

# **Alzheimer's Disease and Related Dementias: What do I need to know?**

**AIRS Conference**

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# Should I be worried?

- “I am always losing my keys.”
- “I seems like I walked in here for something...”
- “It’s on the tip of my tongue.”

# What is Normal Aging?

As we age, all parts of our bodies change, including our brains

## Examples of age related changes in the brain:

- Shrinkage of specific parts of brain
- Changes in how brain cells communicate.
- Changes in the brain's blood vessels/ blood flow.
- Increase in inflammation.

Adapted from NIA/NIH's Alzheimer's Disease: Unravelling the Mysteries

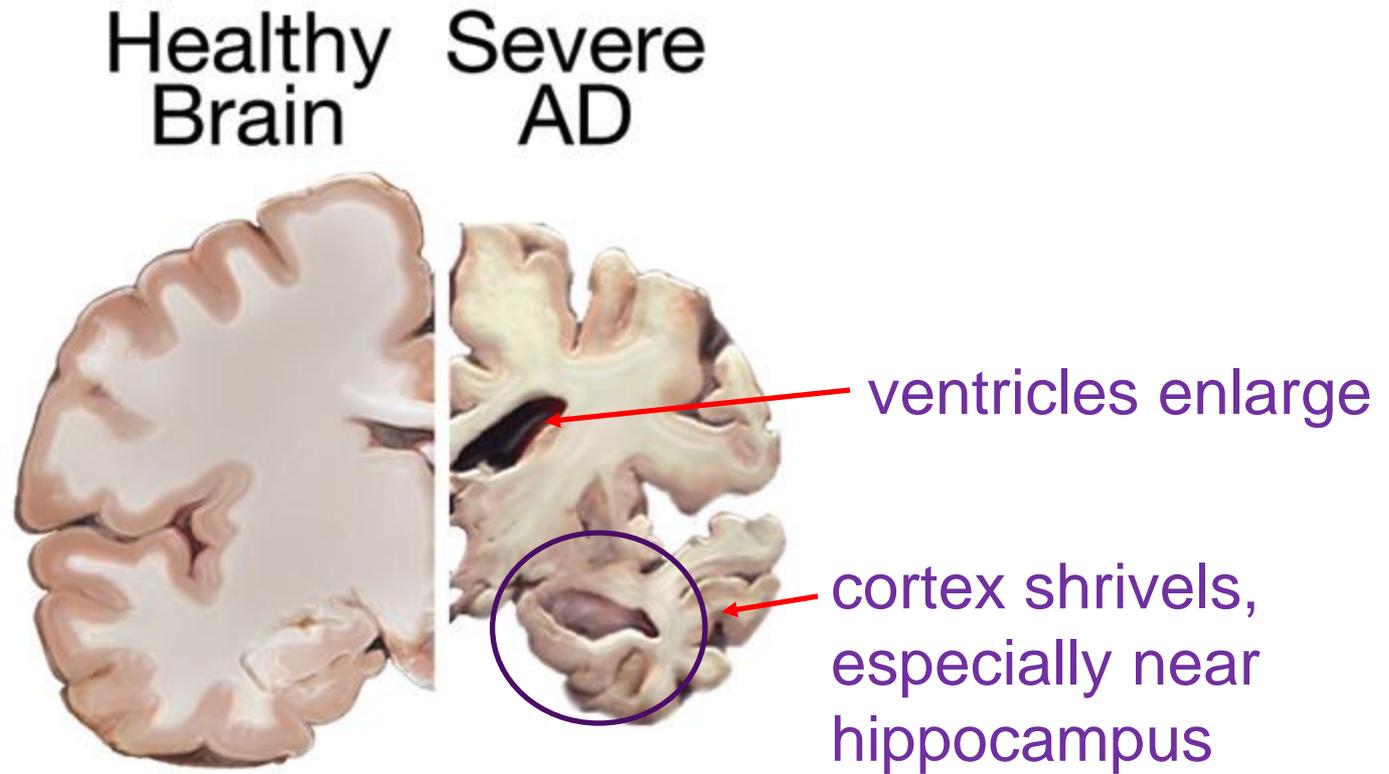
# 10 Warning Signs

1. Memory loss that disrupts daily life
2. Challenges in planning or problem solving
3. Difficulty completing familiar tasks
4. Confusion with time or place
5. Trouble understanding visual images or spatial relationships

# 10 Warning Signs

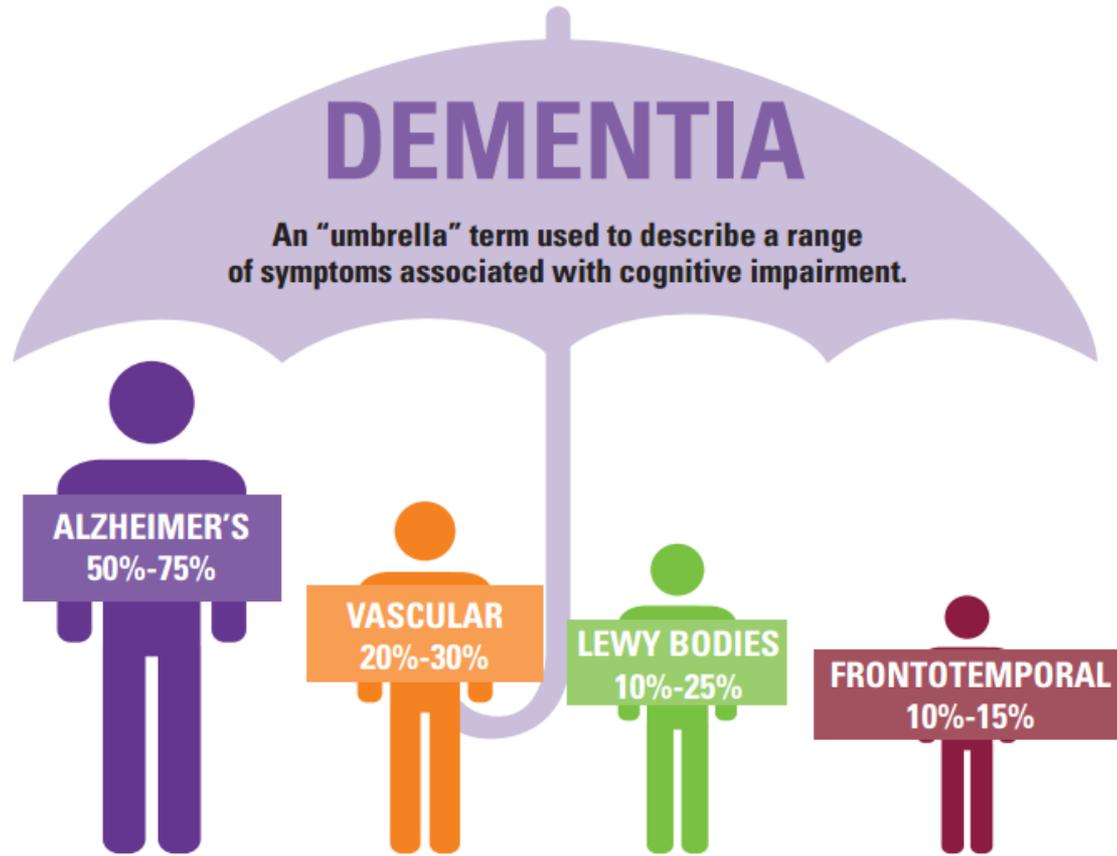
6. New Problems with words in speaking or writing
7. Misplacing things and losing the ability to retrace steps
8. Decreased or poor judgment
9. Withdrawal from social activities
10. Changes in mood or personality

