



Welcome, Milwaukee!

Saturday,
October 3,
2025

Updates from the Wisconsin Registry for Alzheimer's Prevention
2025 WRAP Info Sessions





Info Session Outline

- New developments in the field
- Current status of WRAP
- Key findings
- Linked studies
- What we will do next



WISCONSIN ALZHEIMER'S INSTITUTE

Regional Milwaukee Office

Established 2008

Director – Gina Green-Harris, MBA

Associate Director - Nia Norris, PhD

Clinical Research Supervisor- Celena Ramsey, BS

Meet the **people**
where they are.



Wisconsin Alzheimer's Institute

UNIVERSITY OF WISCONSIN

SCHOOL OF MEDICINE AND PUBLIC HEALTH

Regional Milwaukee Office



Education, services, research and resources for communities of color





OUR TEAM

Community Engagement
led through:

- Outreach & Education
- In-Home & Diagnostic Services
- Advocacy
- Research
- Philanthropy



Gina Green-Harris
Director



Dr. Nia Norris
Associate Director



Stephanie Houston
Outreach Program Manager



Celena Ramsey
Clinical Research Supervisor



Gail Morgan
Outreach Specialist



Ian Canovi
Clinical Research Coordinator



Naveena Jaspal
Marketing Specialist



Julie Leach
Clinical Research Coordinator



Rainy Von Gunten
Clinical Research Coordinator



Heidi Bucci
Clinical Research Coordinator



Nicole Pocian
Phlebotomist



Jennifer Landeta Vidal
Data Analyst/Evaluator



Wisconsin Alzheimer's Institute

UNIVERSITY OF WISCONSIN
SCHOOL OF MEDICINE AND PUBLIC HEALTH

Regional Milwaukee Office

www.wai.wisc.edu/milwaukee

CURRENT AREAS OF REACH IN THE COMMUNITY



Wisconsin Alzheimer's Institute
UNIVERSITY OF WISCONSIN
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Regional Milwaukee Office

Caregivers and People with a Family History of AD

- The Amazing Grace Chorus
- Engaging African American Caregivers in a Group-based Wellness Promotion Program (GMF Award)
- Wisconsin Registry for Alzheimer's Prevention (WRAP)/ African Americans Fighting Alzheimer's in Midlife (AAFAIM)

Individuals Living with Dementia

- In-Home Memory Diagnostic Program
- The Amazing Grace Chorus



Community Advisory Board

- Active for 16 years
- Diverse membership (gender, race/ethnicity, age, org. representation)
- Supports initiatives of WAI Milwaukee, UW, and local researchers and organizations

Committees: Local, State, and National Levels

- Milwaukee County Advisory Council
- Latino Dementia Regional Consortium
- UW-Milwaukee Helen Bader School of Social Work Dean's Advisory Council
- WI DOJ Community Crisis Response Team
- State Dementia Leadership Planning Committee
- Milwaukee County I-Team
- UW Professional Development and Recognition Committee
- Governor's Health Equity Council
- National Alzheimer's Association Board
- And many others...



The Amazing Grace Chorus®

Marketing and Advertisement Channels

- Local/Community Newspapers and Magazines
- Local Television Network Stations
- Local Radio Stations
- Networks/Committees
- Social Media (FB, Twitter)
- WRAP Newsletter
- IEA Donor Newsletter

General Public

- The Amazing Grace Chorus
- Addressing Systemic Racism Webinar Series
- Breaking the Silence: Addressing Dementia in Communities of Color
- Community Presentations
- Community Conversations
- Coffee and a Chat Series
- Dementia Wellness Program
- Drive-Thru Health and Resource Fair

Community Partners and Collaborations

- African American Round table of Leaders (Racine), Aurora, CAARN, Civic Organizations, CUPH, PEERS Lead, Grassroots organizations, and many others...
- Projects and Programs (ex: Caring for the Caregiver Annual Program, etc.)
- Community Sponsorships



CURRENT AREAS OF REACH TO SUPPORT RESEARCH

Community Partners and Collaborations

- Research participants (ex: presenters in events and activities)
- Faith-based and Health networks
- Aging and Dementia- specific Organizations
- Civic organizations
- University Affiliates

Community Advisory Board

- Actively provides support and advice for recruitment strategies
- Includes the voice of WRAP research participants
- Engages directly in community activities and events to support the initiatives of WAI Milwaukee

Caregivers and General Public

- Health fairs and workshops
- Caregiver events (ex: Caring for the Caregiver)
- Community Presentations
- In-Home Diagnostic Program
- Research Information Sessions
- Minority Health Month events
- General Engagement Events (WRAP and Roll, Coffee and a Chat, Drive-thru Health and Resource Fair)
- Educational Entertainment (ex: Forget Me Not Play)

Marketing and Advertisement Channels for Engagement

- Local/Community Newspapers and Magazines
- Local Radio Stations
- Social Media (FB, Twitter)
- WRAP Newsletter

GOALS FOR RECRUITMENT AND PROGRAM GROWTH



Wisconsin Alzheimer's Institute

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Reinstated Blood Draws MRIs and Brief Medical Exams for MKE WRAP Participants.

- In collaboration with **UW REACH** and **MCW (Medical College of Wisconsin)**, WRAP reinstated these portions of the research visit for Milwaukee participants and Brief Medical Exams will resume later this year.



RECRUITMENT GOAL FOR WRAP

Enroll
200 additional African Americans
over 5 years
(2023-2028)

To friends and family of WRAP Participants Join our Research!

Everything we have learned is because someone volunteered for a research study.

Thanks to study participants, researchers are making great strides in early diagnosis of memory disorders and identifying interventions to help treat, delay and possibly prevent Alzheimer's disease.

Could you **JOIN US** in ending Alzheimer's disease?
Together, **WE CAN** build a **Future to Remember.**



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Why WRAP?

The Problem with Alzheimer's Disease and Related Dementia in 2025



What we know now about Alzheimer's (AD)

- **Biological definition** based on amyloid- β and tau
- **Clinical stages** of AD defined separately
- Long **pre-symptomatic stage**
 - WRAP is defining
- Can be detected with a simple, FDA approved, blood test
 - WRAP samples contributed to the first approved test!
- Amyloid can be removed with new FDA approved treatments
- Other 'related disorders' mimic or co-occur with AD, impacting diagnosis and speed of progression
- Alzheimer's Disease and related disorders affect over 7 million in the U.S.

FDA approves first blood test for Alzheimer's

The U.S. Food and Drug Administration (FDA) has cleared Lumipulse, the first-ever blood test for diagnosing Alzheimer's disease in adults 55 and older.



Lumipulse Test Mechanism

pTau217 Biomarker Detection

Comparison With PET Scans





Dementia vs. Alzheimer's disease



Dementia = **advanced changes in memory and thinking** (cognitive decline) caused by one or more diseases such as Alzheimer's disease



Alzheimer's disease (AD) = abnormal protein build-up of b-amyloid **plaques** and tau **tangles**

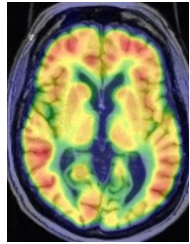


Dementia is not normal aging

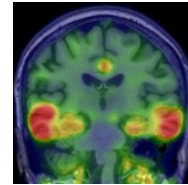
- Dementia is not a disease name, it's a stage
- Dementia is the consequence of a disease
- Five main brain diseases cause dementia
 - Alzheimer's = Amyloid + Tau protein
 - Vascular = Shrinking brain blood vessels
 - Parkinson's & Lewy body: alpha-synuclein protein
 - Frontotemporal: several proteins
 - LATE: TDP-43 protein
- Neurodegenerative diseases kill brain cells and cause gradual symptoms, including eventual dementia



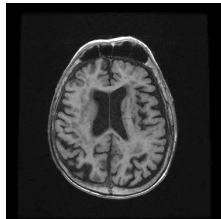
Alzheimer's Disease Progression



Amyloid
plaques



Tangles



neurodegeneration

Mild cognitive
impairment

Dementia

Pre-Clinical 'Window'

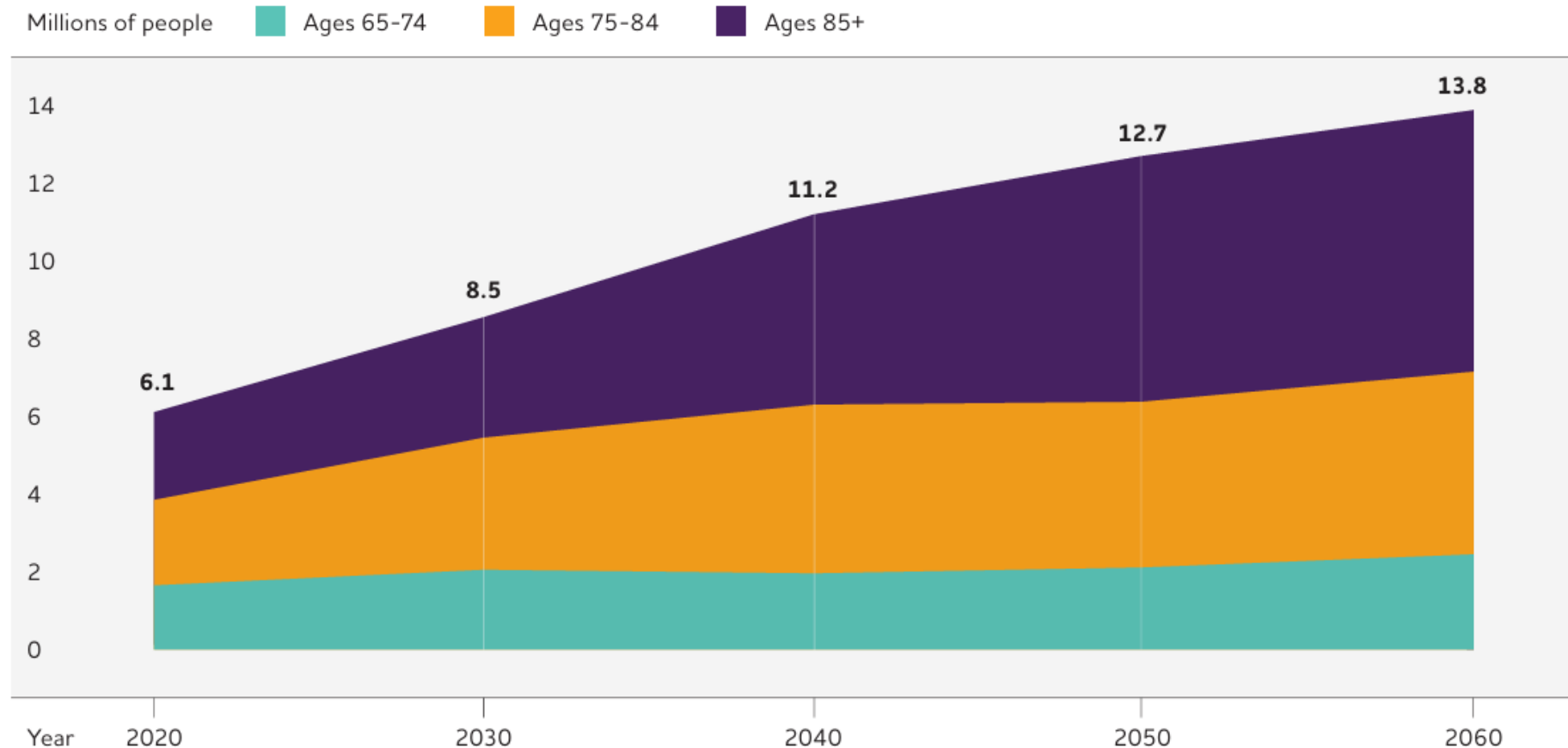
~10-30 years from detectable
levels of amyloid to dementia



