Study: Cancer treatment has improved, but access to services remains unequal

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Scientists from the Rural and Minority Health Research Center at UofSC's Arnold School of Public Health have completed a study on trends in access to hospital-based cancer treatment services over an nine-

year period (2008–2017). Their findings, which were published in *Medical Care*, included disparities between rural and urban access to cancer treatment as well as overall trends in the availability of services by Critical Access Hospital designation.

"Cancer is the second leading cause of death in rural America, with rural residents having higher cancer incidence and mortality rates, especially for lung, colorectal and cervical cancers," says Peiyin Hung, assistant professor of health services policy and management and lead author on the study. "Rural communities face disproportionate health challenges due to financial distress, lack of healthcare insurance coverage, absence of cancer prevention strategies, healthcare professional shortages, hospital closures, geographic isolation and high chronic disease burden."

These factors contribute to lower rates of cancer screening, higher rates of late-stage diagnosis and delayed treatment among rural residents. Once diagnosed, members of rural communities are less likely to undergo surgery or radiotherapy—raising concerns among researchers and clinicians about quality of care.

In an effort to end the pattern of rural hospital closures in the 1980s and early 1990s, Congress created the Critical Access Hospital designation in 1997. Designed to reduce the financial vulnerability of rural hospitals and improve access to essential healthcare services, these hospitals have certain requirements (e.g., 25-bed maximum, located more than 35 miles from another hospital, stays of no more than 96 hours, 24/7 emergency care services) and benefits (e.g., cost-based reimbursement for Medicare services).

The benefits make it possible for the hospitals to remain financially solvent and expand services, but the restrictions pose challenges for hospitals attemtping to provide a range of oncology services. For example, of the 1,350 Critical Access Hospitals designated between

1997 and 2019, many were able to offer radiology, emergency, laboratory, out-patient cancer care and pharmacy services. However, the nationwide median length of stay for a cancer patient (5–12 days) exceeds the 96-hour maximum stay restriction, making it difficult for these small rural hospitals to provide comprehensive cancer care.

Despite the addition of Critical Access Hospitals over the past 20 years, there have been closures (i.e., 50 of the 150 rural hospitals closed since 2008) as well—further limiting access to cancer services in rural areas. Previous research by Hung has illuminated just how limited that access can be.

Published in *Cancer,* Hung's geographic disparities study found that nearly 20 percent of rural Americans live more than 60 miles from the nearest cancer care provider. Further, only one percent of the rural population lives within 60 minutes of a National Cancer Institute-designated cancer center, and only 6.5 percent live within 60 minutes of an NCI satellite institution.

With the present study, Hung and her research team built on those findings to uncover the type and extent of cancer treatment services offered by Critical Access Hospitals, other rural hospitals, and urban hospitals. They compared approximately 4,700 hospitals in 2008 and 2017 and conducted additional analyses to tease out the effects of factors such as hospital size and geographic location (rural vs urban). They also examined payment models, comparing Critical Access Hospitals to those using the Prospective Payment System, which pays Medicare claims at a predetermined/fixed amount based.

The researchers found that rural hospitals (regardless of payment model) had consistently lower rates of availability to comprehensive oncology, chemotherapy and radiation therapy over time. Even rural areas that had a local hospital were not likely to have access to cancer specialty

services.

Though Critical Access Hospitals were more likely to provide cancer services than similarly sized rural hospitals employing Prospective Payment Systems, the trend toward providing cancer services at Critical Access Hospitals has declined over time. Thus, these especially designated hospitals, which were designed to maintain access to rural healthcare through its improved financial viability and now comprise more than half of the nation's rural hospitals, rarely provide cancer treatment services in rural communities.

"The time period between 2008 and 2017 saw significant improvements in cancer care and treatment—including better imaging technology for radiation therapy as well as innovative and less invasive procedures—to reduce cancer morbidity and mortality nationwide," Hung says. "However, this study has revealed an unequal distribution of cancer services between urban and rural areas, which is likely to exacerbate treatment and survival disparities in these populations. Whether these trends continue will depend in part on current cancer reimbursement policies and future health reforms efforts."

More information: Peiyin Hung et al, Trends in Cancer Treatment Service Availability Across Critical Access Hospitals and Prospective Payment System Hospitals, *Medical Care* (2021). DOI: 10.1097/MLR.0000000000001635

Peiyin Hung et al, Geographic disparities in residential proximity to colorectal and cervical cancer care providers, *Cancer* (2019). DOI: 10.1002/cncr.32594

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