# Dementia is NOT Normal Aging



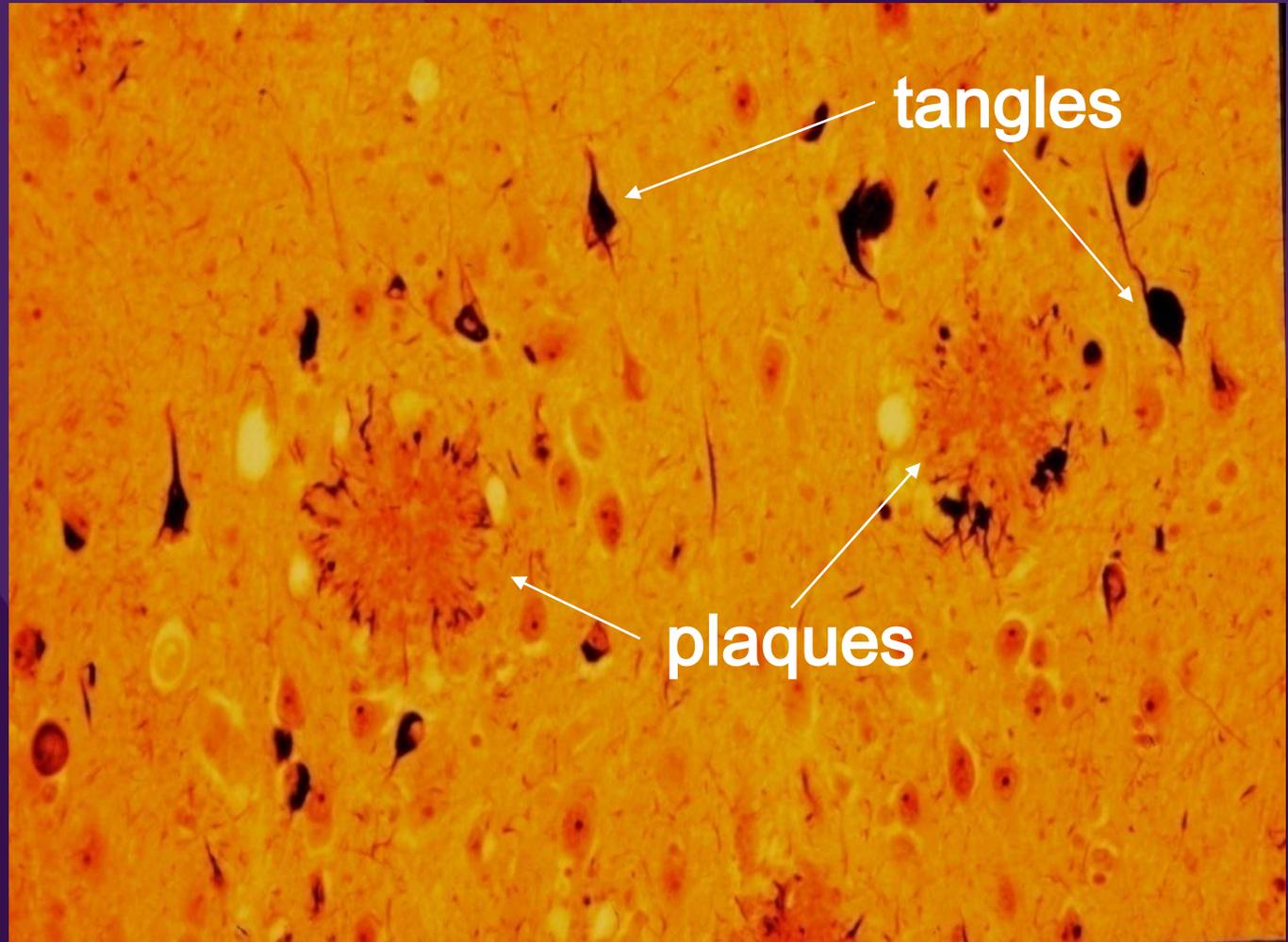
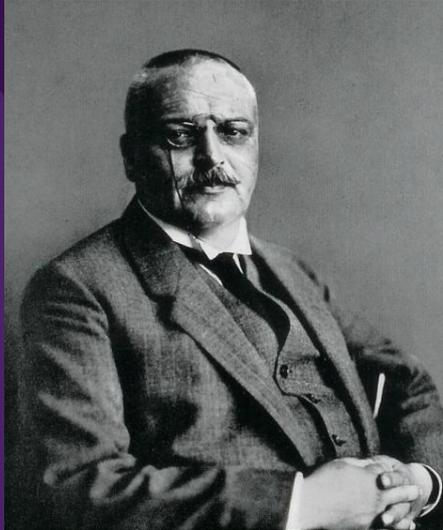
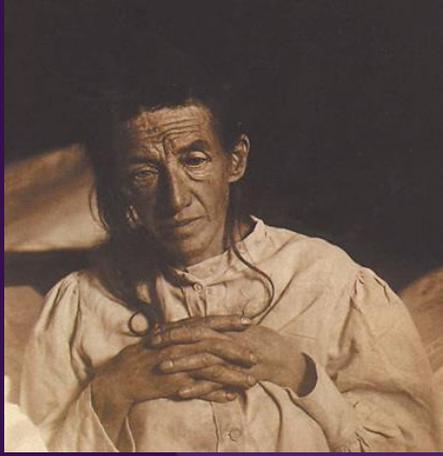
AD brain = smaller overall

