



Advancing the Science: The Latest in Alzheimer's and Dementia Research

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OUR WORK IS ABOUT PEOPLE AND SCIENCE



The Alzheimer's Association is a worldwide voluntary health organization dedicated to Alzheimer's care, support and research.

2020 Alzheimer's Disease Facts and Figures



More than
5 million
Americans
are living with
Alzheimer's



16 million
Americans provide
unpaid care for people
with Alzheimer's or
other dementias

1 in 3
seniors
dies with
Alzheimer's
or another
dementia



6th
Alzheimer's
disease is the
leading cause
of death in the
United States

50%
of primary care physicians believe
the medical profession is not ready
for the growing number of people
with Alzheimer's or other dementias



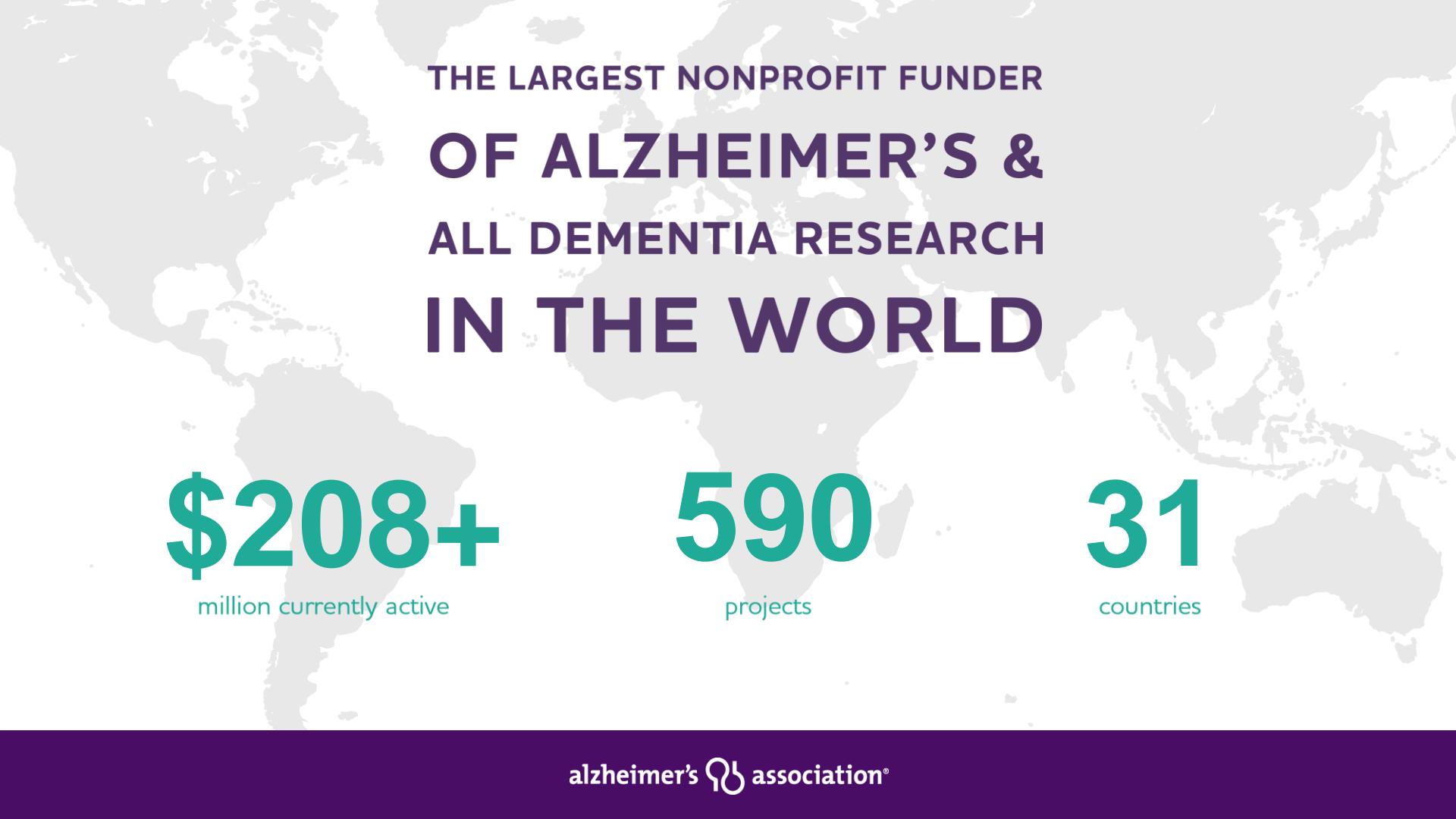
In 2020, Alzheimer's and other
dementias will cost the nation
\$305 billion — By 2050, these
costs could rise as high as
\$1.1 trillion

