

Diversity and Dementia

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Overview

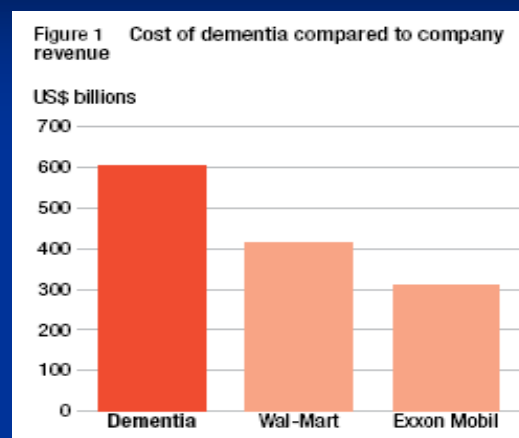
- Background
- Incidence and Prevalence of Dementia
- Why are these differences found?
- What's important for diverse dementia patients
- Treatment and Survival

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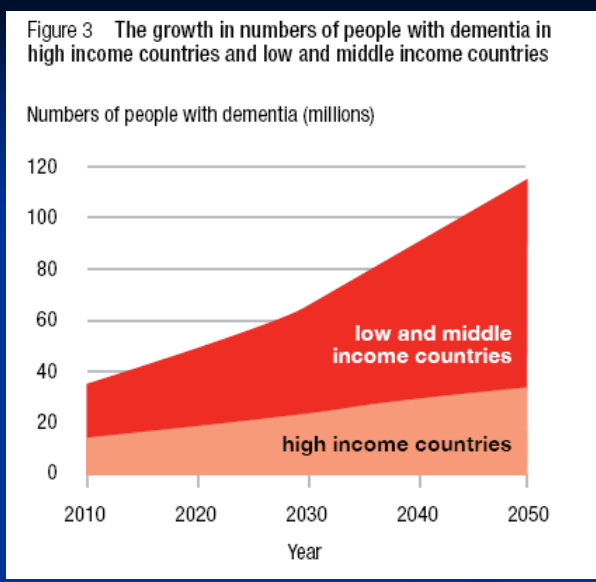
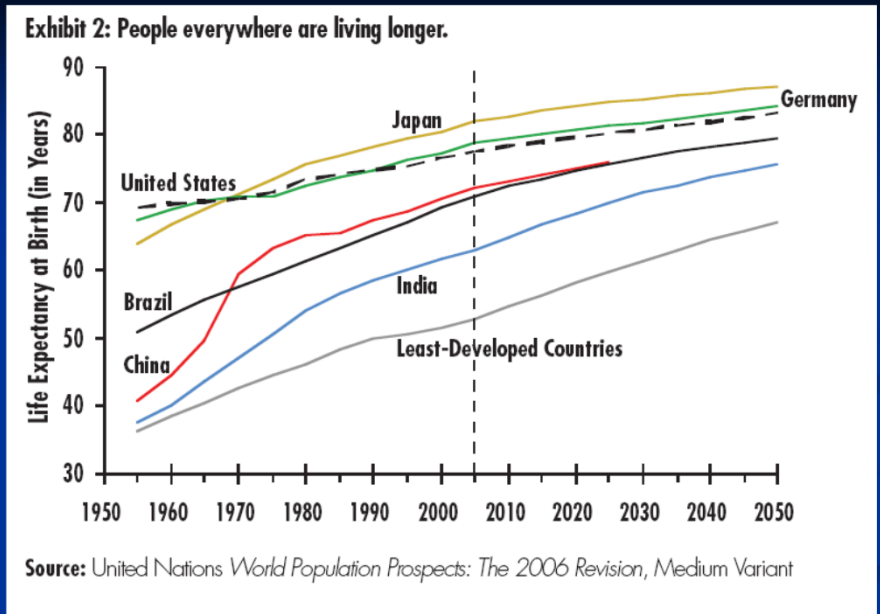
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Cost of Dementia

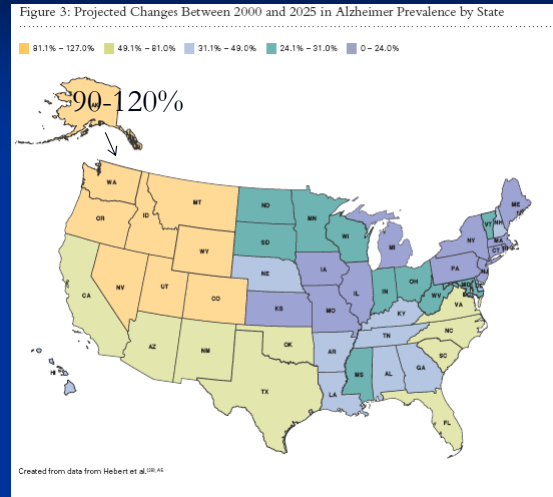
- Total cost of dementia worldwide in 2010
 - 604 billion dollars
- 70% of global cost
 - North America and Western Europe
- Annual cost of caring for people with AD is at least \$172 billion (NIA)