Rates of Alzheimer's Disease are rising



Projected Number of People Age 65 and Older (Total and by Age) in the U.S. Population with Alzheimer's Dementia, 2020 to 2060



2025 Alzheimer's Disease Facts and Figures, Alzheimer's Association



ADRD in Wisconsin

**NUMBER OF WI
RESIDENTS AGED
65+ WITH dementia
due to ADRD:**

2020	120,000
2025	130,000



MEDICARE

\$23,317

Per capita Medicare spending on
people with dementia (2020 dollars)

191,000

Number of caregivers of
persons with dementia in WI

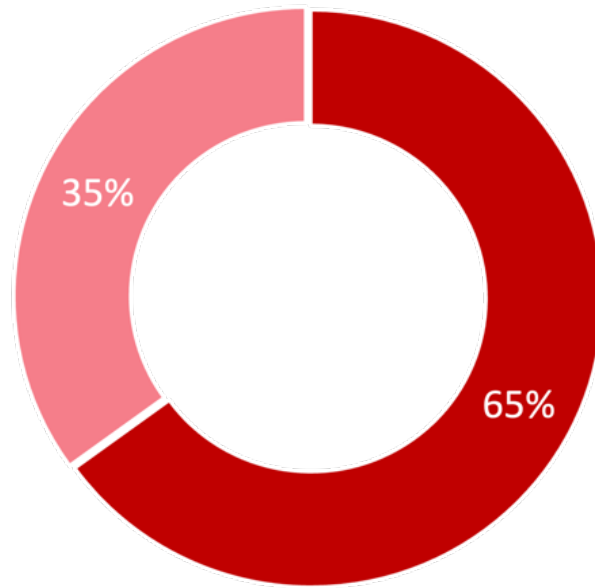
<https://www.alz.org/media/Documents/wisconsin-alzheimers-facts-figures-2023.pdf>
<https://www.cdc.gov/nchs/pressroom/states/wisconsin/wisconsin.htm>



Why WRAP? ADRD in 2025

Often, Dementia is not Caused by AD Alone

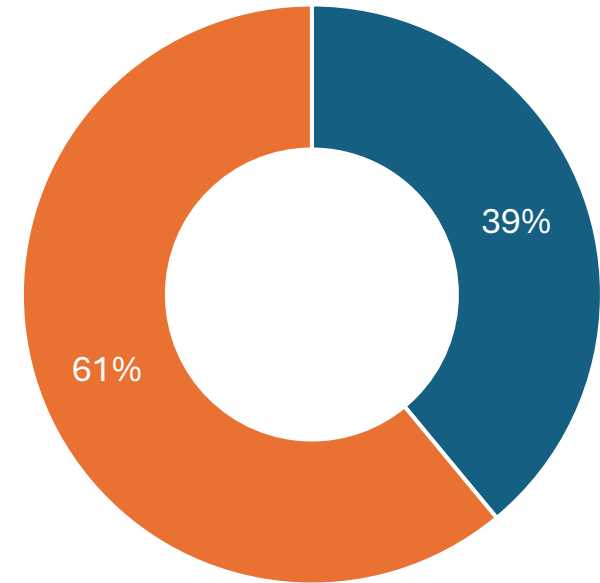
Multiple protein-related causes of dementia



■ AD plus ■ AD only

People with more than one disease decline faster

Vascular disease and Alzheimer's disease



■ ADNC without CVD ■ ADNC plus CVD

Woodworth et al 2024, Acta Neuropathologica

Frank et al 2022 Neurology



Alzheimer's Disease FDA Drug Approvals

U.S. Food and Drug Administration-Approved Treatments for Alzheimer's Disease

Treatment	Treat symptoms (cognition and function) Treat symptoms (behavior) Treat symptoms (mood) Slow disease progression (cognition, function and behavior)				
	Asymptomatic or Subtle Cognitive Change (Stages 0-2)	Mild Cognitive Impairment (Stage 3)	Mild Dementia (Stage 4)	Moderate Dementia (Stage 5)	Severe Dementia (Stage 6)
1996 Donepezil (Aricept®)					
2000 Rivastigmine (Exelon®)					
2001 Galantamine (Razadyne®)					
2003 Memantine (Namenda®)					
2014 Memantine + Donepezil (Namzaric®)					
2020 Suvorexant* (Belsomra®)					
2023 Lecanemab (Leqembi®)					
2023 Brexpiprazole (Rexulti®)					
2024 Donanemab (Kisunla™)					

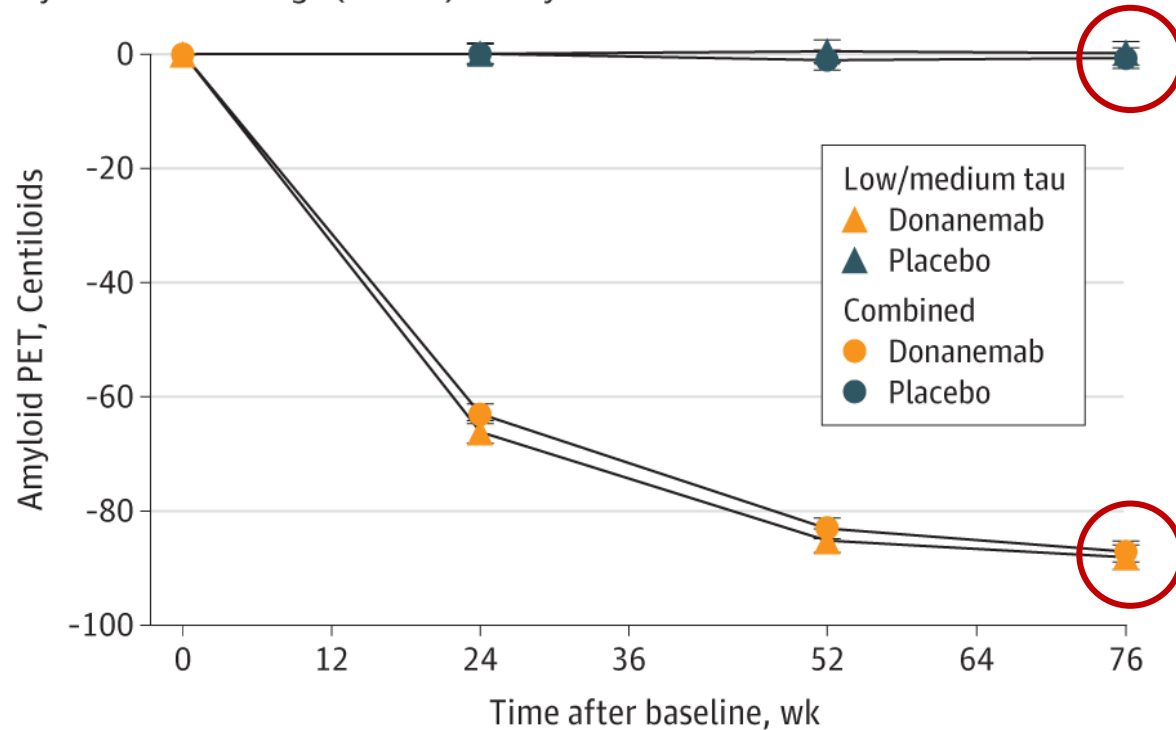
2025 Alzheimer's Disease Facts and Figures, Alzheimer's Association

*Approved for insomnia, not Alzheimer's, but safe and effective in people living with Alzheimer's.

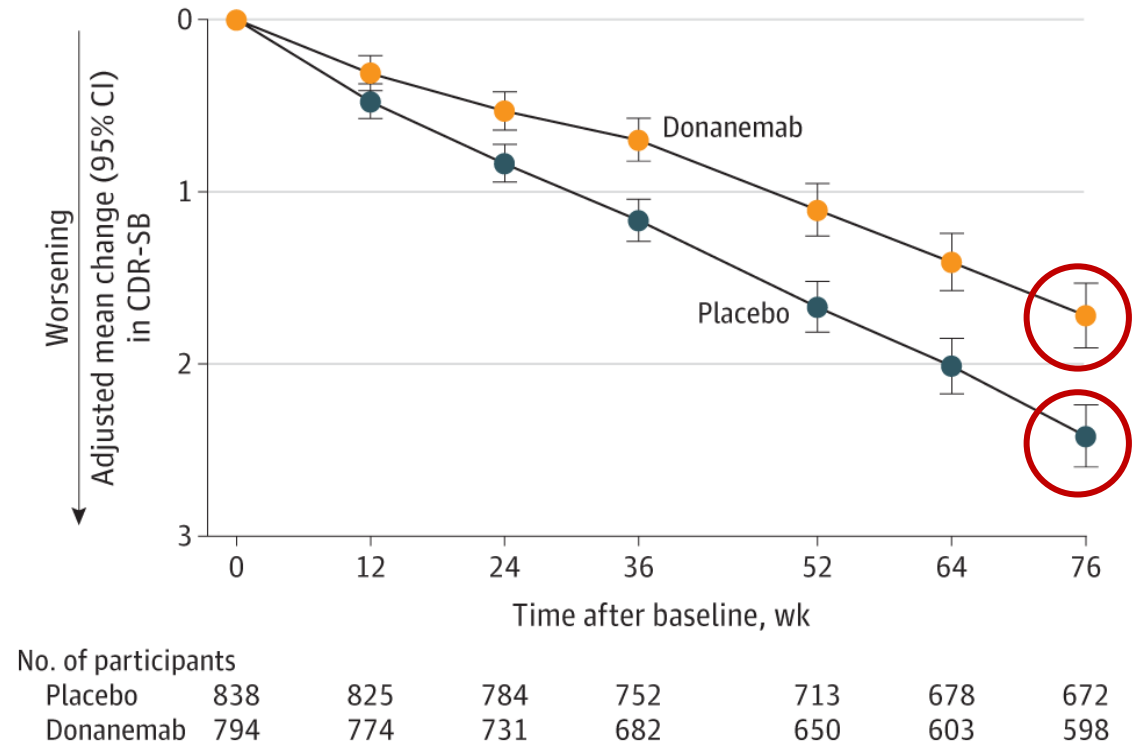


Anti-Amyloid Therapies Remove Plaques, Slow Decline

A Adjusted mean change (95% CI) in amyloid PET



D CDR-SB in combined population



Van Dyck, et al., *NEJM*. 2022; Sims, et al., *JAMA Neurol*. 2023



Why WRAP? ADRD in 2025



The WRAP Study

Who, How, and What have we learned?



**Wisconsin Registry
for Alzheimer's Prevention**
UNIVERSITY OF WISCONSIN
SCHOOL OF MEDICINE AND PUBLIC HEALTH



What is WRAP?

