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CATHOLIC CHARITIES  
HAWAII  
CIRCLE OF CARE FOR DEMENTIA



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Supported in part by grant No. 90ADPI0011-01-00 from the U.S. Administration for Community Living, Department of Health and Human Services, Washington, D.C. 20201. Grantees undertaking projects with government sponsorship are encouraged to express freely their findings and conclusions. Points of view or opinions do not, therefore, necessarily represent official ACL policy. The grant was awarded to Catholic Charities Hawaii for the Alzheimer's Disease Program Initiative.

# Healthy Brain Aging and Dementia



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# Alzheimer's Disease is a Public Health Crisis!

- Estimated 5.8 million Americans living with AD
- AD is 6th leading cause of death across all ages
- 1 in 3 seniors dies with some type of dementia



# HEALTHY BRAIN AGING



# Healthy Brain Aging

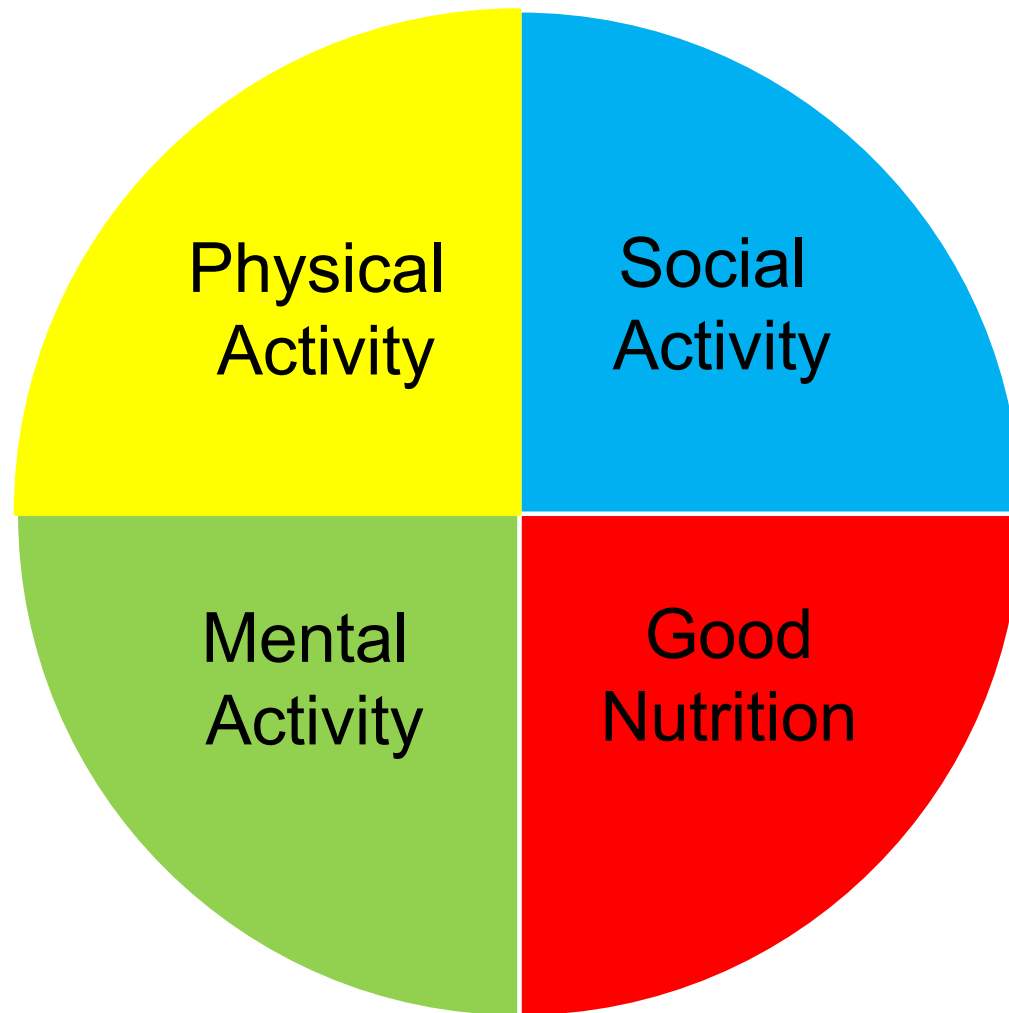
- To continue to have the ability to:
  - Think, reason and remember
  - Plan and carry out tasks
  - Live a purposeful life
  - Function normally and remain independent
  - Maintain social connectedness
  - Maintain a sense of identity

Healthy Brain Initiative: CDC and Alzheimer's Association  
Brain Health As You Age: NIH, CDC, Admin. for Community Living

# Changes in the Aging Brain

- Certain parts of the brain shrink, especially the center responsible for memory
- Slight decline in ability to learn new things and retrieve information (remembering names, finding words)
- Difficulty in multi-tasking
- Improve in other cognitive areas, such as vocabulary and problem-solving – “wisdom”

# Maintaining Brain Health



Reducing risk factors  
for heart disease



# Physical Activity and the Brain

- May reduce risk of diabetes, heart disease, stroke and depression
- May reduce falls
- May help improve connections between brain cells
- Learn safe ways to exercise regularly
- Check with your doctor



# Mental Activity and the Brain

- Continue to perform mentally stimulating activities
- Read books, play games
- Learn new things, take classes
- Volunteer
- Not proven to prevent dementia (be mindful of unrealistic claims made)

# Social Activity and the Brain

- Continue to remain socially engaged
- Associated with reduced risk for some health problems, including dementia and depression
- Join senior centers or other community organizations

# Good Nutrition and the Brain

- Lots of fruits and vegetables, whole grains, lean protein
- Less sugar, salt, saturated fats
- Adequate liquids
- Some studies suggest that the Mediterranean diet may help reduce risk for dementia

# Reduce Heart Disease Risk Factors

- Control high blood pressure
- Control diabetes
- Control high cholesterol
- Avoid obesity
- Stop smoking!
- Stay physically active
- Start in mid-life, don't wait until old age!