World Alzheimer's Report 2010



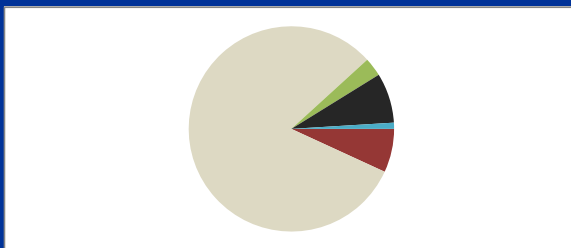
So what about the US?



Projected Changes in AD prevalence by state

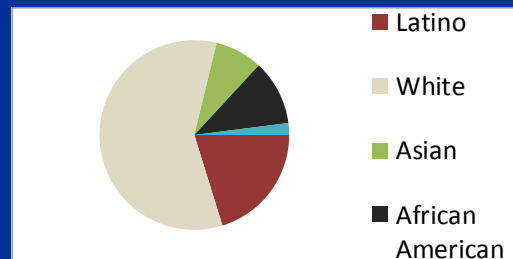
Diversity in Older Adults (65+) is on the Rise

2010



20%

2050

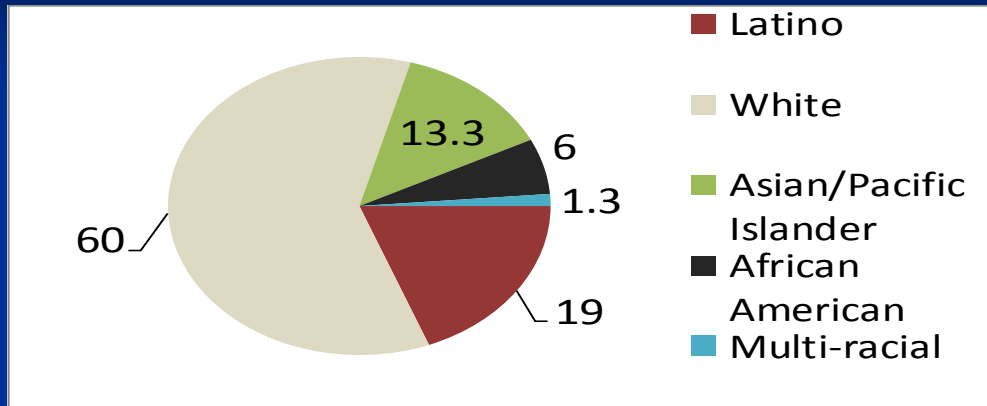


42%

Latinos & Asians- fastest growing populations

2008 National Population Projections, US Census

Diversity in California

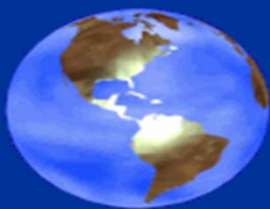


California diversity in 2010 = US diversity in 2050

State of California, Department of Finance. *Race/Ethnic Population with Age and Sex Detail, 2000-2050*,

Dementia is a condition of Diverse populations

Worldwide



United States



Race and Ethnic Diversity

- US Census, Self-report
- Mutually exclusive categories,
 - Latino (Hispanic Ethnicity)
 - African American, Non-Latino
 - Asian, Non-Latino
 - White, Non-Latino
 - Other race/ethnic groups
- Each category diverse, example: Latino = many different Latin American, South American, and Caribbean countries