WE ADVOCATE



Alzheimer's and Related Dementia Research Funding at the NIH





THE LARGEST NONPROFIT FUNDER
**OF ALZHEIMER'S &
ALL DEMENTIA RESEARCH
IN THE WORLD**

\$208+

million currently active

590

projects

31

countries

RESEARCH IN OUR REGION

We have played a role in nearly every significant development in Alzheimer's science to date

Active and Historical Grants

67 awards between 1993-2020 (11 active)

Total ~ \$12.6 million (~ \$2.9 million active)

44 reviewers: 555 critiques

Active Funded Researchers

Georgetown University, Children's National Memorial, Foundation for the National Institute of Health, John Hopkins University, University of Maryland, The Rector and Visitors-University of Virginia, Old Dominion University

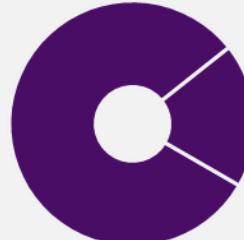
Dr. Onyike is an active reviewer and ISTAART member with the Association. He is a one of our Site PIs for LEADS at Johns Hopkins.



THE SPRINT-MIND STUDY

First Study to Demonstrate Reduction of New Cases of Cognitive Impairment

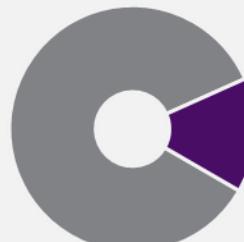
- 9,000 people, Over 50, All-cause dementia risk
- Standard vs. Intensive Blood Pressure Intervention
- Intensive treatment 120 vs. 140 systolic
- Dramatic reduction of small vessel disease on **MRI**



19% REDUCED
risk for **MCI**



17% REDUCED
risk for **Dementia**



15% REDUCED
combined risk for
MCI and Dementia

WHY IS THIS IMPORTANT?

There are things you can do to reduce your risk of MCI and dementia – especially regarding cardiovascular disease risk factors.



