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Association between Alzheimer's disease and Rural Northeast Tennessee Region between 2013 and 2015

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Association between Alzheimer's disease and Rural Northeast Tennessee Region between 2013 and 2015

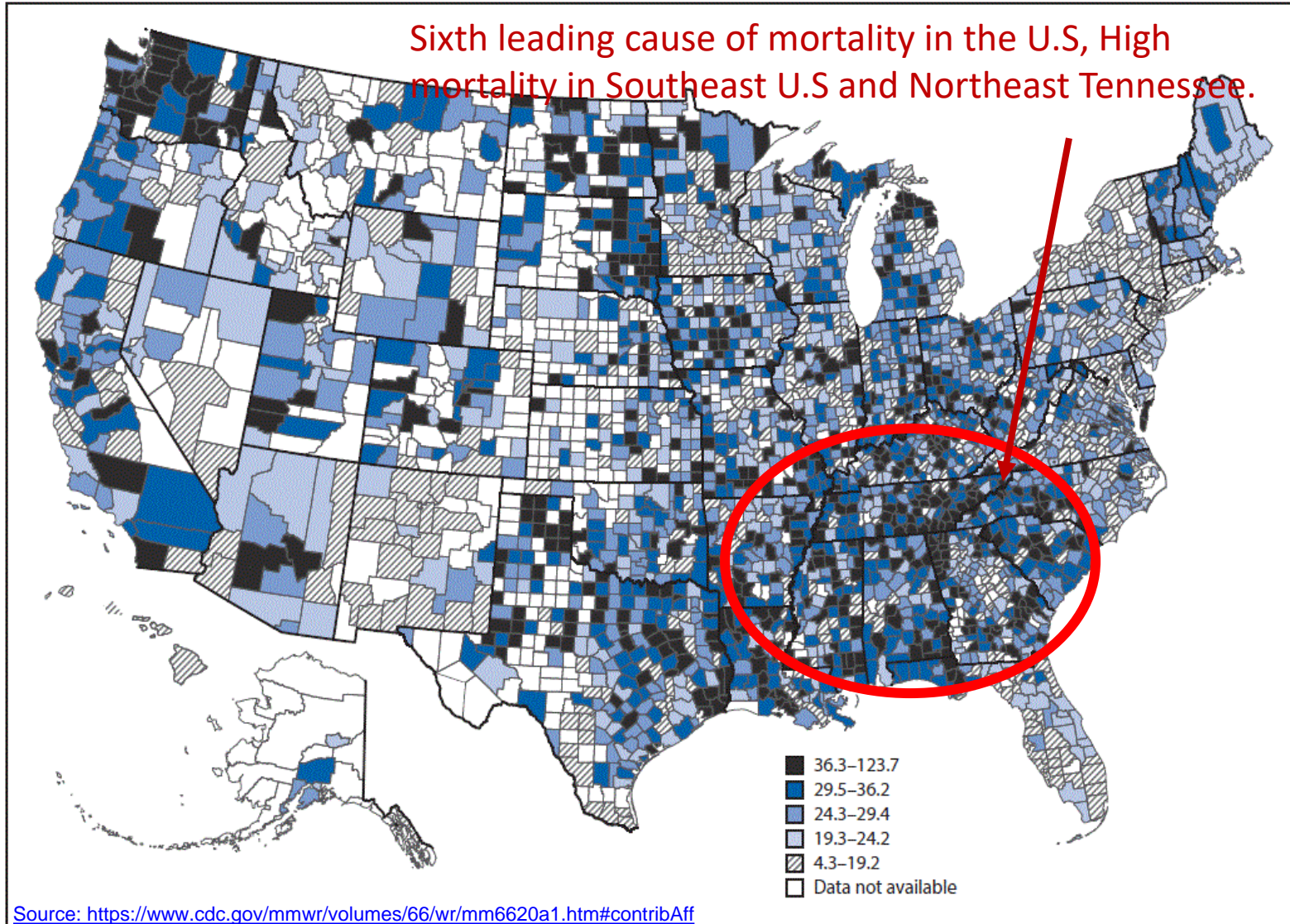
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Background

Sixth leading cause of mortality in the U.S, High mortality in Southeast U.S and Northeast Tennessee.

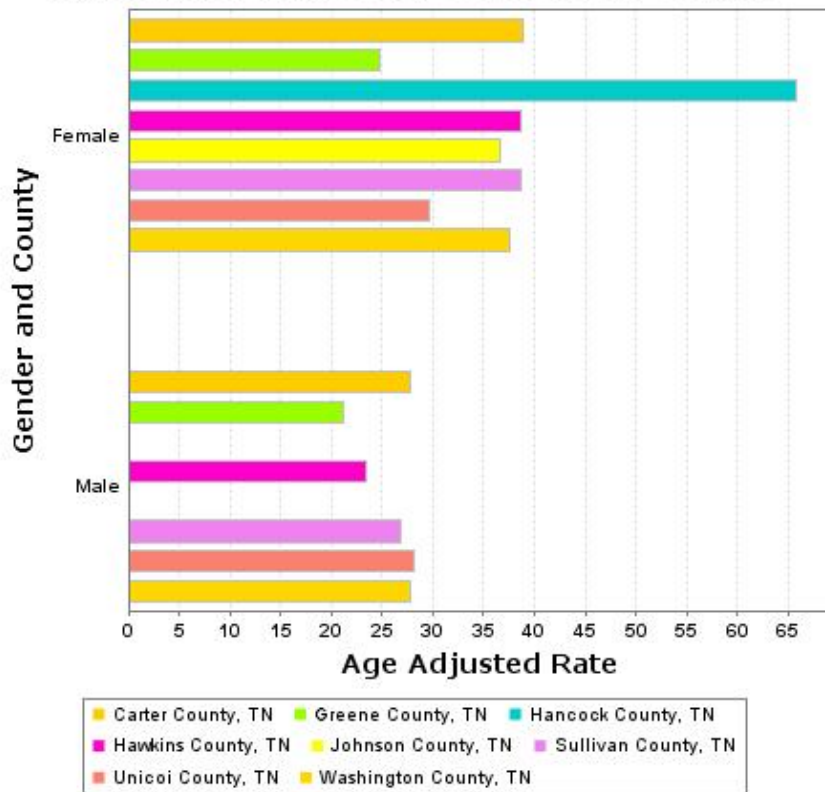


Average annual age-adjusted death rates from Alzheimer's disease per 100,000 populations, by county — United States, 2005–2014

