion of Science)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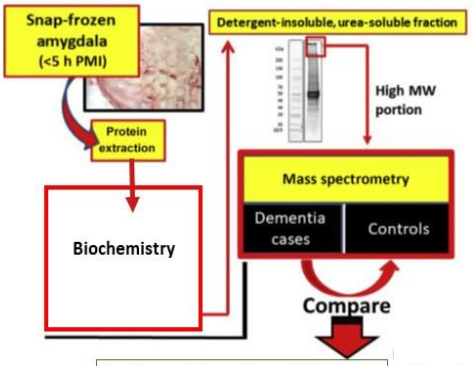
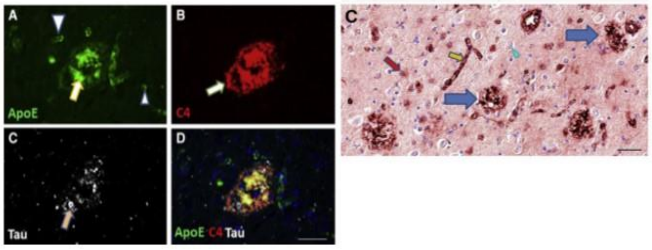
## Recent Science Advance: Aggregated ApoE Protein Associated With Dementia




Analyses of dementia-enriched peptides from APOE3/APOE3 homozygous and other cases: tau, alpha-synuclein, APP/Aβ, and APOE.

**Dementia with APOE3/APOE3 genotype: Amyloid plaque-like structures in amygdala with ApoE protein.**




Conclusion: The most common genetic risk factor for dementia is APOE4. Unexpectedly, ApoE protein, including in people who are not APOE4 carriers, is present in large protein aggregates/amyloid-like plaque structures in the amygdala of people with dementia, consistent with a direct pathogenic role for ApoE protein.

**Jozsef G *et al*. *The American Journal of Pathology* (2022)**


***Jozsef, G. et al. The American Journal of Pathology 192, 564-578 (2022)*** (Supported by NIH grants R21NS095299, RF1NS118584, P30AG072946, R01AG042419, R01AG042475, R01AG061111, R01 AG057187, R21AG061551, R01AG060056, R01AG062550 and S10 RR029127, the VA MERIT award I01BX002149)

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## *Paradigm Shift:* Multiple Potential Pathways to Dementia

**LIFESTYLE FACTORS**
- Physical Activity
- Diet
- Drug/Alcohol Abuse

**ENVIRONMENTAL FACTORS**
- Education
- Head Trauma
- Toxins/Other

**PSYCHOSOCIAL FACTORS**
- Depression/Anxiety

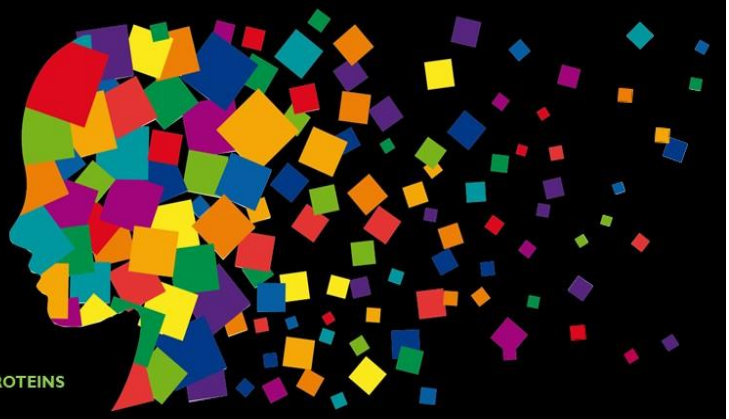
**OTHER MEDICAL RISKS**
- Metabolic / Obesity / Diabetes
- Hypertension / Heart Disease / Stroke
- Inflammation
- Certain Infectious Diseases
- Certain Medications