**Immediate
opportunity with
life changing
impact potential**



Dominantly Inherited
Alzheimer Network

Principal Investigator,
Program Director,
Randall Bateman, MD

Associate Director,
Eric McDade, DO

Washington University, St. Louis

A rare form of Alzheimer's caused by an inherited gene mutation

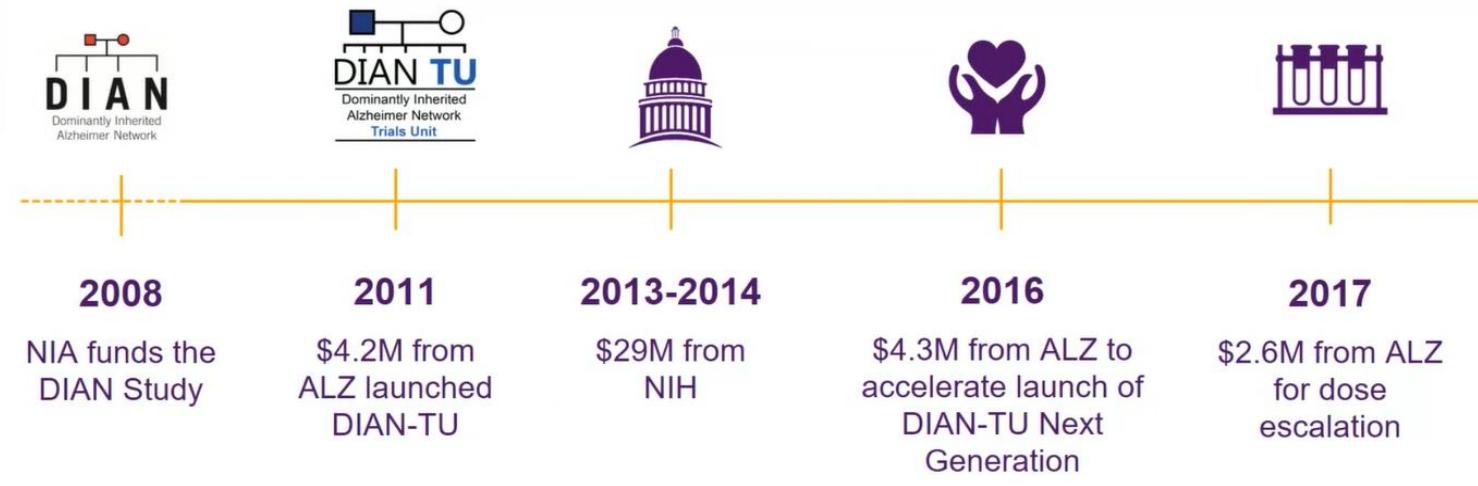
50% chance of passing the gene to children

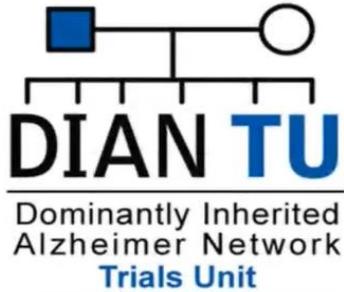
Early onset (30s-50s) with predictable age of onset

Funded by NIA to convene a network of these families

Partnered with ALZ to provide virtual care/support and to convene families annually at AAIC

Accelerated by THREE years!





DIAN TU Next Generation (NexGen) Study

- Uses innovative trial designs to accelerate timelines
- Incorporates amyloid and tau imaging and emerging biomarkers
- Delivered experimental anti-amyloid therapies; gantenerumab or solanezumab

Results

- Gantenerumab and solanezumab did not benefit cognition
- However, additional data reported strong, positive biomarker signals in participants receiving gantenerumab
 - Removal of beta amyloid plaques, reduction of tau, and reduction of NfL (one marker of brain cell death)

Next Steps

- Alzheimer's Association working with DIAN-TU on Open Label Extension study for all participants with gantenerumab now

alzheimer's  association®

DIAN LATAM

Dominantly Inherited
Alzheimer's Network
Latin America



DIAN LATAM Study

DIAN LATAM will study how Alzheimer's develops and progresses in diverse populations.

The DIAN research leadership plans to activate sites in Mexico, Brazil, Argentina, Colombia, and the Dominican Republic.

DIAN LATAM plans to enroll 80+ individuals living with DIAD.

The expansion is supported by a \$1 million Alzheimer's Association grant.