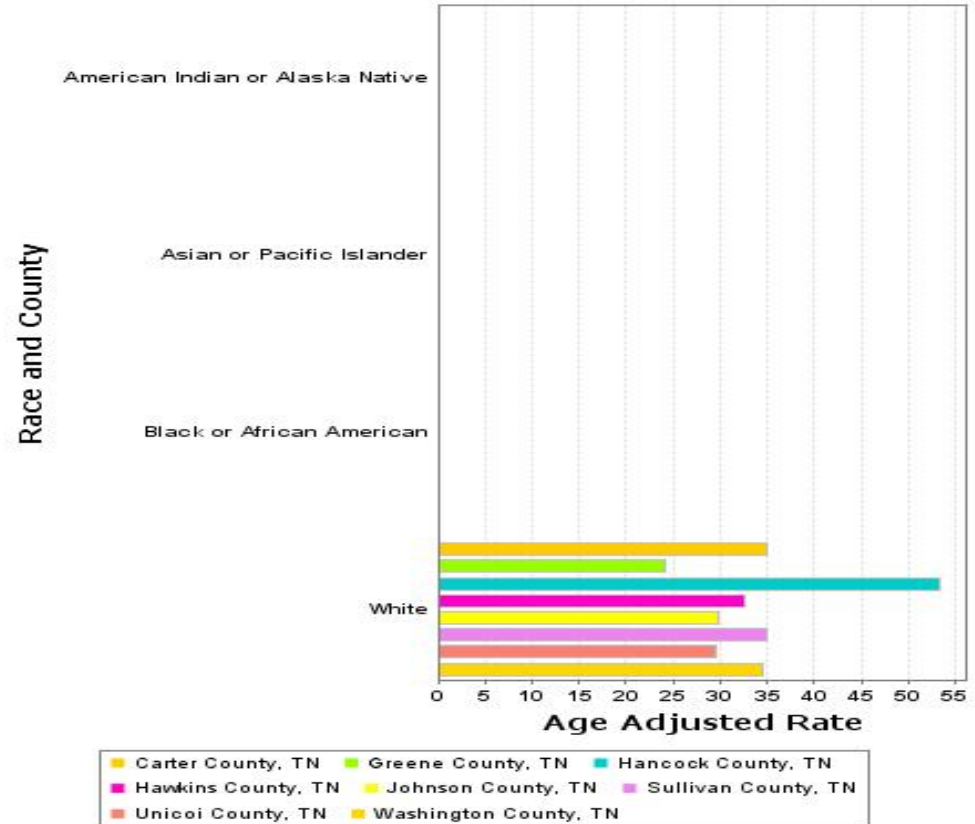
Orimaye, S.O - Association between Alzheimer's disease and Rural Northeast Tennessee Region.

Background (contd.)

Age Adjusted Rate By Gender and County



Age Adjusted Rate By Race and County



Age-Adjusted Mortality Rate by Gender and Race in Northeast Tennessee. The data for other races are suppressed by the CDC chart generator.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2015 on CDC WONDER Online Database, released December, 2016

Purpose

- We examined the **association** between **Alzheimer's Disease (AD)** and the **Northeast Tennessee** counties compared to **other** counties in Tennessee using **Prevalence Odds Ratio (POR)**.
 - *The POR gives an unbiased estimate of the incidence rate ratio (Pearce, 2004).*

Methodology

- Cross-sectional study & Data source triangulation
- Compares **POR** of rural versus urban counties
 - Rural vs. Urban counties in Northeast Tennessee
 - Northeast Tennessee region vs. other counties in Tennessee.
 - **RUCC** code 1-5 (Urban > 20,000 population); 6-9 (Rural < 20000 population)
- Sample
 - Centers for Medicare and Medicaid Services (CMS) Geographic Variation Public Use [File on Alzheimer's Disease \(2013-2015\)](#)
 - Quantitative survey of [experts' observations](#) about AD within the Northeast Tennessee region.

Results & Discussion

Table 1: Prevalence Odds Ratio **Rural vs. Urban counties** in **Northeast Tennessee region** from **2013-2015**

Year	POR	95% Confidence Interval	
		Lower	Upper
2013	1.183 ↑	1.113	1.258
2014	1.047 ↓	0.982	1.117
2015	1.190 ↑	1.121	1.264