One of the world's largest and longest running studies of individuals at risk* for Alzheimer's dementia



A LONGITUDINAL STUDY DESIGNED TO
DISCOVER FACTORS THAT SLOW DOWN
ALZHEIMER'S DISEASE

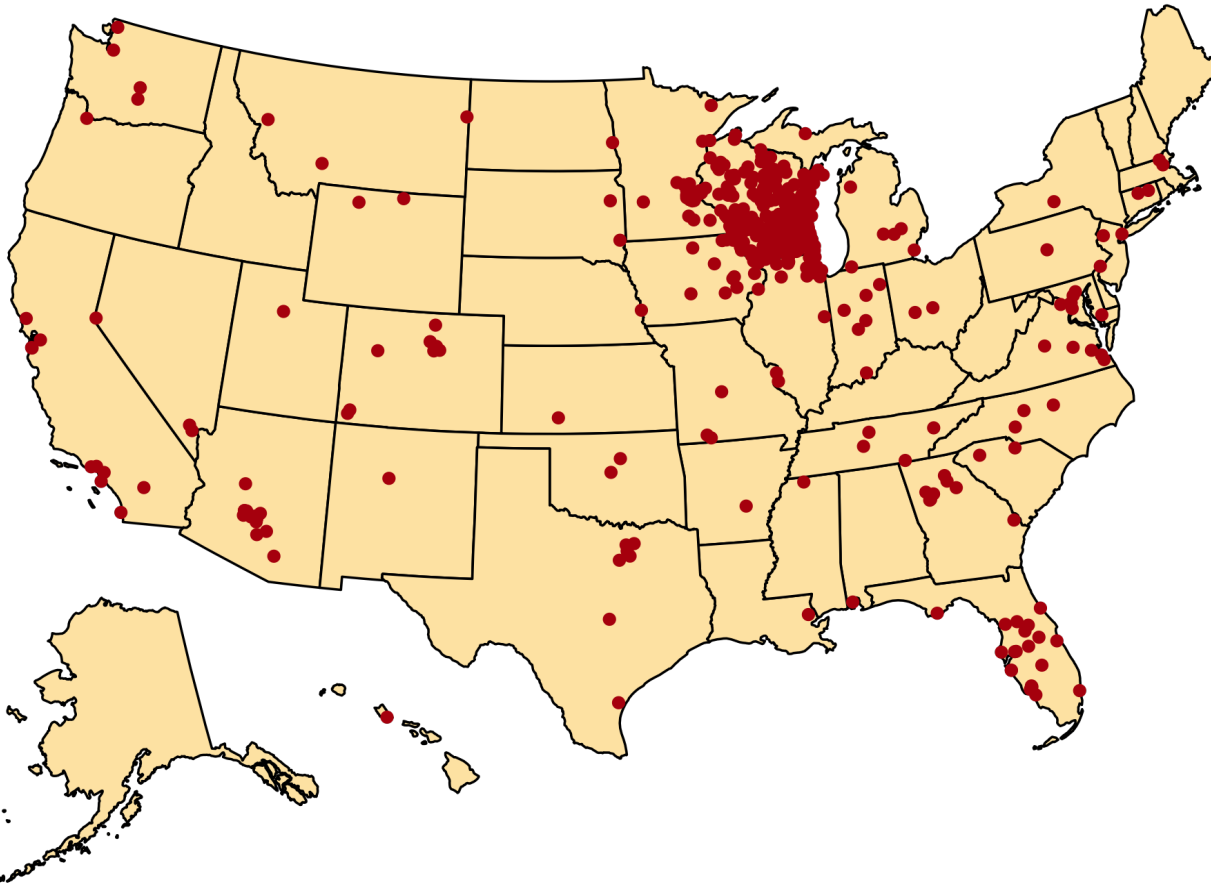


A VOLUNTEER REGISTRY FOR MANY
LINKED RESEARCH PROJECTS





Who is WRAP?



1938
individuals
completed
8718
study visits

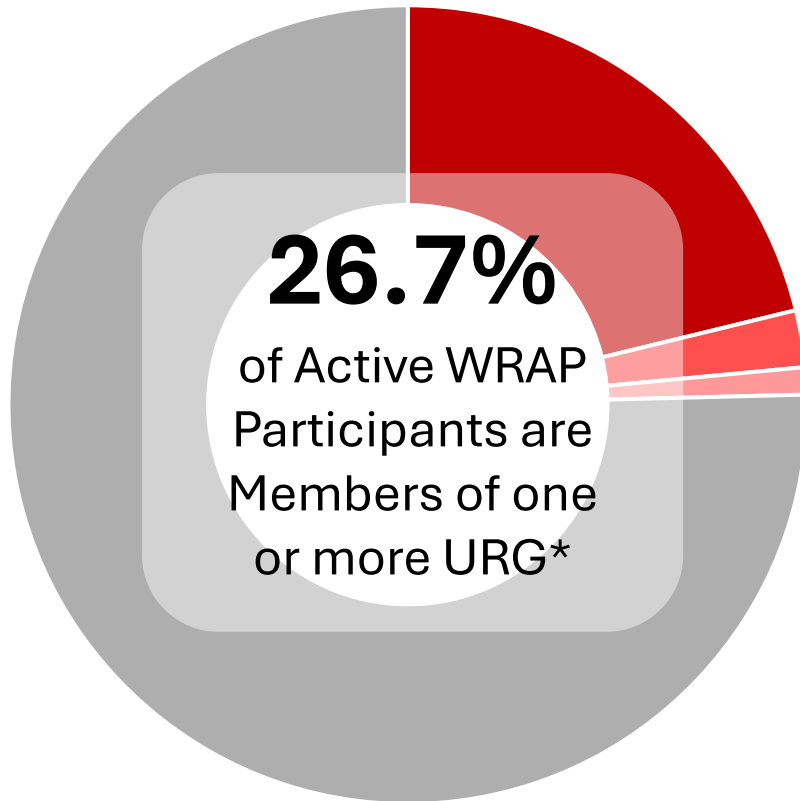
1142
participants
attended visits
since 2020

283 new
participants
since 2020

1 new visit
location: South
Madison
Partnership
Office



Goal: Research that Applies to Everyone



*URG= Group historically Under-Represented in research,
individuals may report to more than one group



WRAP Participant Demographics



WRAP Participant Health Conditions





WRAP Participant Cognitive Impairment

Cognitively
Unimpaired and
Stable

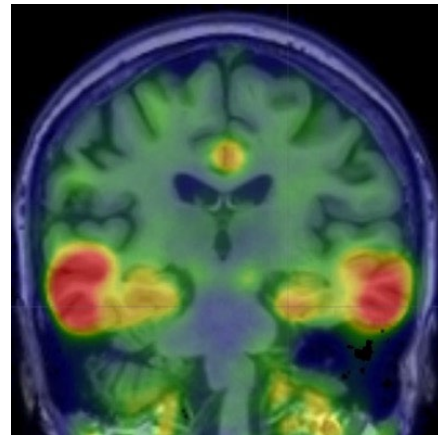
Cognitively
Unimpaired and
declining

Mild Cognitive
Impairment

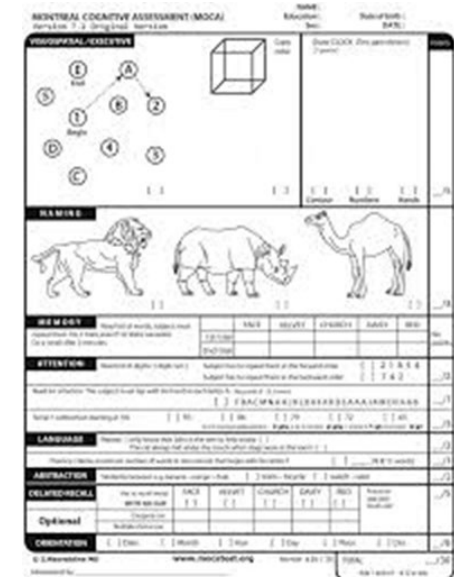




- PET and MRI Imaging
- Lumbar Puncture
- Blood
- Carotid Artery Ultrasound



- Tests of Memory & Thinking
- Questionnaires & Interviews
- Medical Exams
- Smell test UPSIT





WRAP Participant Contributions

740

participants
completed

1612

Amyloid PET
Scans

702

participants
completed

1184

Tau PET Scans

Banked

8519

blood samples

Banked

1000

cerebrospinal
fluid samples

954

participants
completed

2990

MRI Scans

Nearly **600**

Brain Donor
Program
enrollees





Discoveries Made

Questions Remain





WRAP's Impact on Scientific Discovery



Shared Biomarker Clocks, now used throughout our field



Demonstrated impact of non-AD pathology on progression rates



Proved ability to detect non-AD pathology pre-symptomatically

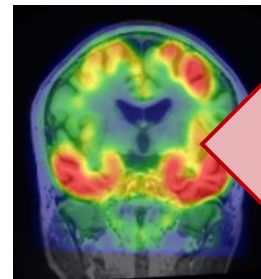
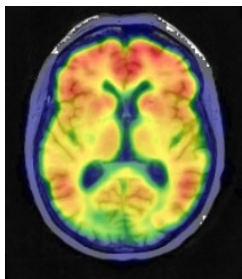


Validated that blood biomarkers work to detect AD!





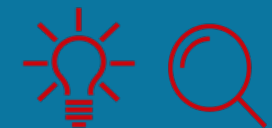
Alzheimer's Disease Biomarkers in WRAP



Results come from
your PET Scans



Results come from
your Blood Draws





WRAP is Driving New Research

Informed national
study led by Wisconsin



Raised awareness of
multi-etiology causes
of impairment

Recruited Hartmuth
Kolb: discovered Tau
PET, informed by
Nobel prize winning
research

Recruited Henrik
Zetterberg: world
leader in biomarkers
for ADRC

Developed industry
partnerships,
collaborations, and
publications





Current Research Questions



Are discoveries generalizable to all communities?



How do lifestyle, medical, and social health factors impact cognitive change?



How early can we detect non-AD pathologies? How do they contribute to symptoms?



How can we expand the time between Amyloid onset and impact on memory and thinking?



How can WRAP inform clinical decision making and clinical trials?