# Alzheimer's & Related Dementias



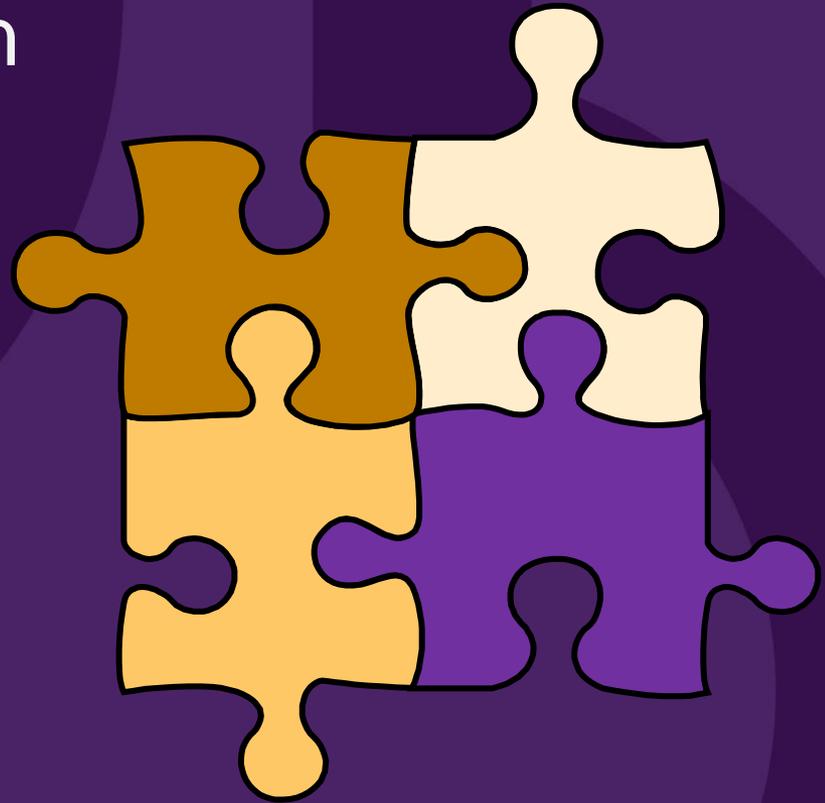
MIXED DEMENTIA = >1 NEUROPATHOLOGY - PREVALENCE UNKNOWN

# Alzheimer's – Plaques & Tangles

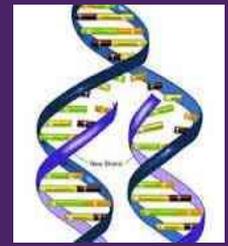


# Risk Related to Cognitive Decline & Alzheimer's

- Age: The greatest known risk factor
- Genetics
- Heart-head connection
- Head injury
- Others:
  - Biological Sex
  - Ethnicity

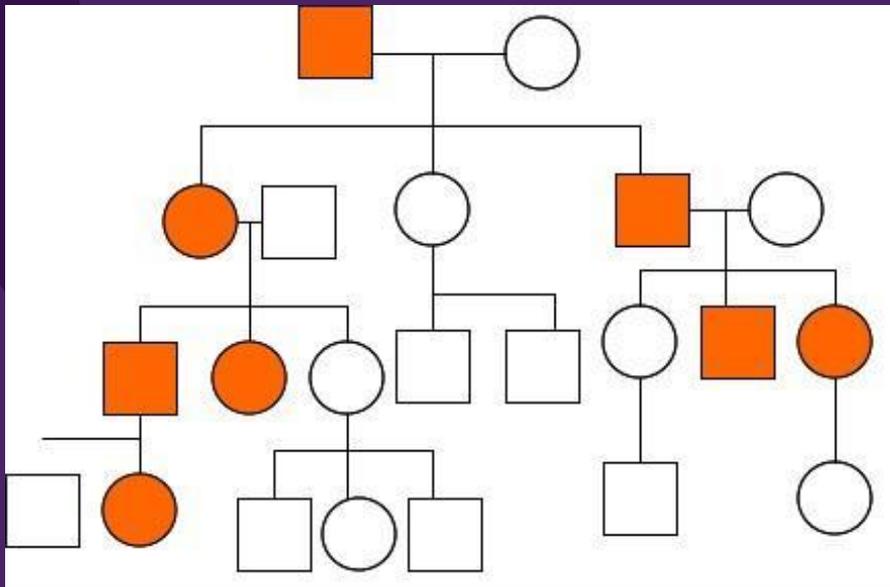


# Understanding Genetics & Alzheimer's



## Deterministic

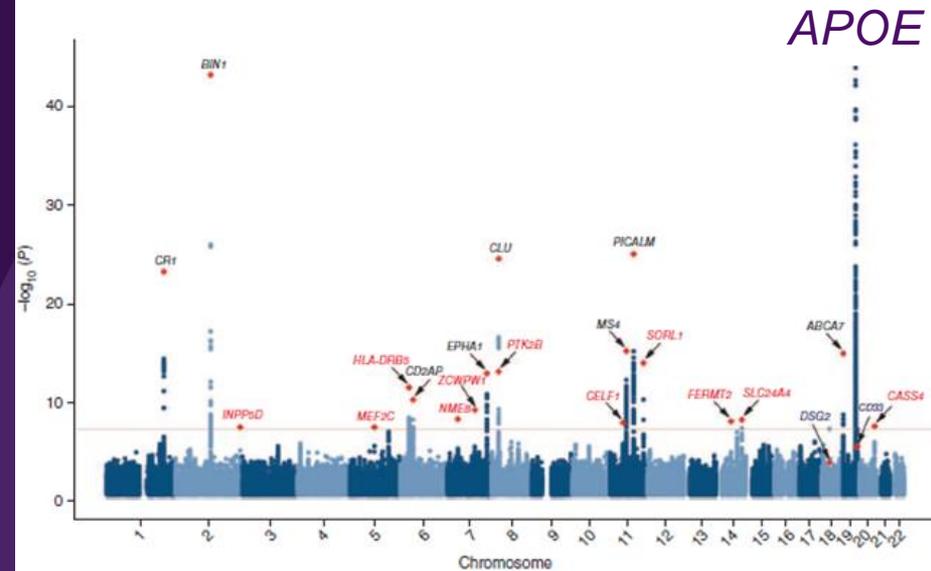
## Risk



Relatively rare: 1-3% of all cases of Alzheimer's

nature  
genetics

Meta-analysis of 74,046 individuals identifies 11 new susceptibility loci for Alzheimer's disease



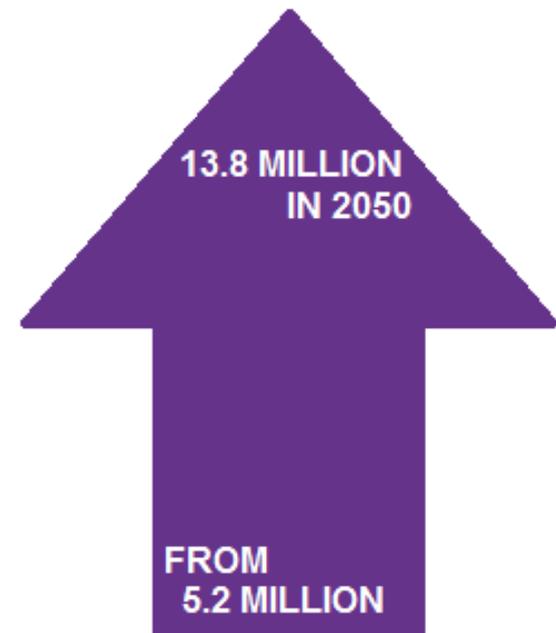
# The Alzheimer's Epidemic Continues to Grow...

