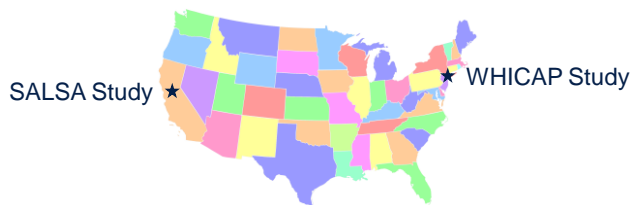


# Racial and Ethnic Inequalities in Dementia: What Can We Learn from a Healthcare System Cohort?

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## Racial/ethnic disparities in dementia

- Reducing racial/ethnic disparities in dementia identified as a national priority by the National Alzheimer’s Plan
- No studies of dementia incidence in samples representing diversity of the U.S.
  - Most studies include 1-2 racial/ethnic groups
  - Dementia rates sensitive to diagnostic criteria
  - Geographic patterns may contribute to differences across studies



Haan et al., *Am J Clin Nutr* 2007; Tang et al., *Neurology* 2001

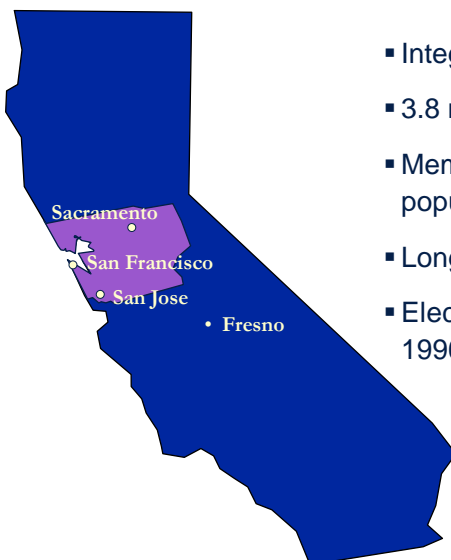
## Objectives

- To what extent are there racial/ethnic inequalities in dementia incidence?
  - Mayeda *et al.*, *Alzheimer's & Dementia* 2016
- How long do people live with dementia?
  - Mayeda *et al.*, *Alzheimer's & Dementia* 2017

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## Kaiser Permanente Northern California



- Integrated healthcare delivery system
- 3.8 million members
- Members representative of the overall population of the region
- Long-term membership
- Electronic medical records starting in 1996

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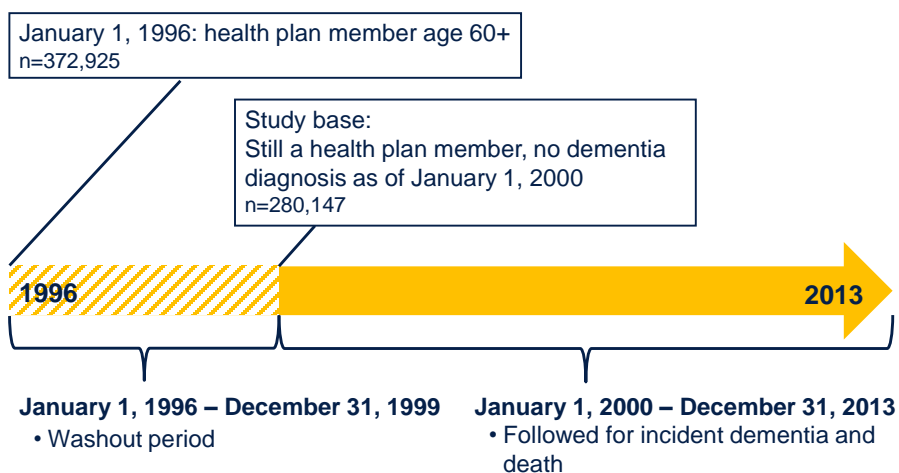
## Measures

- **Self-reported race/ethnicity** from health plan member surveys
- **Dementia diagnosis** identified from visits in primary care, neurology, and psychiatry (ICD-9 codes for Alzheimer's disease, vascular dementia, nonspecific dementia)
- **Healthcare utilization:**  $\geq 1$  healthcare visit per year
- **Death** identified from medical records, California State Mortality File, and Social Security Death Records

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## Study sample



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## To what extent are there racial/ethnic inequalities in dementia incidence?