# Healthy Brain Initiative Road Map

<https://www.cdc.gov/aging/healthybrain/roadmap.htm>



Hawaii 2025:  
State Plan on  
Alzheimer's  
Disease and  
Related  
Dementias



State and Local Public Health  
Partnerships to Address Dementia:  
The 2018-2023 Road Map



alzheimer's  
association

<http://www.hawaiiadrc.org>

# WHAT IS DEMENTIA?

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# Dementia – Common Myths

- Memory loss is the same as “senility” - an inevitable part of getting old
- Nothing can be done for dementia
- Most people don’t want to know if they have dementia
- These misconceptions contribute to under-recognition of dementia

# Dementia – Facts

- Dementia is NOT normal aging, it represents several types of diseases
- Dementia is common, under-diagnosed, very expensive, and fatal
- Patients with dementia should have a thorough evaluation by a physician who is experienced with dementia



# Dementia Definition

- Acquired deficits (not mental retardation)
- Deficit in memory
- Deficit in at least one other cognitive domain
- Affects social and occupational function
- Absence of delirium and major psychiatric disorders

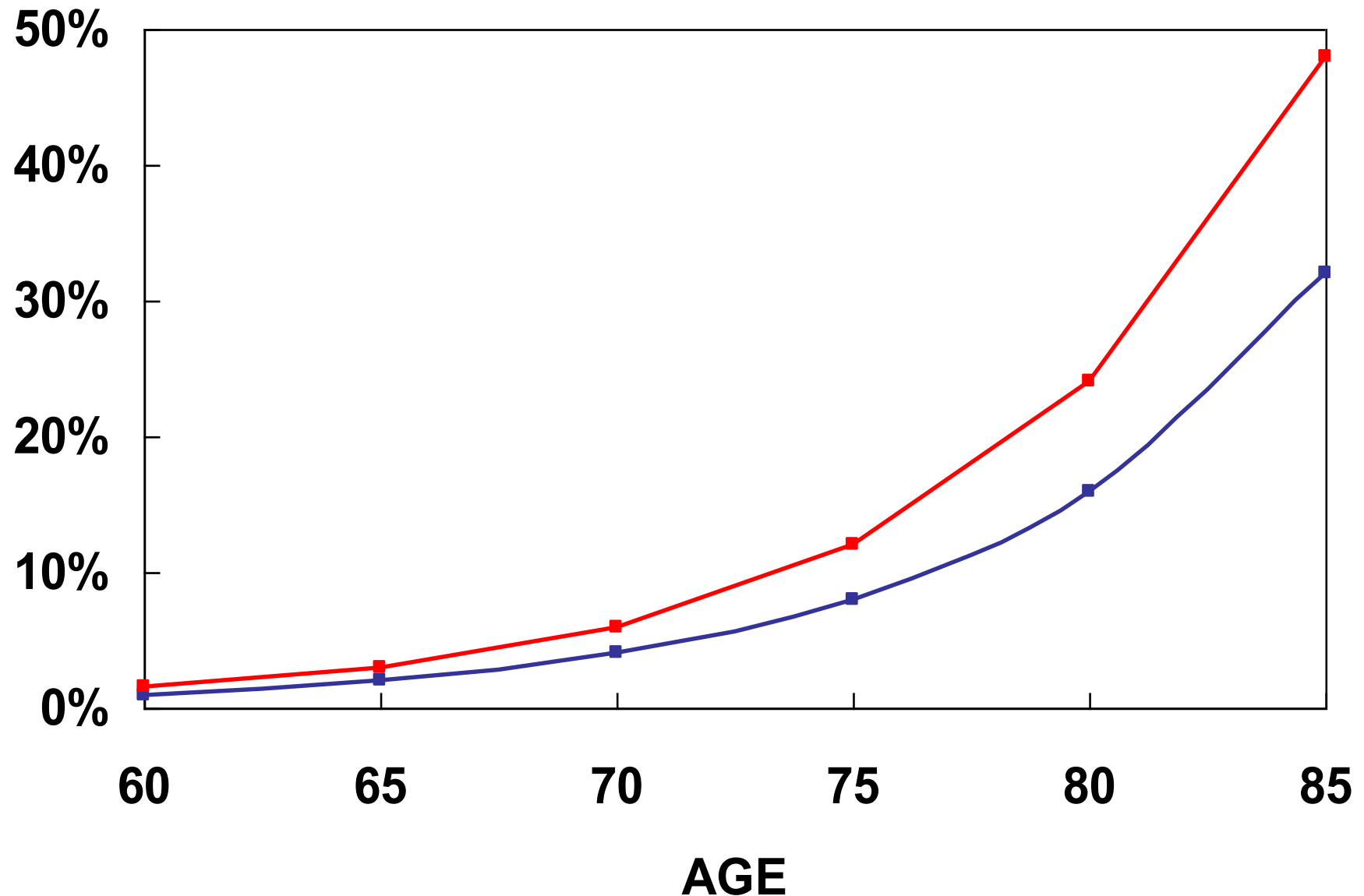
# Mild Cognitive Impairment (MCI)

- Subjective cognitive complaint (pt or proxy)
- Cognitive deficit on testing in at least 1 domain (memory, language, attention, executive function, visuospatial)
- Normal social & occupational function (ie. NO DEMENTIA)
- High risk of converting to AD

# How Common is Dementia?

- 13% in age 65 + years, almost 50% in 85+
- Geometric increase in prevalence of disease (after age 60, doubles every 5 years)
- Long duration of disease
- Major cause of disability, primary reason for institutionalization
- Over \$200 billion annually for care and over \$200 billion for lost productivity
- Families bear the majority of cost