5.4

million Americans of **ALL** Ages  
will have Alzheimer's in 2016

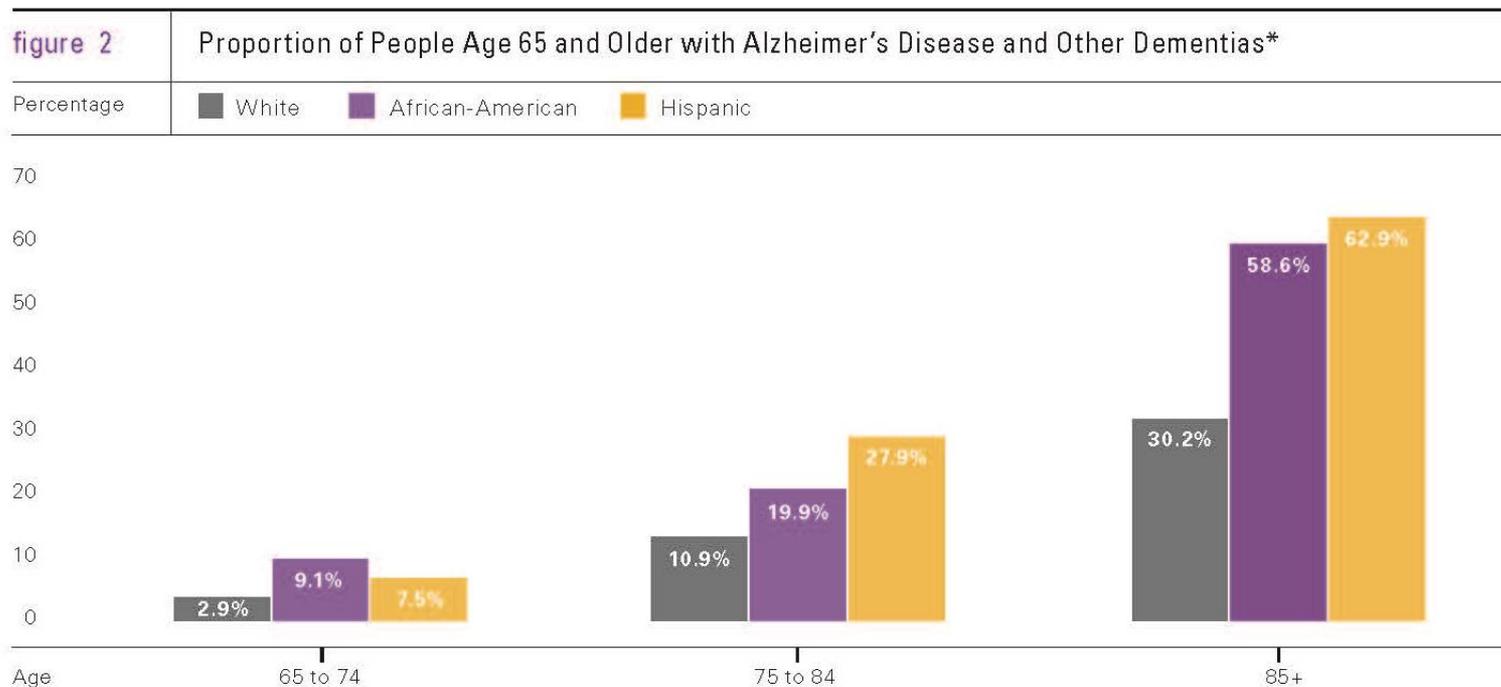
# The Numbers Continue to Rise...

By 2050, the number of people age 65 and older with Alzheimer's disease may nearly triple, from 5.2 million to a projected 13.8 million.



THE FACTS: ALZHEIMER'S IS AN EPIDEMIC IN AMERICA.

African-Americans are about twice as likely as whites to have Alzheimer's or another dementia, and Hispanics are one and a half times as likely.



\*The Hispanic group for this study was primarily Caribbean-American.  
Created from data from Gurland et al. (133)

# More Women Than Men Have Alzheimer's and Other Dementias

Among the 5.2 million Americans age 65 and older with Alzheimer's disease, nearly two-thirds (3.3 million) are women.



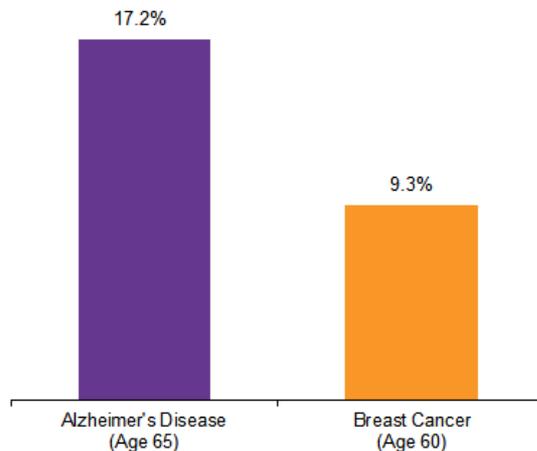
## THE FACTS: ALZHEIMER'S IS AN EPIDEMIC IN AMERICA.

### Women are at the epicenter of the Alzheimer's epidemic.

In her 60s, a woman's estimated lifetime risk for developing Alzheimer's disease is **1 in 6**. For breast cancer it is **1 in 11**.

Almost **two-thirds** of Americans with Alzheimer's disease **are women**.

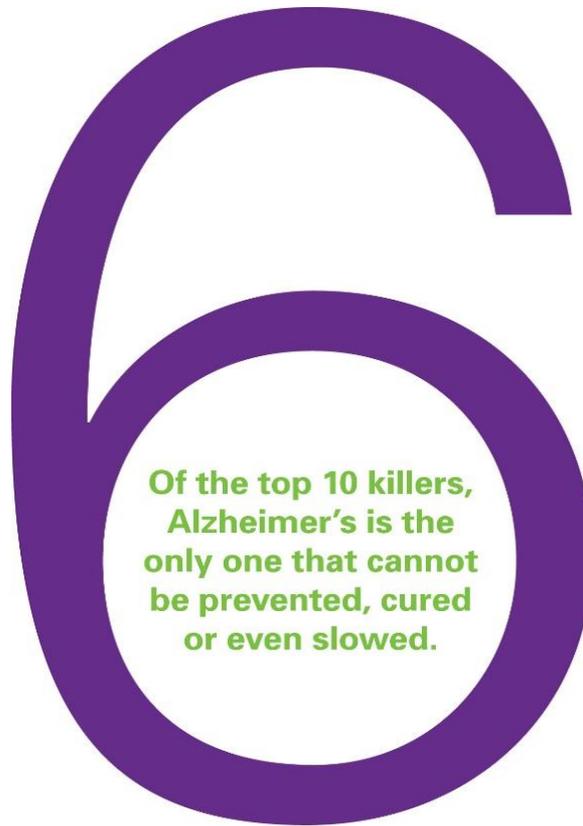
Remaining Lifetime Risk of Women Developing Alzheimer's Disease and Breast Cancer



There are **2.5 times more** women than men providing intensive **"on-duty" care** 24 hours a day for someone with Alzheimer's.

More than **60 percent** of Alzheimer's and dementia **caregivers are women**.

