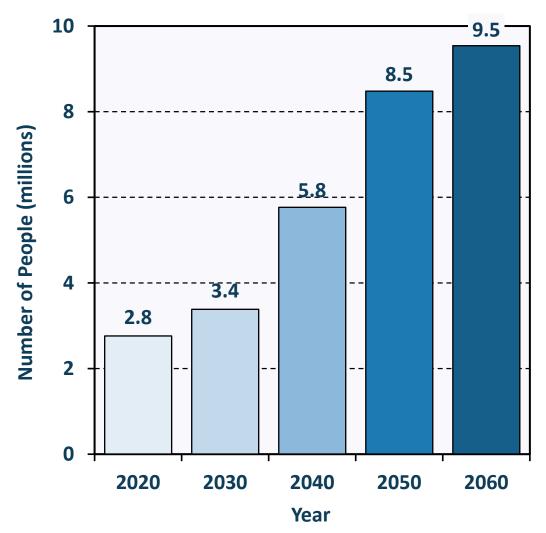
# Insights From Research in the Oldest-Old

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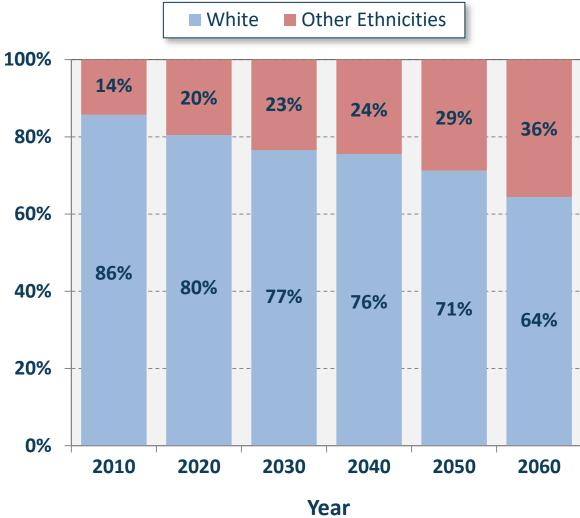


## U.S. 90+ Projected Population Growth



U.S. Census Bureau. Projections of the Population by Sex and Age for the United States: 2015 to 2060 (NP2014-T9)

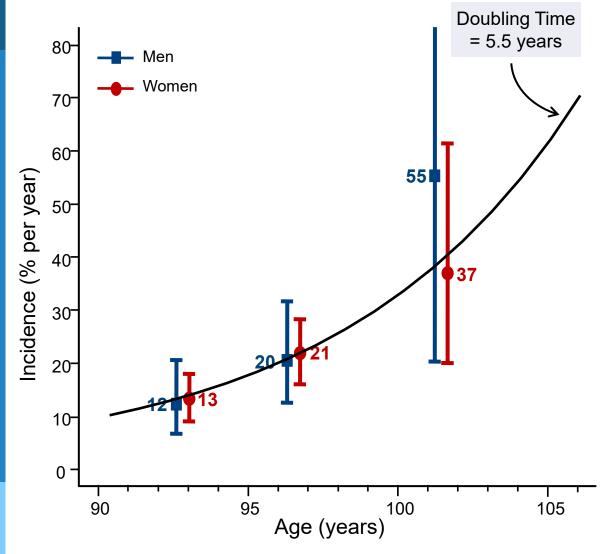
## Increasing % of Ethnicities other than White in U.S. 90+



U.S. Census Bureau. Projected Population by Single Year of Age, Sex, Race, and Hispanic Origin for the United States: 2014 to 2060 (Table 1).



