A new study from investigators at Brigham and Women's Hospital, a founding member of Mass General Brigham, the University of Virginia School of Medicine, and the University of Pittsburgh, finds that COVID-19 "Test to Treat" sites—clinical centers launched based on a federal initiative to provide free testing, diagnosis, and immediate access to COVID-19 antiviral treatment with Paxlovid—may not be accessible to those who need it most.

The study's findings highlight major disparities in geographical access to these treatment centers, disproportionally affecting rural and American Indian and Alaskan Native communities. Results are published in JAMA Network Open.

"There are clear disparities in spatial access to Test to Treat sites, most notably in several communities which have experienced worse outcomes throughout the pandemic," said lead author Rohan Khazanchi, MD, MPH, a resident in the Brigham's Internal Medicine-Pediatrics Residency Program. "These findings challenge us to consider what opportunities exist for strategic placement of Test to Treat sites in closer proximity to the communities that may need this program most."

This research extends from the Biden administration's March 2022 announcement of the Test to Treat initiative, a public health program which launched one-stop locations where people can receive a COVID-19 test, speak to a clinician, obtain an antiviral prescription, and fill their prescription for free.

While the Test to Treat initiative aims to increase access to care, this research suggests that geography may play a vital role in achieving equity.

"Paxlovid is an oral antiviral which can reduce the risk of hospitalization or death among people with COVID-19 who have key risk factors like elderly age, being unvaccinated or not being up to date on COVID-19 vaccinations, or having one or more high-risk medical conditions," said senior author Kathleen McManus, MD, MSc, an assistant professor of medicine in the UVA Health's Division of Infectious Diseases and International Health.

"Notably, these risk factors are disproportionately prevalent among minoritized and rural communities—some of which, as our study found, may have the poorest geographic access to Paxlovid treatment through Test to Treat sites."

Investigators analyzed published geolocations of 2,227 unique COVID-19 Test to Treat sites from the healthdata.gov website, listed as of May 4, 2022. They then calculated the shortest travel time required from the population center of every census.
tract to reach one of the ten geographically closest sites. Finally, they linked census tract demographic characteristics with calculated driving distances to determine the national proportions of each demographic subgroup residing within a certain driving distance to each site.

Their results revealed that 15% of the United States population and 59% of rural residents lived more than a 60-minute drive from the nearest Test to Treat site. Further breakdown by age and race/ethnicity revealed that 17% of elderly people, 30% of American Indian and Alaskan Native people, 17% of white people, 8% of Hispanic people, and 8% of Black people lived more than 60 minutes away from the nearest site.

American Indian and Alaskan Native populations had persistently longer drive times after accounting for rurality, suggesting they are uniquely isolated from antiviral access despite bearing a disproportionate COVID-19 burden.

Researchers also found that Asian, Black, and Hispanic populations live closer to Test to Treat sites on average than white, American Indian or Alaskan Native populations, suggesting that these populations had better geographic access. Khazanchi emphasizes, however, that this is not necessarily a sign of equity, given the clear national data showing that these same populations are still less likely to receive outpatient COVID-19 therapeutics compared to white individuals.

"I think this speaks to a broader point that, to really achieve equity, solely placing a site in the right community doesn't automatically solve problems with access to care," said Khazanchi. "There's still intentional education, outreach and communication that you have to do on top of that to build trust in marginalized communities and ensure that medications are getting to the people who need them most."

"This study is our team's second that examines the geographic accessibility of interventions related to the COVID-19 pandemic," said McManus.

"Our first study [in the Journal of General Internal Medicine in 2021] examined geographic access to COVID-19 biomedical therapeutic clinical trials, and we found a similar issue: geographic accessibility for subpopulations did not translate into representation in clinical trials. Black and Hispanic people were underrepresented in COVID-19 therapeutic trials, which was striking given their relative geographic proximity to trial sites and disproportionate hospitalization rates for COVID-19."

While measuring driving time offered researchers a concrete tool to assess an individual's proximity to Test to Treat sites, Khazanchi stresses that driving time is not a universal measurement of access. He explains that in urban areas, where many people depend on public transportation or may not own a vehicle, measuring spatial accessibility becomes much more complicated.

As COVID-19 disparities persist and new and existing variants surge, researchers continue to investigate how to advance health equity across multiple dimensions, with a shared goal of bringing testing and treatment to those who need it most. An example of this can be found in the work being done at Mass General Brigham, where data from the Community Care Vans initiative demonstrated the effectiveness of bringing COVID-19 health care services to where people need them most.

"The latest CDC data reaffirms that racial and ethnic disparities in treating COVID-19 with Paxlovid have persisted despite well-intentioned policies," said Utibe Essien, MD, MPH, an assistant professor of medicine at the University of Pittsburgh and a co-author of the study. "Our findings, and these continued disparities, show that we have to address long-standing structural barriers to achieving pharmacoequity, including Internet access for telemedicine services, limited transportation, and language barriers."


Rohan Khazanchi et al, Inequities in the Geographic Accessibility of COVID-19 Biomedical Therapeutic Trials in the United States, Journal of