



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

Lisa Groon
Senior Health Systems Director
Alzheimer's Association



Disclosure

I have no relevant financial or non-financial relationships to disclose.

The Alzheimer's Association leads the way to end Alzheimer's and all other dementia — by accelerating global research, driving risk reduction and early detection, and maximizing quality care and support.



Our dual mission symbol represents the abstract forms of a human head and a beaker, emphasizing the people and the science behind our cause.



Care & Support



Advocacy



Education & Awareness



Research



Diversity, Equity & Inclusion

Our Time Today

1 About Alzheimer's & Dementia

2 Early Detection & Diagnosis

3 Treatment

4 Risk Reduction

5 Alzheimer's Association Initiatives
& How You Can Get Involved

A microscopic view of neurons, showing their cell bodies and branching processes, rendered in a blue and purple color scheme. The neurons are interconnected, forming a complex network. The central neuron is the most prominent, with several long, thin processes extending outwards. The background is a soft, out-of-focus blue.

About Alzheimer's & Dementia

2024 ALZHEIMER'S DISEASE FACTS AND FIGURES



NEARLY
7 MILLION
AMERICANS ARE LIVING
WITH ALZHEIMER'S

THE LIFETIME RISK FOR
ALZHEIMER'S AT AGE 45 IS

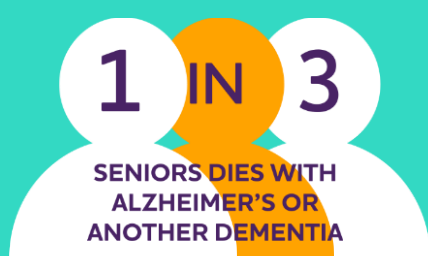


Older Black Americans are
2X AS LIKELY
to have Alzheimer's or other
dementia than Whites.

BETWEEN 2000 AND 2021, DEATHS
FROM HEART DISEASE HAVE
DECREASED 2.1%



WHILE DEATHS FROM
ALZHEIMER'S DISEASE HAVE
INCREASED 141%



IT KILLS MORE THAN
BREAST CANCER AND
PROSTATE CANCER

COMBINED

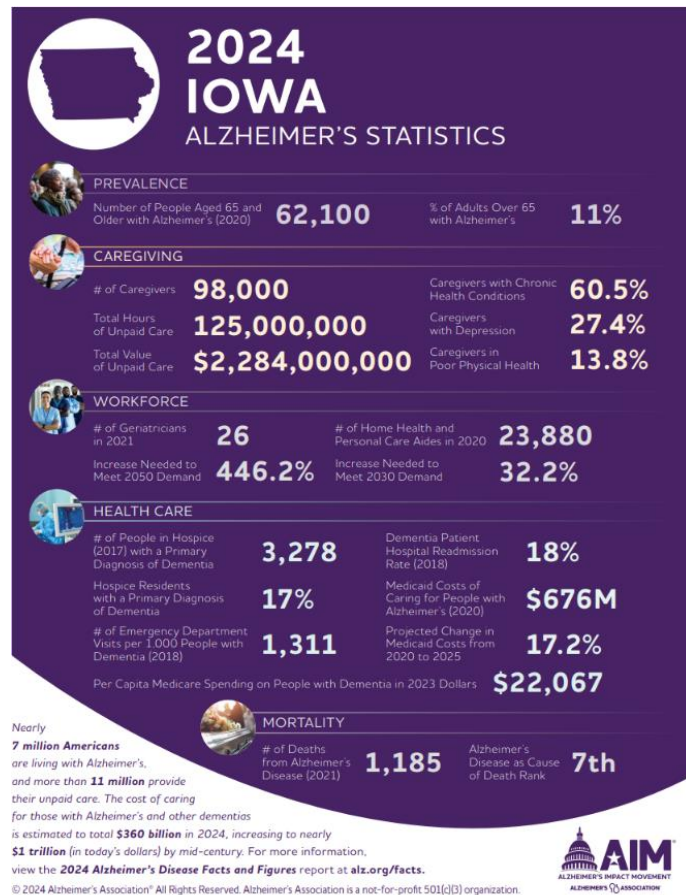


Older Hispanic Americans are
1.5X AS LIKELY
to have Alzheimer's or other
dementia than Whites.