Wisconsin Registry
for Alzheimer's Prevention
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WRAP is a Leader in the Field

Alzheimer's disease and related dementia clocks:

Amyloid- β , pTau, Vascular, α -Synuclein, TDP43

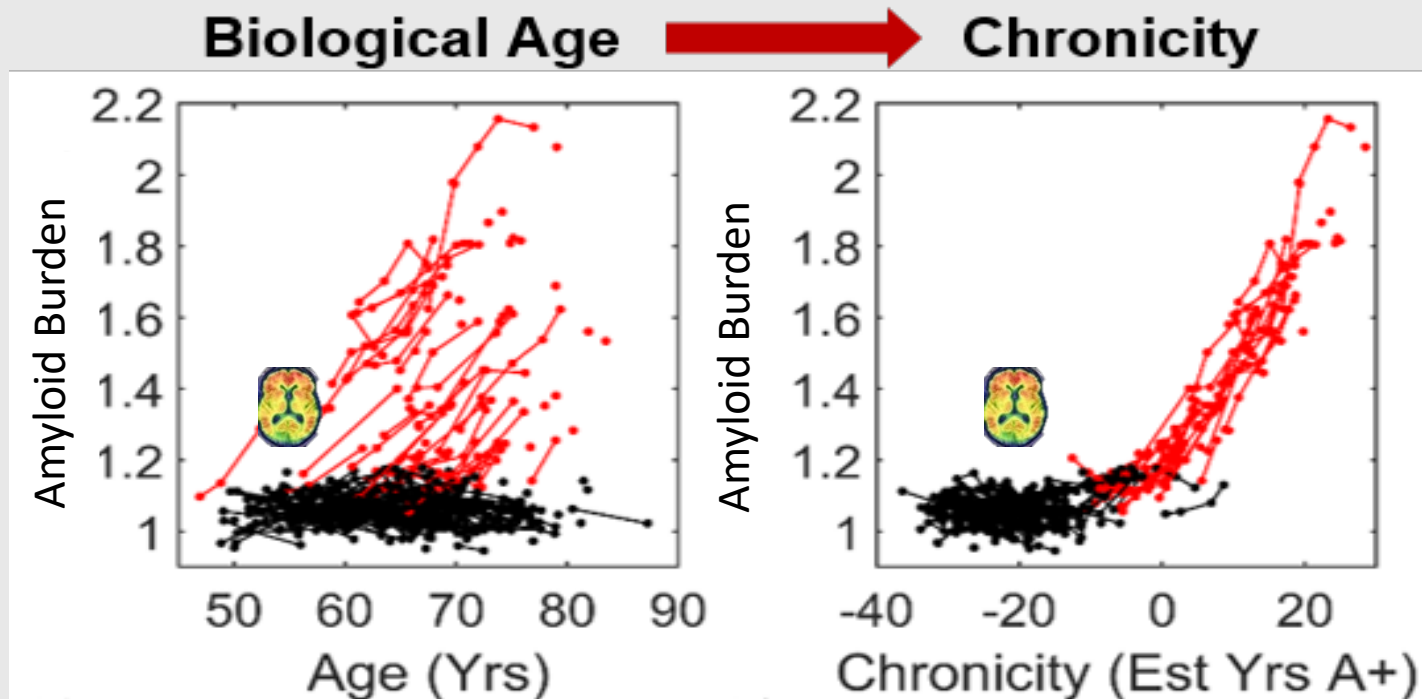
Mapping the path of presymptomatic ADRD



2025 WRAP Info Sessions



Amyloid Trajectories are Predicable



Fifteen years of amyloid PET scans

Because amyloid accumulates predictably, the prior age of *amyloid onset* and duration can be gleaned from a *single scan*

Langhough et al, 2020, DADM
Betthausen et al 2022, Brain

WRAP is a Leader: Biomarker clocks



People Develop Amyloid at Different Ages



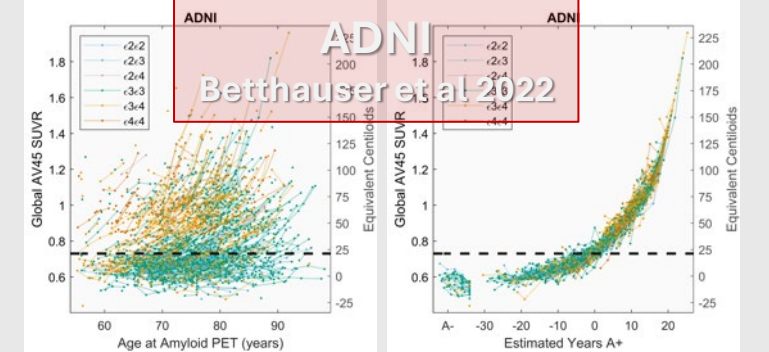
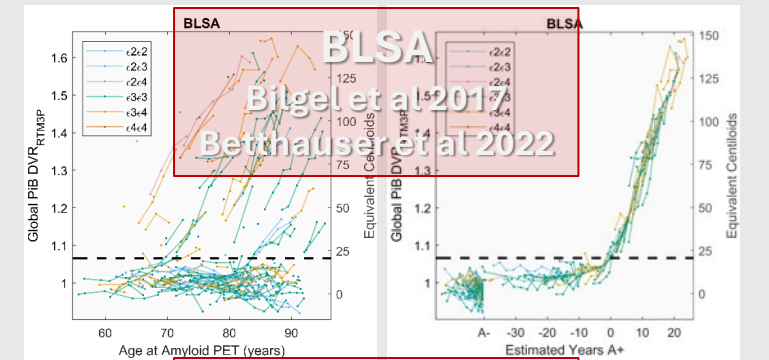
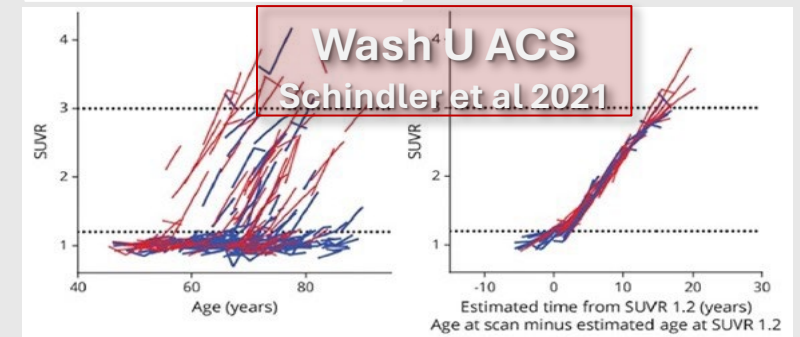
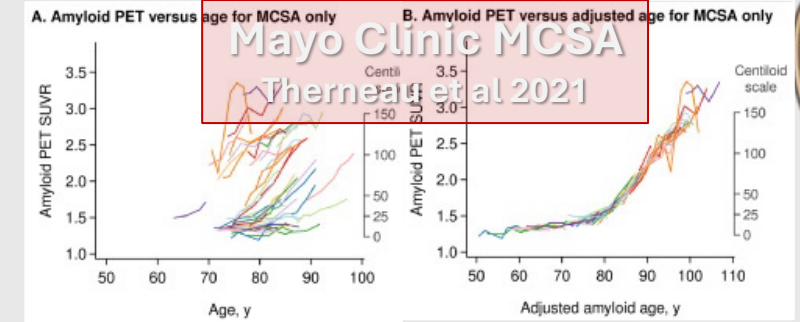
Age



WRAP is a Leader: Biomarker clocks

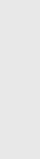
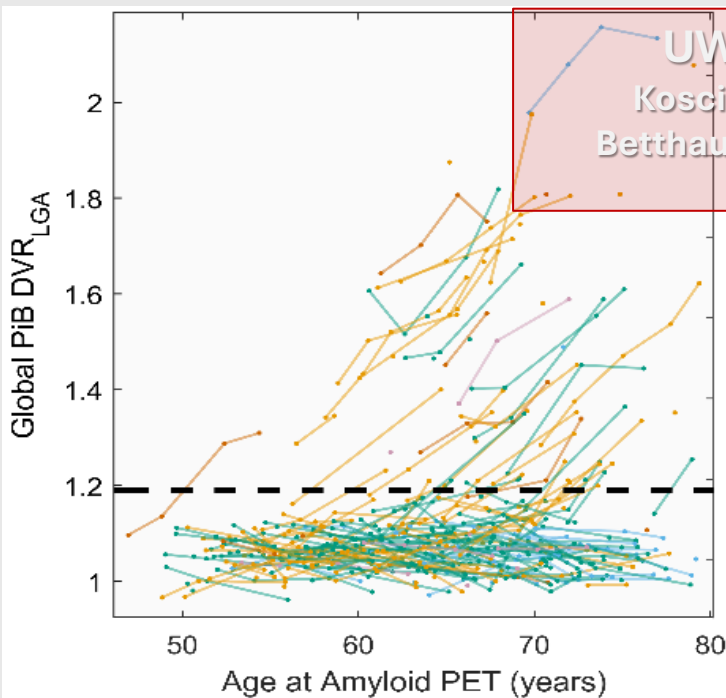
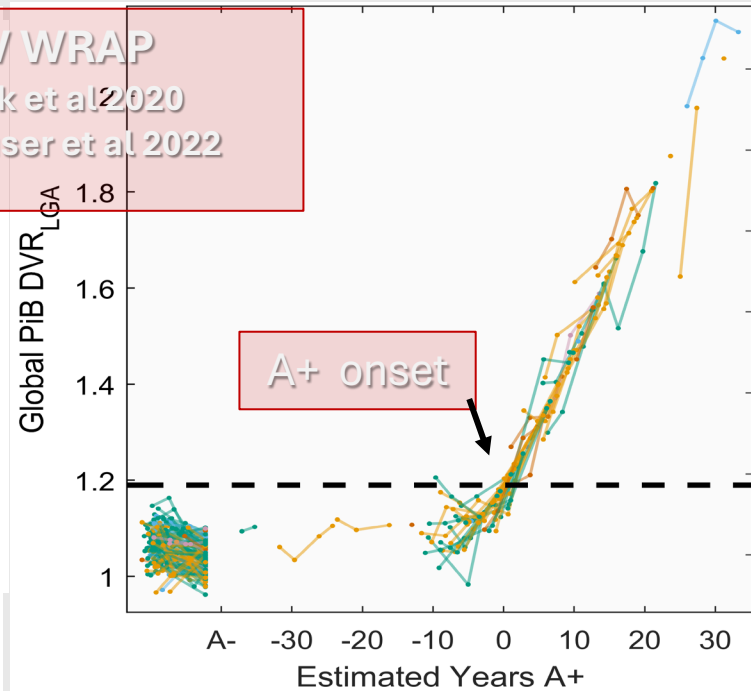
WRAP's Finding Replicated