Mayeda *et al.*, *Alzheimer's & Dementia* 2016

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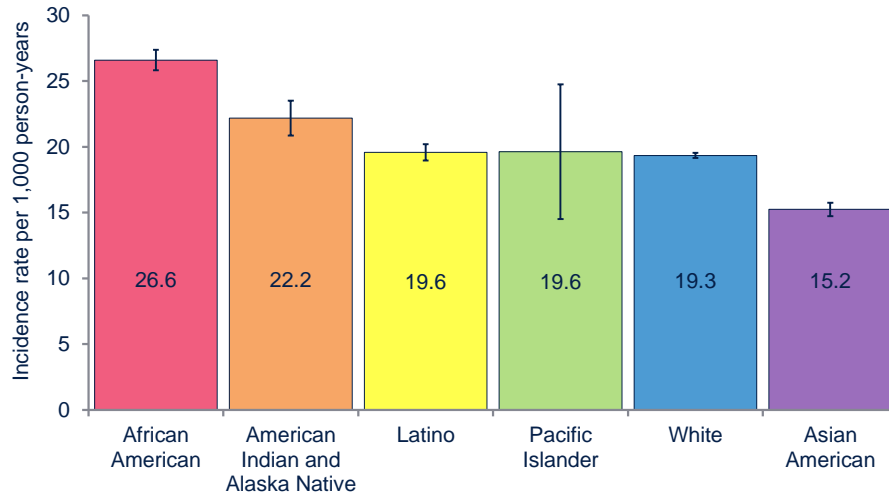
### Characteristics of the sample

	African American	American Indian/ Alaska Native	Latino	Pacific Islander	White	Asian American
N	18,778	4,543	21,000	440	206,490	23,032
Mean age, years	72.7	73.5	71.9	71.5	73.9	71.7
Female, %	54.9	54.3	52.4	49.8	54.9	53.1
≥1 healthcare visit/year, %	80.5	87.5	81.6	58.0	82.3	78.9
Total person-years	157,118	41,182	195,686	3,246	1,750,252	224,120

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## Age-standardized dementia incidence rates by race/ethnicity, 2000-2013



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## Cumulative 25-year dementia risk by race/ethnicity, conditional on dementia-free survival to age 65

Race/ethnicity	Cumulative risk (95% CI)
African American	37.6 (36.4, 38.6)
American Indian/Alaska Native	34.7 (32.4, 36.4)
Latino	32.4 (31.2, 33.3)
Pacific Islander	25.1 (14.8, 31.4)
White	29.8 (29.5, 30.1)
Asian American	28.2 (27.0, 29.1)

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## Summary: Dementia incidence

- Dementia incidence: Marked racial/ethnic inequalities
  - Dementia incidence 70% higher among African Americans than Asian Americans
- Lifetime risk is high in all racial/ethnic groups

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## Conclusions and implications: Dementia incidence

- First study to directly compare dementia incidence in a sample representing the diversity of the U.S.
- Findings substantiate and extend findings from previous studies
- If social and behavior factors are the primary pathways, findings suggest substantial reductions in dementia incidence are possible
- Given high lifetime risk in all groups, dementia research is high priority for the health of all racial/ethnic groups
- Caveat: Is this just a difference in dementia diagnosis?



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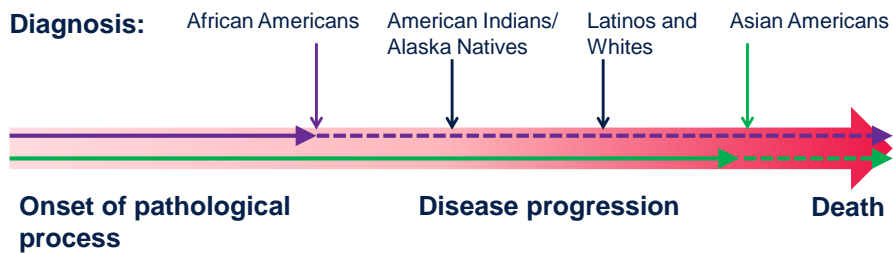
## How long do people live with dementia?