Iowa

- Disease Prevalence: 62,100 Iowa residents
- Family Impact: 98,000 Caregivers
 - 60.5% have chronic conditions
 - 27.4% have depression
 - 13.8% poor physician health

A 446.2% increase in geriatric workforce is needed to meet the projected 2050 demand



What is Dementia?

- Dementia is a collection of symptoms related to cognitive decline
- This can include
 - Cognitive symptoms
 - Behavioral symptoms
 - Psychological symptoms
- **Alzheimer's is the most common cause of dementia**
- Not everyone with cognitive decline has dementia. Some causes of cognitive decline are reversible.

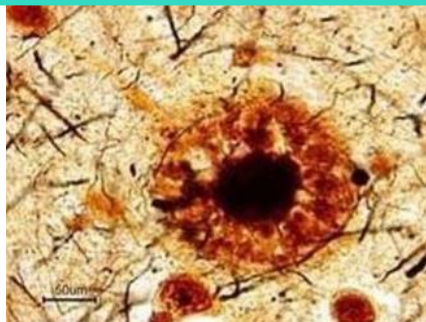
TYPES OF DEMENTIA

Dementia is an umbrella term for loss of memory and other thinking abilities severe enough to interfere with daily life.

- Alzheimer's
- Vascular
- Lewy body
- Frontotemporal
- Other, including Huntington's
- * **Mixed dementia:** Dementia from more than one cause