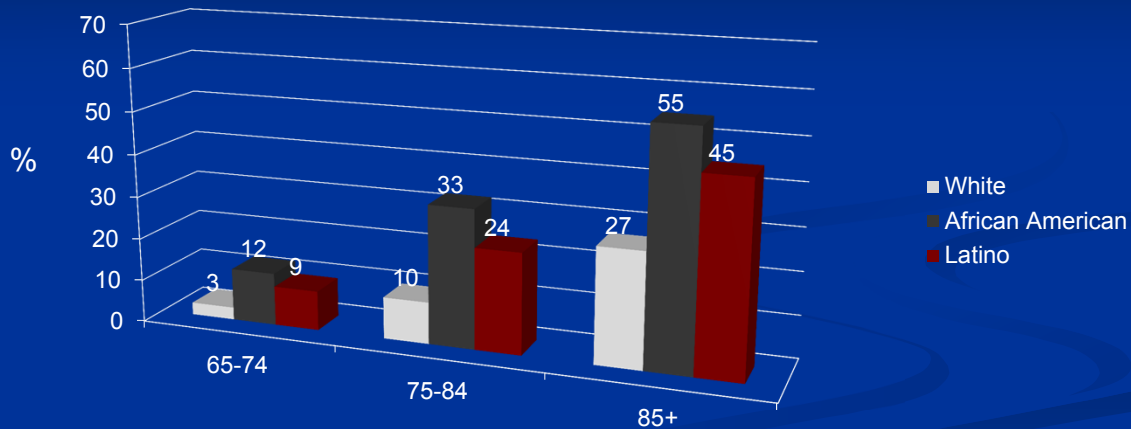
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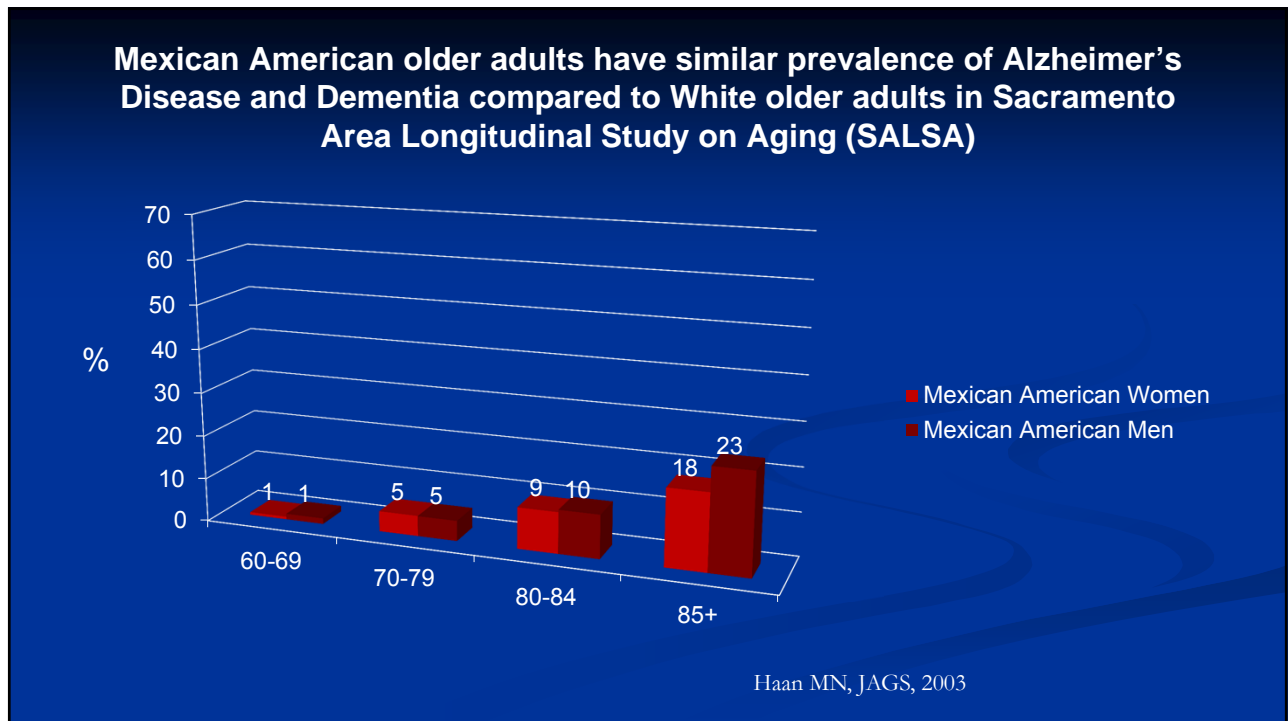
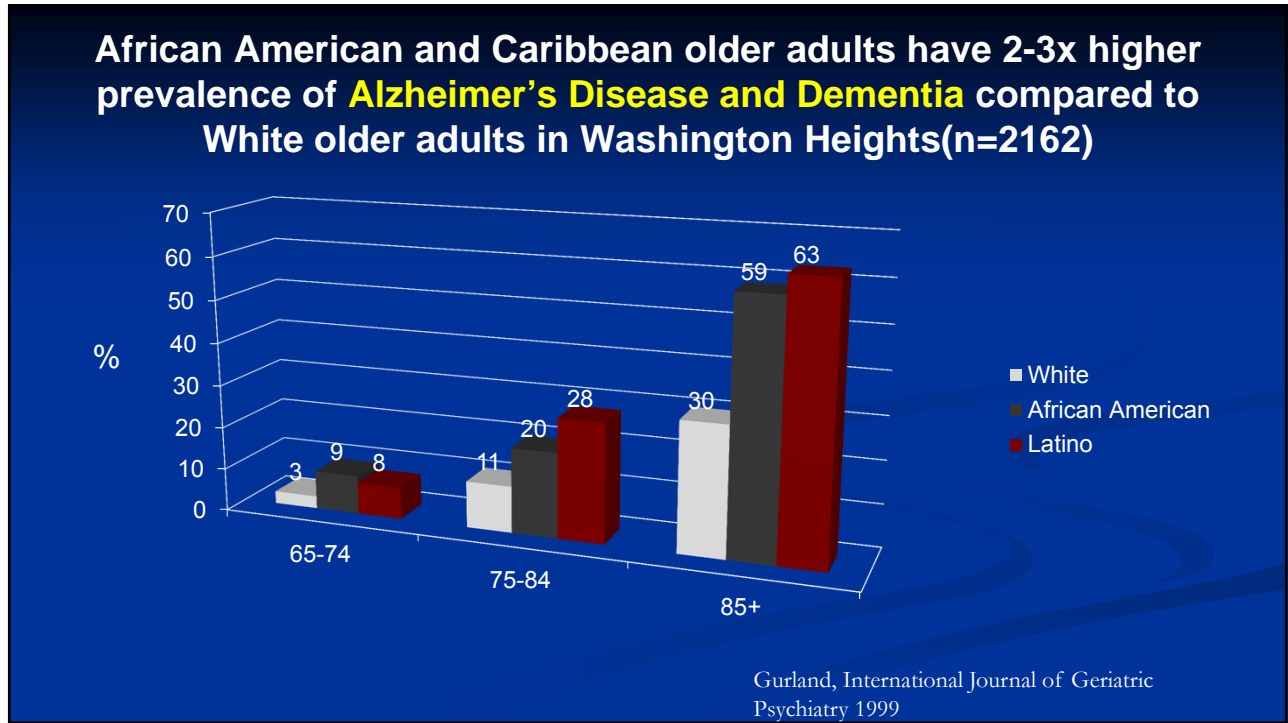
Health and Retirement Study (HRS)

