

How distance from care affects cancer outcomes

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Kimberly Johnson, associate professor at the Brown School at Washington University in St. Louis. Credit: Washington University School of Medicine in St. Louis

In a seemingly counterintuitive finding, young adults diagnosed with central nervous system (CNS) tumors might have better survival rates the farther they live from care.

"We think one of the potential causes for this is that patients with non-CNS cancers may live further away from care, which increases the likelihood that they are diagnosed when their tumors are advanced and more difficult to treat," said Kimberly Johnson, associate professor at the Brown School at Washington University in St. Louis.

"In contrast, those with CNS tumors may travel further for care to access facilities with the most experience treating these types of tumors."

Johnson is first author of the study "Residential distance from the reporting hospital and survival among adolescents, and [young adults](#) diagnosed with CNS tumors," published in the *Journal of Neuro-Oncology*.

Johnson and her co-authors examined National Cancer Database data on 9,335 people aged 15 to 39 diagnosed with CNS tumors from 2010–14.

They found that adolescents and young adults diagnosed with CNS tumors who live further from the reporting hospital had a reduced risk of death compared to those who live shorter distances.

The researchers also found a greater survival benefit in association with distance to the reporting hospital for low-grade astrocytic (CNS) tumors and ependymomas, those in the brain or [spinal cord](#), than other tumors; for non-Hispanic whites vs. non-Hispanic Blacks and Hispanics; and for those who live in higher-income areas at diagnosis or initial treatment.

"This seems to indicate that people with more resources may be able to travel further to facilities with more expertise. This in turn may impact survival outcomes," Johnson said.

The study is a follow-up to earlier research, which found that adolescents and young adults living in rural versus metropolitan U.S. counties and

those living farther from the hospital where they were diagnosed are more likely to be detected at a later cancer stage, when it is generally less treatable, and have lower survival rates compared with those living in metropolitan counties and closer to the reporting [hospital](#).

More information: Kimberly J. Johnson et al, Residential distance from the reporting hospital and survival among adolescents, and young adults diagnosed with CNS tumors, *Journal of Neuro-Oncology* (2021). [DOI: 10.1007/s11060-021-03885-6](https://doi.org/10.1007/s11060-021-03885-6)

Provided by Washington University School of Medicine in St. Louis

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