Biological age → Amyloid time



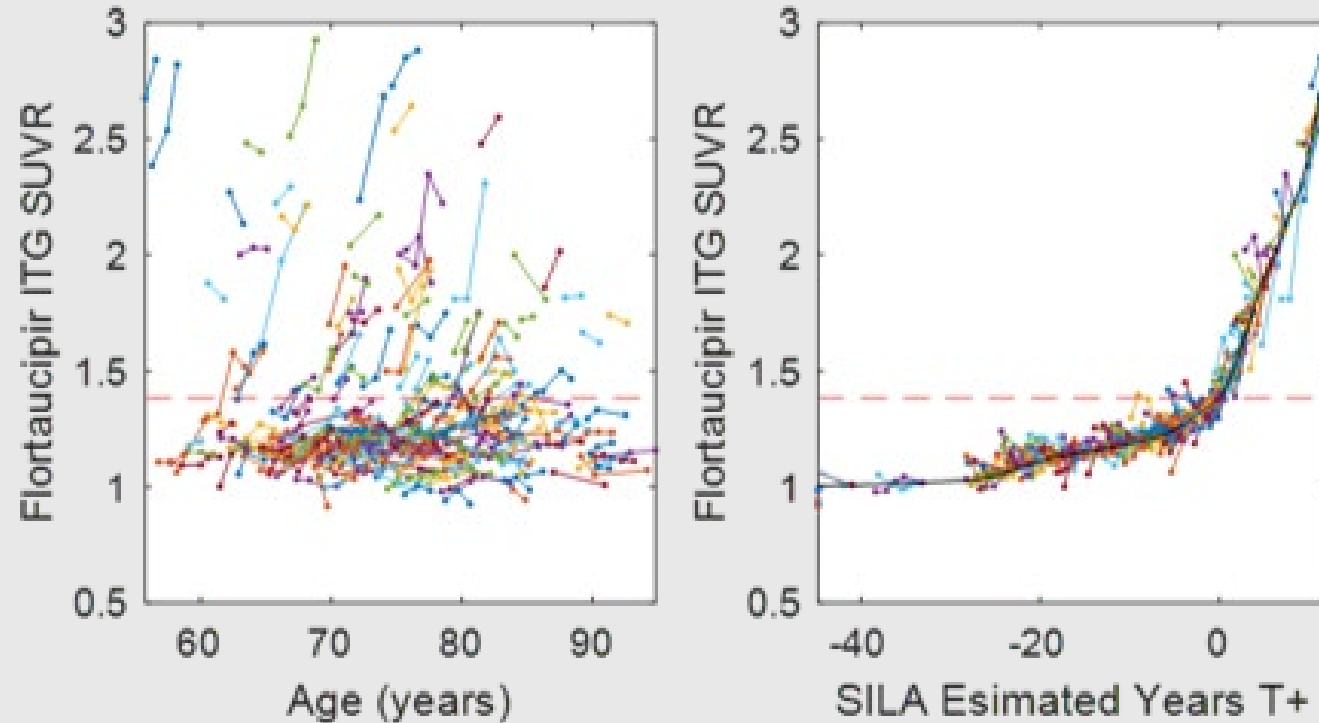
Biological age

Amyloid time





Tau Trajectories are Predictable



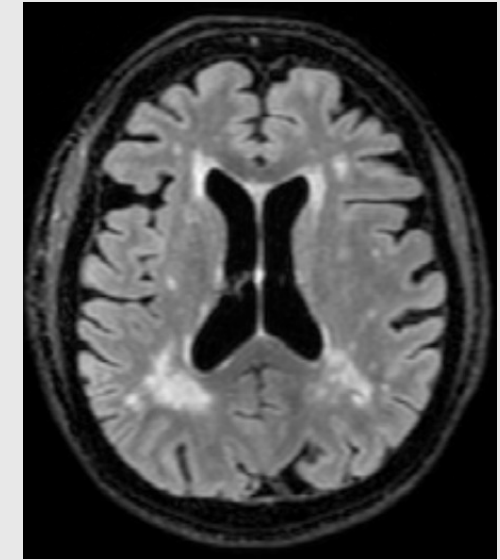
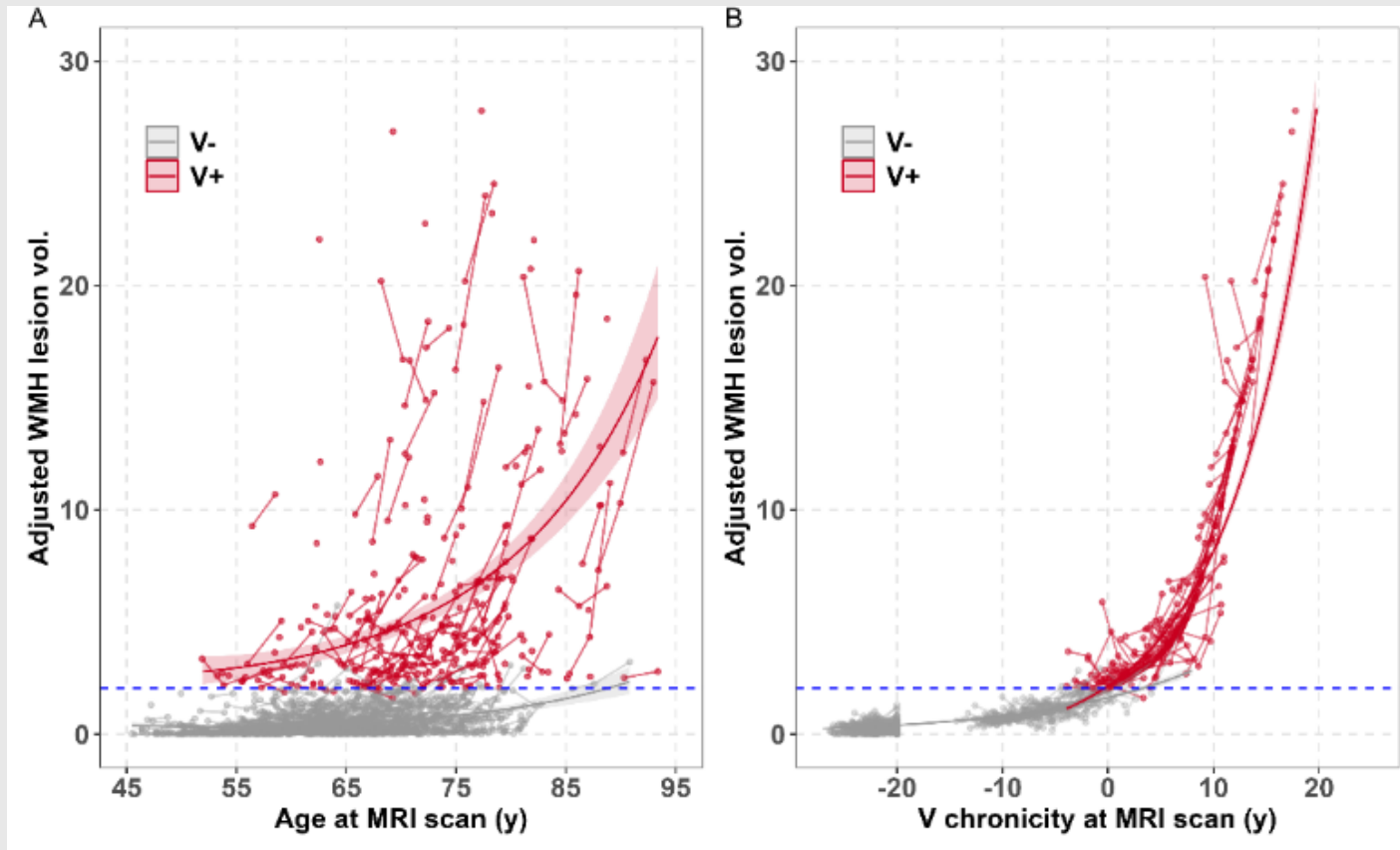
*Heston, et al., Alz & Dem, 2025;
Betthauser, et al. In Revision*



WRAP is a Leader: Biomarker clocks



Vascular Disease is Predictable



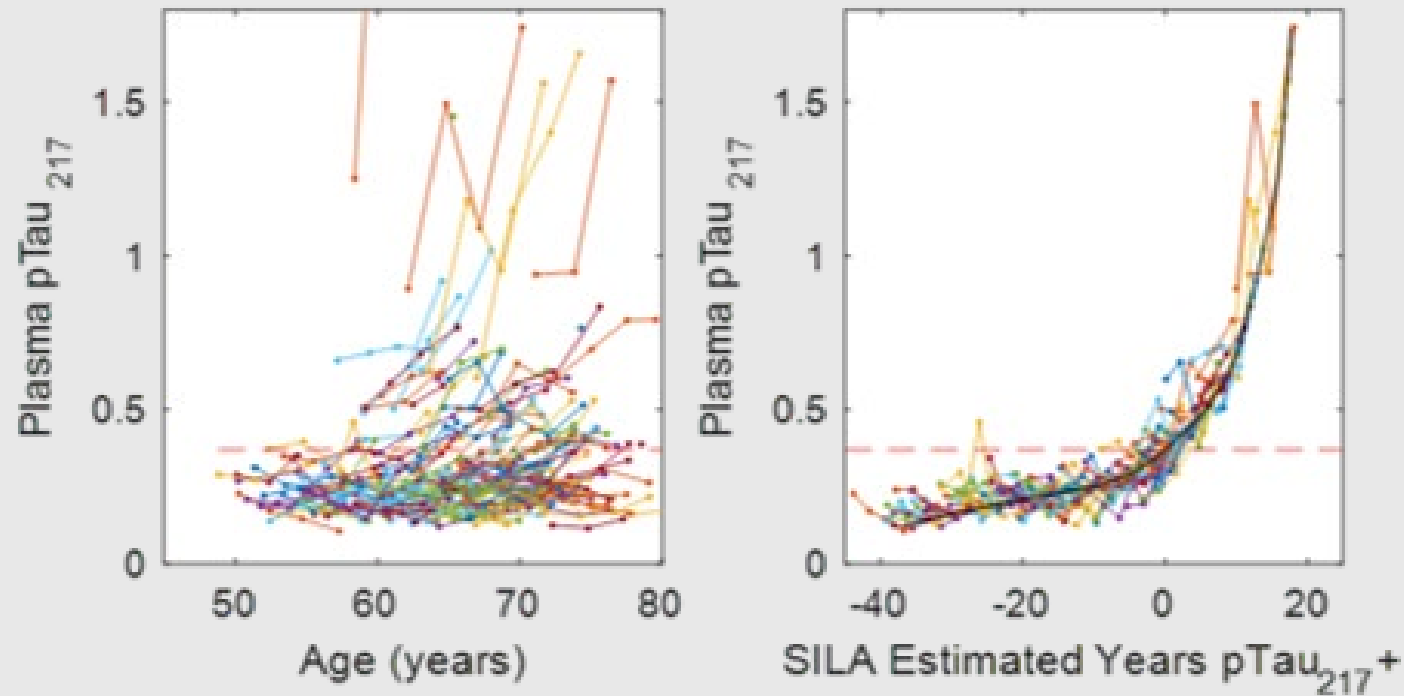
Lianlian Du, PhD and others, published in 2025

WRAP is a Leader: Biomarker clocks





Plasma pTau-217 is Predictable



Cody, et al. *in review*



WRAP is a Leader: Biomarker clocks



Variability in Symptom Progression

- Relative to Amyloid onset age
- People declining sooner may have additional pathology
- This is the theme of a new national consortium



An updated figure from Birdsill et al 2022 Alz & Dem



WRAP is a Leader: Dementia clocks



WRAP is Moving the AD-Blood Biomarker Needle

JAMA Neurology | Original Investigation

Diagnostic Accuracy of a Plasma Phosphorylated Tau 217 Immunoassay for Alzheimer Disease Pathology

Nicholas J. Ashton, PhD; Wagner S. Brum; Guglielmo Di Molfetta, MSc; Andrea L. Benedet, PhD; Burak Arslan, MD; Erin Jonaitis, PhD; Rebecca E. Langhough, PhD; Karly Cody, PhD; Rachael Wilson, PhD; Cynthia M. Carlsson, PhD; Tugce Vannuchellen, PhD; Laia Montoliu-Gaya, PhD; Juan Lantero-Rodriguez, PhD; Nesrine Rahmouni, MSc; Cecile Tissot, PhD; Jenna Stevenson, PhD; Stijn Servaes, PhD; Joseph Theriault, PhD; Tharick Pascoal, MD, PhD; Alberto Lleó, MD, PhD; Daniel Alcolea, MD, PhD; Juan Fortea, MD, PhD; Pedro Rosa-Neto, MD, PhD; Sterling Johnson, MD, PhD; Andreas Jeromin, PhD; Kaj Blennow, MD, PhD; Henrik Zetterberg, MD, PhD