The Hallmarks of Alzheimer's

1 Plaques



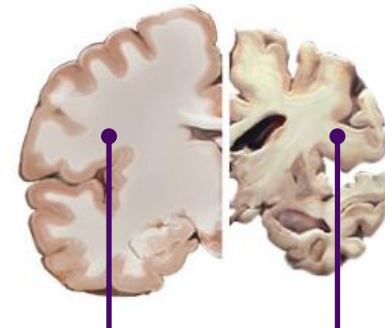
Made up of **beta amyloid**

2 Tangles



Made up of **tau**

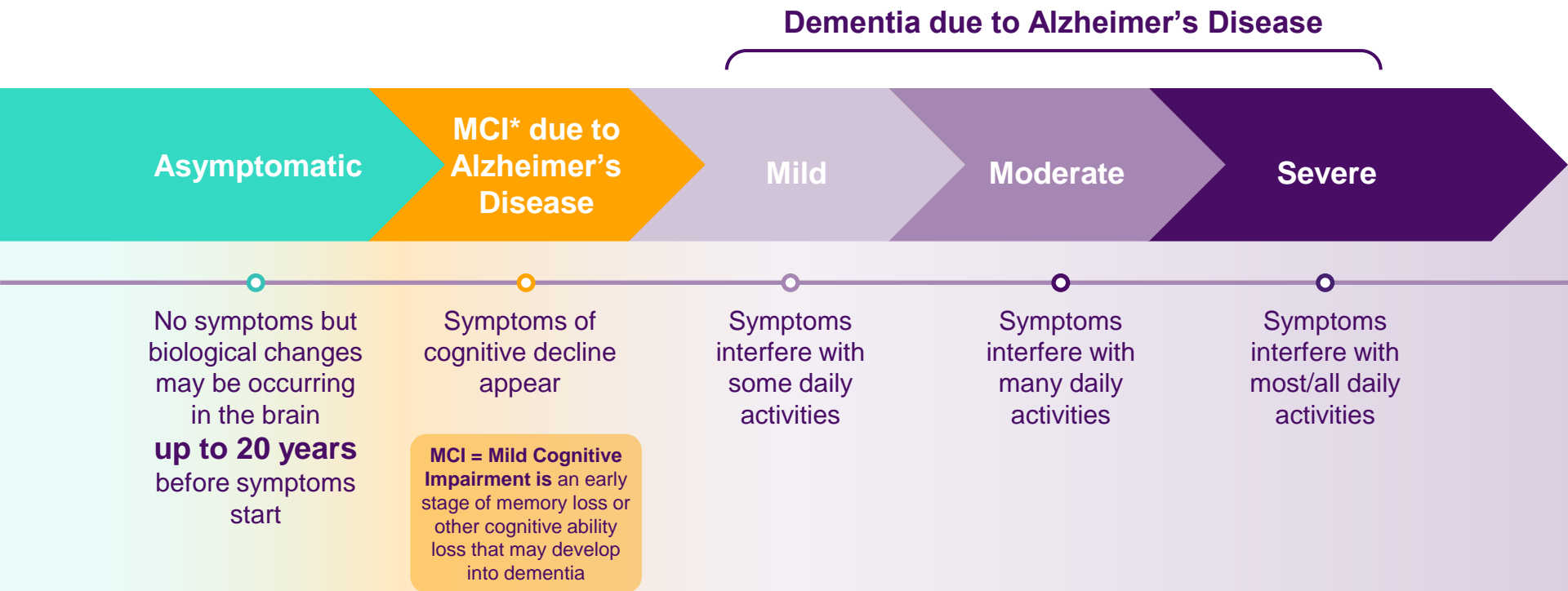
3 Brain Cell Death



Healthy
brain

Advanced
Alzheimer's

Alzheimer's Disease is a Continuum





Early Detection & Diagnosis

Benefits of an Early and Accurate Diagnosis



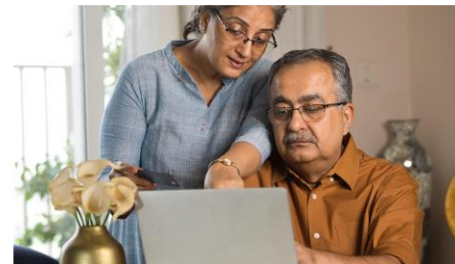
Medical Benefits