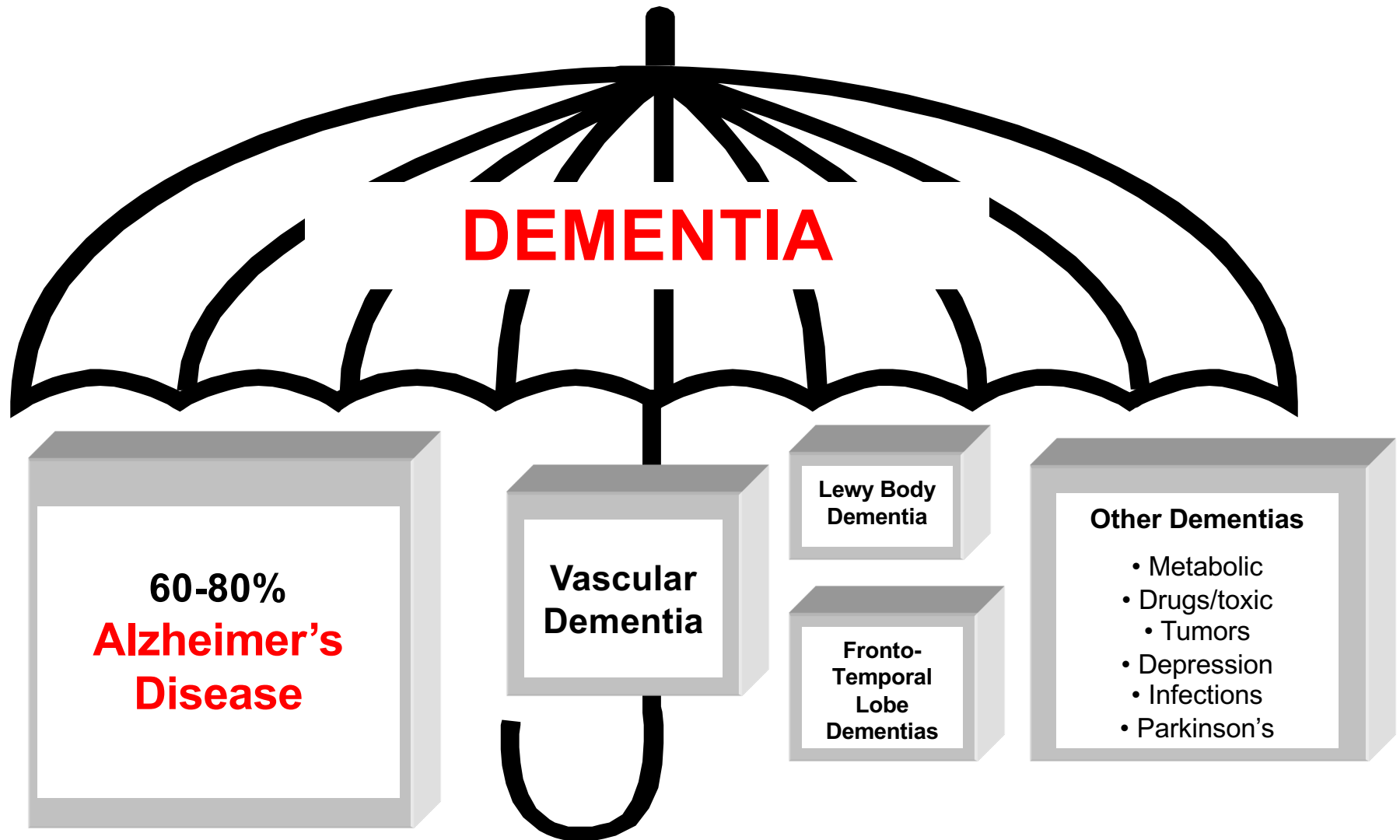
# Prevalence Rates of Dementia



# SUB-TYPES OF DEMENTIA



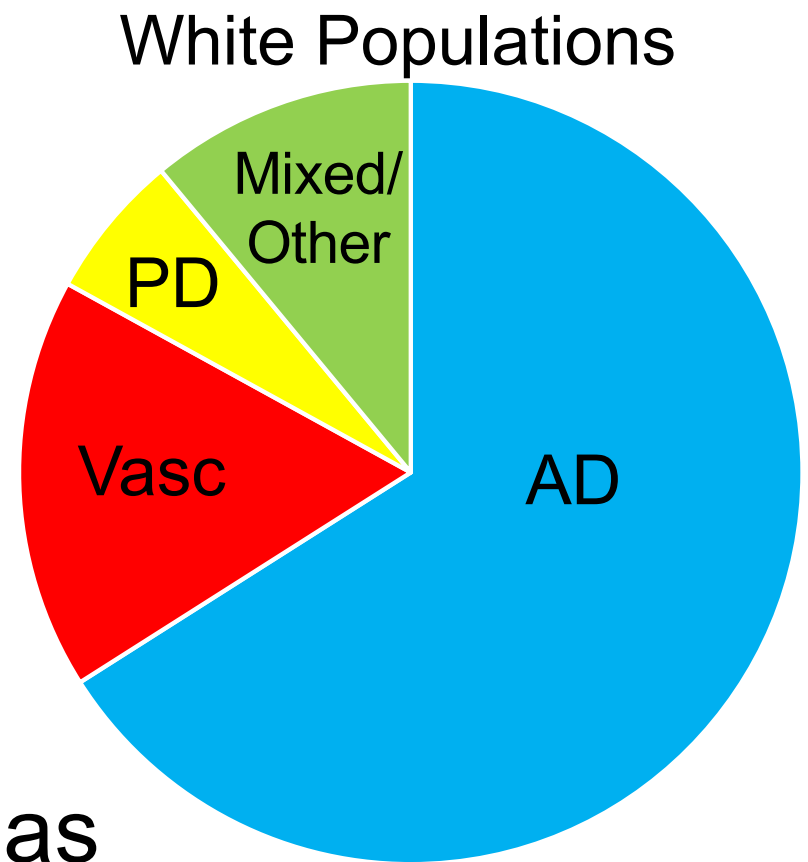
# Not All Dementias Are Alzheimer's Disease (AD)



Some forms are reversible (treatable)

# Dementia Sub-Types

- Alzheimer's Disease
- Vascular Dementia
- Lewy Body Dementia
- Parkinson's Disease
- Fronto-Temporal Dementias
- Other causes (possibly reversible)

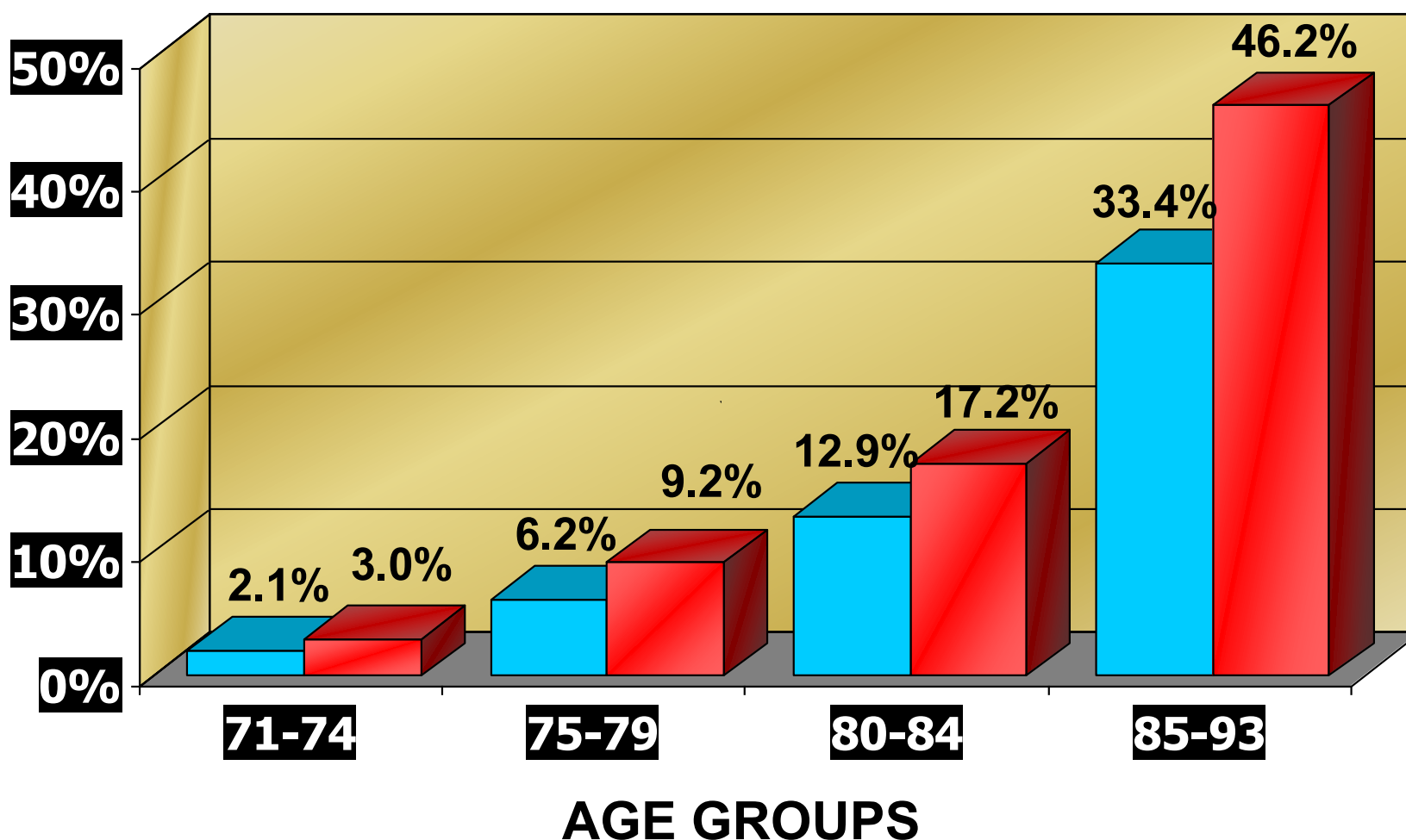


# Kuakini Honolulu Heart Program & Honolulu-Asia Aging Study

- HHP started in 1965 at Kuakini Medical Center
- 8,006 middle-aged Japanese-American men – study of heart disease and stroke
- HAAS began in 1991 in the HHP cohort in 3,734 men ages 71-93 years
- Purpose: to study cognitive function, dementia, disability and diseases of aging
- Serial exams over 50 years