Mayeda *et al.*, *Alzheimer's & Dementia* 2017

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Timing of dementia diagnosis could contribute to estimated differences in dementia incidence



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## Survival after diagnosis by race/ethnicity

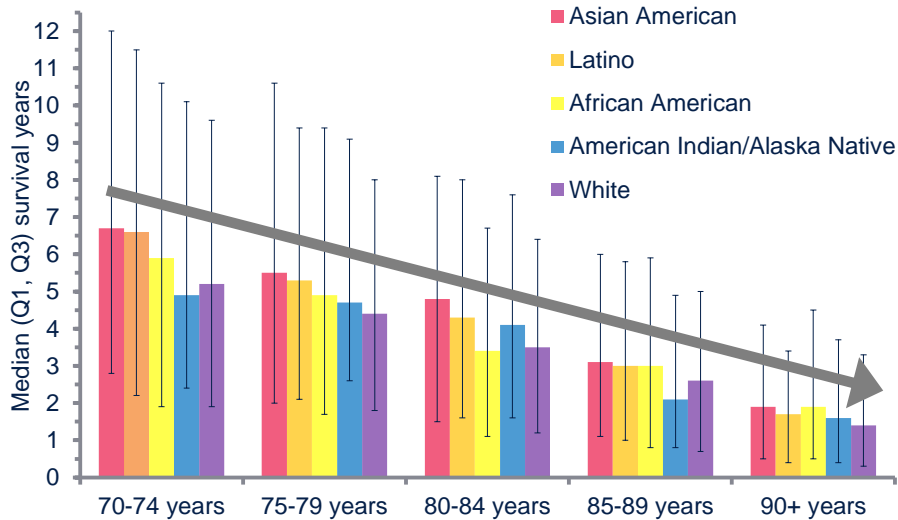
Race/ethnicity	N	Person-years	Median (Q1, Q3) survival years
Asian American	3,847	5,704	4.4 (1.4, 8.6)
Latino	4,942	6,898	4.1 (1.3, 8.2)
African American	4,371	7,780	3.7 (1.1, 7.6)
American Indian/Alaska Native	1,224	2,113	3.4 (1.2, 6.7)
White	45,110	75,138	3.1 (0.9, 6.3)

Longer ↑  
↓ Shorter

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## Survival after diagnosis by race/ethnicity



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## What is the most likely explanation for racial/ethnic differences in survival after dementia diagnosis?

- Approach: Compare racial/ethnic mortality patterns among people with dementia to patterns among dementia-free older adults
- Finding: Racial/ethnic mortality patterns among people with dementia tended to parallel patterns among dementia-free older adults
- Implication: Same factors driving racial/ethnic mortality differences in people without dementia account for mortality differences in people with dementia

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## Summary and conclusions: Dementia survival

- Most people live for years after dementia diagnosis
- Substantial differences in post-diagnosis survival by race/ethnicity
  - Survival shortest in Whites, longest in Asian Americans
- Racial/ethnic mortality patterns among people with dementia paralleled patterns among dementia-free older adults
- Suggest timing of diagnosis not major driver of estimated racial/ethnic inequalities in dementia incidence



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## Main findings

- Marked racial/ethnic inequalities in dementia incidence
  - Unlikely to be attributable to differences in diagnosis
  - Mechanisms driving these inequalities?
    - Inequalities in quantity and quality of schooling
    - Vascular risk factors
- How long do people live with dementia?
  - Most people live for years after dementia diagnosis
  - Racial/ethnic mortality patterns among people with dementia paralleled patterns among dementia-free older adults

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## Alzheimer's Association: Current evidence on modifiable risk factors for dementia

Increases Risk			
Traumatic Brain Injury	Midlife Obesity, Midlife Hypertension, Current Smoking, Diabetes	History of Depression, Sleep Disturbances, Hypercholesterolemia	
Decreases Risk			
Years of Formal Education	Physical Activity	Mediterranean Diet, Cognitive Training	Moderate Alcohol Consumption, Social Engagement

Unclear Evidence

Baumgart *et al.*, *Alzheimers Dement* 2015

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## Acknowledgements

### ▪ Coauthors

- Maria Glymour, UCSF
- Charles Quesenberry, Kaiser Permanente Northern California
- Julene Johnson, UCSF
- Eliseo Pérez-Stable, National Institute on Minority Health and Health Disparities
- Rachel Whitmer, Kaiser Permanente Northern California

### ▪ Funding

- National Institute on Aging P30-AG15272 (PI: Napoles)
- National Institute on Aging K99AG053410 (PI: Mayeda)
- Kaiser Community Benefits Health Policy and Disparities Research Program Foundation (PI: Whitmer)
- National Institute on Aging RF1A6052132 (PI: Whitmer)