- Large, population based survey 50+
- Biennial assessment from 1992
- Health and Wealth
- Race/ethnic groups based on self report
 - African American, Latino, White
- Cognitive impairment defined using a standardized cognitive test developed for HRS

African American and Latino older adults have 2-3x higher prevalence of **cognitive impairment** compared to White older adults in US HRS



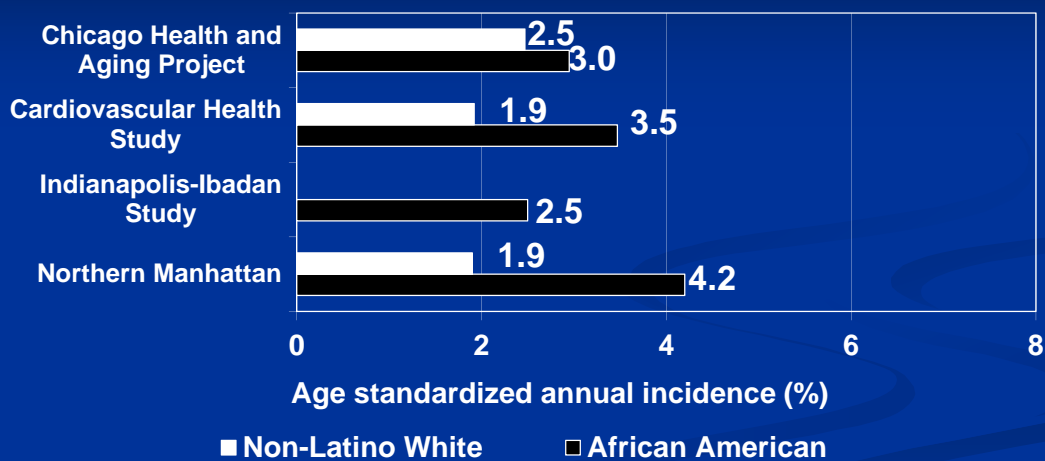
2010, Alzheimer' Disease Facts and Figures, Special Report