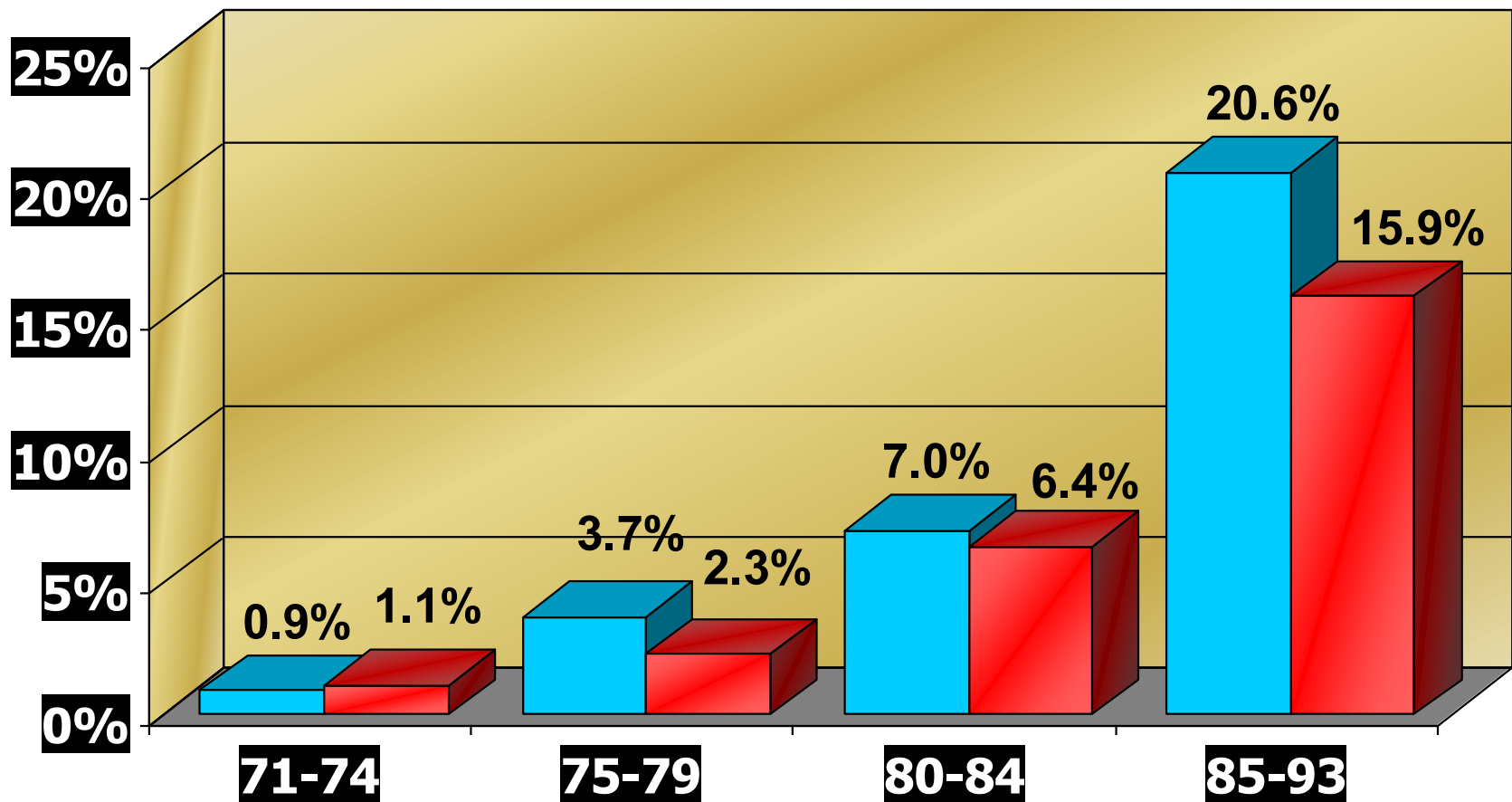
# Prevalence Rates of Dementia



**Dementia - Overall prevalence 9.3%**

**Dementia + MCI - Overall prevalence 13.0%**

# Prevalence of Dementia Sub-Types



**AGE GROUPS**

**AD Component - Overall prevalence 4.2%**

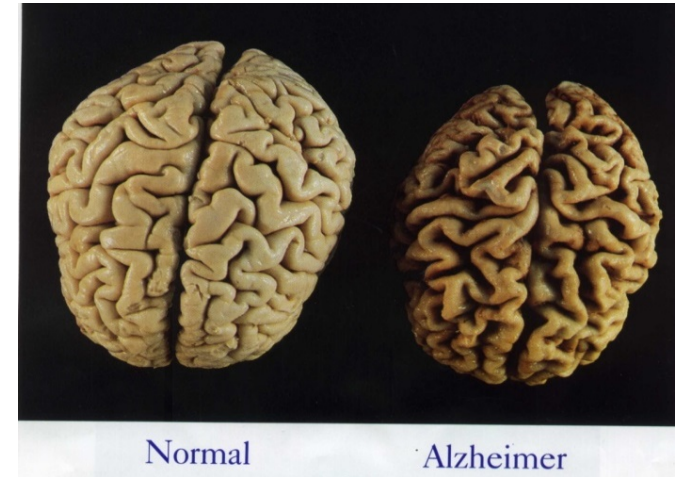
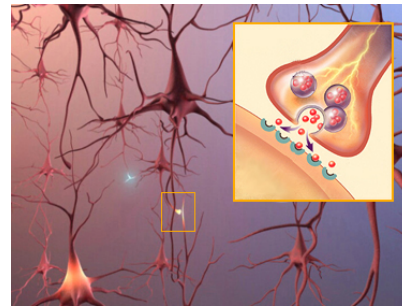
**CVD Component - Overall prevalence 3.3%**