U.S. Study to Protect Brain Health through Lifestyle Intervention to Reduce Risk



Two year multi-center randomized clinical trial



Self-Guided and **Structured** Lifestyle Groups

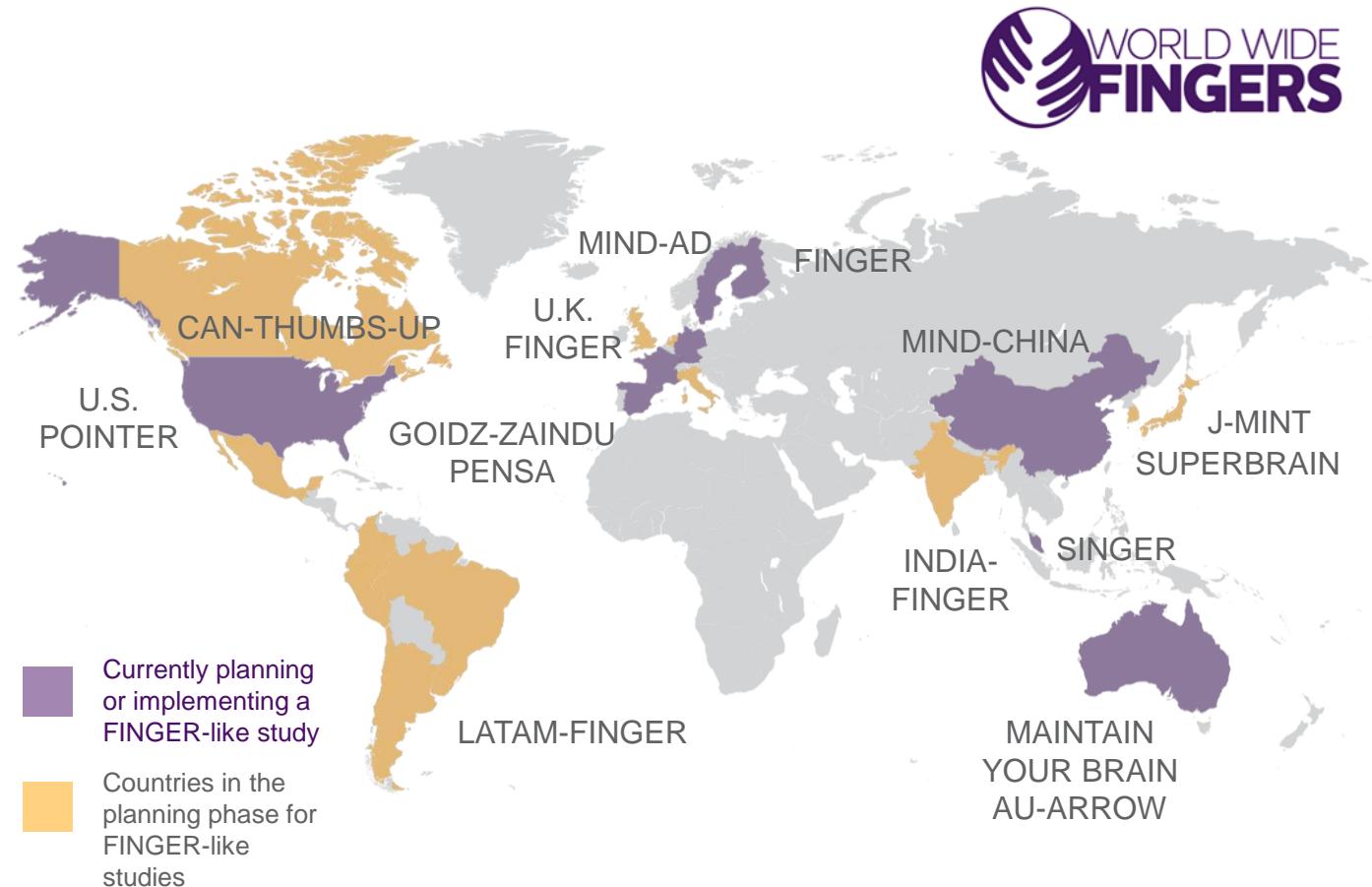


2,000 Participants at five U.S. sites, 60-79 years old, with suboptimal lifestyles

GLOBAL

U.S. POINTER ISN'T ALONE

World Wide FINGERS is a broad, international network sharing experiences, data, and planning joint efforts for the prevention of cognitive impairment & dementia worldwide.