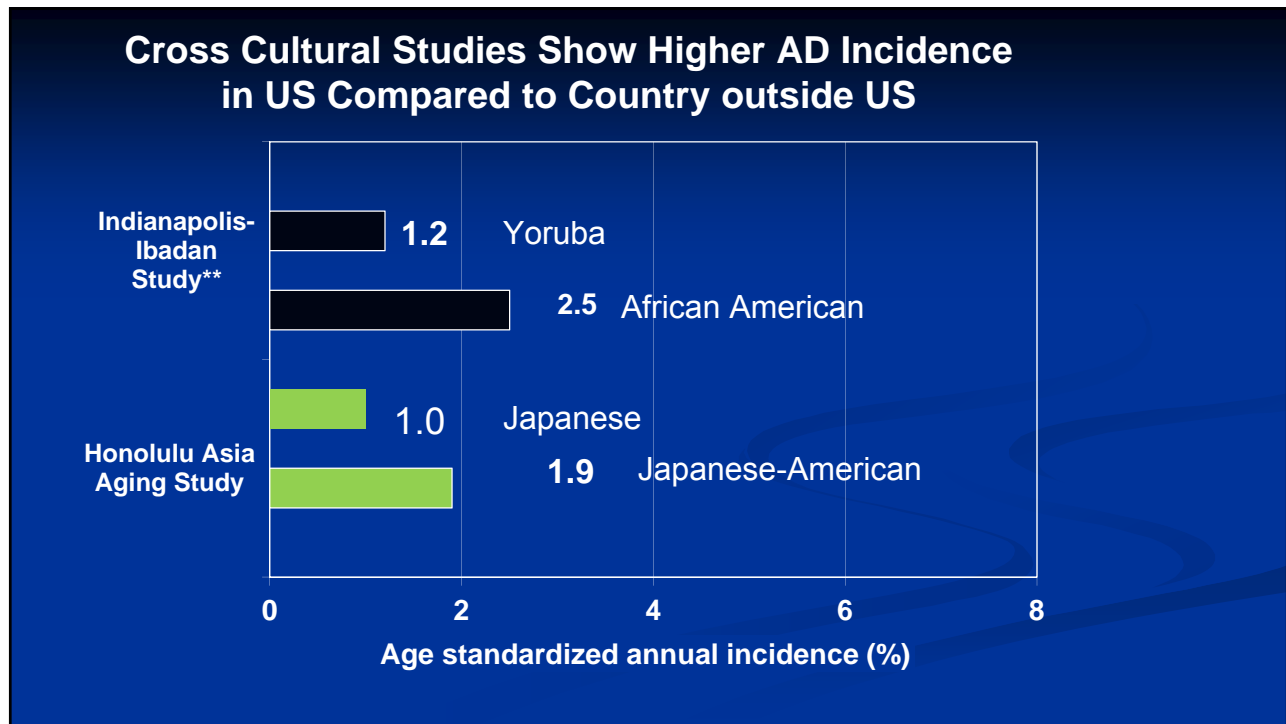


Prevalence vs. Incidence

- Prevalence = Number of dementia cases in a defined population at a designated time
- Incidence = number of new cases in a defined population in a designated time interval

African American older adults have Higher AD Incidence compared to White Older Adults