In 2016, an estimated 700,000 people in the U.S. age 65 and older will die with Alzheimer's



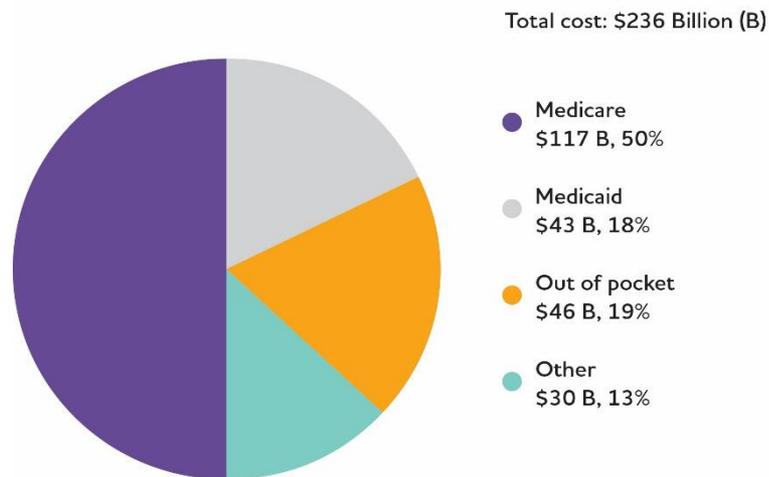
**6TH LEADING  
CAUSE OF DEATH  
IN THE U.S.**

**Of the top 10 killers,  
Alzheimer's is the  
only one that cannot  
be prevented, cured  
or even slowed.**

Source: Centers for Disease Control and Prevention ([cdc.gov/nchs/fastats/leading-causes-of-death.htm](https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm))

# Alzheimer's is One of the Most Costly Diseases to Our Society and the American Economy

Aggregate Cost of Care by Payment Source for Americans Age 65 and Older with Alzheimer's Disease and Other Dementias, 2016\*



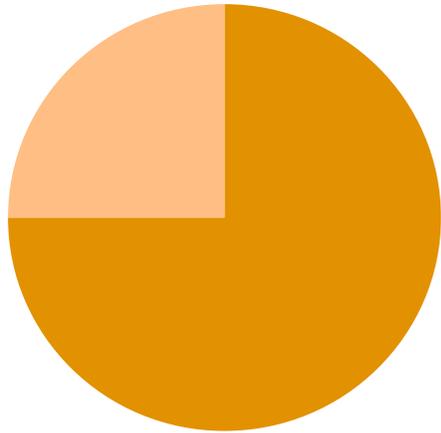
\*Data are in 2016 dollars.

Created from the Lewin Model.<sup>A21</sup> "Other" payment sources include private insurance, health maintenance organizations, other managed care organizations and uncompensated care. Totals for payment sources may not add to total cost due to rounding.

Source: Alzheimer's Association 2016 Alzheimer's Disease Facts and Figures

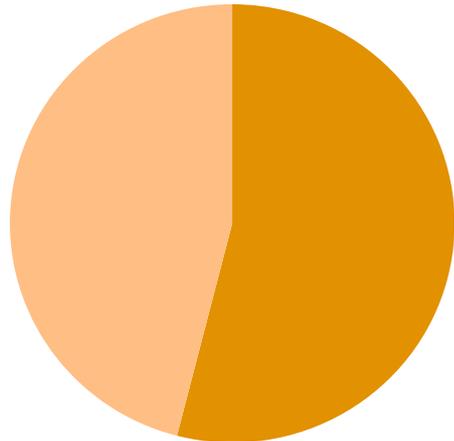
## Alzheimer's Affects the Workplace

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75%

of caregivers reported being employed at any time since assuming care responsibilities.



54%

of employed caregivers reported having to go in late, leave early or take time off due to caregiver demands.

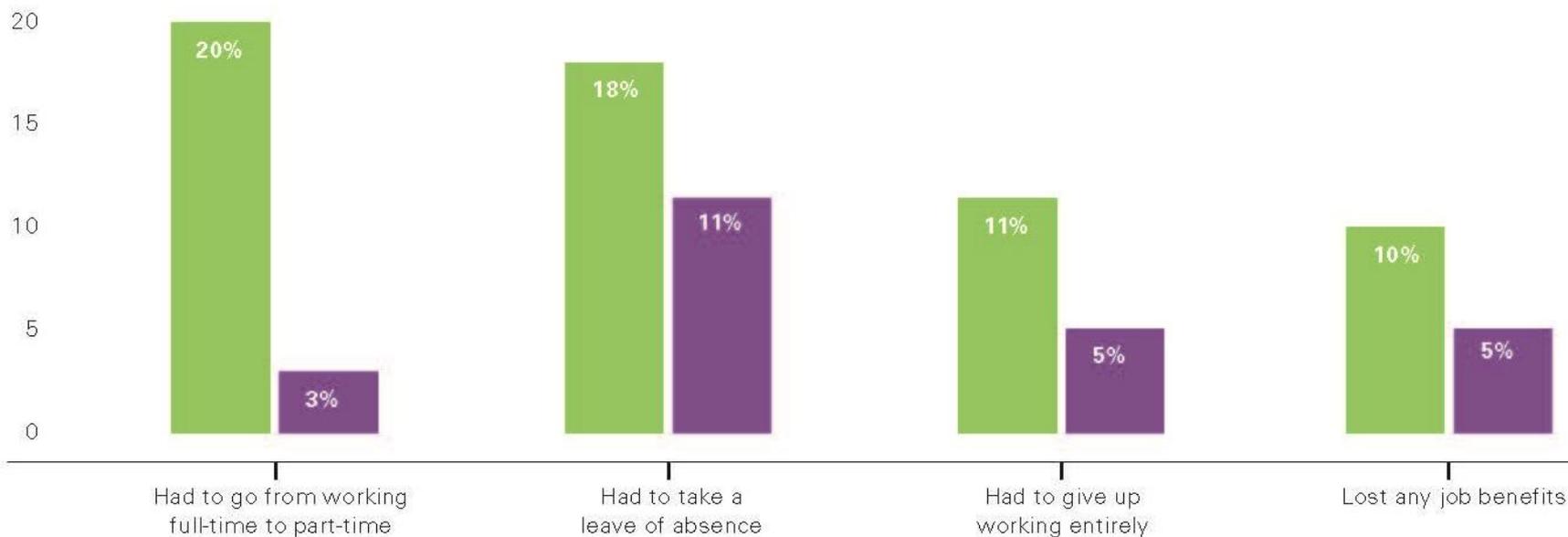
## Alzheimer's Affects the Workplace

figure 19

Consequences of Caregiving on Aspects of Employment Among Female and Male Caregivers

Percentage

■ Women ■ Men



Created from data from the 2014 Alzheimer's Association Women and Alzheimer's Poll.<sup>A17</sup>

# FINGER Study: Recipe of Lifestyle Interventions for Cognition



- Gold standard of testing any type of therapy/ intervention – Randomized Control Trial (RCT)
- Large, rigorous study of 1,200 individuals
  - Half received intervention and half received standard of care
- First solid evidence that recipe of lifestyle interventions reduces cognitive decline
- Needs to be replicated in more diverse populations
- Results first presented at AAIC 2014