# Alzheimer's Disease

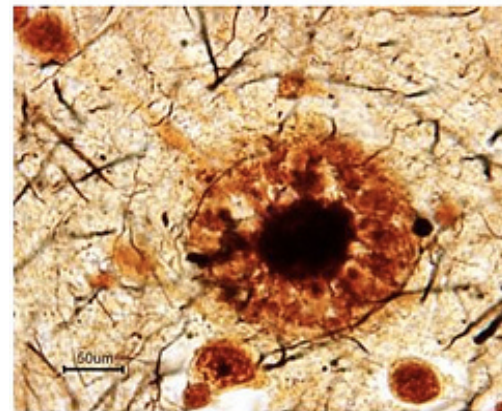
- First described by Dr. Alzheimer in 1906 – “pre-senile dementia”
- Most common cause of dementia (2/3<sup>rd</sup>s in Western countries)
- Short-term memory, orientation and problem-solving are affected early
- Behavior problems common
- Insidious onset, progressive course, usually slow
- Duration 2-25+ years, mean 8-10 years

# Alzheimer Pathology

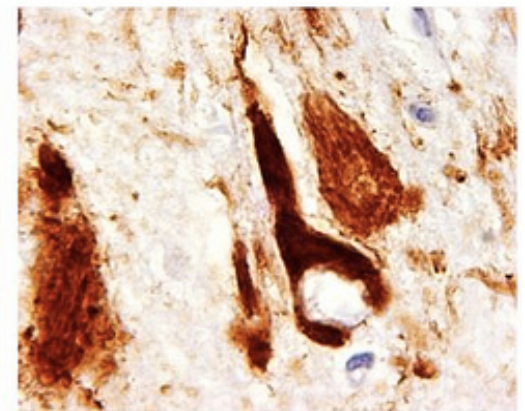
- Neurochemical abnormalities:  
Deficiency of acetylcholine and other neurotransmitters
- Pathology:  $\beta$ -amyloid plaques and neurofibrillary tangles
- NEURON LOSS!



Plaques



Neurofibrillary Tangles



# RISK FACTORS FOR DEMENTIA



# Risk Factors for AD

## Non-modifiable

- Age
- Low education
- Traumatic brain injury
- Genetics

## Modifiable

- Cardiovascular risk factors
  - High blood pressure
  - Diabetes
- Dietary factors
- Heavy alcohol intake
- Depression
- Chronic Inflammation

# Genetic Testing for AD

## Late-onset (sporadic) AD

- Family Hx slight risk factor
- Apolipoprotein E4
- Increases the likelihood of developing AD), but does not guarantee it
- ApoE2 allele protective
- Testing NOT recommended routinely

## Early-onset AD

- Familial AD – very rare (<5%)
- Autosomal dominant genes
- 3 genes identified
- Role of Down's syndrome



# AD Potential Protective Factors

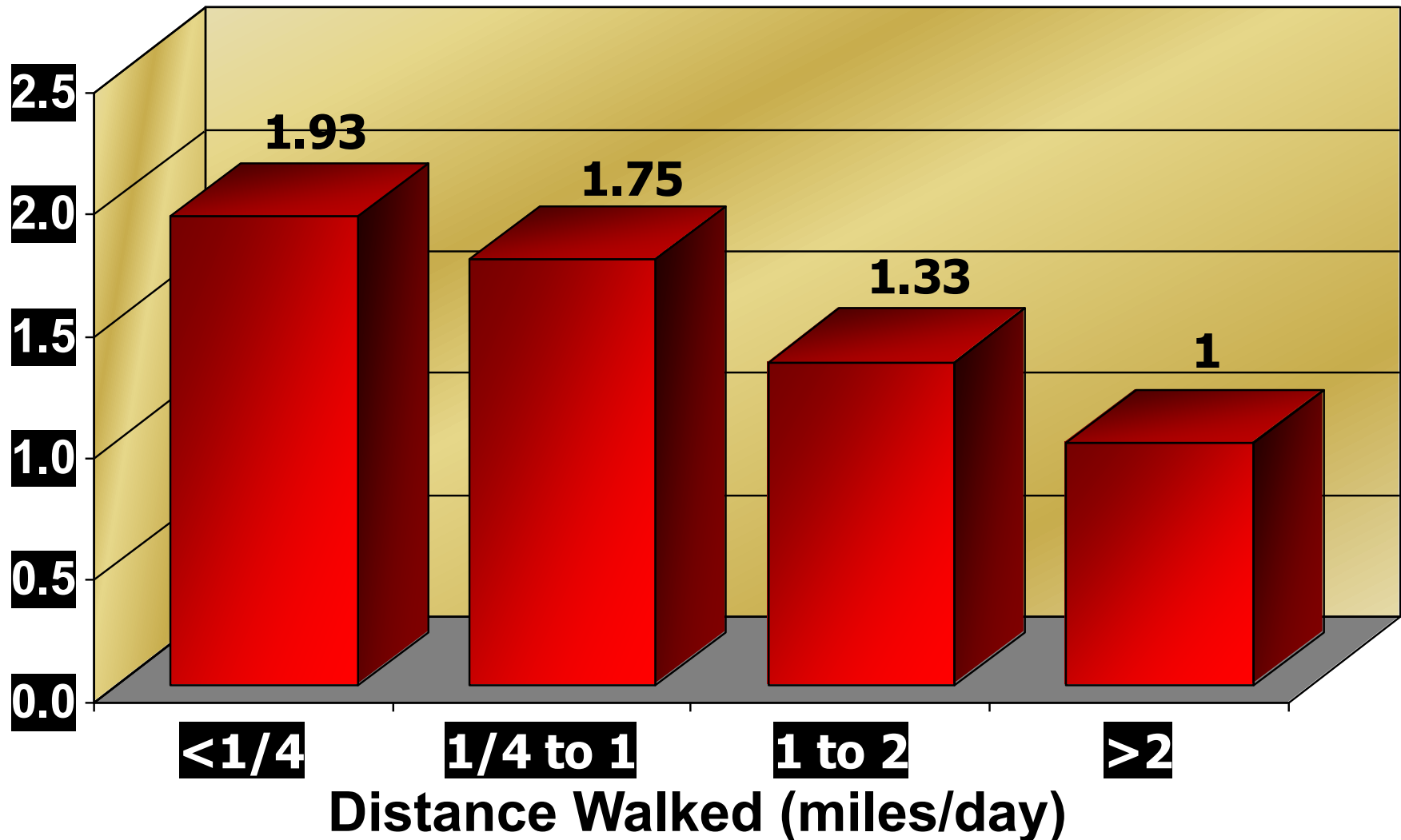
- Physical activity?
- Social activity?
- Mental activity?