- Access to current treatments
- An opportunity to participate in clinical trials
- A chance to prioritize health, including making lifestyle changes



Emotional and Social Benefits

- More time to plan for the future, access resources
- Time to plan end-of-life decisions



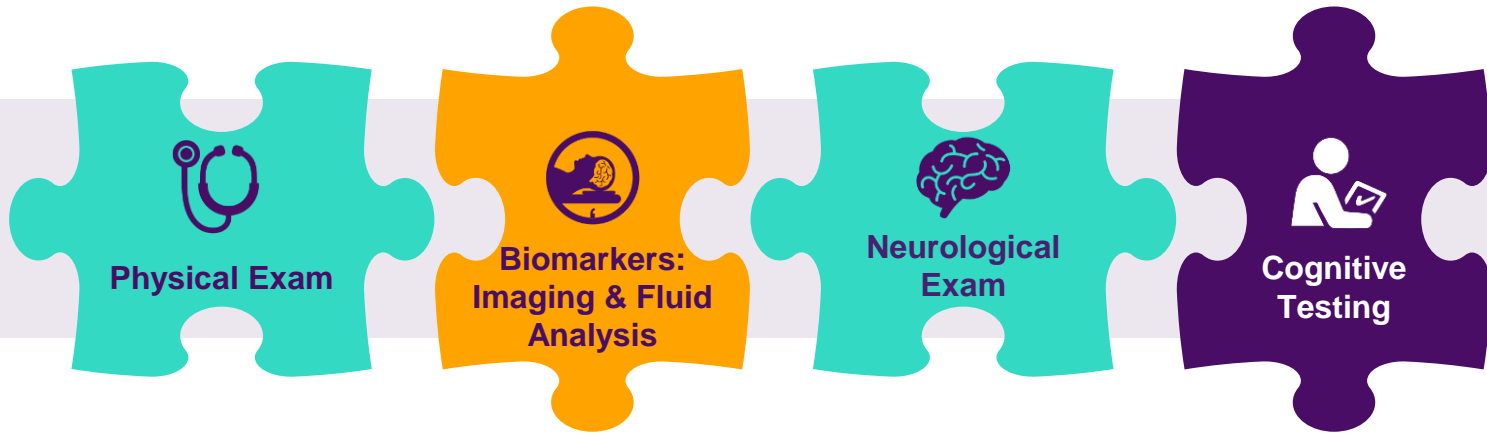
Financial Benefits

- Cost savings for families
- Cost savings for the U.S. government

How is Alzheimer's Currently Diagnosed?