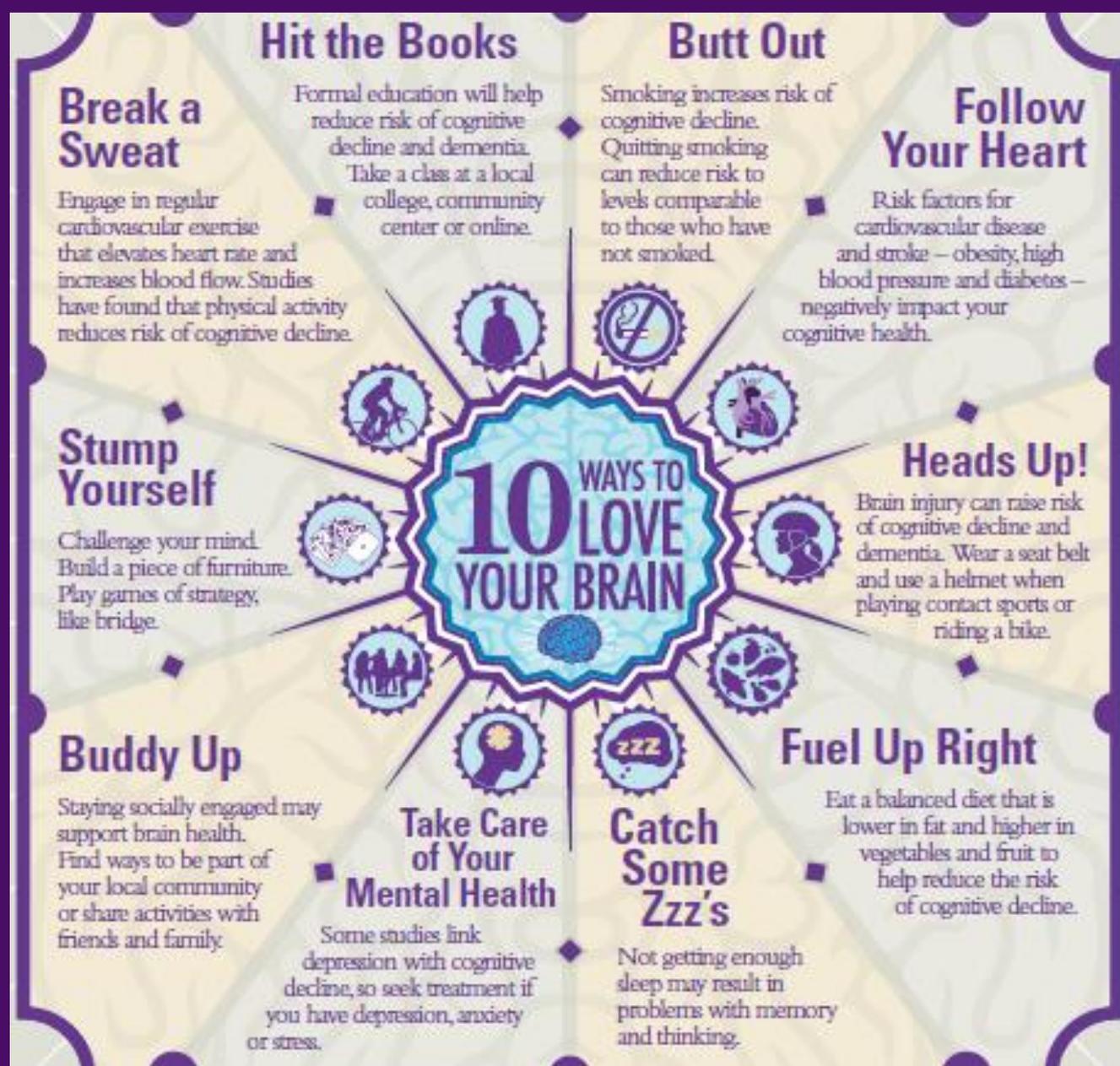


# Statement of Evidence: Modifiable Risk Factors for Cognitive Decline & Dementia

- (1) Regular physical activity and management of cardiovascular risk factors (diabetes, obesity, smoking, and hypertension) have been shown to reduce the risk of cognitive decline and may reduce the risk of dementia;
- (2) Healthy diet and lifelong learning/cognitive training may also reduce the risk of cognitive decline;
- (3) There are still many unanswered questions and significant uncertainty with respect to the relationship between individual risk factors and dementia.