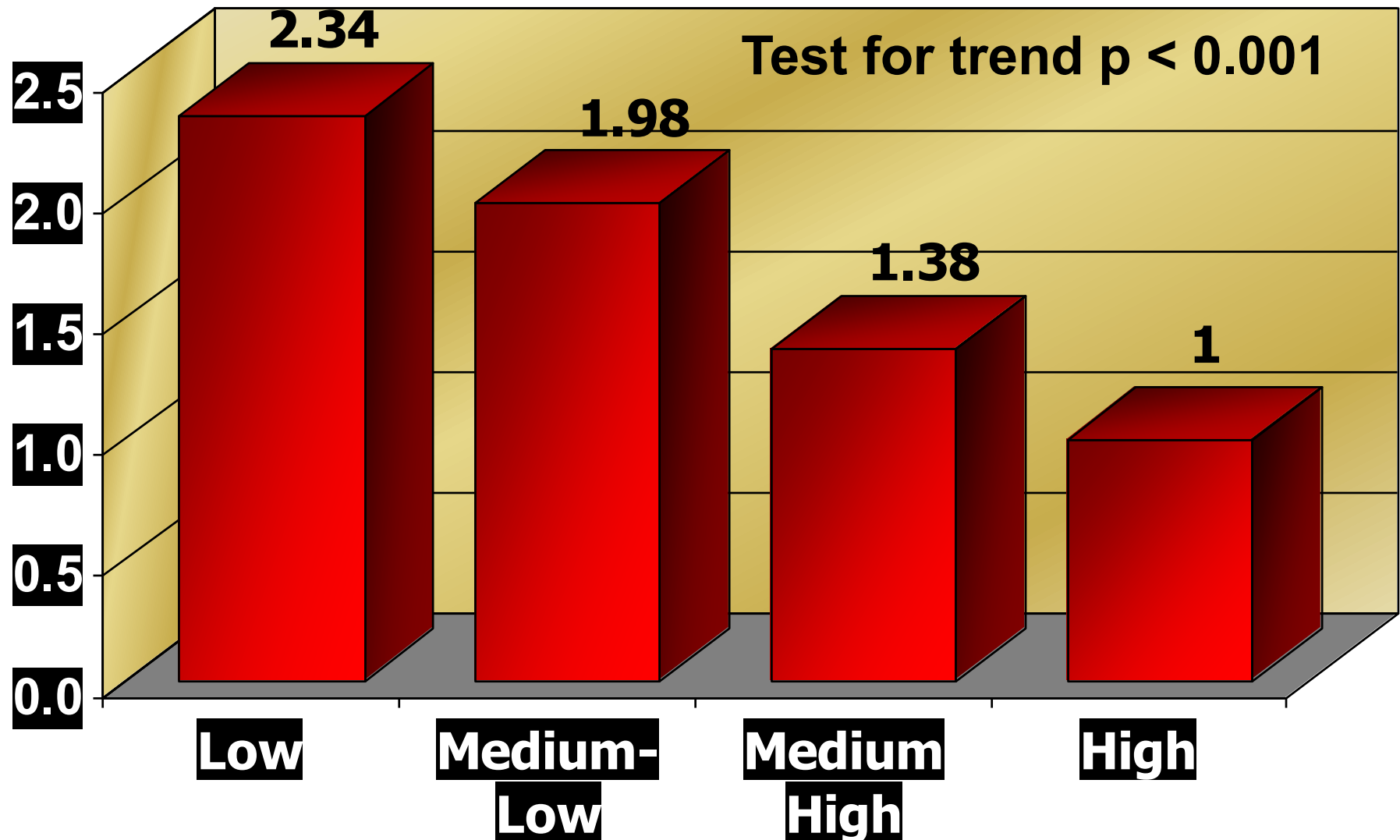
# Walking and 8-Year Incident Dementia

Relative Risk



# Social Engagement and Incident Dementia

Relative Risk



EARLY DETECTION IS  
IMPORTANT

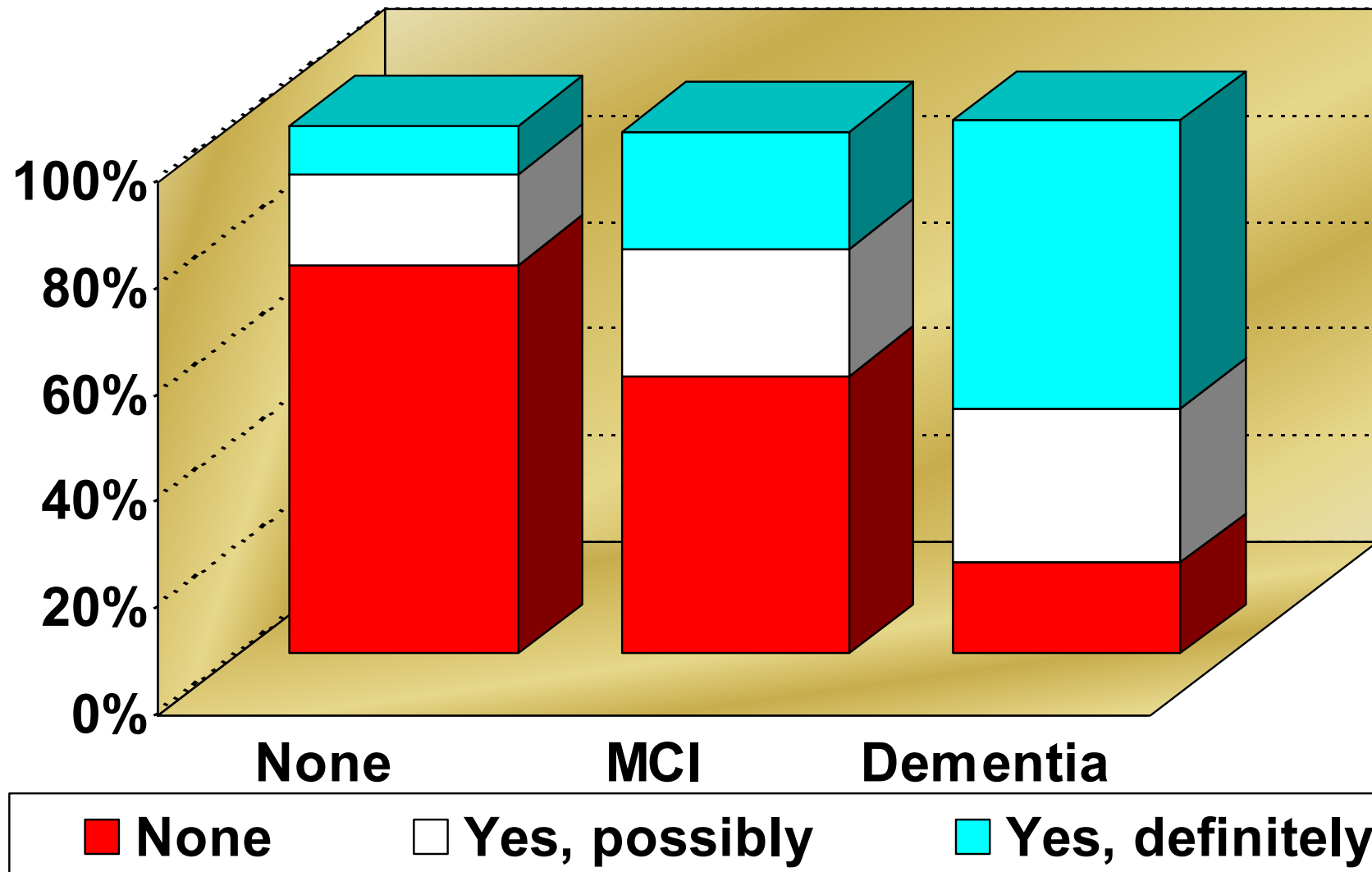
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# Rationale for Early Detection