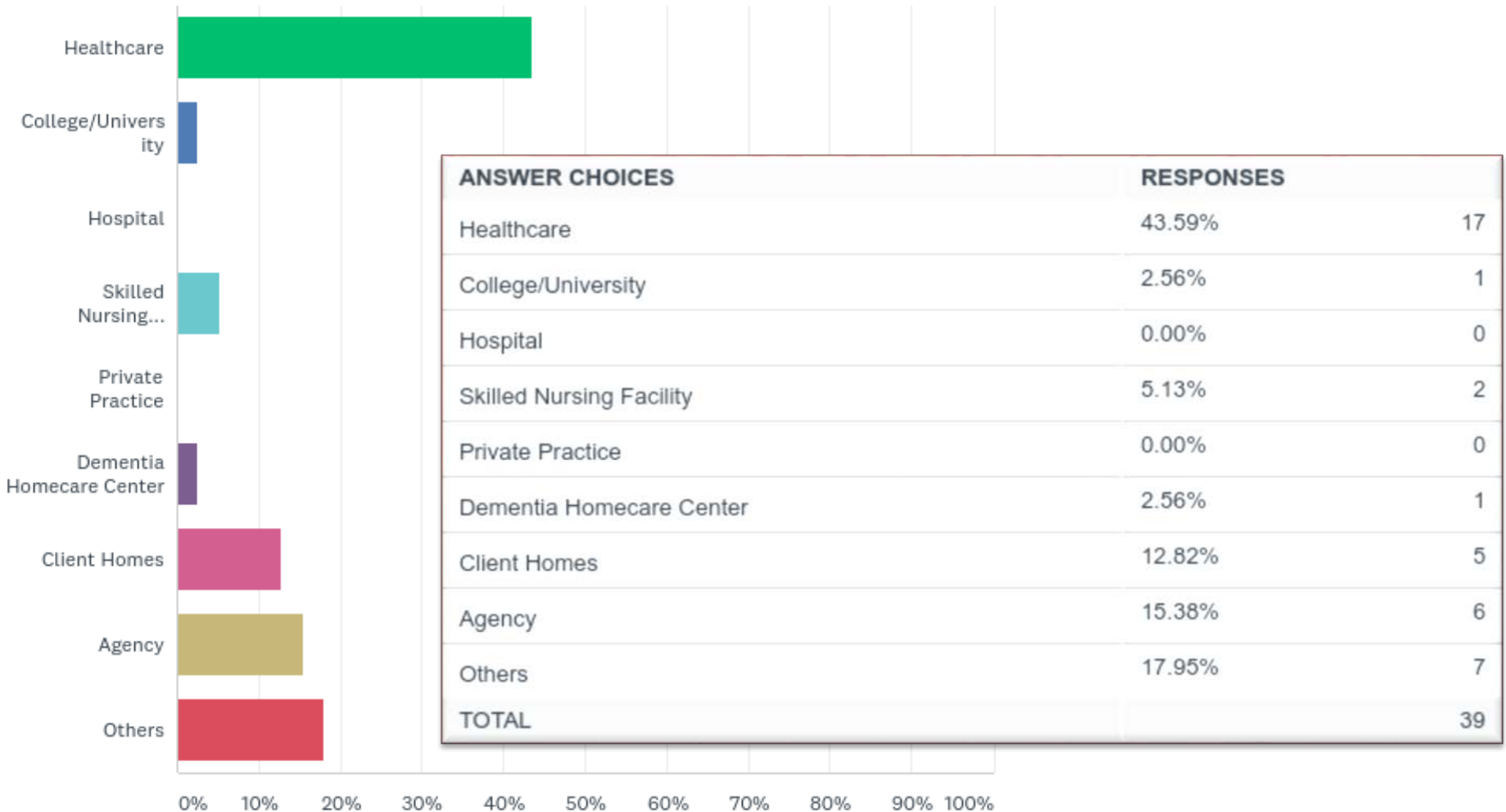
Results & Discussion

Table 2: Prevalence Odds Ratio **Northeast region counties** vs. **other counties in Tennessee** from **2013-2015**

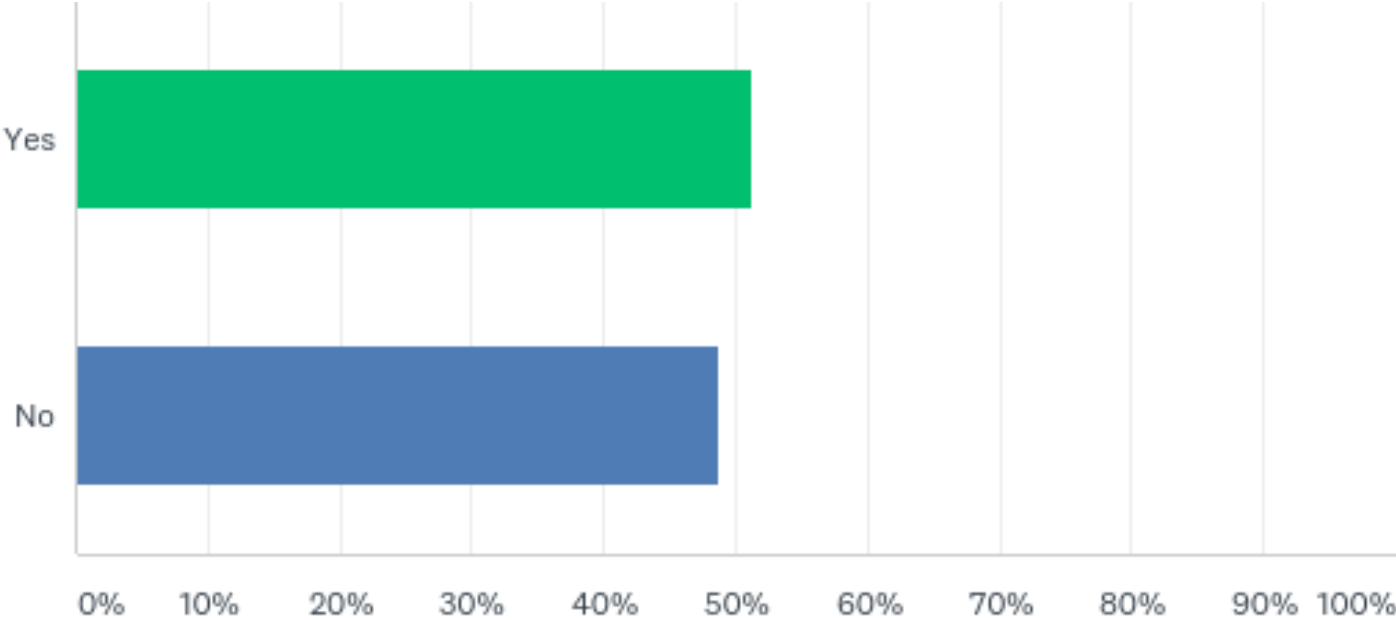
Year	POR	95% Confidence Interval	
		Lower	Upper
2013	1. 227 ↓	1.203	1.250
2014	1. 225 ↓	1.202	1.249
2015	1. 212 ↓	1.189	1.235