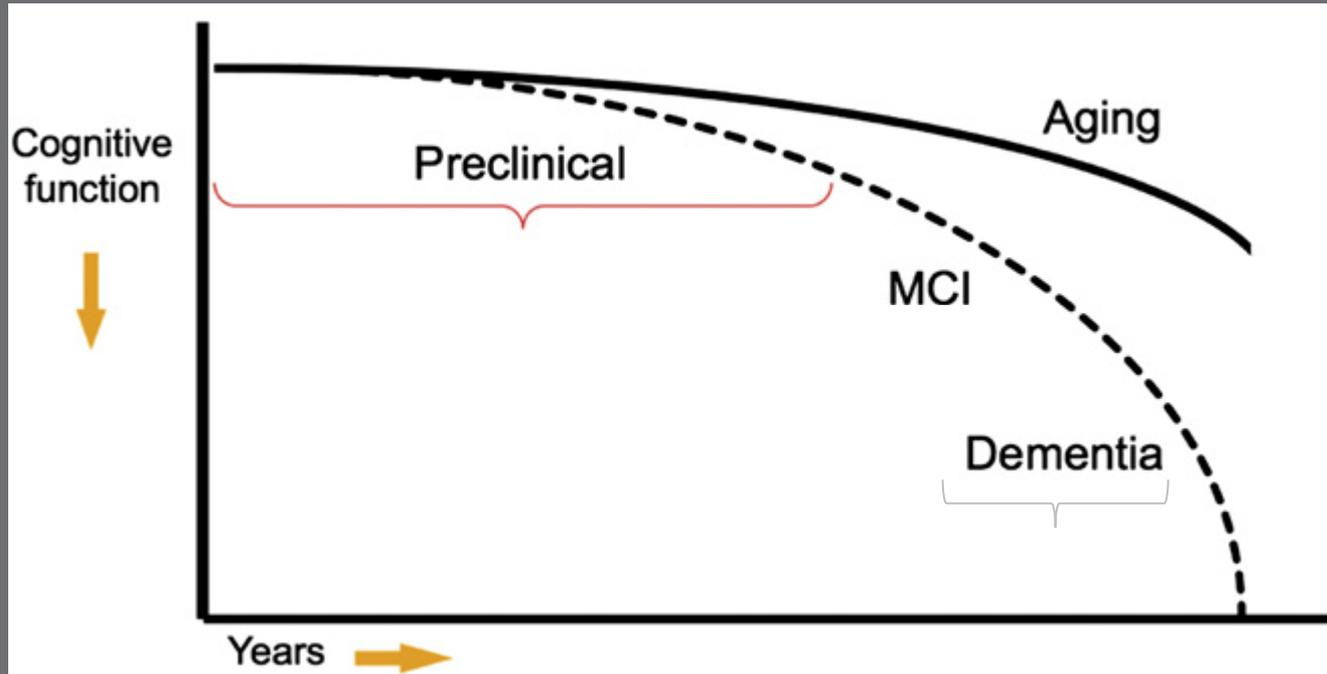
# 10 Ways to LOVE Your Brain



# Continuum of Alzheimer's Disease

Normal

Alzheimer's disease



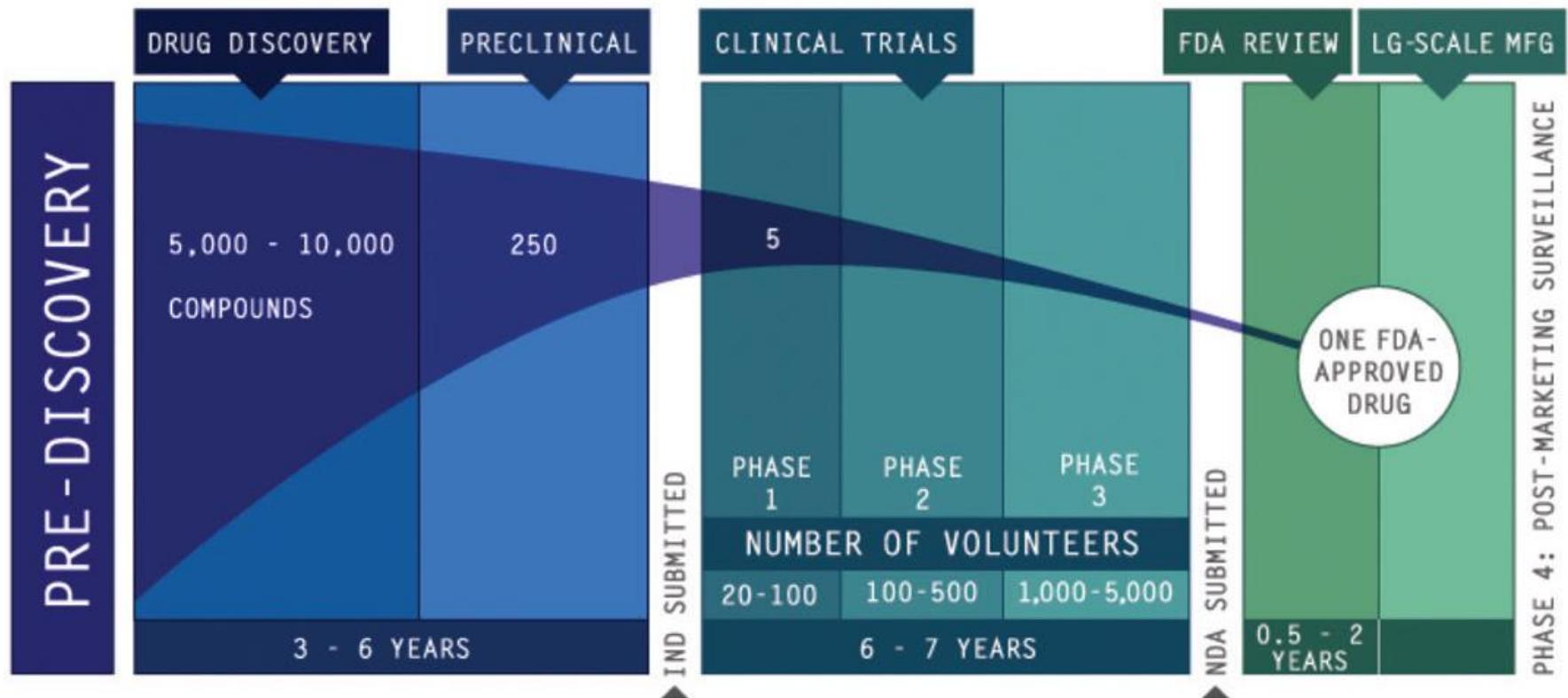
Adapted from Sperling et al. 2011

alzheimer's association®

THE BRAINS BEHIND SAVING YOURS.™

# Pathway to Your Medicine Cabinet

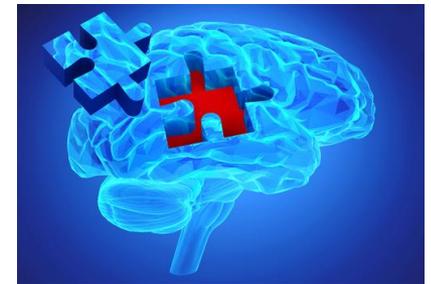
## Drug Discovery and Development: A LONG, RISKY ROAD



# Experimental Drug Trial Results: Potential Disease Modifying Treatments

- **Solanezumab (Lilly)**

- New analysis of results from two prior phase 3 studies suggests it may slow cognitive decline
- On-going Phase 3 used Amyloid PET to enroll participants



- **Aducanumab (Biogen)**

- Small Phase 1b suggests may slow cognitive decline in people w/ mild Alzheimer's
- Launched two Phase 3 clinical trials using Amyloid PET to enroll participants



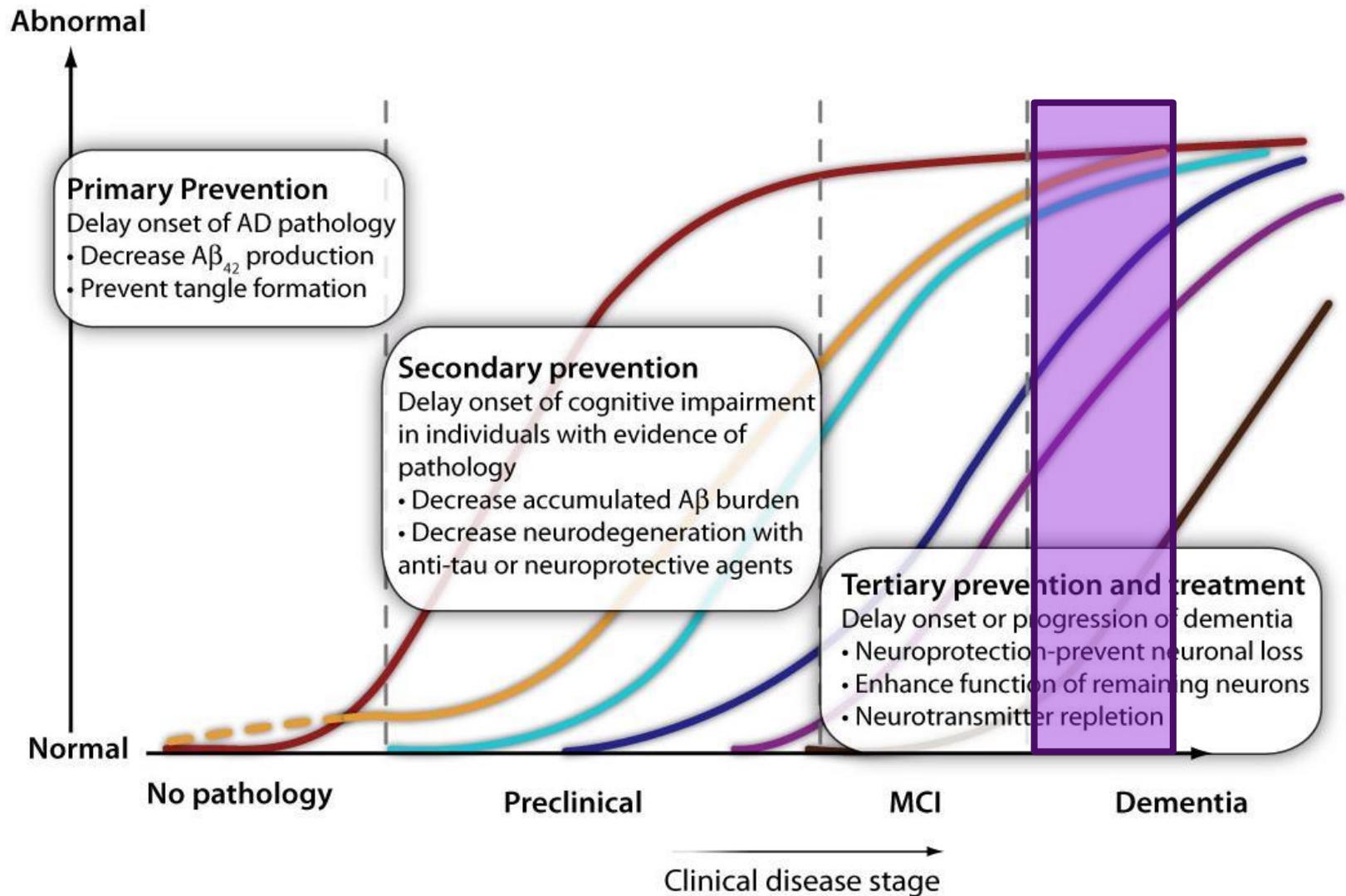
# Exercise as Treatment: Living Better with Dementia

