Researching Alzheimer’s Disease among Underserved Texans

Sid E. O’Bryant, PhD
Director, Rural Health Research
F. Marie Hall Institute for Rural & Community Health
Assistant Professor
Department of Neurology
Texas Tech University Health Sciences Center
Lubbock, Texas
Demographics of Texas

• Texas is rich in ethnic, cultural, and geographic diversity

• As of 2008
  – Hispanic/Latino = 37% of TX population
  – African American = 12% of TX population

• Rural = 17% of population
Why is it important to study Alzheimer’s Disease among Texans of Hispanic Origin?

• As of 2008, Texas was home to 8.9 million Hispanics
  – 48% of all Hispanics in U.S. reside in either Texas or California
  – Nearly one quarter of Texas population is Mexican American
  – 97% of Starr County is Hispanic
  – All top 10 U.S. counties for highest Hispanic populations are in Texas

• The Texas Hispanic population is younger than the non-Hispanic population
  – Hispanics are the fastest aging population in Texas
  – Therefore, the numbers of Hispanic Texans developing Alzheimer’s disease will continue to grow rapidly

• There are cultural barriers that need to be addressed
  – Term “dementia”
  – Obtaining informant reports
Why is it important to study Alzheimer’s Disease among Texans of Hispanic Origin?

- Hispanic elders present for initial examination to dementia specialty clinics later during the course of Alzheimer’s disease

- There is evidence suggesting that Hispanics may develop the disease at a younger age

- It is possible that different biological mechanisms drive Alzheimer's disease between ethnic/racial groups
  - In Hispanics, diabetes may be stronger driving factor

- There is very little research on Alzheimer’s disease among Hispanic populations (or Mexican Americans), despite the fact that this is the largest ethnic minority group in the U.S. (and Texas)
What is TARC doing to study Alzheimer’s Disease among Texans of Hispanic Origin?

• Recent addition to UTHSC-San Antonio with specific emphasis on enrollment of Mexican Americans (AD, MCI, and controls) into TARC project

• Recruitment is from the San Antonio Heart Study (SAHS) participants who have a wealth of existing information on cardiovascular disease and associated risk factors (e.g. diabetes)

• Will follow participants over time to look at development and progression of Alzheimer’s disease
What is TARC doing to study Alzheimer’s Disease among Texans of Hispanic Origin?

• TARC has an emphasis on genetic and blood-based biomarkers associated with Alzheimer’s disease, which may differ by ethnicity and race

• Many of the San Antonio participants already have genetic data related to cardiovascular disease and diabetes, which can be combined with TARC data

• Projects looking to identify a blood test for, and subgroups of (endophenotypes), Alzheimer’s disease can be tailored specifically to Mexican Americans

❖ TARC is taking significant steps towards meeting the Science goal of the State Alzheimer’s Disease Plan by reaching out to underserved Texans
Why is it important to study Alzheimer’s Disease among rural Texans?

- Texas has the largest rural population in the U.S. with more than 3.6 million residents
- 80% of Texas’ counties are rural
- The percentage of older (and oldest old) individuals is higher in rural counties
- The percentage is growing as
  - Rural communities become more frequent retirement locations (particularly for baby-boomers)
  - Younger rural individuals move to urban areas for employment opportunities
- By 2020, the Hispanic population in rural areas is expected to double to 1.6 million
Why is it important to study Alzheimer’s Disease among rural Texans?

- Rural Texans have less access to healthcare
- Rural Texans make, on average, $10,000 less than urban Texans
- The poverty rate is higher (18.5%) among rural Texans than urban (15.5%)
- 30.4% of rural Texans have not completed a high school education as compared to 23% of urban Texans
Why is it important to study Alzheimer’s Disease among rural Texans?

- Environmental exposures vary between rural and urban regions
  - Groundwater metal levels often higher among rural regions
  - Agricultural runoff

- Rural individuals have higher prevalence of cardiovascular disease and related risk factors, which also increase risk for Alzheimer’s disease

- Non-specialists do not identify Alzheimer’s disease as early or accurately & rural elders have far less access to specialty clinics
Studying Alzheimer’s Disease among rural Texans

• There are rural researchers involved with TARC

• By nature of Texas geography, a portion of current TARC participants reside in rural areas
Distribution of participants by primary residence at baseline examination

Areas based on first 3 digits of zip code

- Proposed: UTHSC-SA (San Antonio)
- BCM (Houston)
- UTSW (Dallas)
- UNT-HSC (Fort Worth)
- TTU-HSC (Lubbock)

# Participants
- 1
- 2 - 31
- 32 - 63
- 64 - 94
- 95 - 125

TARC Sites
Geography of Texas
Ongoing Studies of Alzheimer’s Disease among rural Texans

- There are ongoing studies in Texas available for collaboration
  - Drinking water and Alzheimer’s disease project
  - Project FRONTIER – Facing Rural Obstacles to healthcare Now Through Intervention, Education, and Research
    - Epidemiological study of health of rural Texas adults and elders

- Building collaborative relations between TARC and existing Texas-based studies and scientists will further the Texas State Alzheimer’s Disease Plan science goal of reaching underserved Texans
Summary

• TARC has taken noteworthy strides for advancing the science of Alzheimer’s disease in Texas
  – Have made significant steps towards creating a blood test for AD
  – Novel genetics

• TARC has begun recruiting Mexican Americans which will provide one of the largest studies in the U.S. of how Alzheimer’s disease impacts this large, but underserved, segment of Texas

• TARC has collaborative opportunities with ongoing studies, including those focusing on rural older Texans

✓ TARC can, and should be, a springboard for advancing the science goal of the State Alzheimer’s Disease Plan
Questions?