Results & Discussion

Survey: Expert and Professionals observations

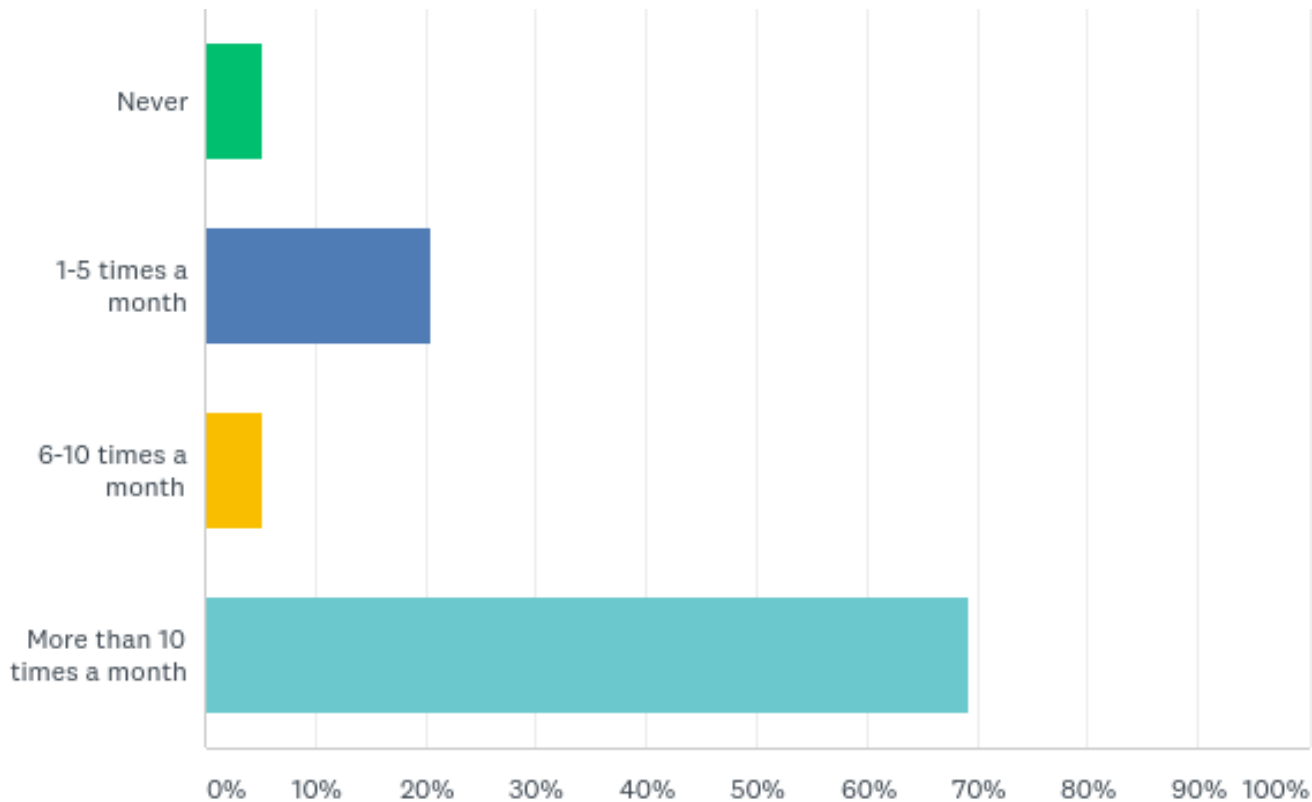


Survey: formal training in Alzheimer's disease research/practice?