**HEALTH DISPARITIES FACTORS**

**AGING**

**GENETIC FACTORS**

**SEX F>M**



***MISFOLDED PROTEINS**
- Amyloid
- Tau
- Alpha Synuclein
- TDP-43

***VASCULAR DISORDERS**
- Injury, Infarct (Stroke)
- White Matter Disease
- Other Vessel Disease

***OTHER DISORDERS**

**COGNITIVE IMPAIRMENT and DEMENTIA DIAGNOSES**

Alzheimer's Dementia
Lewy Body Dementias
Vascular Dementias
Frontotemporal Dementias
Limbic Predominant TDP
Mixed Dementias
Other Cognitive Impairment
Other Dementias

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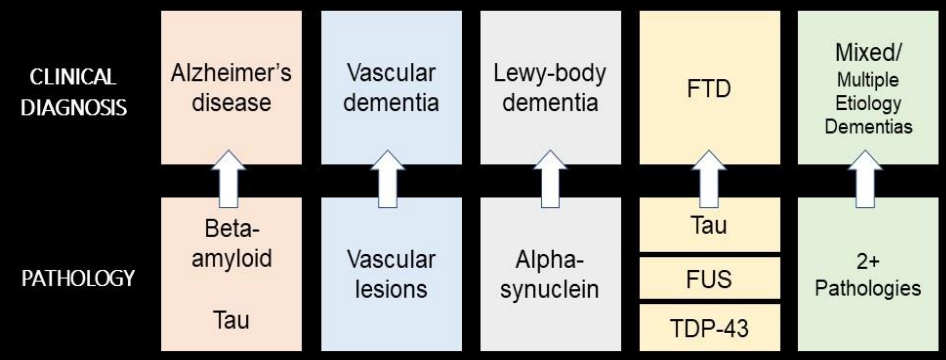
## Traditional Perception of Relationship Between Brain Pathologies and Clinical Dementia Diagnoses

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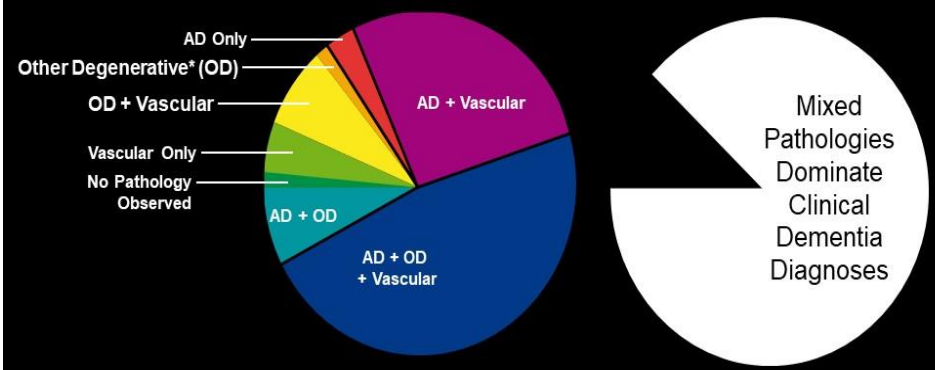
## Traditional Perception of Relationship Between Brain Pathologies and Clinical Dementia Diagnoses is the Exception, Not the Rule

**CLINICAL DIAGNOSIS: PROBABLE ALZHEIMER'S DEMENTIA**

**PATHOLOGICAL DIAGNOSES:**




**THIS MATTERS BECAUSE WE MUST TREAT INDIVIDUALS**

Increased recognition that more than one disease process is typically present in a person's brain should help move toward effective treatments.

BIOMARKERS

Adapted from KAPASI A, ET AL. ACTA NEUROPATHOL. 2017 AUG;134(2):171-186. ROS/MAP (N = 447)

*Other Degenerative (OD) included neurodegenerative disease pathologies: Lewy bodies, TDP-43, hippocampal sclerosis

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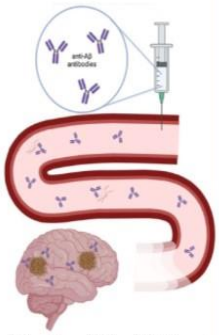
## Two-Pronged Approach for Passive Immunotherapy Targeting Beta-Amyloid

Passive Immunotherapy



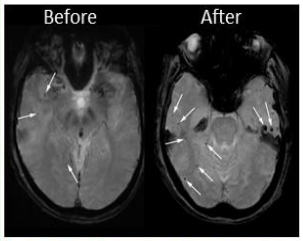
Foley, K.E. and Wilcock, D.M. Current Neurology and Neuroscience Reports 22:709–719 (2022)