Research

JAMA Neurology | Original Investigation

Plasma Phosphorylated Tau 217 to Identify Preclinical Alzheimer Disease

Gemma Salvado, PhD; Shireen Janelidze, PhD; Divya Ball, MSc; Anna Onofuta-Dokado, MSc; Joseph Theriault, PhD; Wagner S. Brum; Alexa Pichet Binette, PhD; Erik Stormsh, MD, PhD; Niklas Mattsson-Carlsson, MD, PhD; Sebastian Palmqvist, MD, PhD; Emma M. Coombs, PhD; Charlotte E. Teunissen, PhD; Wieke M. van der Flier, PhD; Nesrine Rahmouni, MSc; Tammie L. S. Beninger, MD, PhD; Juan Domingo Gispert, PhD; Kaj Blennow, MD, PhD; Vincent Dore, PhD; Azadeh Feizpour, PhD; Christopher C. Rowe, MD, PhD; Daniel Alcolea, MD, PhD; Juan Fortea, MD, PhD; Sylvia Villeneuve, PhD; Sterling C. Johnson, PhD; Pedro Rosa-Neto, MD, PhD; Ronald C. Petersen, MD, PhD; Clifford R. Jack Jr, MD; Suzanne E. Schindler, MD, PhD; Marc Suárez-Cabot, MD, PhD; Erik Ossenkoppele, PhD; Oskar Hansson, MD, PhD, for the ADNI, ALFA, and PREVENT-AD Study Groups

Received: 11 April 2025 | Revised: 1 July 2025 | Accepted: 9 July 2025
DOI: 10.1002/alz.71973

RESEARCH ARTICLE

Alzheimer's & Dementia
THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION

Lifestyle, genetic risk, plasma pTau217, and incident cognitive impairment in WRAP

Rachel L. Studer¹ | Karly A. Cody^{2,3} | Julie E. Oomens² | Ramiro Eduardo Rea Reyes² | Nathaniel A. Chin^{1,2} | Kimberly D. Mueller^{1,2,4} | Bruce P. Hermann¹ | Rachael E. Wilson² | Rebecca E. Langhough^{1,2} | Erin M. Jonaitis^{1,2} | Sterling C. Johnson^{1,2}

Received: 24 May 2025 | Revised: 8 August 2025 | Accepted: 8 August 2025
DOI: 10.1002/alz.70179

RESEARCH ARTICLE

Diagnosis, Assessment
of Disease Monitoring

Preclinical dementia rating scores are associated with plasma phosphorylated tau-217

Qi Huang^{1,2} | Erin M. Jonaitis^{2,3} | Rachel L. Studer^{2,4} | Rachael Wilson^{4,5} | Ramiro Eduardo Rea Reyes^{4,5} | Henrik Zetterberg^{1,4,7,8,9,10,11,12} | Lianlian Du^{2,13,14} | Bruce P. Hermann^{2,15} | Sterling C. Johnson^{2,4,5} | Rebecca E. Langhough^{2,4,5}

Received: 8 August 2024 | Revised: 20 October 2024 | Accepted: 22 October 2024
DOI: 10.1002/alz.14406

RESEARCH ARTICLE

Alzheimer's & Dementia
THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION

Visual read of [F-18]florquinitalu PET that includes and extends beyond the mesial temporal lobe is associated with increased plasma pTau217 and cognitive decline in a cohort that is enriched with risk for Alzheimer's disease

Ramiro Eduardo Rea Reyes¹ | Karly A. Cody^{1,2} | Rachael E. Wilson¹ | Henrik Zetterberg^{1,3,4,5,6,7} | Nathaniel A. Chin¹ | Erin M. Jonaitis^{1,8} | Melissa Bahr¹ | Olivia Mandel¹ | Madilynn Wintland¹ | Barbara B. Bendlin¹ | Ozioma C. Okonkwo¹ | Lindsay R. Clark^{1,9} | Matt Zammit^{1,10,11} | Sanjay Asthana¹ | Bradley T. Christian^{1,10,11} | Tobey J. Betthauser^{1,10} | Laura Eisenmenger¹² | Rebecca E. Langhough^{1,8} | Sterling C. Johnson^{1,8}

nature medicine

Article

<https://doi.org/10.1038/s41591-024-02930-w>

APOE4 homozygosity represents a distinct genetic form of Alzheimer's disease

Received: 3 November 2023 | Accepted: 19 March 2024
Published online: 4 May 2024
Check for updates
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Received: 27 November 2024 | Revised: 18 February 2025 | Accepted: 11 March 2025
DOI: 10.1002/alz.70144

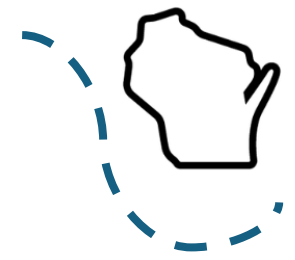
RESEARCH ARTICLE

Alzheimer's & Dementia
THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION

Targeted proteomic biomarker profiling using NULISA in a cohort enriched with risk for Alzheimer's disease and related dementias

Ramiro Eduardo Rea Reyes¹ | Rachael E. Wilson¹ | Rebecca E. Langhough^{1,2} | Rachel L. Studer² | Erin M. Jonaitis^{1,2} | Julie E. Oomens¹ | Elizabeth M. Planalp¹ | Barbara B. Bendlin¹ | Nathaniel A. Chin¹ | Sanjay Asthana¹ | Henrik Zetterberg^{1,3,4,5,6,7} | Sterling C. Johnson^{1,2}

WRAP is a Leader: Blood Biomarkers



Increasing Your Impact

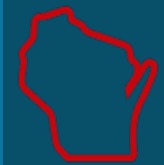
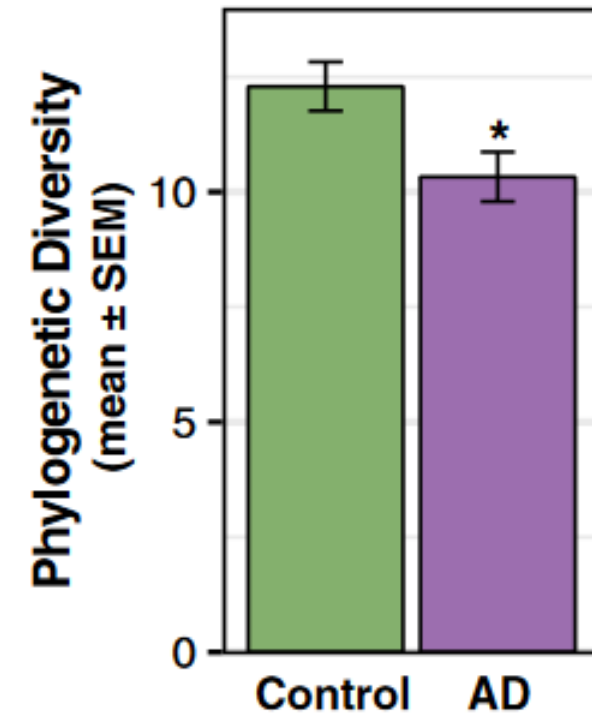
WRAP Linked Studies



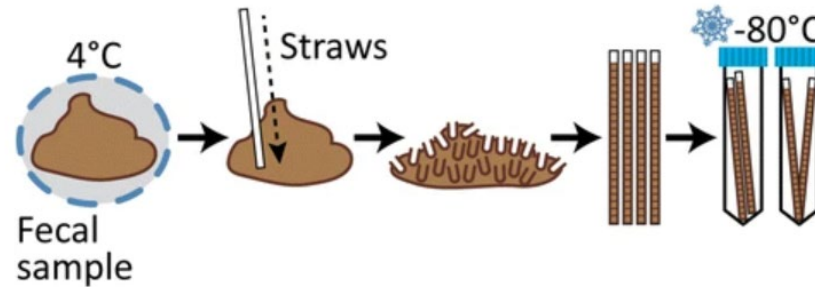
SCIENTIFIC REPORTS

Gut microbiome alterations in Alzheimer's disease

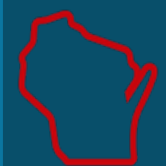
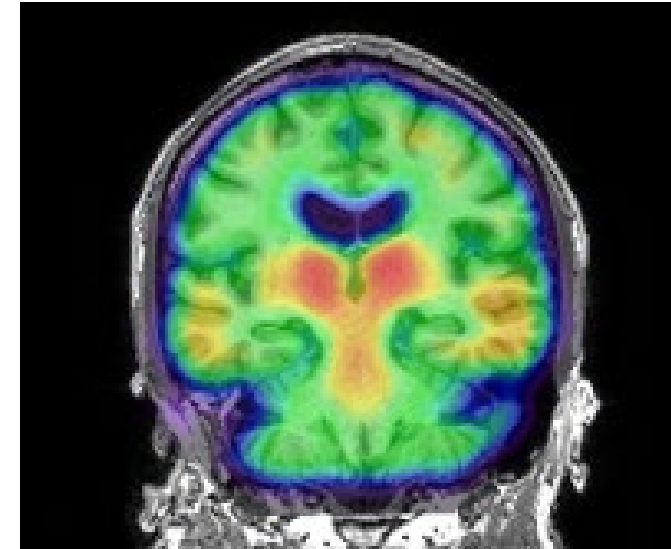
- In 2017, studying WRAP participants, we found less diversity in gut microbiome among people with Alzheimer's dementia, and that abundance of certain bacteria was associated with the amount of Alzheimer's pathology in the brain (measured with CSF).
- Now we are asking **WHY** and **HOW** does the gut impact the brain.



Gut inflammation associated with age and Alzheimer's disease pathology: a human cohort study

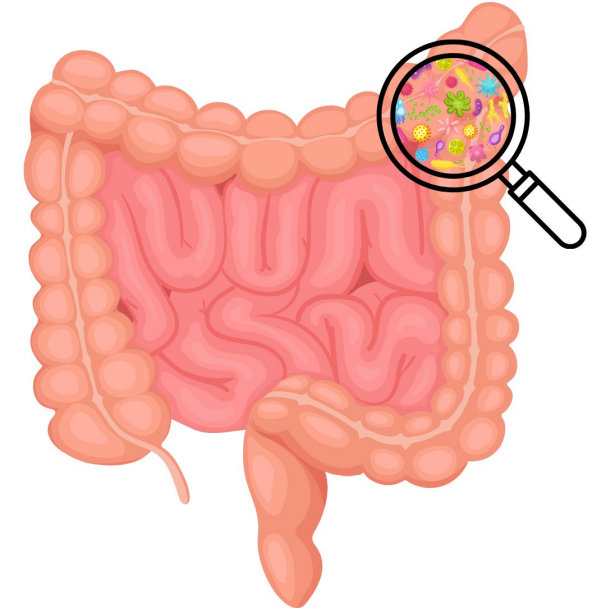


- Analyzing stool samples, we have found that people with Alzheimer's dementia have **more gut inflammation**, which associates with more amyloid.
- It's possible that “leaky gut” exacerbates Alzheimer's disease.