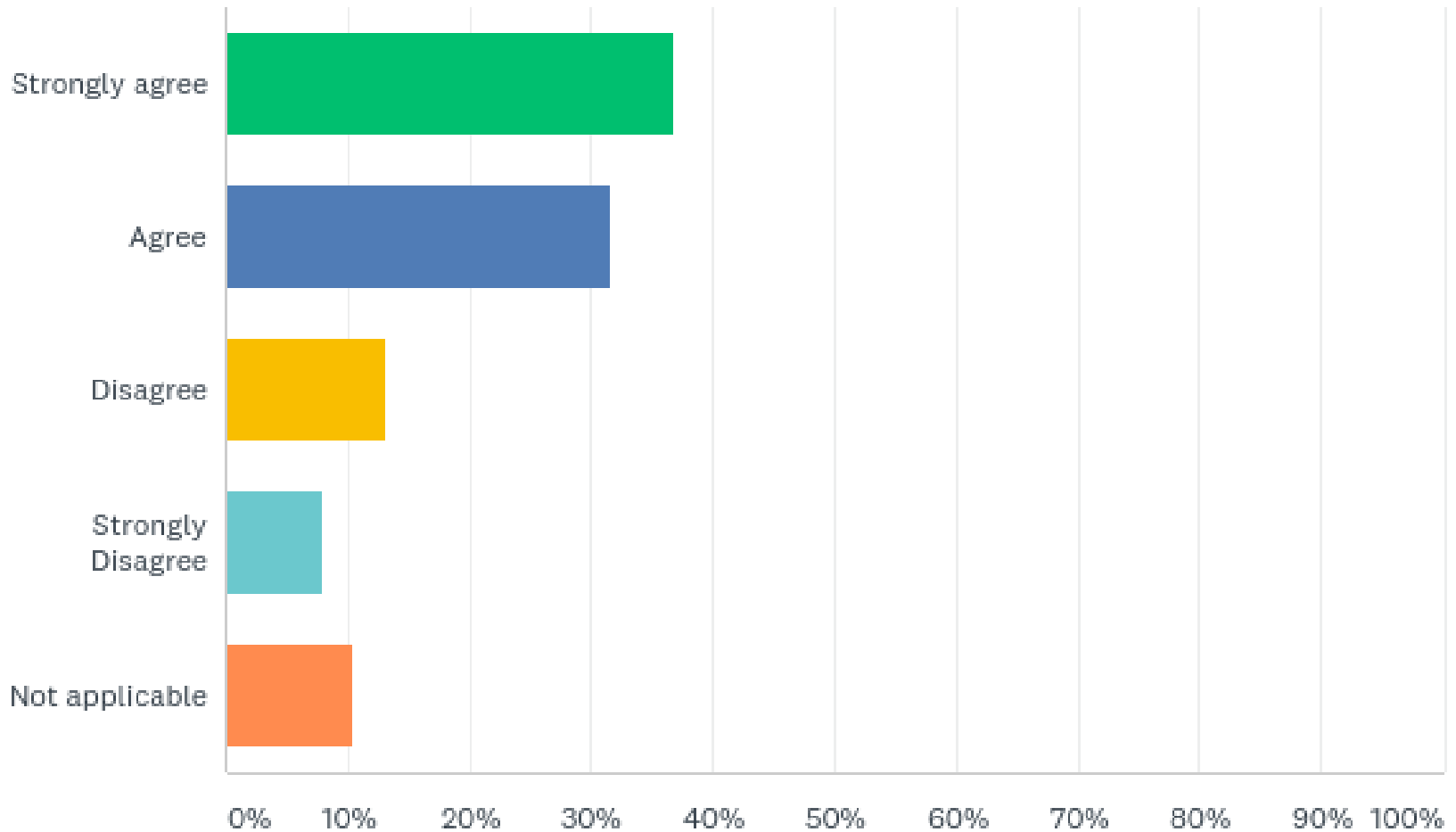
ANSWER CHOICES	RESPONSES	
Yes	51.28%	20
No	48.72%	19
TOTAL		39

Survey: How often do you work with AD individuals or family members of individuals with Alzheimer's disease?

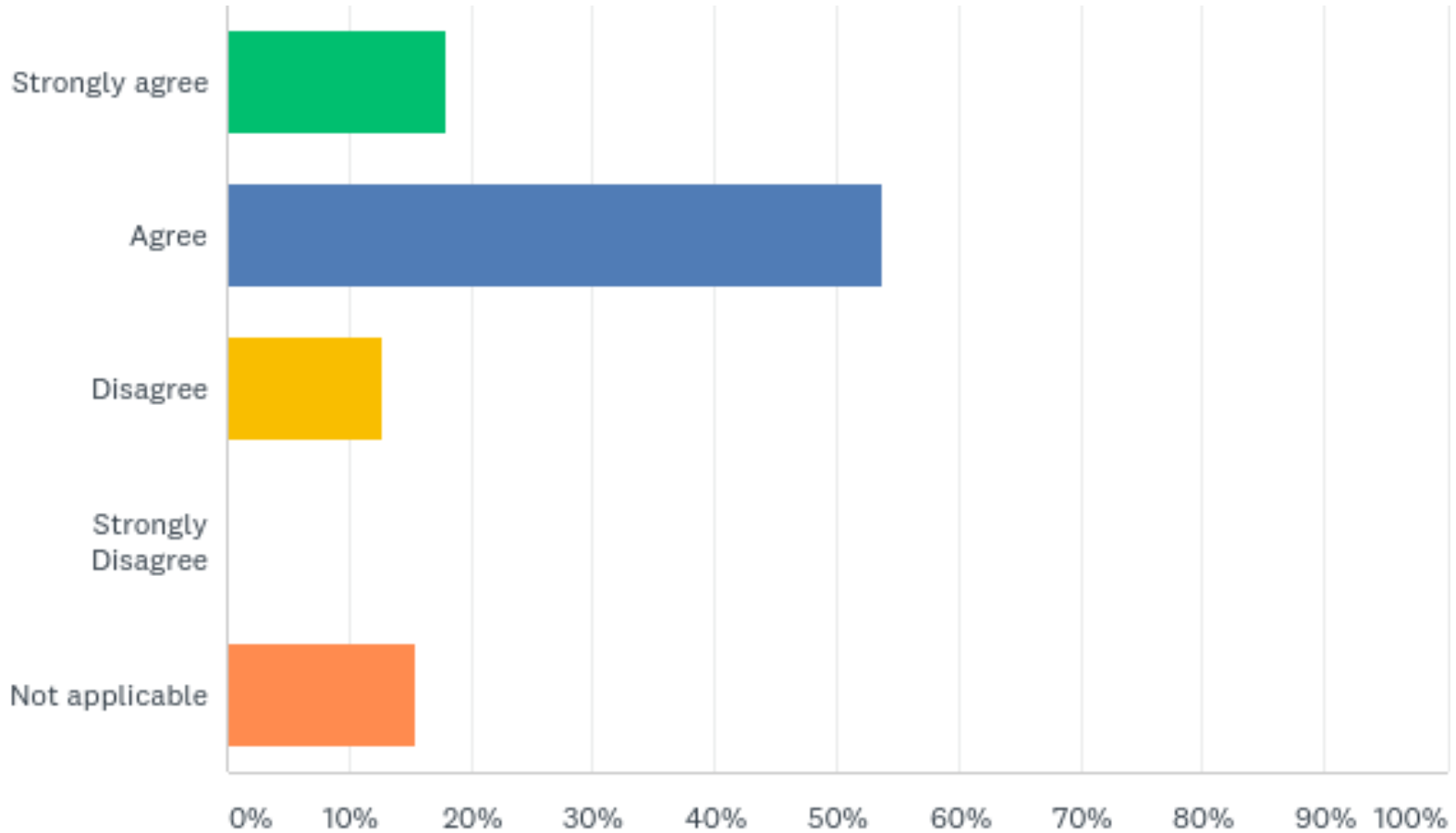


Survey:

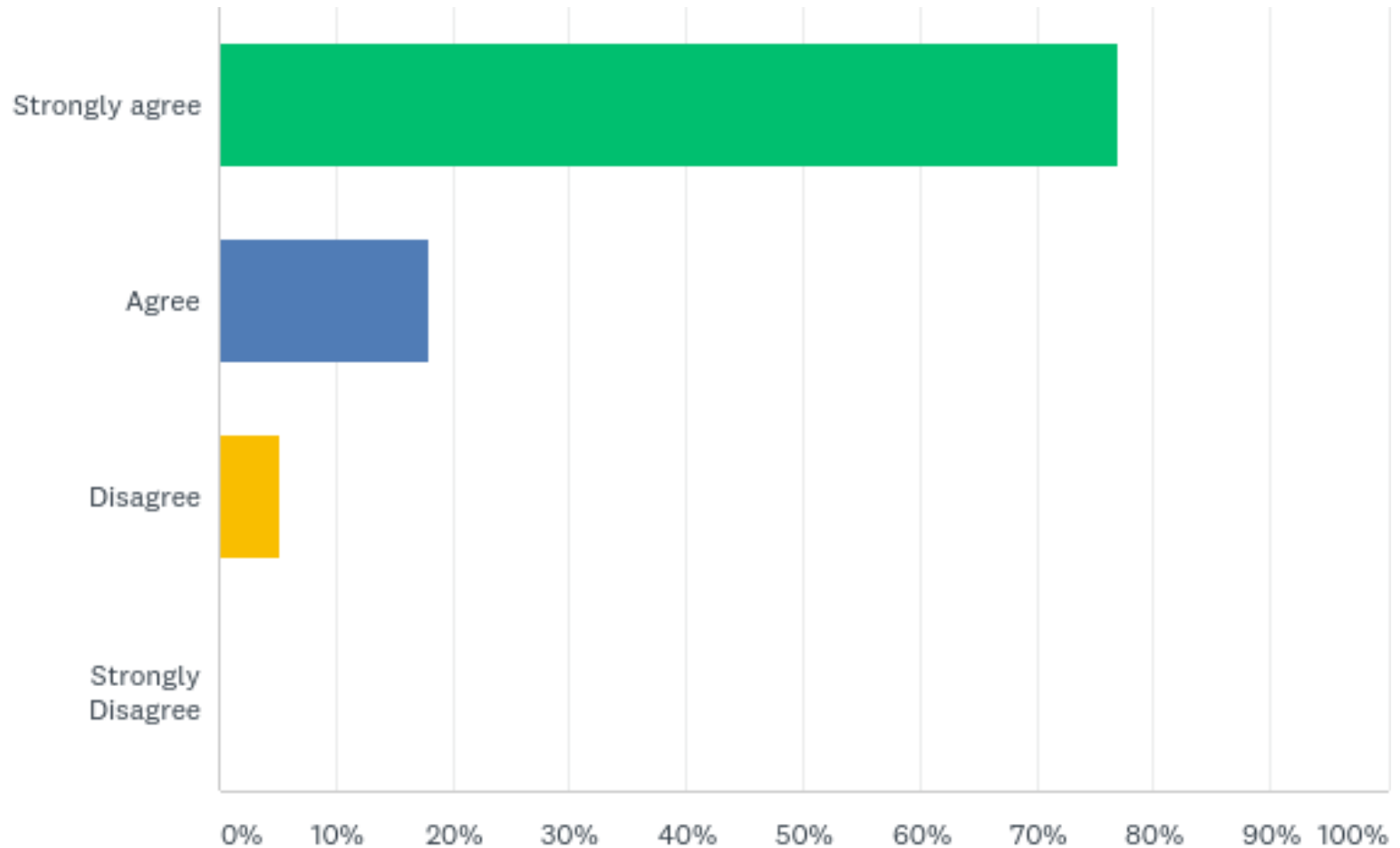
Compared to five years ago, I currently work with more individuals with AD or family members of individuals with AD.