There is no single test that can determine if a person is living with Alzheimer's disease or another dementia.

Doctors use a combination of diagnostic tools combined with medical history to make an accurate diagnosis.



Biomarkers

A New Frontier in Alzheimer's Detection, Diagnosis and Research

Cerebrospinal fluid (CSF) analysis can use to detect amyloid in the CSF (taken by a lumbar puncture), which can be predictive of changes in the brain.

There are several emerging **blood tests** on the market that can indicate presence of Alzheimer's markers years before symptoms emerge.

Blood tests for Alzheimer's should be prescribed by a doctor and followed by other methods of diagnosis.



Positron emission tomography (PET) scan results aid doctors in diagnosing and treating memory conditions. There are FDA approved PET scans that measure amyloid and tau.

Magnetic Resonance Imaging (MRI) can help doctors rule out other symptoms that may be causing dementia symptoms, as well as track treatment side effects.

Other **emerging biomarkers** include:

- examining skin and saliva to indicate early biological changes in the brain
- retinal imaging

which show promise to be low cost, accessible detection methods for Alzheimer's.

Research Roundup

Identifying New Biomarkers

- In addition to amyloid and tau — two key hallmarks in Alzheimer's disease — researchers are exploring emerging markers of cell death, inflammation and vascular related changes.

Standardizing Biomarkers

- Alzheimer's Association leads the Global Biomarker Standardization Consortium (GBSC), which conducts studies that aim to standardize use of fluid biomarkers across populations.

Bringing New Tests to Doctors' Offices

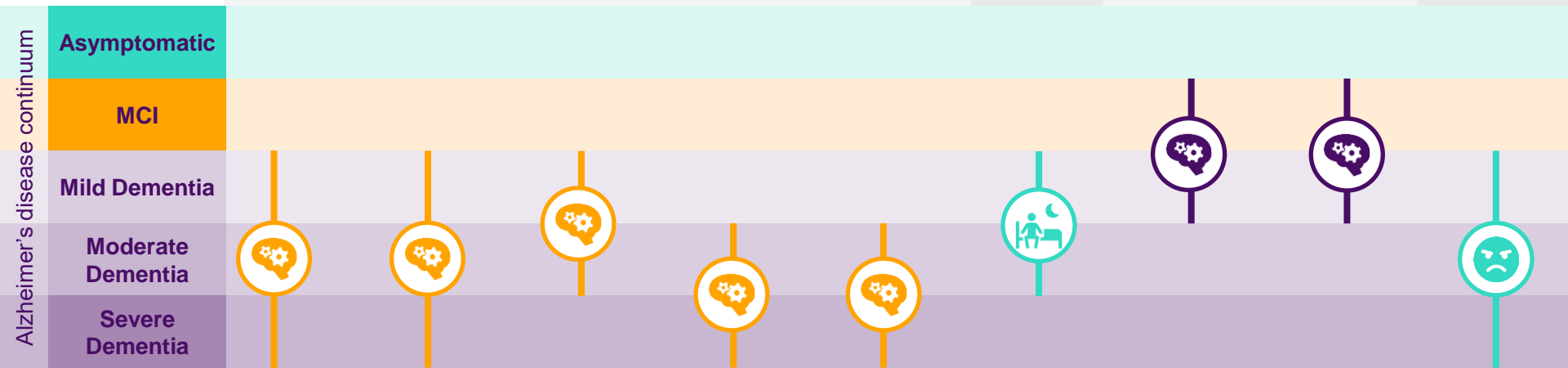
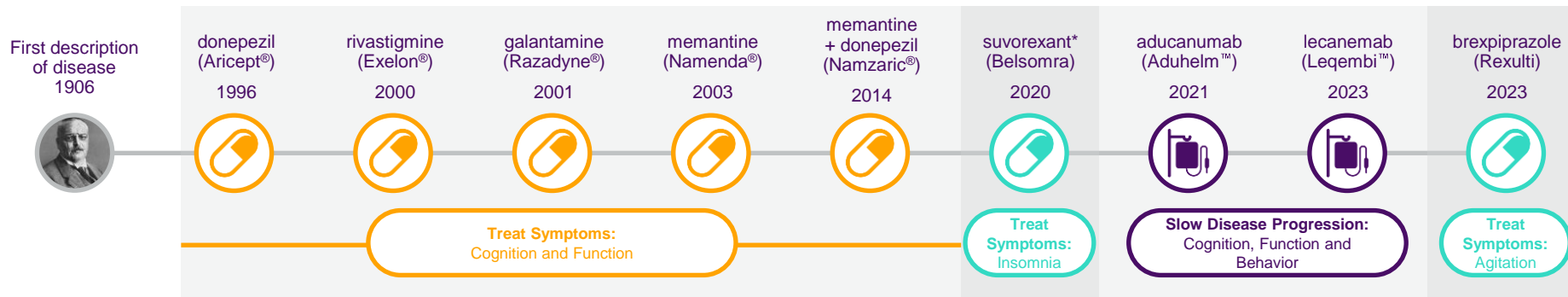
- As new biomarkers reach doctor's offices, the Alzheimer's Association publishes recommendations and guidance for doctors for use of imaging, fluid and other diagnostic biomarkers for Alzheimer's disease.