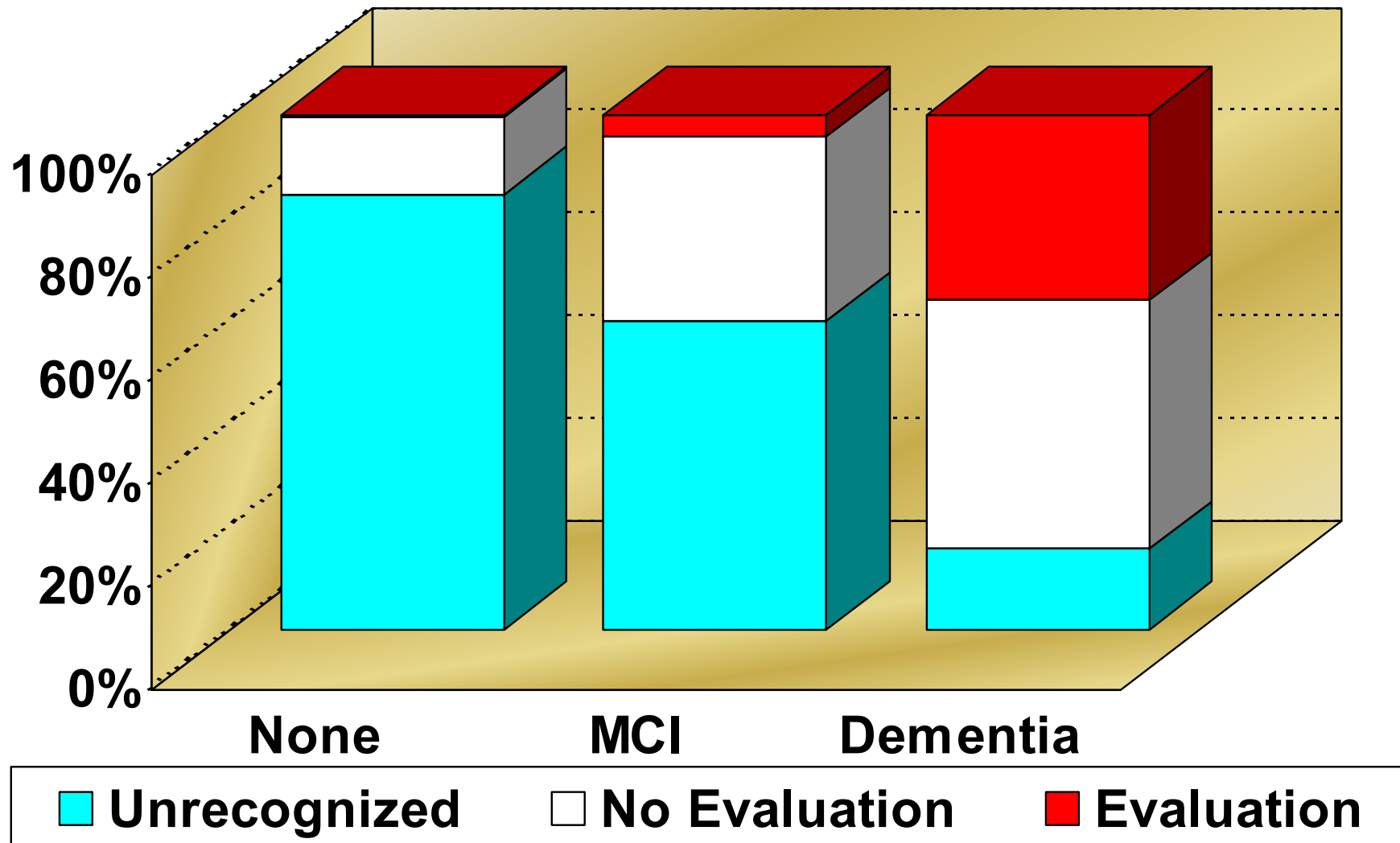
- Treatment of reversible causes
- Improve treatment of underlying conditions
- Reduce ineffective and expensive crisis-driven care
- Patient and family education
  - Advance directives and planning for healthcare
  - Financial planning
- Safety issues
- Connect to available community services

# Kuakini Honolulu-Asia Aging Study

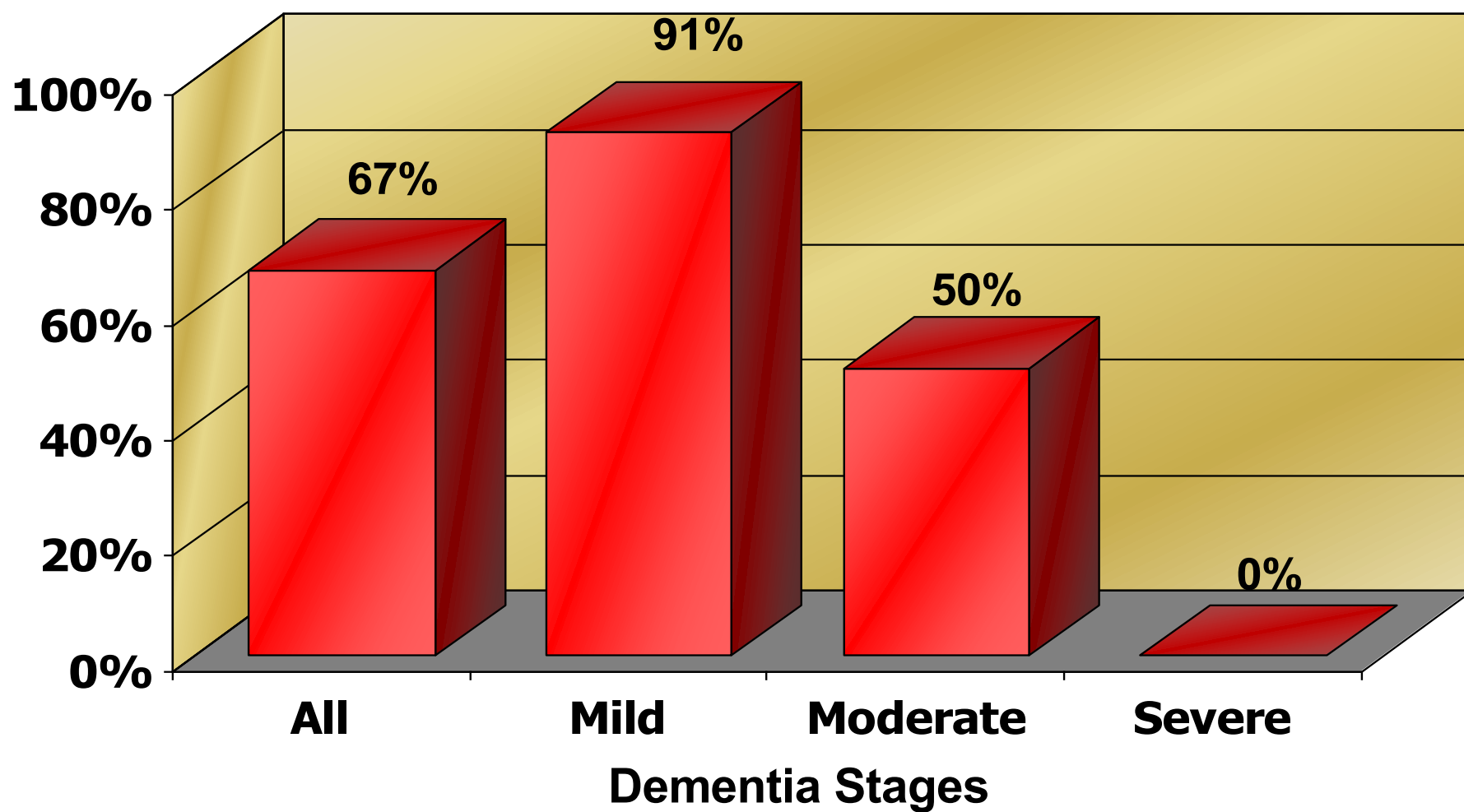
## Caregiver Recognition of Memory Problems



