Dementia Neurology Deserts – What are they and where are they located in the US?
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Objective/Introduction
As the population of older adults ages, the prevalence of Alzheimer's Disease and Related Dementias (ADRD) is expected to increase by 40% by 2025 bringing the diagnosed population from 5.2 million in 2016 to 7.1 million in 2025. Along with the rise of ADRD patients, there will be more demand placed on healthcare providers, specifically neurologists across the United States who are often consulted to diagnose, treat and manage ADRD symptoms and behaviors.

Methods
Using population health data from the Centers of Medicare, we looked at the number of projected diagnosed ADRD cases by state for 2025. We then translated those statistics into total estimated ADRD population by state, based on a 50% estimated ADRD rate of undiagnosed cases. On the provider side, we looked at the number of projected adult neurologists by state in 2025. An ADRD Neurology Desert index (ANDI), defined as the ratio of neurologists to ADRD population was developed to identify states with the lowest projected ratio of adult neurologists per 10,000 ADRD cases in 2025.

Projected ANDI scores in 2025

Results
This method shows great disparity in ANDI values between states, with a 5 to 57 range. Twenty states with low ANDI values (5 to 9) were identified as "dementia neurology deserts", indicating significant gap between available neurology workforce and the health needs from ADRD patients in those states. Altogether, these states represent a projected ADRD population of 2,078,000 people by 2025 with a wide range of state budgets dedicated toward dementia. The top 5 states with the highest ANDI scores are: Wyoming, North Dakota, South Carolina, South Dakota, and Oklahoma.

Conclusions
Based on these projections, primary care providers and other licensed clinicians in "dementia neurology desert" states may require additional training and education in using clinical decision support software to facilitate diagnostic, treatment and care to bridge the lack of neurology providers in the identified states.