- In mild Alzheimer's, aerobic exercise improved neuropsychiatric symptoms, such as agitation
- In MCI due to vascular disease, aerobic exercise improved memory/ cognition
- In MCI, aerobic exercise reduced levels of tau, which makes up tangles

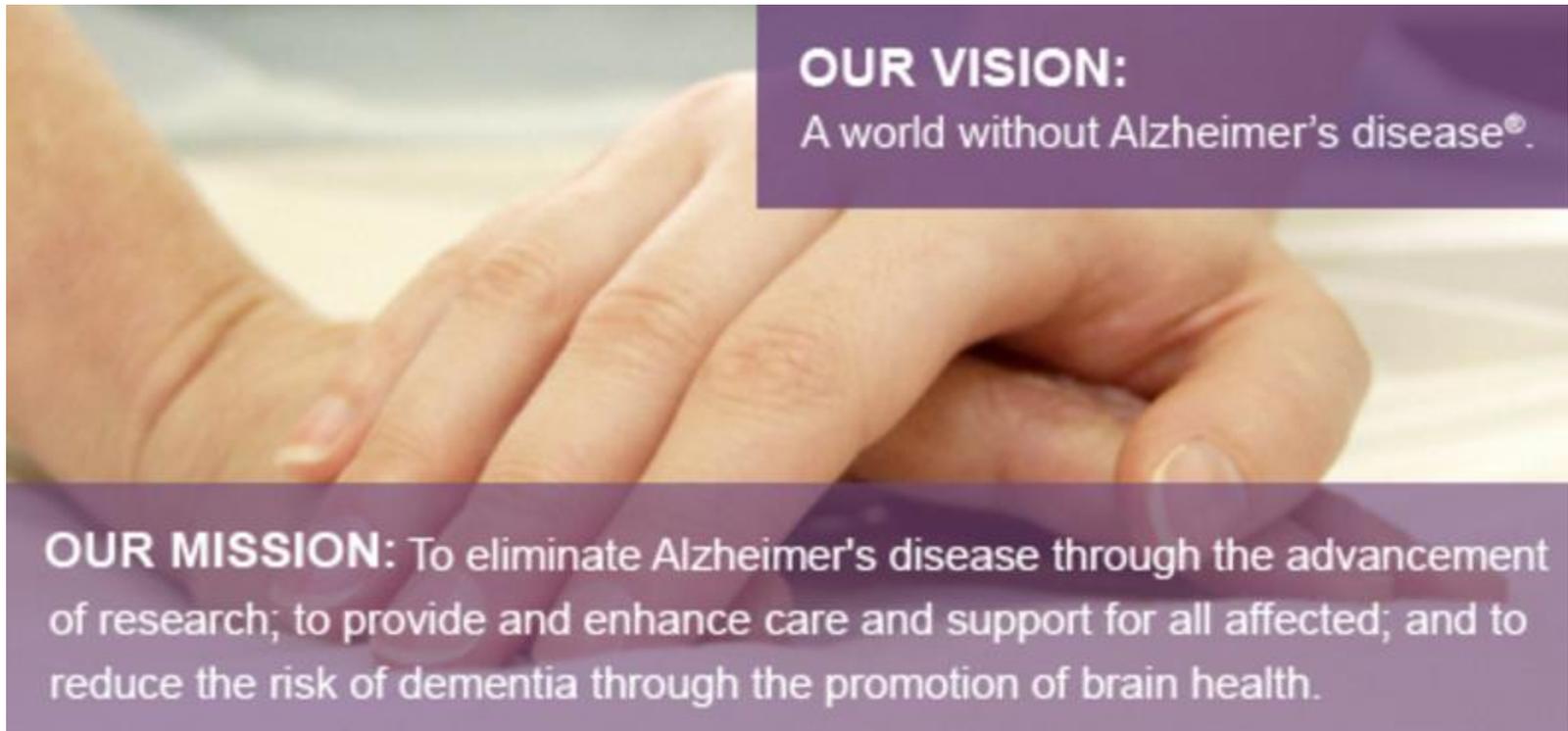




# Possible Prevention of Alzheimer's?



# Alzheimer's Association: Who We Are



# The Alzheimer's Association is here for you



24/7 helpline  
800.272.3900 | alz.org

Services and support for you and your family.

alzheimer's association

24/7 Hour Helpline

alzheimer's association

KNOW the  
10 SIGNS

EARLY DETECTION MATTERS

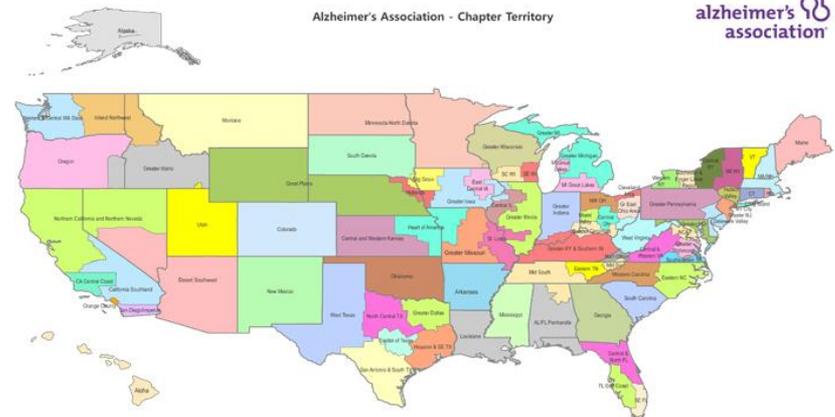
Trusted resource for public education



Resources and support for caregivers



Award-Winning website: alz.org



Alzheimer's Association - Chapter Territory

alzheimer's association

Connect with us in your community

alzheimer's association

THE BRAINS BEHIND SAVING YOURS:

THE END OF  
ALZHEIMER'S  
**STARTS**  
WITH YOU

alzheimer's  association®

[alz.org](http://alz.org)