Regeneration /
Brain cell health

Neuroinflammation

Misfolded Proteins

Oxidative Stress

Amyloid Beta / Tau

\$30 Million
39 Trials
5 Years

PART THE CLOUD

Diversifying the Pipeline

Accelerating transition of
research findings from
laboratory through clinical
trials and into practice

Cell Senescence

Growth Factors

Vascular Related

Metabolic Function

Cell Signaling &
Communication

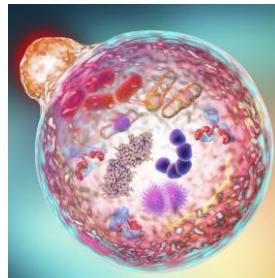
ACCELERATING THE SPEED OF RESEARCH TO END ALZHEIMER'S

The Alzheimer's Association Part the Cloud
+ Bill Gates Partnership



Mitochondria

the brain cell metabolism and energy production



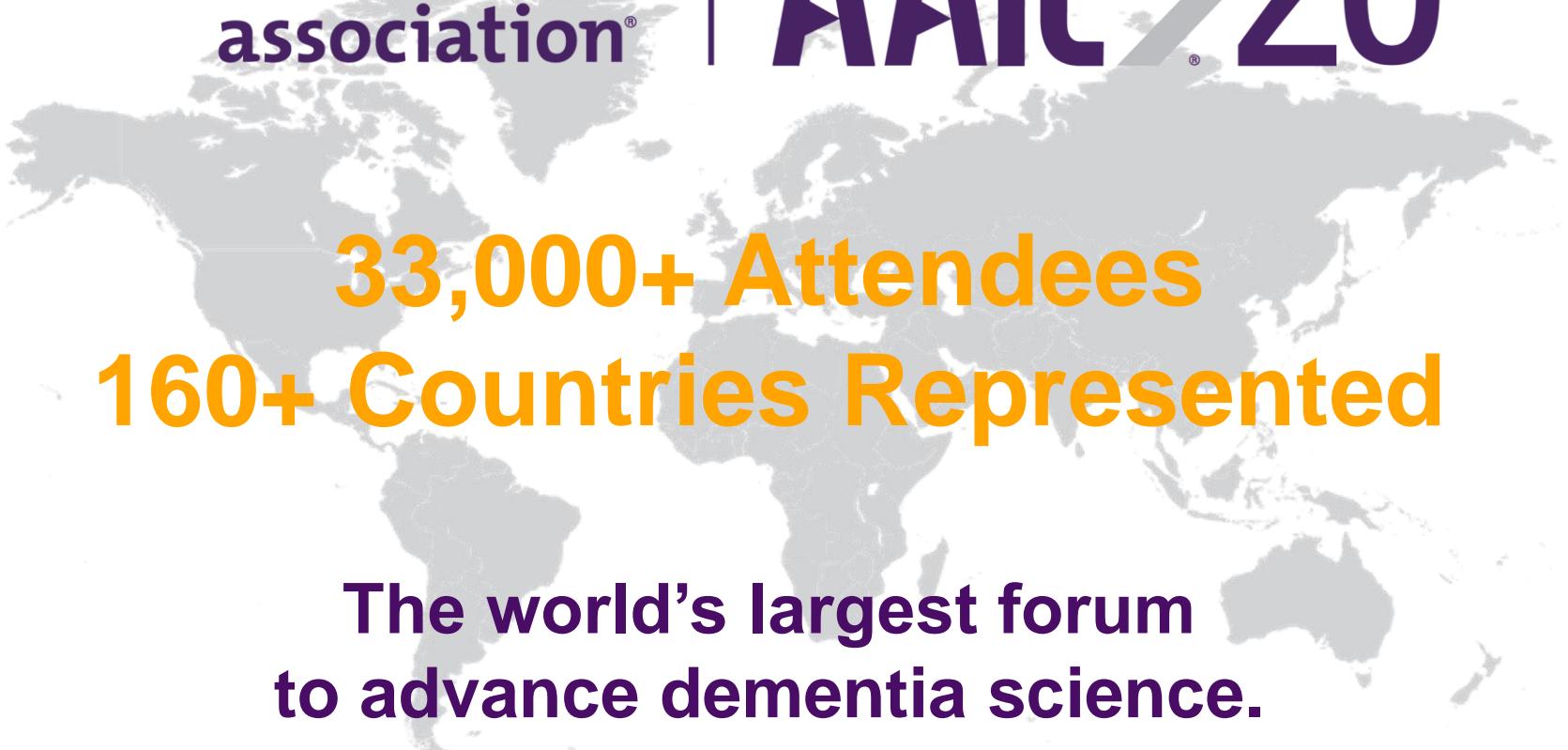
Autophagy / Clearance

trash and transport system of the brain cell



Vascular Contributions

the brain's blood and circulatory systems

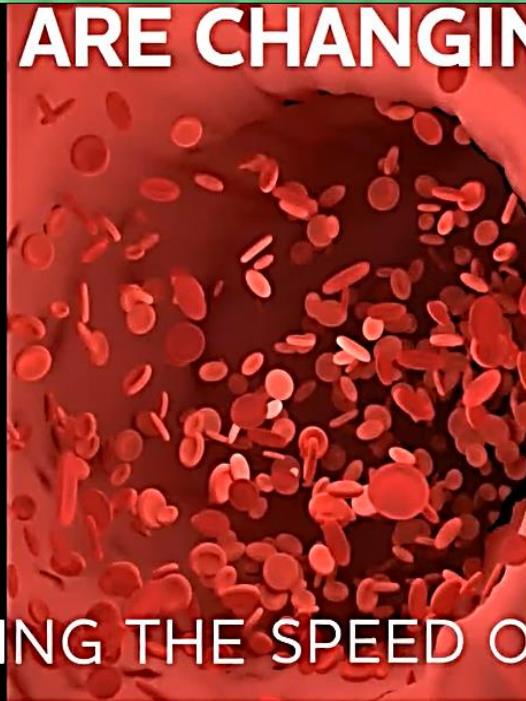
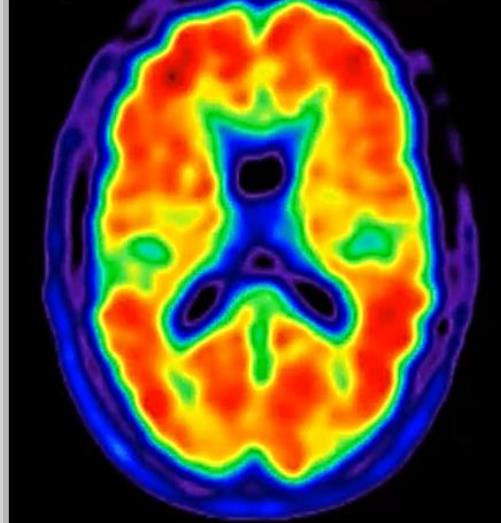
A faint, grayscale world map serves as the background for the text. The map shows the outlines of all major continents, with darker shading in the Northern Hemisphere and lighter shading in the Southern Hemisphere.

33,000+ Attendees