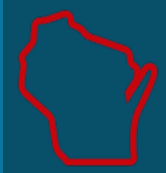
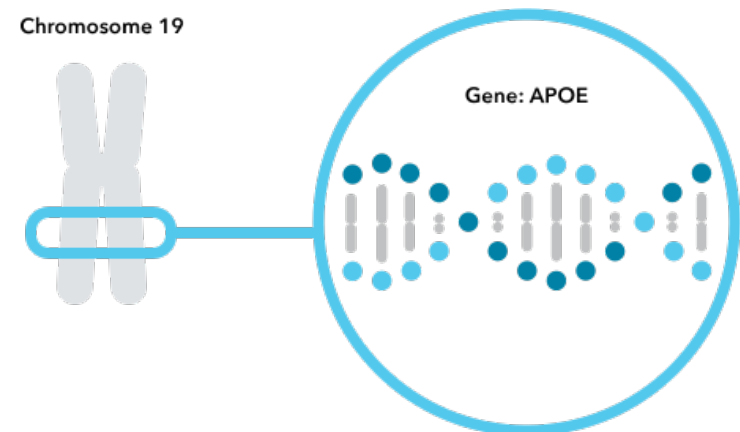


Gut microbiome compositional and functional features associate with Alzheimer's disease pathology

- We have also found that ***APOE* ε4 carriers** show **decreased** abundance of **fiber-fermenting microbes** and **increased** abundance of Bacteroidota and opportunistic/**pro-inflammatory bacteria**.
- This suggests some of the impact of *APOE* ε4 on the brain could be via the gut.



Chromosome 19



The Okonkwo Laboratory



**Researching Modifiable (e.g., fitness) and Non-Modifiable (e.g., genes)
Risk Factors Linked to Cognitive Resilience in Alzheimer's Disease***

Active Studies:

- **LIFE** – characterizing relationships between cardiorespiratory fitness (CRF) and the biomarker and cognitive features of AD.
- **KLOTHO** - investigating whether *KLOTHO* gene confers resilience against age- and AD-related synaptic dysfunction and cognitive decline.
- **SUPERAging** - uncovering pathways to exceptional cognitive resilience in aging.
- **REPLENISH** – investigating sleep and CRF as modifiers of cognitive decline and AD neuropathology.



Past Studies:

- FAB
- REACH



KLOTHO Study - KLOTHO gene – non-modifiable factor



KLOTHO gene
KL-VS heterozygotes*



higher concentrations
of Klotho protein

Higher concentrations of Klotho protein are associated with longer lifespan, reduced risk of age-related diseases and better cognitive function.

Individuals heterozygous for KL-VS KLOTHO gene have:

- better memory
- better executive function
- slower rate of cognitive decline with age



- amyloid burden in those APOE4+
- tau and slower rate of accumulation**
- #neuroinflammation
- #neurodegeneration
- #synaptic dysfunction***

*#benefit
even more
from high
CRF*





Studying speech to understand memory and brain health



• Why Study Speech?

- Speaking is something we do every day and is crucial for our ability to function in our lives
- Speaking uses many brain regions and functions
- Changes can reflect how the brain is working



• Our goal:

- To find easier, at-home ways to track brain health



• Thank you!

- Many of you have allowed WRAP to record you completing speech activities since 2013!



Kimberly D. Mueller, Ph.D.

Associate Professor, Communication Sciences & Disorders, WRAP Investigator

*Studies are funded by the
National Institute on Aging*





What we've found so far

To read publications about speech, language, and WRAP, visit:

<https://ccandl.csd.wisc.edu/publications/>

- **Small, “unnoticeable” changes to speech are linked to memory changes**
 - Pauses, changes to the kinds of words used over time (Mueller et al., 2018; 2021; 2022)
 - Some problems with finding the right words is normal in aging! In a subset of people, changes are different from what we see in typical aging.
- **Speech pattern changes are linked to brain biomarkers** (Mueller et al., 2021; He et al., 2025)
- Some risk factors for Alzheimer's and other causes of dementia, such as **depression, social isolation, hearing loss, and head injury** are also linked to changes in speech. Some of these risk factors are things we can improve (Miller et al., 2025; He et al., 2025; Fields et al., 2019; He et al., 2025)
- WRAP has the largest dataset of standardized speech recordings for understanding Alzheimer's risk: **Thank you!**



Kimberly D. Mueller, Ph.D.

Associate Professor, Communication Sciences & Disorders, WRAP Investigator

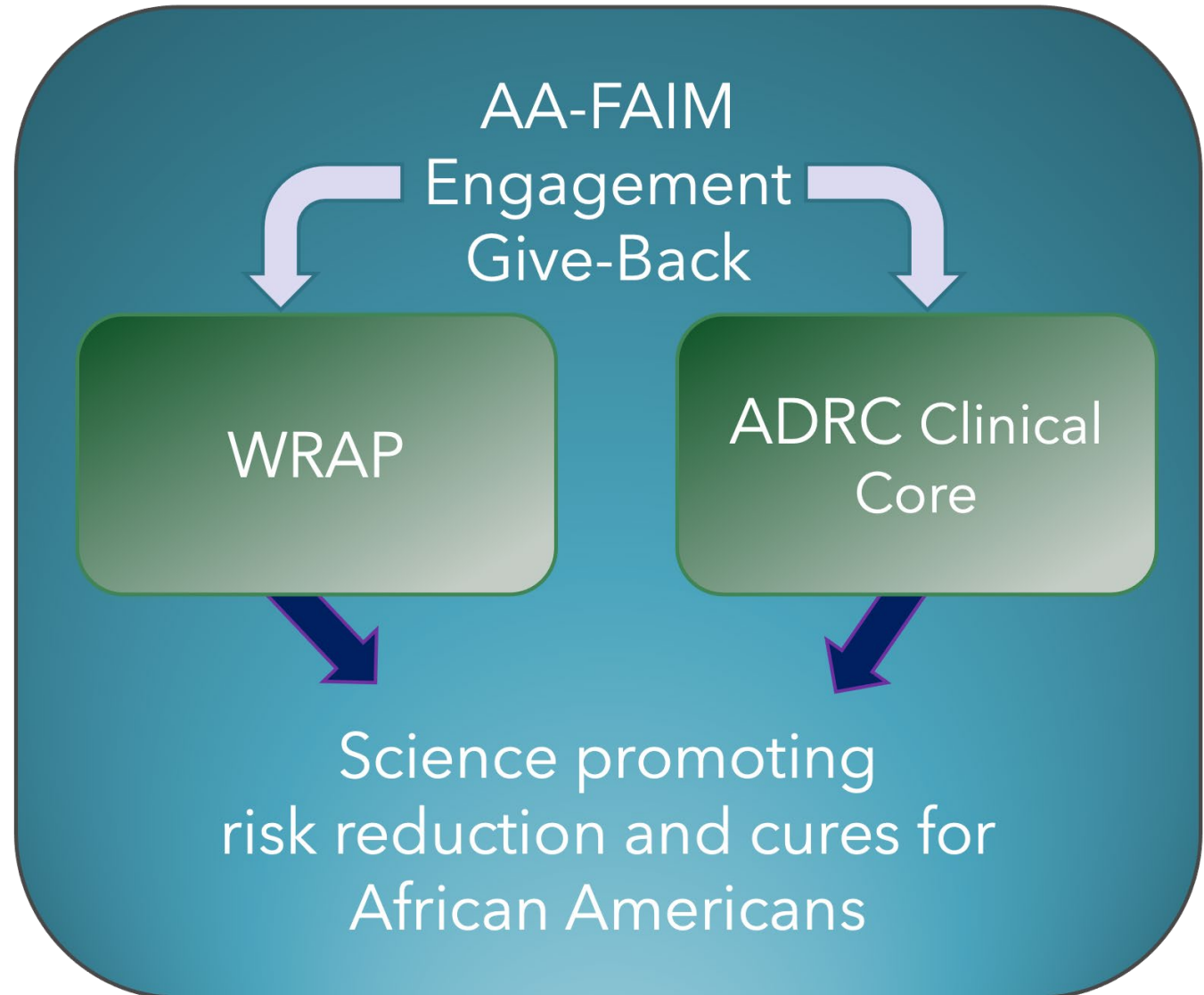


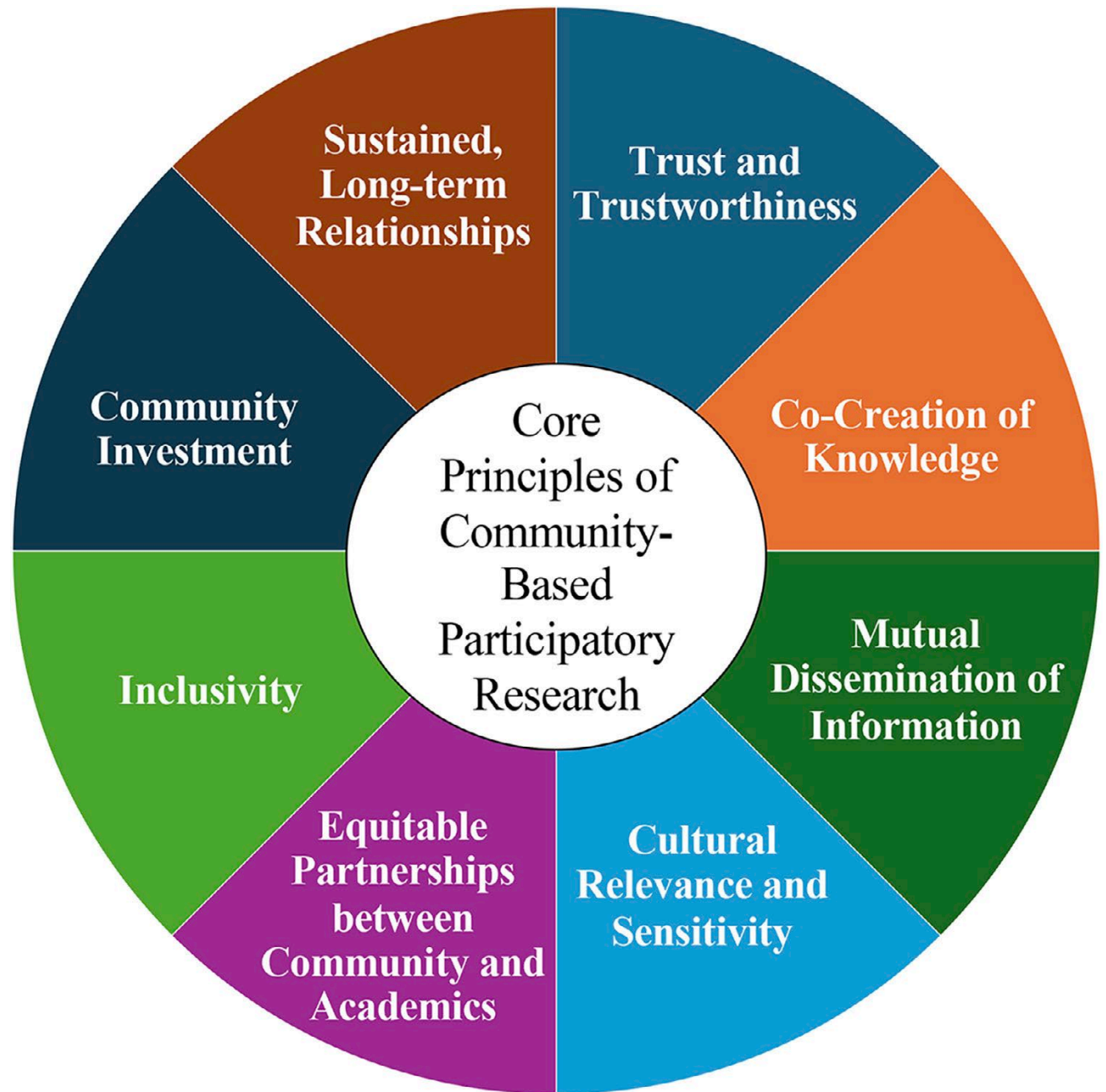


African Americans Fighting Alzheimer's in Midlife (AA-FAiM)