These programs provide a strategy to determine the most valuable tests that can be used to detect, diagnose and inform treatment for individuals with Alzheimer's and other dementia.



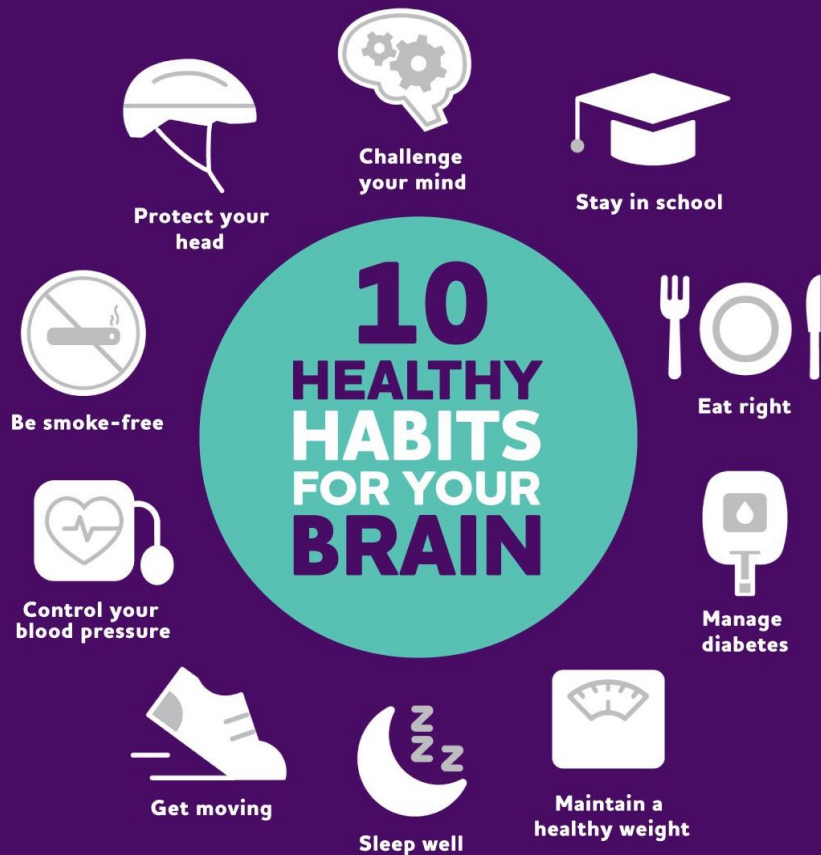
Treatment

FDA-Approved Therapies for Alzheimer's





Risk Reduction



Reducing Risk of Dementia

- Positive, everyday actions can make a difference in brain health, even lowering the risk of cognitive decline and possibly Alzheimer's and dementia.
- Up to **40%** of dementia cases could be prevented or delayed by targeting modifiable risk factors.
- Research suggests **combining multiple healthy factors** may be the most impactful.
- Nonmodifiable risk factors include age, genetics and sex/ gender/ race/ ethnicity.



Hypertension is a major **risk factor** for numerous chronic conditions, including **cognitive impairment.**

High blood pressure during pregnancy linked to increased risk of vascular dementia¹



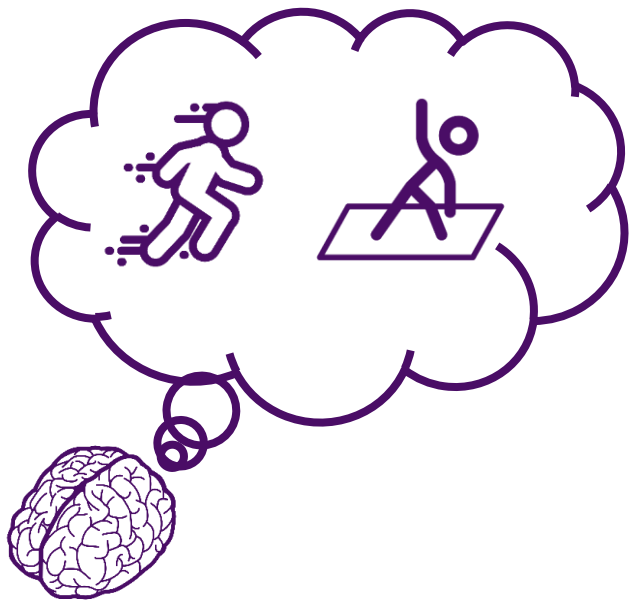
Study of nearly
60,000
women who experienced pregnancy found gestational hypertension² is associated with
2.75x
higher risk of vascular dementia

New research presented at the Alzheimer's Association International Conference® (AAIC™) 2022

1. Karen Schliep, Ph.D., MSPH, et al. What subtypes are driving the association between hypertensive disorders of pregnancy and dementia? Findings from an 80-year retrospective cohort study (Funders: National Institute on Aging, National Center for Research Resources, National Cancer Institute).

2. Gestational hypertension – high blood pressure in pregnancy –

EXERT Study Findings: Physical Activity May Stall Cognitive Decline



EXERT Study is the **longest-ever Phase 3 study of exercise** in older adults with Mild Cognitive Impairment (MCI)

The study was conducted during the COVID-19 pandemic and **80% of study participants complied with their exercise regimen**

After 12 months, study participants with MCI in **both aerobic intervention and stretching arm** showed **no cognitive decline**

Key Takeaway: Regular aerobic exercise or stretching and balance may still **stall cognitive decline** in sedentary adults with MCI