160+ Countries Represented

The world's largest forum
to advance dementia science.

BIOMARKERS ARE CHANGING THE GAME



ACCELERATING THE SPEED OF RESEARCH

Brain Imaging

Biofluid Analysis

Emerging Markers

VACCINATIONS AND DEMENTIA

New research presented
at #AAIC20 suggests

**FLU AND PNEUMONIA VACCINES
MAY BE ASSOCIATED WITH A LOWER
RISK OF ALZHEIMER'S.**

One study found a single flu
shot was associated with a

17%

**LOWER PREVALENCE
OF ALZHEIMER'S.**

STARTING VACCINATIONS
EARLIER ALSO PLAYED A ROLE

60 70

people who received
their first flu shot at age 60
benefited more than those
who received it at age 70.

Another study reported that
for people between 65 and 75,
**A PNEUMONIA VACCINE
REDUCED THE RISK OF
ALZHEIMER'S BY UP TO 40%.**



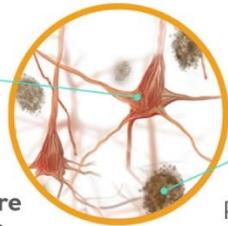
**MORE FREQUENT FLU
AND PNEUMONIA VACCINATIONS**

were associated with an
even greater risk reduction.

TAU: ANOTHER BLOOD BIOMARKER EMERGES

TANGLES

Research is looking at twisted proteins called tau tangles that build up inside cells and **may correlate more closely with cognitive decline than beta amyloid**.