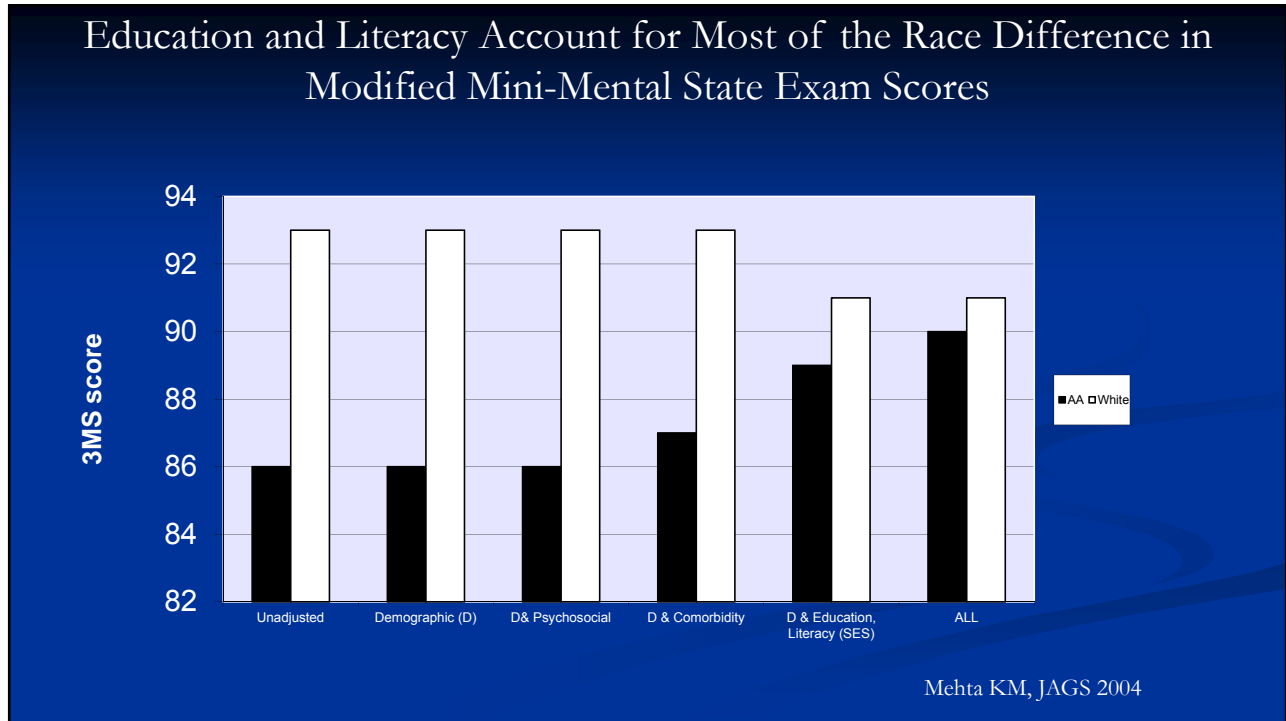
Race/Ethnic Differences

- African American: increased prevalence and incidence
- Latino:
 - Caribbean Americans increased prevalence
 - Mexican Americans have similar prevalence
- Japanese Americans: increased rates compared to Japanese
- Other race/ethnic groups: Asian subgroups, American Indian, less frequently studied

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Socioeconomic factors underlying race/ethnic differences



- ## Full assessment-Industry standard
- Medical Exam
 - Neurological Exam
 - Psychiatric Exam
 - Neuropsychological Exam
 - Laboratory values
 - MRI/scans
 - Consideration from multidisciplinary team

Screens understood differently by race/ethnic groups

- Mini-Mental State Exam
- Modified Mini-Mental State Exam
- Telephone Interview for Cognitive Status
- All show differential item functioning by race

How does this affect assessment?

- ↓ specificity of cognitive measures in diverse older adults
- ↓ specificity can lead to misdiagnosis of cognitive impairment
- Racial/ethnic differences occur across cognitive domains

How best to use screening tests

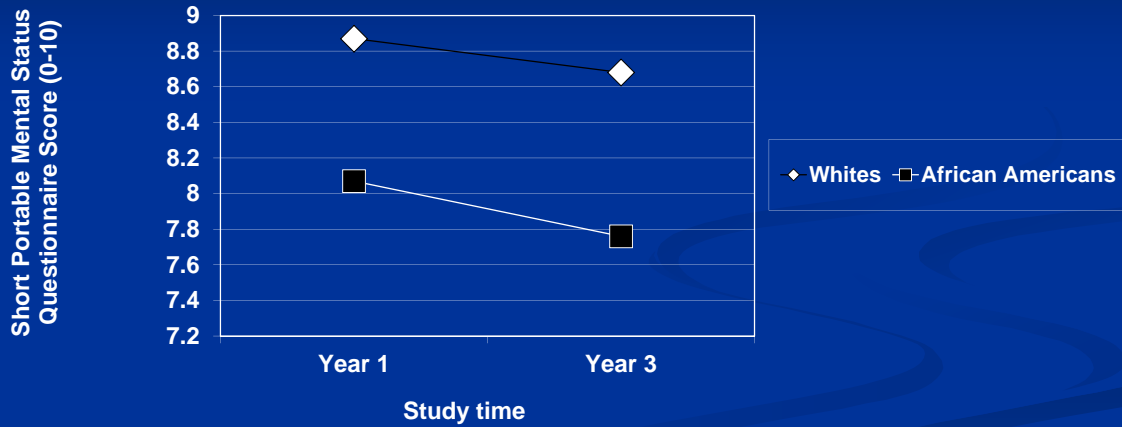
- Cognitive decline over time has similar slope in African American, Latino and non-Hispanic white groups
- So use each patient as their own control

Level differences between Blacks & Whites, no difference in slope*



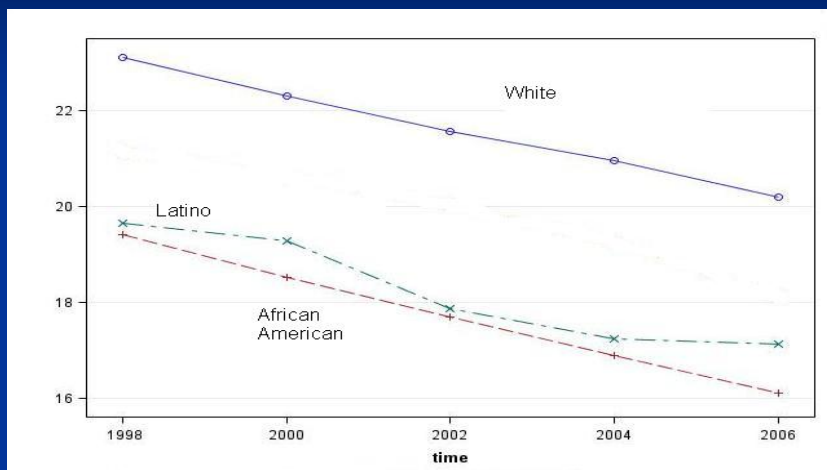
* slope simulated due to copyright restrictions

Duke Established Populations for Epidemiologic Studies of the Elderly (EPESE)



Sachs-Ericsson, N 2005

Latino, African American and White older adults in HRS have similar cognitive decline over time



