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Underscoring Disparities in Rural Health: Challenges, Solutions for a Long-standing and Growing National Issue

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With systemic health and social inequalities contributing to a lack of health care access and a growing mortality risk among rural Americans, the COVID-19 pandemic has further exacerbated health issues present between community lines. We spotlight several health challenges in these communities and potential solutions to improve the general health of rural populations.

Although systemic health and social inequalities have long existed in rural communities, the COVID-19 pandemic has spotlighted the significant health challenges facing rural Americans who are more likely to have chronic conditions associated with worse COVID-19 outcomes, such as blood pressure and obesity, as well as a greater risk of overall mortality.

Published in *JAMA Network Open*, a study examining the rural-urban disparity in US mortality across 2 decades found that this trend has grown substantially over time, with the absolute difference in age-adjusted mortality rates (AAMR) between 1999 and 2019 rising from 62.3 per 100,000 people to 169.5

per 100,000 people, an increase of 172%.

Moreover, non-Hispanic Black rural residents were shown to have greater AAMRs than all other racial/ethnic groups, with a 12.1% increase in the measure observed for rural residents aged 25 to 64 years.

Conducted prior to the pandemic, this study underscores the susceptibility and social vulnerability present in rural communities that has only been exacerbated in the past year. Notably, the pandemic was recently associated with the largest drop in US life expectancy observed since World War II, in which the worst decline was found in minority groups such as Black and Hispanic people.

Converging Minority, Rural Health Disparities

As rural communities are becoming more racially and ethnically diverse, minority groups that have had historically high rates of chronic conditions, including Blacks, Hispanics, and American Indians, are becoming increasingly exposed to compounded factors that may increase their likelihood of adverse health outcomes. In determining a rural community's vulnerability to COVID-19, the CDC's Social Vulnerability Index accounts for several variables:

- Housing
- Transportation
- Socioeconomic status
- Race and ethnicity
- Language

To improve access to COVID-19 vaccines, several innovative solutions have been implemented in rural communities, ranging from education and scheduling assistance to drive-thru vaccination clinics and door-to-door vaccinations.

Although promising, care and transportation issues have largely gone unaccounted for in regards to general health care. A study published in the American Heart Association's journal *Stroke* assessed the distance a stroke patient must travel to receive care at a certified stroke center, and it found that rural

residents and American Indians travel farthest for such care.

“Stroke is one of the most time-sensitive conditions we treat in medicine. For each additional minute of delay between the start of the stroke and the start of treatment, a patient’s likelihood of a meaningful recovery is decreased,” said senior study author Akash Kansagra, MD, MS, associate professor of radiology, neurological surgery, and neurology at Washington University School of Medicine in St. Louis, in an email exchange with *The American Journal of Managed Care*® (*AJMC*®).

Noting that geographical distribution of stroke hospitals may create a bias against stroke recovery in certain patient groups, Kansagra highlighted the difference in care provided between general hospitals and those who have met established performance benchmarks, which are known to produce better health outcomes.

“We do not just want to treat stroke, we want to treat stroke well. Doing so requires constant practice and hospital willingness to be compared to other hospitals, which is exactly what happens as part of stroke center certification,” said Kansagra.

The study pointed to several of the usual suspects encountered when investigating disparities in health care access, including age, race, income, and insurance. Although factors such as insurance status and race also affected those in urban areas, the impact was felt most prominently in rural populations.

For example, each $10,000 increase in median household income reported in the study was associated with a 0.10-mile longer distance to a certified stroke center for urban communities. Compare this with rural populations, whose distance to travel conversely decreased by 3.13 miles for each $10,000 increase in income, magnifying disparities between the 2 groups.

“The reasons are myriad, but it may just be that the incentives for hospitals are not aligned with the goals of our society. What is especially alarming is that distance to care is just one of many sources of disparity,” added Kansagra. “Some of the

most affected groups have additional social, cultural, and financial barriers to accessing emergency care, not to mention that many of these populations have higher risk of stroke."

Delving deeper into the societal aspect, Rivers Woodward, MD, MBA, a practicing family physician of Blue Ridge Community Health Services, told *AJMC*® that the lack of primary care providers (PCPs) in rural areas is one of the most obvious, yet challenging issues to solve.

"For example, in my state of North Carolina, 80 out of 100 counties currently have a shortage of PCPs according to the [Health Resources and Services Administration's] definition for Health Professional Shortage Areas (HPSAs)," Woodward said via email. "Additionally, for patients who do have access to primary care, if a specialist is needed, it often involves a minimum of an hour drive each way."

With distribution of medical services primarily driven by population density, Woodward said that this naturally results in subspecialists being universally located in urban centers, in which rural patients would have to travel longer distances to receive higher levels of care—an issue that could prove significant for those without insurance and who need timely care.

"Perhaps more insidious in nature is the role that inadequate transportation and care access lead to delays in care—resulting in higher acuity and greater cost of care when the patient finally does come in," explained Woodward. "Assistance in accessing the insurance marketplace continues to be a barrier. I have many patients who have qualified for insurance on the exchange with premiums less than $5 a month and never knew that they could afford health insurance."

Solutions and Future Lessons

Ultimately, a change in national perspective is warranted to create a more equitable health care system, noted Kansagra in the email exchange. With 62% of 1000 surveyed people reporting to be unfamiliar with the term *health equity*, per Healthline Media's TRANSFORM: Health Equity Campaign,

increasing education on its significance and who is affected could work to initiate more rapid change.

“One of the takeaways from my research is that hospitals themselves are not well positioned to address these inequities. After all, why build a hospital in a rural area when one could build another hospital in a densely populated city?.... Relief is needed now. We need to invest in and develop ambulance services in rural areas to serve as a bridge to that day when all Americans live reasonably close to the care they need and deserve,” said Kansagra.

Furthermore, getting to know rural communities could have extensive benefits for physicians in delineating unmet health needs and providing culturally competent and effective care.

“If one has the opportunity to spend time in a truly remote community, the resilience and grit of its inhabitants will undoubtedly surprise. For both better, and worse, the rural spirit is a 'do it yourself and do anything for your neighbor' attitude,” said Woodward. “Combine this stoicism with a long history of rural abandonment and exploitation by urban-centric entities and you wind up with a significant number of people who delay medical care.”

Referencing the effectiveness of COVID-19 vaccine distribution strategies in bringing health care into the communities, Woodward said that providing care in a place that is familiar, such as one’s church, community center, or front yard, can help to begin building relationships and trust.

“Perhaps even more important is to ask these micro-communities what they need to lead healthy lives and to leverage funding for social determinants of health to address self-identified disparities first,” added Woodward.

Because critical gaps in health care access and COVID-19, particularly the more infectious Delta variant, pose a significant threat within underserved communities, timely and attributable interventions are warranted to address health inequities that may differ by location.

“In my state and many others, we continue to have a significant

portion of uninsured patients who fall into the gap that was created by a failure to expand Medicaid in the wake of the Affordable Care Act," said Woodward. "Expanding Medicaid and increasing the distribution of information for how to access affordable care continues to be a need in rural areas."