Passive Immunotherapy Targeting Beta-Amyloid

Reduction of beta-amyloid plaques

Amyloid-related imaging abnormalities (ARIA)

Brain MRI




https://www.science.org/content/article/scientists-tie-third-clinical-trial-death-experimental-alzheimer-s-drug#.Y6R1k_Jx-ao.mailto

**Anti-beta-amyloid Efficacy in MED/VCID (Planned Initiative)**

**Blood Brain Barrier Response to Antibodies Targeting Beta-Amyloid (PAR-22-235)**

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## Added Funds Since FY 2016 Allowed NINDS to Establish and Lead Major ADRD Research Programs and Consortia

- **DiverseVCID,** impact of white matter vascular changes and comorbidities on dementia risk in diverse populations
- **MarkVCID**, consortium for vascular contributions to cognitive impairment and dementia (VCID) biomarkers
- **DISCOVERY,** impact of stroke types and comorbidities on dementia risk in people from diverse backgrounds
- **DetectCID,** increase detection of cognitive impairment/dementia in primary care settings in diverse populations
- **FTD Center Without Walls**, study molecular mechanisms that lead to FTD
- **FTD Sequencing Consortium,** to discover FTD-causing gene mutations
- **ALLFTD Natural History Study in FTLD**, with the NIA
- **PET Ligand Development** and **Structural Biology for AD/ADRD Proteinopathies**
- **Lewy Body Dementia Center Without Walls** to characterize α-synuclein and β-amyloid subtypes in LBD
- **LBD biomarker discovery research**
- **CONNECT-TBI,** consortia to study traumatic brain injury (TBI) links to AD/ADRD
- **Center for Alzheimer's Disease Research (CARD)**, intramural center with NIA

DIVERSE VCID

ALLFTD ARTFL LEFFTDS Longitudinal Frontotemporal Lobar Degeneration

DISCOVERY Determinants of Incident Stroke Cognitive Outcomes and Vascula Effects on RecoverY

detectCID

Tauopathy and TDP-43 Proteinopathy Structural Biology Using Cryo-EM & Mass Spectrometry

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NIH National Institute of Neurological Disorders and Stroke
Boston Children's Hospital Until every child is well
Columbia University
Mayo Clinic
Tau Center Without Walls
MarkVCID

CTE/TBI Center Without Walls
Boston University
Penn

## NINDS AD/ADRD Research Program – Summary

- ❑ NINDS ADRD Summits set National Research Priorities
- ❑ 75 NINDS ADRD funding initiatives inviting applications to fill critical needs, and investigator-initiated research
- ❑ Established new major ADRD programs and consortia
- ❑ NINDS ADRD program has guided transformative research and contributed to new advanced understanding toward interventions

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## ADRD Funding Initiatives and Plans for FY2024

**NINDS led 15 funding announcements in FY2023**

**There are 5 AD/ADRD funding announcements currently open that NINDS participates in:**

https://www.ninds.nih.gov/funding/find-funding-opportunities (Search "ADRD")

**NINDS funding announcement concepts are being planned for FY2024**

| WORKFORCE | RESEARCH | |
|---|---|---|
| Diversity<br>Training<br>Career | ▪ Social Determinants<br>▪ Modifiable Risk(s)<br>▪ Mechanisms & Pathology<br>▪ Covid-19 & Dementia | ▪ Translational<br>▪ Biomarkers & Diagnosis<br>▪ Clinical Trials |

See the NINDS Focus on Alzheimer's Disease and Related Dementias page for details:
https://www.ninds.nih.gov/current-research/focus-disorders/alzheimers-related-dementias

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NINDS AD/ADRD Program - Thank You to NINDS and NIA Leadership and Staff
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Erin Bryant (ONCE)
Roger Campbell (NINDS)
Chi Chang (NINDS)
Sara Dodson (NINDS)
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Health Equity: Richard Benson
LBD: Debra Babcock
MED-Overall, TBI, -LATE: Linda McGavern
MED-COVID-19: Keith Whitaker
VCID: Roderick Corriveau
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