

Analysis identifies disparities in pediatric primary care accessibility in multiple states

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An analysis of pediatric primary health care accessibility and availability in multiple states that uncovered systematic disparities between and within states was presented today at a session of the 2015 Joint Statistical Meetings(JSM 2015) in Seattle.

During an invited presentation titled "[Quantifying Disparities in Accessibility and Availability of Pediatric Primary Care with Implications for Policy Making](#)," statistician Nicoleta Serban said the study shows disparities in wait times for [pediatric primary care](#) are not as significant as the disparities in travel distance. It also shows both rural and urban communities are in need of improvements in accessibility or travel distance for publicly insured children, although at varying levels across states.

Serban is associate professor in statistics at Georgia Tech. She collaborated on the study with Monica Gentili, visiting assistant professor in optimization, and Julie Swann, professor in operations research, both at Georgia Tech.

While affordability or the ability to pay has been the primary focus of the Patient Protection and Affordable Care Act (ACA), it is not the only impediment to improving health care of the nation's population. "Health care services also need to be accessible within reasonable travel time and available with reasonable wait times," said Serban during her presentation.

In the study, accessibility is defined as how long in distance and/or time it would take a person to reach their chosen [health care provider](#).

Availability is defined as the opportunity for patients to choose among different [health care services](#) providers.

Serban and her colleagues examined pediatric primary care services in seven states—California, Georgia, Louisiana, Minnesota, Mississippi, North Carolina and Tennessee—that were selected for their different approaches to implementing the Medicaid program and the Children's Health Insurance Program (CHIP), as well as their varying sizes and demographics. Medicaid and CHIP are federal-state partnership programs that help low-income families secure affordable health care coverage for their children.

The study population consisted of more than 9 million children in approximately 16,500 census tracts served by a network of more than 20,000 [health care](#) provider locations with about 66,000 individual and group providers.

They analyzed systematic disparities of accessibility and availability at the census tract level and conducted a systematic geographic analysis within and between states across different urban levels and compared care accessibility for publicly insured versus privately insured children.

Among the study's key findings are the following:

- **Accessibility versus Availability**—While concerns about the availability of primary care providers have been expressed within recent health policy, the study found the disparities in availability for pediatric primary care are not as significant as the disparities in accessibility.
- **Accessibility**—All states except Minnesota have a statistically significantly higher median distance than California for the

publicly insured population and all states have a statistically significantly higher median distance than California for the privately insured population. The median distance for the privately insured population in North Carolina is statistically significantly higher than in all other states except Tennessee and Minnesota.

- **Availability**—Mississippi has a statistically significantly higher median congestion (longer wait times) than all other states for the publicly insured. All states except Minnesota have a statistically significantly higher median congestion than Louisiana for the publicly insured population, and all states except Tennessee have a statistically significantly higher median congestion than Louisiana for the privately insured.
- **Level of Disparities**—Although disparities between states exist, they are not significant when considering intervention levels of a difference equal to one mile in travel distance or a difference equal to 10% in congestion. This is an important finding because many disparity studies only have drawn inferences at zero absolute differences between states or between population groups.
- **Urban versus Rural Disparities**—Contrary to some beliefs, both rural and urban communities are in need of accessibility improvement for publicly insured children at varying levels across states.
- **Public versus Private Insurance**—In general, publicly insured children experience lower access than privately insured children; however, the difference in accessibility is more than one mile in only a subset of states, more often in rural areas, and the differences in availability are less systematic with significant differences mostly in rural areas.

The study also identifies where to target interventions within a state, which census tracts as proxies for communities have the highest need for

interventions and at what level of improvement. For example:

- California has the greatest potential to improve access for publicly insured children because it has the largest percentage of communities (approximately 35%) with a travel distance of more than two miles than the privately insured children, while also having a dense care network, since the median distance traveled by the privately insured is one mile. Policy interventions for incentivizing providers to accept public insurance could improve access for the publicly insured.
- Incentivizing providers in states such as Mississippi would not generate the same result as in California since access for privately insured children also needs improvement. Network interventions such as mobile clinics, telehealth or new community-based clinics (even those operated by mid-level providers) could reduce disparities in access for all children for those states with higher travel distances for both privately insured and publicly insured children.
- For other states such as Georgia and North Carolina, census tracts with high accessibility are geographically clustered, especially in urban areas, while being significantly worse for publicly insured children in some of those same areas. For some [states](#), communities with worst availability are spread throughout the state. These findings suggest implementing locally targeted interventions combining both policy interventions for improving public insurance acceptance by existing providers and network interventions (e.g., telehealth, mobile clinics).

"We believe policymakers at both the federal and state levels can use this study's findings to enact targeted policies that will address the care accessibility and availability disparities we have identified," said Serban. "The study highlights which geographic areas are in need of improvements to pediatric primary care access for not only publicly

insured children, but also privately insured children living in communities with little access to such care."

Provided by American Statistical Association

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