

Patient and Research Participant Appreciation Day
Educational Conference on Healthy Brain Aging

The Stanford Alzheimer's Disease Research Center

What We Do and Why It Is Important



Victor W. Henderson, MD, MS
Professor, Dept. of Health Research & Policy (Epidemiology)
and of Neurology & Neurological Sciences
Director, Stanford Alzheimer's Disease Research Center

What do you worry about?

MetLife Foundation survey 2011

Which disease worries you the most?

- Alzheimer's disease
- Cancer

A Harris Poll conducted in April 2011 for Aegis Living found that the worries cross all generations: More than 75 percent of millennials, Generation Xers, and baby boomers worry about what will happen to their memory as they age. (Boston Globe 7/11/2015)

• **Stanford Alzheimer's Disease Research Center** **A·D·R·C**
for healthy brain aging

• **Pacific Udall Center** **Pacific Udall Center**
NIH Center of Excellence for Parkinson's Disease Research

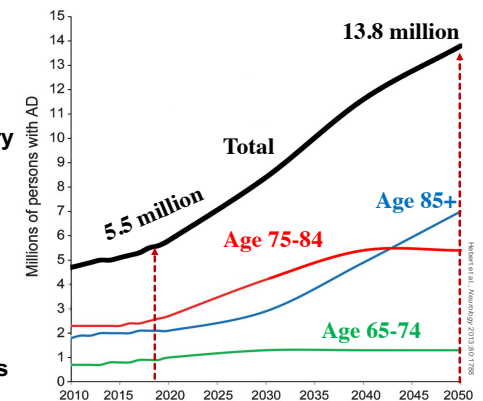
➤ **ADRCs and Udall Centers are designated as NIH Centers of Excellence**

The National Institute on Aging funds Alzheimer's Disease Centers at major medical institutions across the United States. Researchers at these Centers are working to translate research advances into improved diagnosis and care for people with Alzheimer's disease, as well as finding a way to cure and possibly prevent Alzheimer's.

<https://www.nia.nih.gov/research/adrc>

• **Stanford is a Lewy Body Dementia Association designated Research Center of Excellence**

- **An estimated 5.5 million Americans have Alzheimer's disease.**
- **Most are older than 65 (5.3 million)**
- **The projected number by mid-century is 13.8 million.**
- **In 2017, an estimated 700,000 Americans age 65 years died with Alzheimer's disease.**
- **Based on death certificate records, Alzheimer's disease is the sixth leading cause of death in the US; it is the fifth leading cause after age 64.**
- **Between 2000 and 2014, deaths resulting from stroke, heart disease, breast cancer, and prostate cancer decreased 21%, 14%, 1%, and 11%, respectively.**
- **Deaths from Alzheimer's disease increased 89%.**

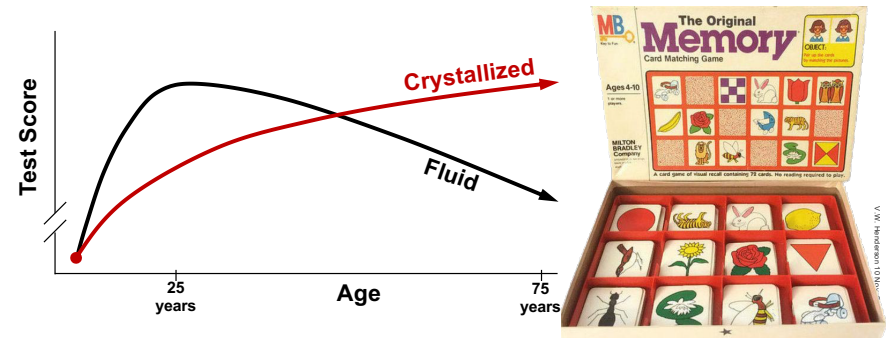


- ❑ Healthy brain aging / cognitive aging
- ❑ Mild cognitive impairment
- ❑ Dementia

Cognitive aging (normal brain aging)

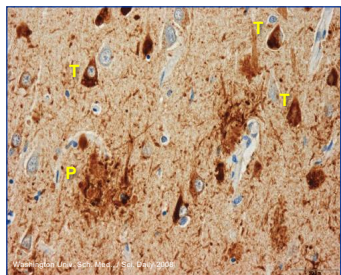
Crystallized abilities: Based on acquired skills, knowledge, and experience

Fluid abilities: Based on new learning, abstract reasoning, and problem solving



Abnormal brain aging → mild cognitive impairment (MCI) → dementia

Abnormal brain aging (Specific pathologies)

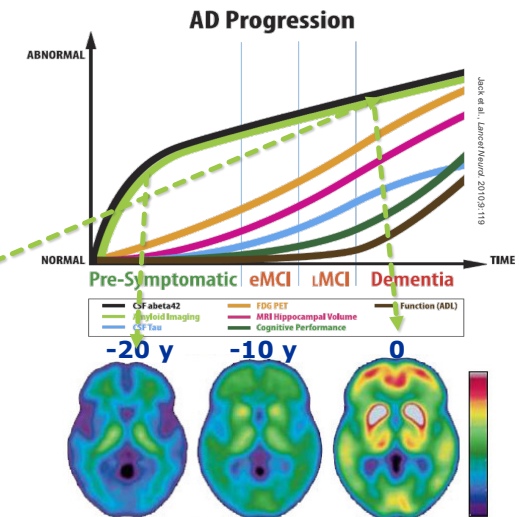
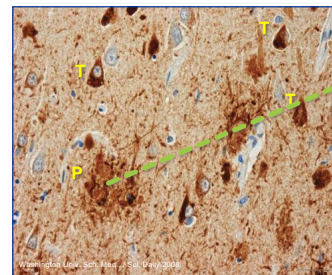


MCI

- Dementia
 - Alzheimer's disease
 - Vascular dementia
 - Lewy body dementia
 - Frontotemporal dementia
 - Other specific causes

Multiple pathologies are common (key point)

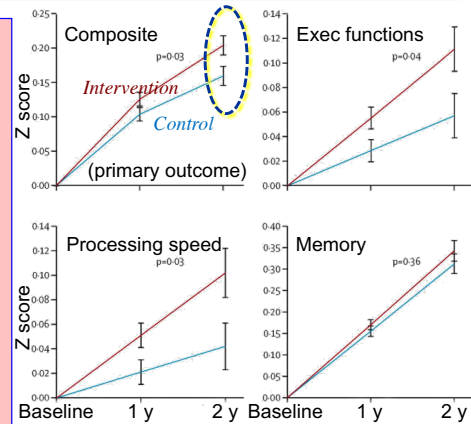
Biochemical changes occur years (decades) before clinical symptoms (key point)



Combination approach to cognitive aging (experimental)

Ngandu et al., *Lancet* 2015;385:2255

- FINGER (Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability)
- Aged 60-77 years (average 69)
- Average or below average cognition and cardiovascular risk factors
- Diet, exercise, cognitive training, vascular risk monitoring v. control
- 1260 randomized and 1190 (94%) included in modified intention-to-treat analyses
- Between groups difference in primary outcome was 0.02/ year



➤ Alzheimer's disease is the only leading cause of death with no effective treatment and no effective means of prevention.



Thank You

Christina Wyss-Coray, Clinical Coordinator
Tel (650) 721-2409
Email: adrcstanford@stanford.edu
<http://med.stanford.edu/adrc.htm>