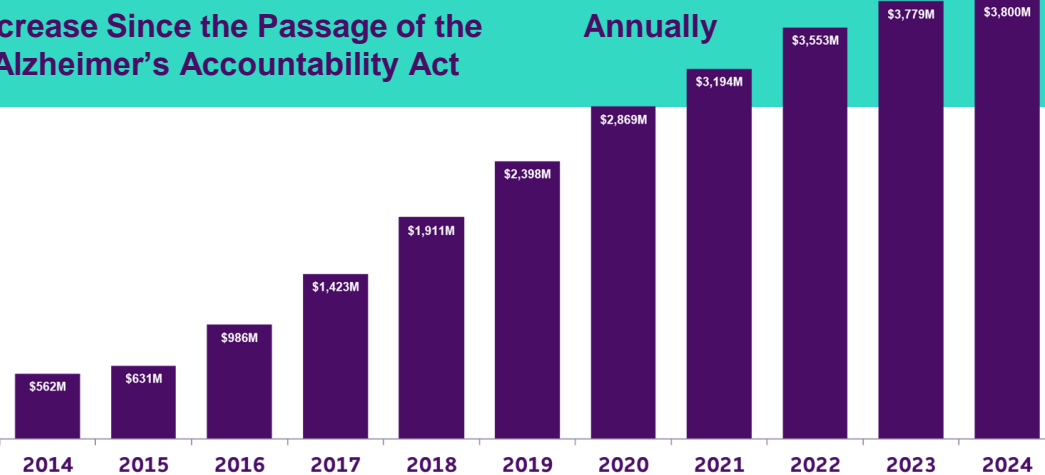
Alzheimer's Research Funding is at an All-Time High

7x

\$3.8B

Increase Since the Passage of the Alzheimer's Accountability Act

Annually



Alzheimer's and Related Dementia Funding at the National Institutes of Health (NIH)

Source: NIH (<https://report.nih.gov/funding/categorical-spending>) with the 2024 figure reflecting NIHs estimated 2023 funding plus the additional increase of \$100M appropriated through the FY2024 funding bill.



Get Involved in Research

- TrialMatch is a **free clinical studies matching service** designed to provide a **customized list** of potential study matches to each user.
- Healthy and cognitively impaired people from all backgrounds are needed to participate in Alzheimer's and dementia research.



SCAN
to find
out more

trialmatch[®]

ALZHEIMER'S  ASSOCIATION[®]

POWERED BY CenterWatch iConnect[™]

**Over 370,000 users and includes 750+ clinical studies around the world.*

731 Alzheimer's Disease

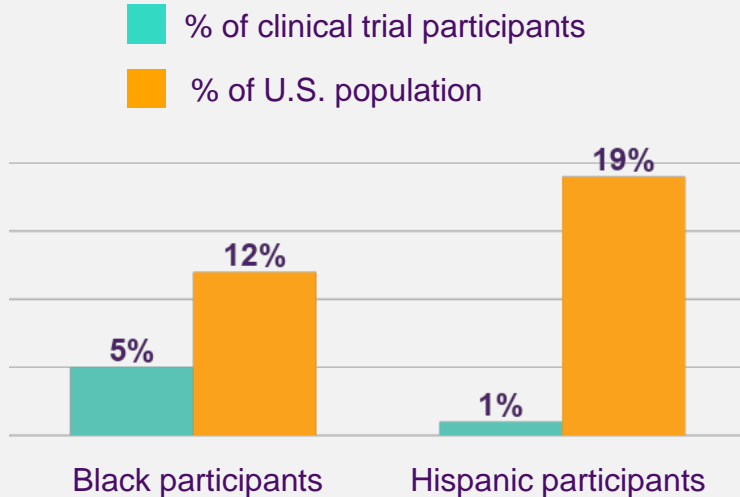
351 Mild Cognitive Impairment

36 Vascular Dementia

110 Other Dementia

Advancing Health Equity

Racial and ethnic populations are underrepresented in clinical trials.



Legislation like the bipartisan **Equity in Neuroscience and Alzheimer's Clinical Trials (ENACT) Act** will increase education and outreach to underserved and underrepresented communities, encourage diversity of clinical trial staff, and make it easier for underrepresented groups to participate in research.

The Alzheimer's Association is **committed to diversity, equity and inclusion** in Alzheimer's research by supporting researchers from diverse backgrounds.

- *Alzheimer's Association Core Grant Programs to Promote Diversity*
- *ISTAART Diversity and Disparities PIA*
- *AAIC Advancements: Health Equity*



Association's Website | alz.org



Research at the Association | alz.org/research



Join a Clinical Trial | alz.org/trialmatch



Contact the 24/7 helpline | 800-272-3900

