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 11/11/2015)

- 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%.

Facts and Figures, Alzheimer’s Dement 2017;13:325
In 2016, nearly 16 million family members and other unpaid caregivers provided an estimated 18.2 billion hours of care to people with dementia, a contribution valued at more than $230 billion.

Average per-person Medicare payments for services to beneficiaries age 65+ dementia are more than 2.5 times as great as payments for all beneficiaries without these conditions; Medicaid payments are 19 times as great.

Many family members incorrectly believe that Medicare pays for nursing home care and other types of long-term care.

Total payments in 2017 for health care, long-term care and hospice services for people age 65 years with dementia are estimated to be $259 billion.

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

Who enrolls in the Stanford ADRC?

1) People with dementia caused by Alzheimer’s disease
2) People with mild cognitive impairment (MCI)
3) People without cognitive impairment (healthy controls)
4) People with a different disorder that sometimes causes cognitive impairment
   a) Parkinson’s disease
   b) Parkinson’s disease dementia
   c) Lewy body disease

ADRC data sources

- History/ family history/ medical exposure
- Neurologic/ Neuropsychological
- Brain imaging (MRI, PET)
- Blood (plasma, DNA)
- CSF
- Gut microbiome
- Skin (fibroblasts → stem cells)
- Ancillary studies
- Brain/ tissue donation

Facts and Figures, Alzheimers Dement 2017;13:325
Healthy brain aging / cognitive aging
- Mild cognitive impairment
- Dementia

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)

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

Test Score
- Fluid
- Crystallized

Age
- 25 years
- 75 years

V.W. Henderson 10 Nov. 2018


Jack et al., Lancet Neurol. 2010;9:119

Biochemical changes occur years (decades) before clinical symptoms (key point)
Cholinesterase inhibitors
▶ Donepezil (1996)
▶ Galantamine (2000)
▶ Rivastigmine (2001)

NMDA antagonist
▶ Memantine (2003)

Cognitive reserve

Combination approaches

Exercise
Eat right
Protect your heart
Sleep
Listen up
Use your mind
Engage socially

Mouse-heimer’s disease experiments
Combination approach to cognitive aging (experimental)

- 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.

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

A·D·R·C
for healthy brain aging