The lack of broadband penetration in rural America is limiting the impact and adoption of telehealth services in counties that may need them the most, according to a report published Monday in the Annals of Internal Medicine.

The report found that broadband penetration rates decrease as counties become more rural, and those areas that also lack sufficient access to primary care physicians and psychiatric services have some of the worst broadband access in the country.

While telehealth may improve treatment access in rural counties with a short supply of health care specialists and a high rate of hospital closures, the report states that the "substantially lower" access to broadband is limiting the adoption of telehealth in rural America.

"Although telemedicine has the potential to address geographic barriers that result from long drive times to receive care, its potential will not be realized until the telecommunications infrastructure improves," according to the report.

The report's authors examined broadband penetration and health care access in three county types: urban, rural and counties with extreme access considerations, a category defined as counties with fewer than 10 people per square mile. The study used the same county definitions as the Centers for Medicare and Medicaid Services.
Broadband penetration is 96 percent in urban counties, 82.7 percent in rural counties and 59.9 percent in counties with extreme access considerations, according to the report. Broadband penetration overall measured at 82.1 percent.

The Federal Communications Commission defines broadband as internet with a download speed of at least 25 megabits per second. Broadband penetration measures the percentage of a county's population that has access to the internet at that speed, according to the report.

The disparity in broadband penetration rates is even higher in counties that lack adequate access to primary care and psychiatric services.

The authors defined health care access according to the standards of Medicare Advantage, government-funded health insurance plans operated by private insurers. According to the report, Medicare Advantage defines adequate access as when at least 90 percent of a county's population live within a specified driving time of a physician. The authors of the report noted that in counties with extreme access considerations, adequate care means at least one physician lives within a 110-minute drive of patients.

According to the report, counties with extreme access considerations that also have inadequate access to primary care physicians have a broadband penetration rate of 38.6 percent, compared to rural and urban counties that have penetration rates of 79.6 percent and 93.9 percent, respectively.

Counties lacking in psychiatric services have a similar trend — urban counties have a broadband penetration rate of 89.6 percent and counties with extreme access considerations have a 49.1 percent penetration rate.
The authors of the report noted that "the inadequate broadband infrastructure in rural areas" is mitigating the benefits that telehealth provides to rural patients. Such benefits include eliminating long trips to hospitals and connecting rural patients with specialists across the country via live video streaming and remote patient monitoring.

Krisda Chaiyachati, the medical director for Penn Medicine's telemedicine urgent care program and co-author on the study, told S&P Global Market Intelligence that telemedicine is typically operated through a health care facility, but telemedicine can potentially bring health care services to patients' smartphones and tablets. However, strict regulation from CMS, such as not reimbursing providers for at-home services and only paying for rural-based providers, is hindering telehealth adoption, according to Chaiyachati.

Expanding CMS payment policies to cover more telehealth services has been a consistent complaint from other health care experts. The CMS recently opened up payment models to pay for certain telehealth services, but speakers at an April telehealth conference in Washington said that more work needs to be done.

Chaiyachati echoed similar concerns, saying CMS has "relaxed" certain payment rules, but the agency could "free up" reimbursement policies even more.

While CMS payment policy changes are necessary, broadband regulations and infrastructure need to be updated, as well, Chaiyachati said.

"Rural health is becoming and will continue to be a major issue moving forward," Chaiyachati added. "Aligning the ability not only of patients to access health care but of also health care providers to provide that care with enhancing the IT infrastructure will be critically important for the delivery of care in these areas."
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