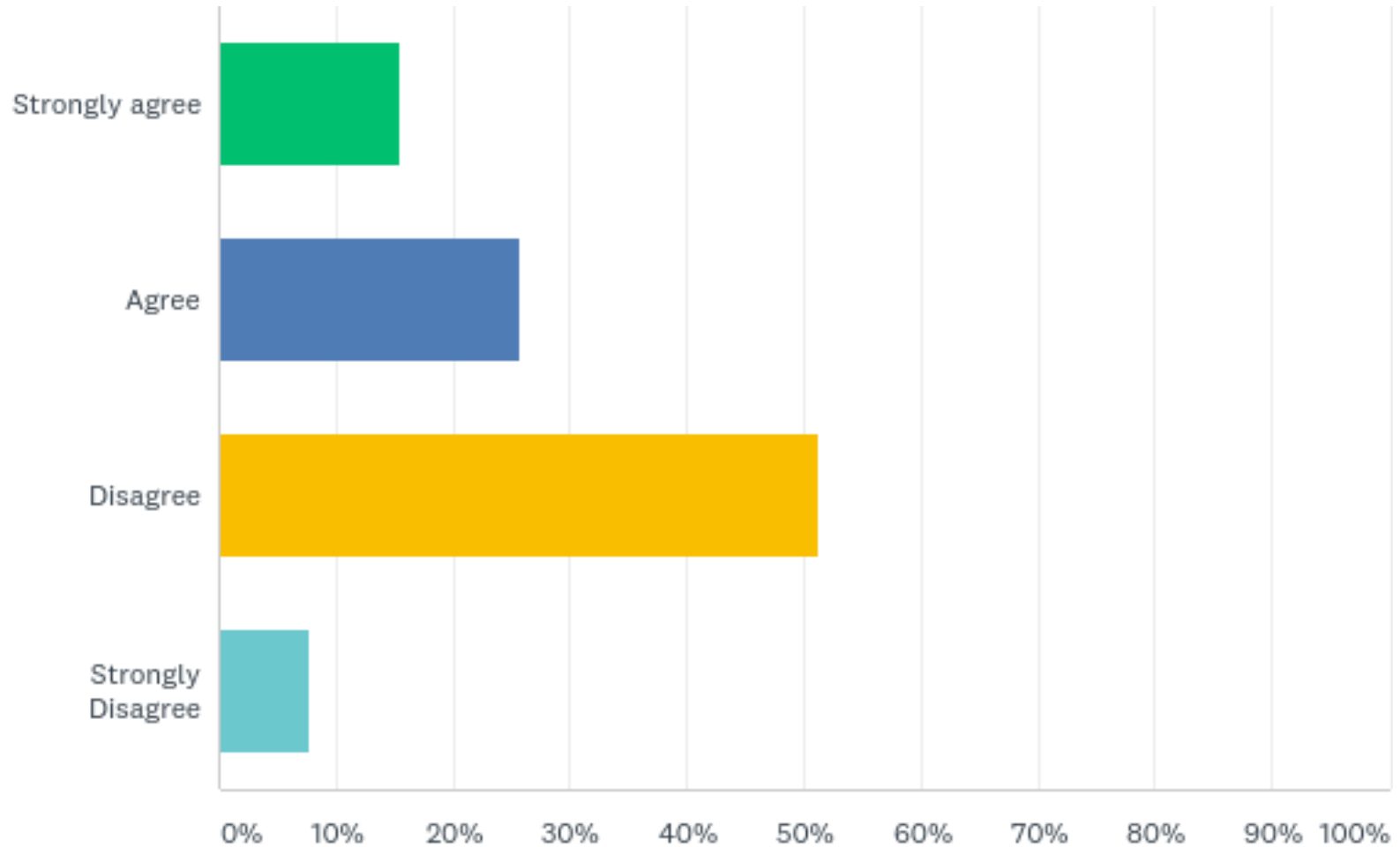
Survey: Compared to five years ago, the **Northeast Tennessee region** has a higher number of **late stage diagnosis of AD** compared to **early stage diagnosis**.



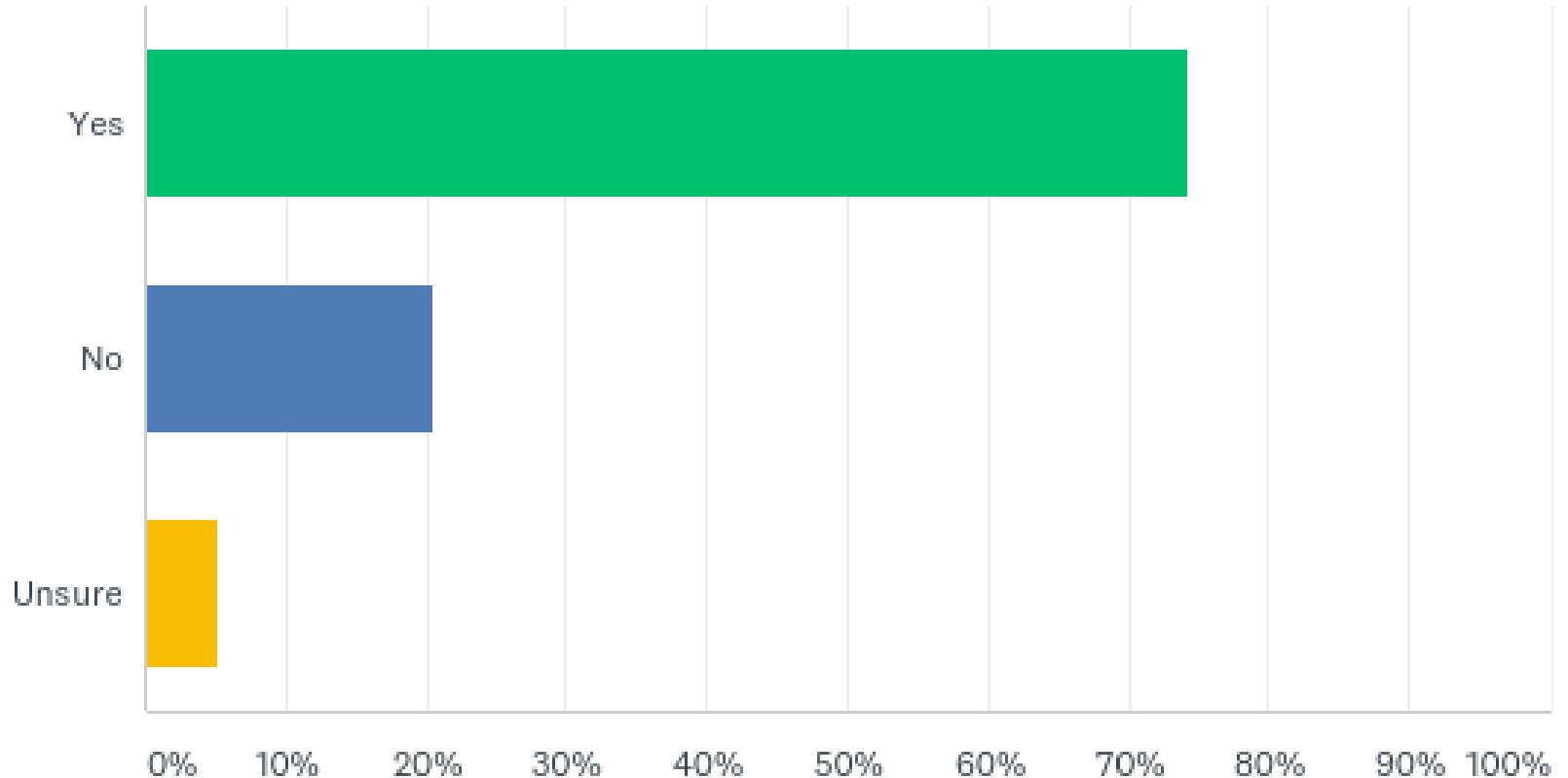
Survey: Early screening or diagnosis could prolong the lives of people living with Alzheimer's disease.