PLAQUES

These amyloid protein deposits build up between brain cells in Alzheimer's disease.

Research suggests that a form of tau called p-Tau217 is very specific to Alzheimer's and, when measured in the blood, is highly accurate in distinguishing Alzheimer's from other neurodegenerative disorders.



Differentiate Alzheimer's from other dementias



Diagnose stage of disease



Identify appropriate people for clinical trials



Show changes 20 years before dementia symptoms arise

While still in research stages, **blood tests are easier to administer and more accessible** than current methods of evaluating Alzheimer's

We need to better understand how **genes impact Alzheimer's risk in different peoples**

HISPANICS ARE

1.5

times more likely to develop dementia than non-Hispanic whites

The **ApoE-e4** gene is the strongest known predictor of Alzheimer's risk for White, European-descended populations.



ACCORDING TO NEW RESEARCH REPORTED AT #AAIC20, this gene seems to be a less accurate predictor of risk for some Latin American populations.

Additionally, genes that determine Alzheimer's risk **MAY DIFFER AMONG HISPANICS OF VARIOUS ORIGINS**

This suggests **testing positive for ApoE-e4**



MAY NOT MEAN THE SAME FOR ALZHEIMER'S RISK ACROSS RACIAL/ETHNIC GROUPS

PROGRESS TOWARD MORE EFFECTIVE TREATMENTS



A future Alzheimer's therapy will likely include both lifestyle interventions and medicines

NEW AND IMPROVED TRIALMATCH NOW LIVE

TrialMatch is a free **clinical studies matching service** designed to provide a **customized list** of potential study matches to each user.



POWERED BY CenterWatch iConnect™

Over 350,000 Users
300+ Clinical Studies at 500+
Locations

alz.org/trialmatch

- Connects you with clinical studies faster
- Allows you to search for studies anonymously.
- It is up to you to connect with researchers to participate. Email or call the research team with the click of a button.

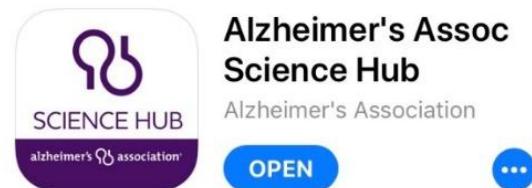
SCIENCE HUB



Learn more at alz.org/sciencehub

OR

Search for “Science Hub”



5.0 ★★★★★

9 Ratings

12+

Age

What's New

Version 1.2.1

Version History

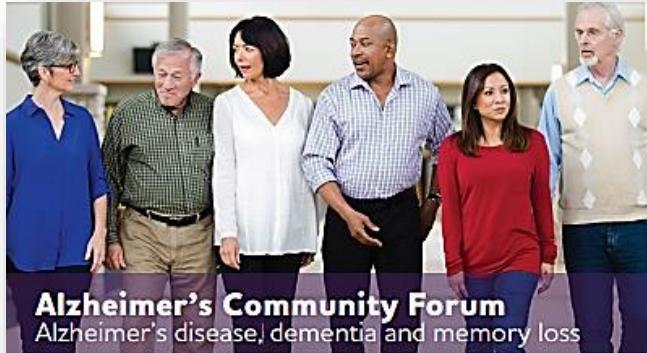
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Bug Fixes

Preview



The Alzheimer's Association Science Hub App provides the latest science news and expert viewpoints about research in Alzheimer's and dementia.



Alzheimer's Community Forum

Alzheimer's disease, dementia and memory loss

Thursday, December 10 | 5:30 p.m.

Virtual via Zoom | Northern Virginia

Hear a brief overview on Alzheimer's, dementia and memory loss.
Bring a friend who has been affected by the disease. Share your thoughts about how we can help people in your community.

Registration is requested for this virtual event.

Please register at alz.org/CRF or email Dan.Cronin@alz.org

alzheimer's  association®

alzheimer's  association®

THANK YOU!



THE END OF
ALZHEIMER'S STARTS
WITH ME — AND YOU!