## Age-Specific Incidence of Dementia in 90+



## Exposures NOT Associated with Dementia in the Oldest-Old

- Vitamin E (supplements)
- Vitamin C (diet and supplements)
- > BMI
- > Alcohol
- > Physical activities
- > Leisure activities
- > Homocysteine levels
- > Thyroid function
- ➢ Apolipoprotein E e4



## History of Vascular Disease & Dementia Risk (N=559)

#### 4.0 3.0 higher risk Relative Risk (95% CI) (log scale) 2.0 2.15 1.72 1.72 1.53 1.32 1.29 1.20 0.90 lower risk 0.78 Higher Risk – CHF, Heart valve disease, Stroke Lower Risk - High cholesterol, Hypertension

12%

Diabetes Myocardial Transient

infarction

15%

Ischemic

Attack

27%

Arrhyth-

mia

15%

Coronary

**Artery** 

Dsiease

36%

High

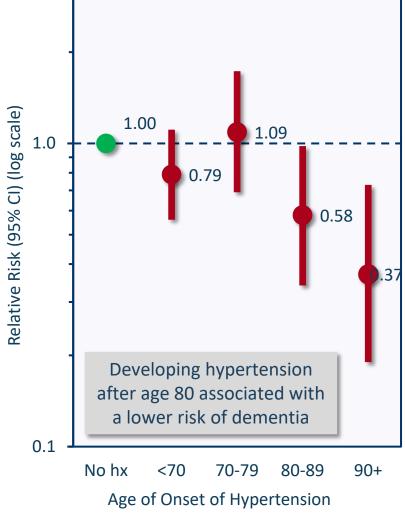
Cholest

58%

Hyper-

tension

#### Age of HTN Onset & Dementia Risk





7%

Heart

Valve

Disease

10%

Stroke

Prevalence

0.4

10%

Congestive

Heart

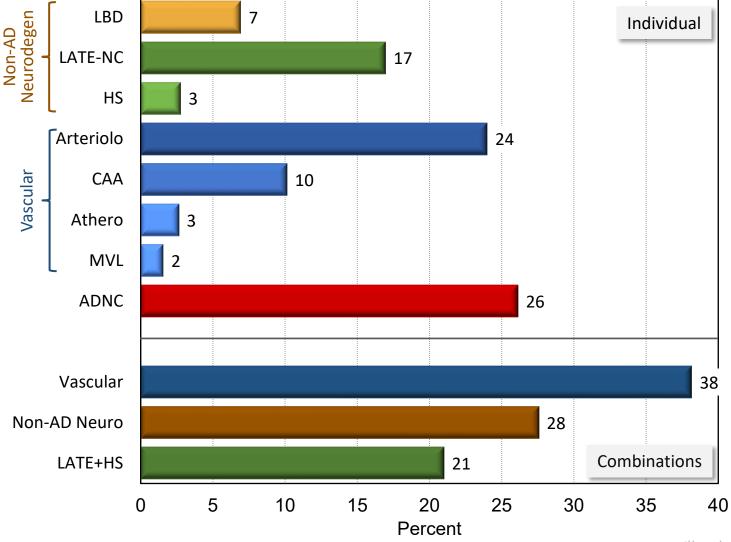
Failure

### Odds of Dementia By Number of Neuropathological Changes

#### 40.0 Odds Ratio (95% CI) (log scale) 16.6 4.0 3.6 1.0 % w dementia 10% 16% 40% 31% 0.4 0-12 3 5+

#### **Number of Neuropathologies**

### Proportion of Dementia Cases Attributable to Neuropathological Changes



**LBD**=Lewy Body Disease; **LATE-NC**= Limbic-predominant age-related TDP-43 encephalopathy neuropathologic change; **HS**=Hippocampal Sclerosis; **Arteriolo**=Arteriolosclerosis; **CAA**=Cerebral Amyloid Angiopathy; **Athero**=Atherosclerosis; **MVL**=Microvascular lesions; **ADNC**= Alzheimer's Disease Neuropathologic Change;



### Key Points about the Oldest-old

- > An important segment of the population for dementia research
  - Fast growing numbers, high dementia rates
- Ethnoracial diversity should be prioritized in research investigations
- Dementia is the result of multiple pathologies, most cannot be detected during life – Autopsy studies are crucial
- - AD accounts for <25% of dementia, vascular pathologies account for ~40% of dementia
- Need to identify risk and protective factors for individual neuropathologies
- Improve methodology to increase inclusion, maximize participation, reduce missing data