Funded by NIH

- 2016 to 2022
- Renewed through 2027







Received: 17 January 2025 | Revised: 25 April 2025 | Accepted: 25 April 2025

DOI: 10.1002/alz.70288

Alzheimer's & Dementia®
THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION

RESEARCH ARTICLE

The performance of plasma p-tau217 in Black middle-aged and older adults

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Diane C. Gooding^{1,2,5} | Fabu P. Carter^{1,2} | Rachael Wilson^{1,4} | Megan Zuelsdorff^{1,4,6} |
Shenikqua Bouges^{1,2,7} | Sanjay Asthana^{1,2} | Sterling C. Johnson^{1,2,4} |
Henrik Zetterberg^{1,8,9,10,11,12} | Carey E. Gleason^{1,2,7}





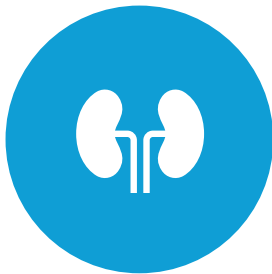
Impaired kidney function may elevate p-tau217 levels



Early validation studies left uncertainty about effects of chronic illness



Contributed to our understanding of this test the field



Clarified role of kidney function – physician needs to interpret with consideration of kidney function



P-Tau217 elevations may not reflect true amount amyloid in the brain for those with impaired kidney function





Published a paper describing our approach

Received: 5 November 2024 | Revised: 12 February 2025 | Accepted: 13 February 2025

DOI: 10.1002/bsa3.70008

RESEARCH ARTICLE - METHODOLOGY

Alzheimer's & Dementia
Behavior & Socioeconomics of Aging

Guided by the community: Insights on recruitment science from the African Americans Fighting Alzheimer's in Midlife (AA-FAIM) Project

Diane Carol Gooding^{1,2,3,4,5}  | Fabu P. Carter^{3,4} | Megan Zuelsdorff^{3,6} |
Alexander Gee^{5,7} | Ruben L. Anthony Jr.^{5,8} | Barbara Boustead⁵ | Tracey Russell^{5,9,10}
Nathaniel A. Chin^{3,4,11} | Lindsay Clark^{3,4,11,12} | Kala Cornelius^{3,4} |
Sanjay Asthana^{3,4,11} | Sterling C. Johnson^{3,4,11} | Carey E. Gleason^{3,4,12}



Wisconsin Amyloid Disclosure Study



DOI: 10.1002/trc2.12413

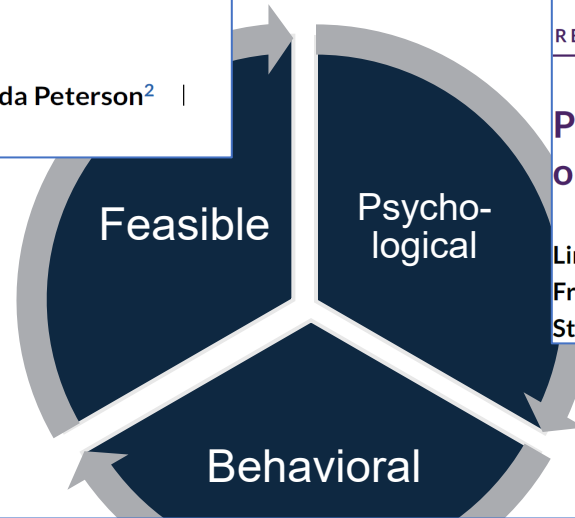
RESEARCH ARTICLE

Alzheimer's & Dementia
Translational Research
& Clinical Interventions

Feasibility of virtual Alzheimer's biomarker disclosure: Findings from an observational cohort

Claire M. Erickson¹ | Nathaniel A. Chin² | Hannah L. Rosario² | Amanda Peterson² | Sterling C. Johnson^{2,3,4} | Lindsay R. Clark^{2,4}

STUDY AIMS



DOI: 10.1002/alz.14153

RESEARCH ARTICLE

Alzheimer's & Dementia®
THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION

Psychosocial implications of learning amyloid PET results in an observational cohort

Lindsay R. Clark^{1,2} | Claire M. Erickson³ | Nathaniel A. Chin¹ | Kristin E. Basche¹ | Fred B. Ketchum⁴ | Hannah L. Rosario¹ | Amanda J. Peterson¹ | Marcella L. Eveler¹ | Sterling C. Johnson^{1,5}

DOI: 10.1002/trc2.12483

RESEARCH ARTICLE

Alzheimer's & Dementia
Translational Research
& Clinical Interventions

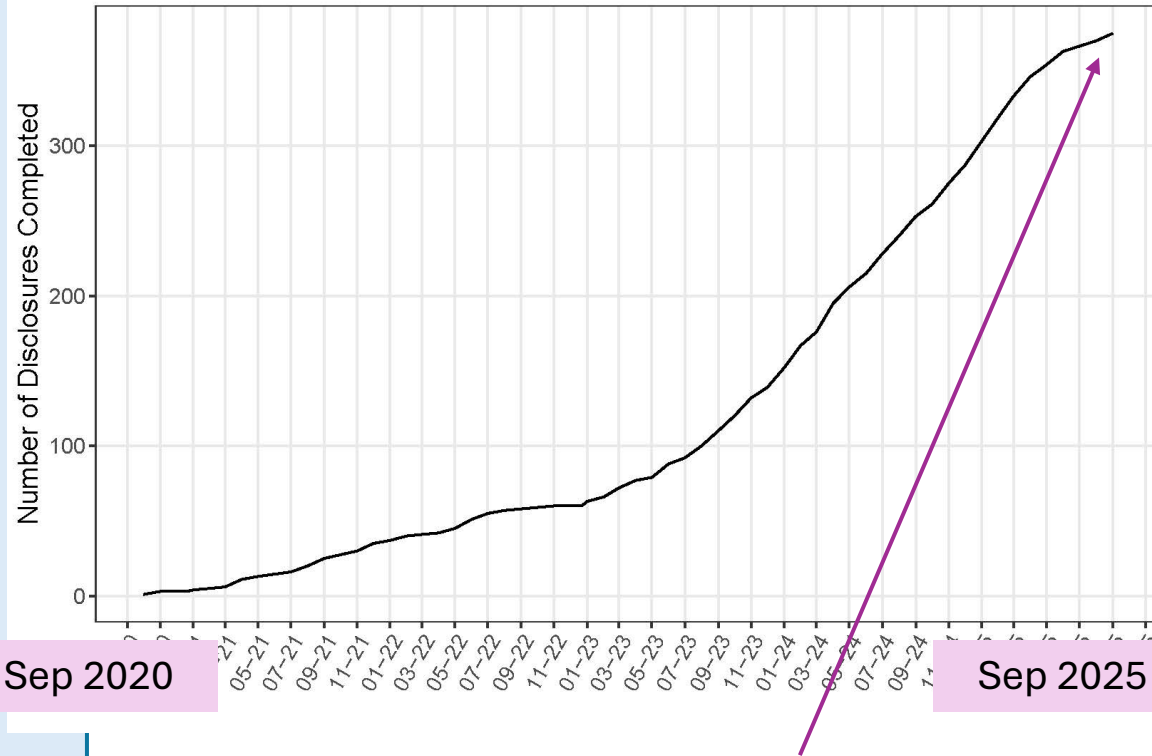
Communicating Alzheimer's biomarker results to cognitively unimpaired research participants: Satisfaction, utility, and impact on research attitudes

Claire M. Erickson¹ | Fred B. Ketchum² | Kristin E. Basche³ | Nathaniel A. Chin³ | Marcella L. Eveler³ | Lindsay R. Clark^{3,4}





UW Alzheimer's Program Return of Results Service





What's Next?

For You and WRAP?



Return of Research Results

What have we done?



Disclosure of PET Results

- Amyloid
- Tau



Findings of Clinical Significance



Brain Health Reports

What are we planning?



Expanded conversations



Broader scope of results



MRI findings



pTau217 (blood biomarker)



Multi-PI Study



Dr. Sterling Johnson



Dr. Jessica Caldwell



Dr. Nate Chin



What's Next?

Vision for the Future



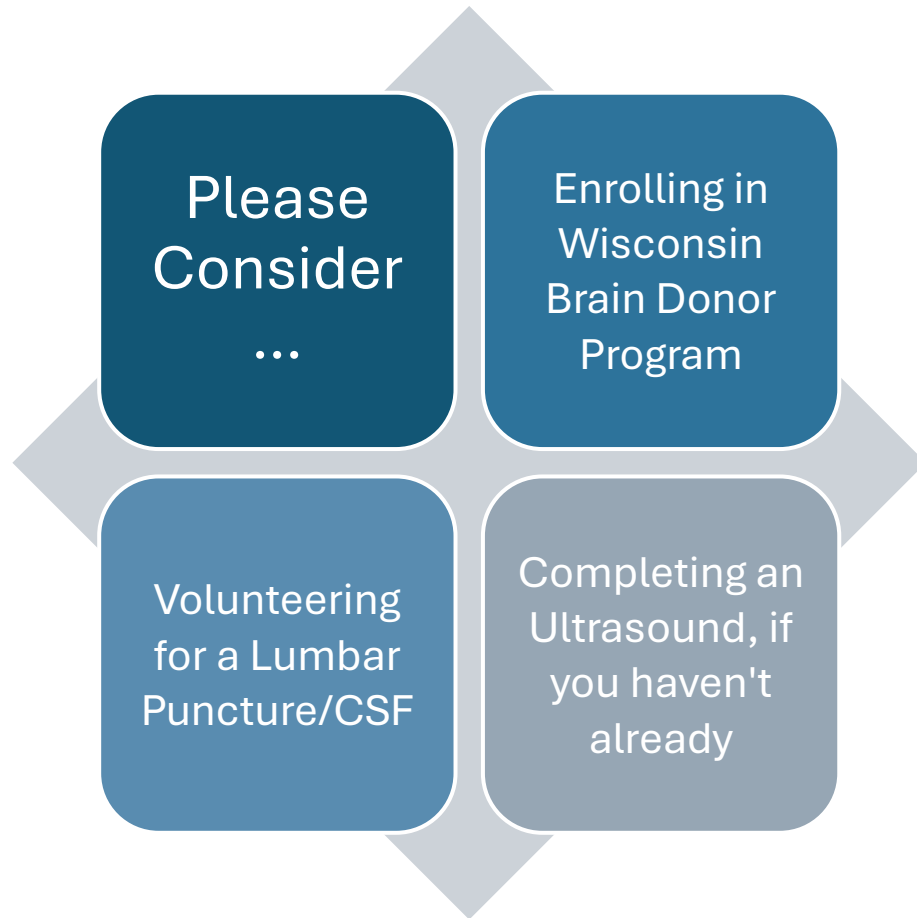
Continuing to define pre-symptomatic stages of ADRD
Risk and Resilience



Develop and conduct interventions to delay or prevent
Alzheimer's Disease



Power of Participation





Thank you, WRAP Participants!



From, All of Us!



Question & Answer