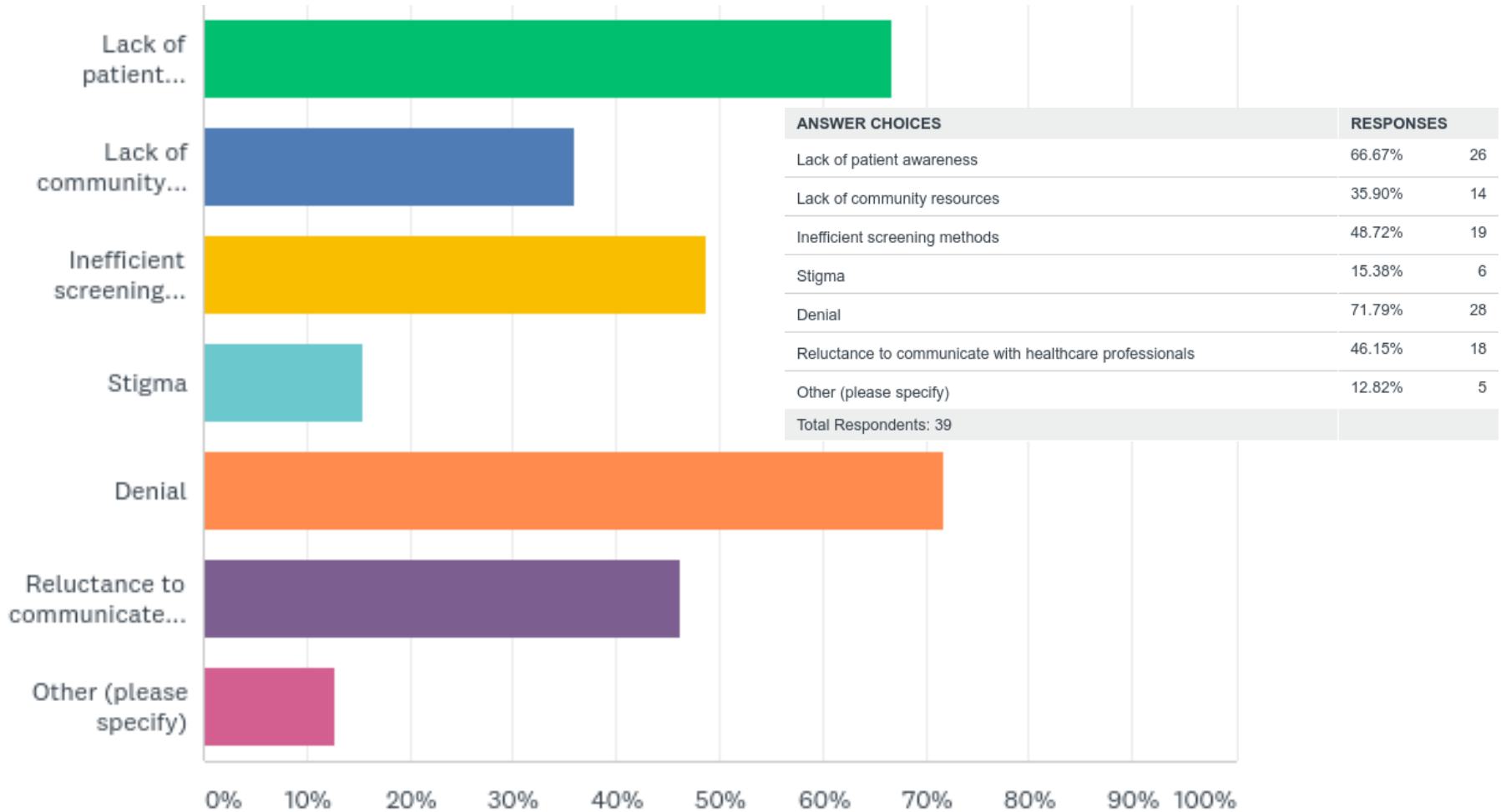
Survey: I regularly hear about screening for Alzheimer's disease in my community.



Survey: I know someone or families who have talked about the **positive impact of early intervention** for a family member living with Alzheimer's disease.



Survey: Select the top three (3) barriers to early diagnosis of Alzheimer's disease in our region.



Limitations

- The prevalence is based on Medicare **beneficiaries only**.
- Some individuals with incidence of AD **may not be eligible** for Medicare.
- Prevalence **based on the sensitivity of the diagnostic instrument** (Bradford et al. 2009).
- **Self-reported** survey instrument.

Conclusion

- **Rural Northeast Tennessee** counties and the **Northeast Tennessee region** are at **increased odds of the prevalence of AD**.
- **Experts and professionals' observations corroborate our findings** that there are more cases of AD in the region compared to the last five years.

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- The First TN Area Agency on Aging and Disability (**Net-Vac**), <https://www.ftaaad.org/net-vac/>
- ETSU IRB, <https://www.etsu.edu/irb/>

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