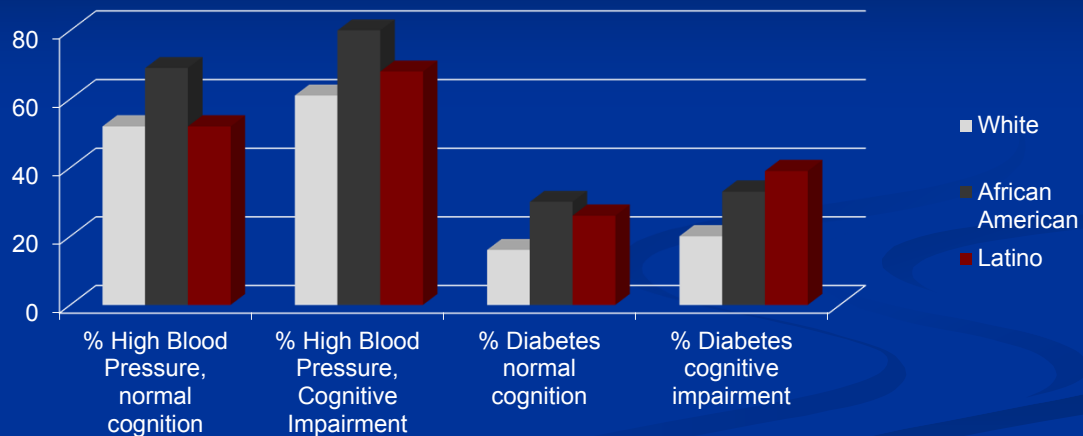
Mehta KM, HRS unpublished data

What do you do if you only have a few minutes?

- For low literacy populations in community settings, items that are more 'culture fair'
- Immediate and Delayed word recall
 - The change between how many words recalled immediately and the number recalled after a delay is highly predictive-across populations
- Animal naming
 - (people can do it, it is quick and informative)

Vascular risk factors underlying race/ethnic differences

Vascular Risk Factors higher in African American and Latino adults with cognitive impairment, HRS data



The link between diabetes and Alzheimer's is important for minority adults

- People with mid-life diabetes have 2x the risk of dementia when they are older
- Diabetes is a risk factor for heart problems and renal failure and they, in turn, increase AD risk
- Diabetes is higher in African Americans and Latino older adults

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Risk perception

- Perceived risk of AD was measured by respondents' estimate of their percent chance (0-100) developing AD in the next 10 years.
- African Americans had a lower perceived risk than non-Latino whites

Chung, S. , Mehta K, Shumway M. Value in Health, 2009

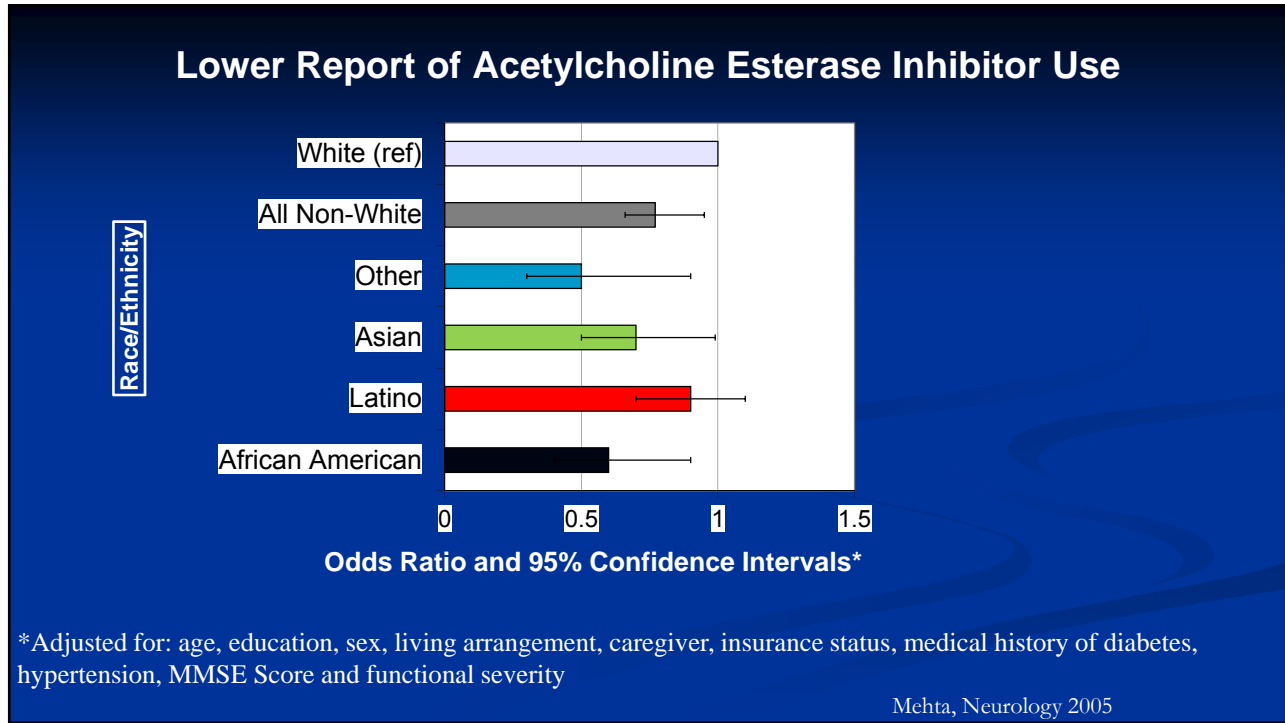
Symptoms recognized later?

