Nearly one in five people on Medicare travel 50 or more miles one way to see a neurologist, a doctor who diagnoses and treats diseases of the brain and nervous system, according to research published in *Neurology*.
The study found that people who require specialized neurologic care for diseases such as brain cancer, amyotrophic lateral sclerosis (ALS) and multiple sclerosis (MS) travel long distances most often.

"Our study found a substantial travel burden exists for some people with neurologic conditions, including people living in areas with fewer neurologists and rural areas," said study author and Chair of the American Academy of Neurology's Health Services Research Subcommittee Brian C. Callaghan, MD, MS, FAAN, of University of Michigan Health in Ann Arbor. "We also found that people who traveled long distances were less likely to return for a follow-up visit with a neurologist."

"Travel distance can be a serious barrier to care for people with chronic neurologic conditions," said American Academy of Neurology President Carlayne E. Jackson, MD, FAAN. "The American Academy of Neurology is committed to improving access to high-quality neurologic care because consistent access to specialized care from a neurologist is essential to help people manage their symptoms and minimize risks of dangerous complications and side effects."

The study included over 563,000 people on Medicare who saw a neurologist at least once during the one-year study. Participants had an average age of 70. Researchers looked at age, sex, race and ethnicity and neurologic condition for each participant. During the study 14,439 neurologists provided care to participants in more than 1.2 million office visits.

To determine travel distance, researchers compared participants' home ZIP codes and their neurologists' office ZIP codes. Long distance was defined as 50 or more miles one way.

Over 96,000 people (17%) traveled long distances, with an average of 81
miles one way and an average travel time of 90 minutes.

People who did not travel long distances went an average distance of 13 miles with an average travel time of 22 minutes.

Among neurologic conditions, long-distance travel was most common for people with brain and spinal cord cancers, with 40% of these participants traveling long distances; ALS, 30%; and MS, at 23%.

Researchers found many factors were associated with long-distance travel. People who lived in areas with the fewest neurologists, 10 neurologists per 100,000 Medicare beneficiaries, had a three times greater chance of traveling long distance than people living in areas with the most neurologists, 50 per 100,000 Medicare beneficiaries.

People who lived in rural areas had a five times greater chance of traveling long distances than people living in urban areas. Also, people who traveled long distances to see their primary care physician had a three times greater chance of long-distance travel to see a neurologist.

Nearly one-third of participants bypassed the nearest neurologist by 20 miles or more to see a neurologist, and 7% of people crossed state lines for neurologic care. Callaghan noted, "It is possible some people bypass the nearest neurologist as a matter of preference for a particular physician or they may need to travel farther to reach neurologists with shorter wait times."

When looking at over 165,000 participants who visited a neurologist for the first time within the first three months of the study, 62,000 had at least one follow-up visit with the same neurologist. Participants who traveled long distances had a 26% decreased chance of a follow-up visit compared to those without long-distance travel.
"Our results suggest that policymakers should investigate feasible and affordable ways to improve necessary access to neurologic care, especially in areas with low availability of neurologists and in rural communities," said study author Chun Chieh Lin, Ph.D., MBA, of Ohio State University in Columbus and a member of the American Academy of Neurology. "Interventions such as telemedicine can improve access to care. Future research should examine the differences in health outcomes between people who must travel long distances for care and those who do not."

Because this study was conducted in 2018, before the COVID-19 pandemic, Lin noted that future studies should look at how telemedicine during the pandemic impacted travel times.

One limitation of the study was that researchers were able to measure travel only for those who completed neurologist visits. They were not able to measure travel for those who were referred to but unable to see a neurologist. Another limitation was that researchers only studied Medicare beneficiaries, so the results may not be the same for other populations.