# Kuakini HAAS – Referral for Evaluation of Memory Problems



# Undiagnosed Dementia in Primary Care in Hawaii



# SYMPTOMS OF DEMENTIA

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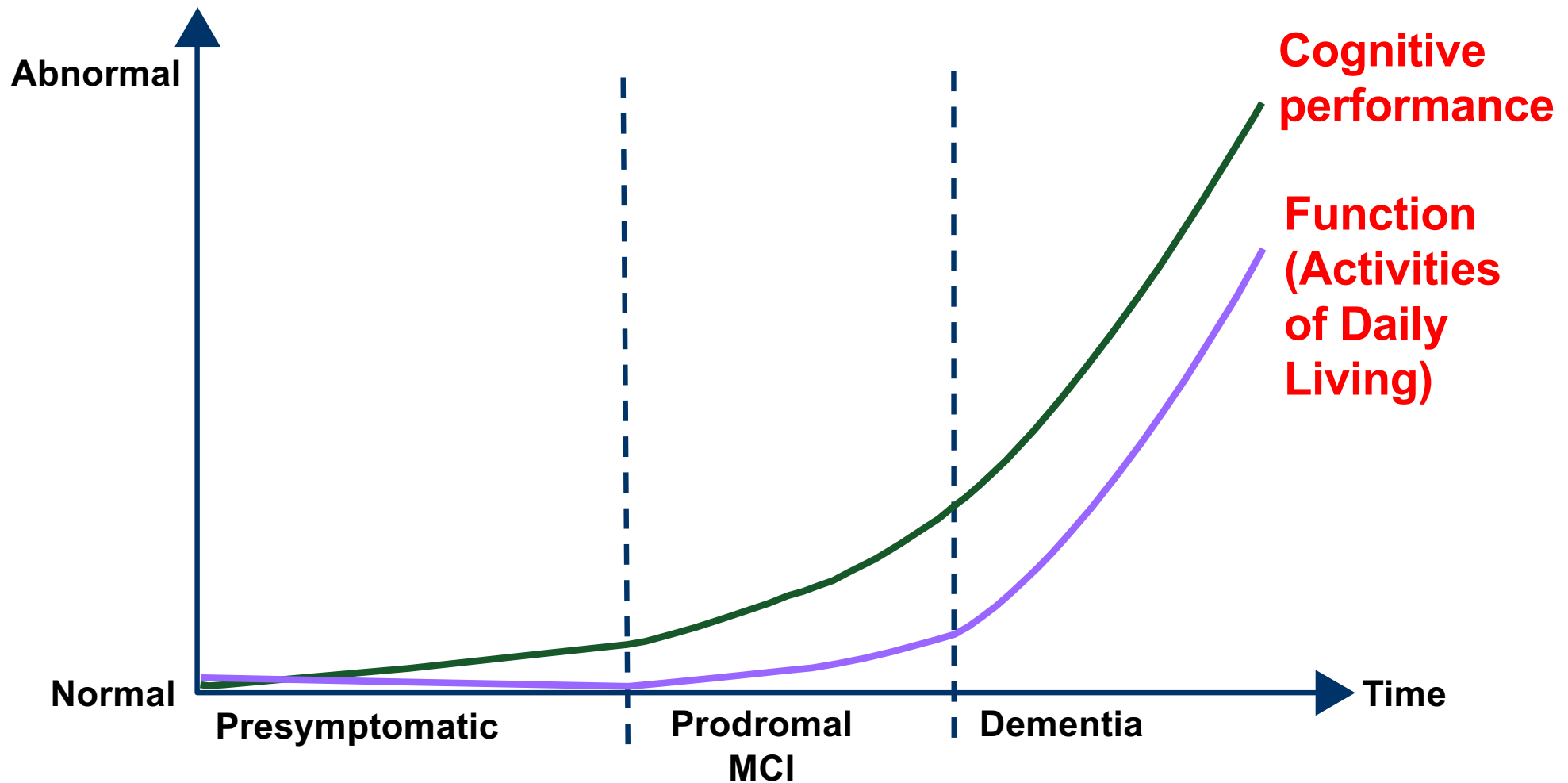
# Symptoms

- Memory loss (short-term, then long-term)
- Disorientation (date, place)
- Difficulty with naming and understanding
- Lack of insight, may have depression
- Behavior problems, personality change
- Wandering
- Socially inappropriate, poor judgment

# TREATMENT OF DEMENTIA

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# Stages of Cognitive Function



# Preventive Strategies

- Preventive measures for the whole population
- Early recognition of people at risk
- Early diagnosis of dementia and treatment of reversible causes

# Safety Issues in Dementia

- Medications – Over and under usage, over-the-counter medications
- Wandering – MedicAlert, register in AA Safe Return program
- Stove, Water
- Driving
- Risk for elder abuse and neglect
- Financial abuse, sweepstakes



# Summary of Treatment Strategies

- Early diagnosis is key
- Treat the cause (if found)
- Treat complications (behavior, sleep)
- Safety, stable environment
- Family education, caregiver support
- Interdisciplinary team approach
- Community resources – AA, EOA
- Planning for future financial / legal issues

# Dementia Goals of Care

- Improve quality of life
- Maintain functioning for as long as possible
- Avoid social isolation
- Care for the caregiver

# Alzheimer's Association- Aloha Chapter

- Leading source of information on dementia
- Caregiver classes, support groups, community presentations, professional trainings
- Care consultation – assistance with planning, provide counseling services
- MedicAlert + Safe Return<sup>®</sup> program – 24-hr. nationwide emergency response service
- TrialMatch<sup>®</sup> – Clinical trials matching service

Alzheimer's Association, Aloha Chapter

Tel: (808) 591-2771 | Fax: (808) 591-9071

[www.alz.org/hawaii](http://www.alz.org/hawaii) 1-800-272-3900





**Mahalo!**  
**Questions?**