- Qualitative study of 22 families
 - Whites (7),
 - Blacks (10)
 - American Indians (5)
- Ethnic minority groups often seek a diagnosis much later than their White counterparts.

ICAD, 2010, Dilworth Anderson

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Lower rates of Nursing Home Placement for African American and Latino adults after Significant Cognitive Decline (>1SDpts),

	Nursing Home Placement	
	Raw %	Adjusted Hazard Ratio (95% CI)
African American	7	0.4 (0.3-0.7)
Latino	4	0.2 (0.1-0.6)
White	9	Reference

Adjusted for fixed and time-dependent covariates: age, sex, education, total net worth, potential caregiver network, self-reported medical history of hypertension, heart disease, diabetes and stroke, body mass index, vigorous activity performed 3x per week, smoking, alcohol consumption, and cognitive function over time.

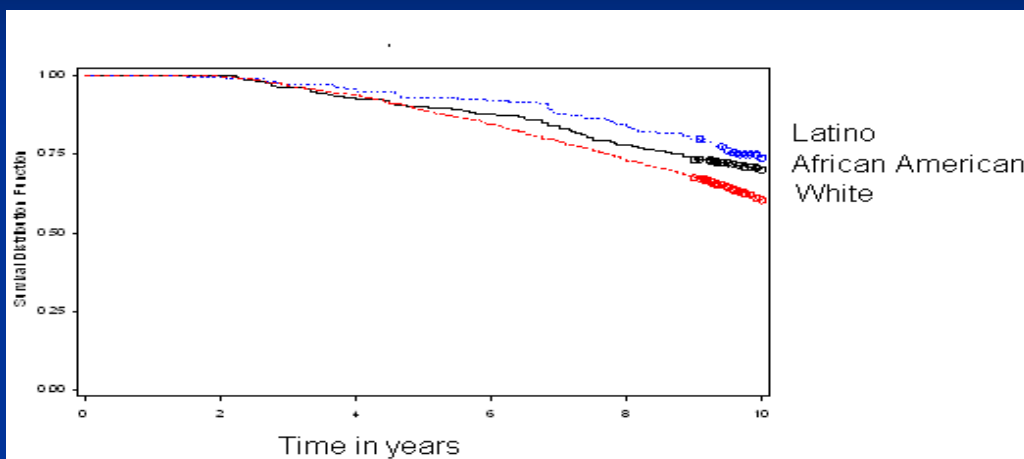
Longer survival in African Americans and Latino AD patients compared to White AD patients seen at ADC centers

Race/Ethnicity	% Mortality	Hazard Ratio*	95% CI
African American	30	0.85	0.74-0.96
Latino	21	0.57	0.46-0.69
Asian	17	1.06	0.81-1.39
American Indian	38	1.13	0.91-1.40
White	41	1.0 (ref)	

*Adjusted for Demographics (age as the timescale, gender, educational level, ADC site as a clustering variable, current marital status, living situation), Mini-Mental State Exam Score, and age at first dementia symptom

Mehta KM, 2008 Neurology

HRS data, African American and Latino adults with Significant Cognitive Decline live longer than White older adults



Abstract, 2010 ICAD meeting

Summary: Individual level For minority older adults this means

- Higher rates of Alzheimer's/Dementia
 - Symptoms recognized later
 - Lower medication use
 - Lower Nursing Home placement
 - Longer survival
- = HIGH BURDEN

Summary: population level

- Race/ethnic diversity is growing in the US older adult population with dementia
- Incidence and prevalence of dementia ↑ in some groups, data strongest for AA/white difference
- Socioeconomic and vascular risk factors may be causes of group differences
- African American and Latino with cognitive impairment/dementia may live longer with the disease resulting in more caregiving at home

Acknowledgements

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Dementia and Diversity



Case Vignette: Mrs. M.

- Older Latina woman (83 years)
- Came to the US at age 15
- Education to age 8 in Mexico
- Scored 24/30 on Spanish version of MMSE

- Dementia?