

Collecting Big Data to Eliminate Rural Health Disparities

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As part of a six-year study, researchers will collect big data to better understand rural health disparities.

Among the many gaps in care that pervade the medical industry, rural health disparities are some of the most prevalent.

For individuals living in rural parts of the country, geographic isolation, limited access to healthcare, and higher rates of poverty all contribute to worse health outcomes – putting rural residents behind their urban counterparts in terms of health and well-being.

In a 2020 [study](#) published in *Health Affairs*, researchers found that higher rural mortality at the state level is strongly linked to socioeconomic status, patient care access, and lack of health insurance. The results demonstrated that these three variables accounted for 81.8 percent of the total variance of mortality among rural populations.

Now, a new initiative is seeking to collect big data on individuals in rural areas to understand and alleviate these health disparities. The Risk Underlying Rural Areas Longitudinal (RURAL) cohort study [is working](#) to address critical gaps in knowledge of heart and lung disorders in rural counties in the southeastern US.

“There are some health disparities that persist among Americans living in rural settings,” Peter Durda, PhD, Faculty Scientist at the Larner College of Medicine at the University of Vermont and co-investigator of the study, told *HealthITAnalytics*.

“Forty-six million people in the US are living in rural settings – that’s one in six. We wanted to look at ten different counties in the rural South. These counties are matched based on socioeconomic status and general health, but their health outcomes are drastically different. Looking at these counties, we’re hoping that we can have some insight into what the issues are with rural health, and understand how to help these people live better, longer lives.”

The overall goal of the study is to promote and support the health of rural communities.

“This is a large epidemiological study examining 4,600 people over six years. Rural access to care is always an issue, and our goal is to try to understand these problems,” said Durda.

“By understanding the health issues these individuals have, perhaps we can help encourage those agencies responsible for healthcare to provide increased access in rural areas.”

The study will be led by researchers from 16 different institutions across the US, and will focus on ten rural counties in Alabama, Kentucky, Louisiana, and Mississippi. The research will involve collecting various [data points on rural populations](#), including blood count data, to better understand risk and resilience factors that may be specific to members of rural communities.

“We’re looking at a lot of things in this study. We have a mobile examination unit, in which people will participate in questionnaires regarding their health history, behavioral history, and socioeconomic status. Our mobile unit has a CT scanner, and we’re doing all the labs on the mobile units. This will help us obtain an overall picture of the health of these individuals,” said Durda.

“Currently, the mobile examination unit is being finished up in California. It’s a 53-foot-long trailer containing the labs, an interview room to put participants, and a mobile CT scanner as well. That will be transported to Alabama, and we hope to see the first participants in Alabama in April. We’ve been pushed back because of the pandemic, so we’re about a year behind where we should be, but we should be seeing participants by April.”

The RURAL effort is also committed to include community-based organizations and participants at every stage of the research, with the team working alongside local leaders and community organizers.

“There is a lot of community involvement in this project. Since these individuals are not usually ones that would be in a study and may have questions or concerns about the study, we have partnerships with community healthcare workers and people they trust so that we can engage the participants and get them on board,” said Durda.

“Participants will also get a Fitbit and a cellphone as part of the study so that we can track their data and analyze that kind of information as well. The mobile phone will also be used for questionnaires and future surveys.”

RURAL researchers will share county-specific results with community organizations and other groups in the network, which will help guide future programs to improve health in local areas. As data becomes available throughout the study period, all rural communities will have access to county-level findings.

“It’s a really comprehensive study. After Alabama, we’ll move on to Mississippi, Louisiana, and Kentucky, over a period of about five years,” said Durda.

“Individually, some of the data we get will be returned to participants, but mainly it’s a population-based study. The results from that should encourage greater research into these problems.”

Ultimately, the study will aim to eliminate the [health disparities](#) that persist among people living in rural parts of the country.

“Our overall goals are to improve the health of the people in the United States – that’s what we hope to do with this study. By focusing on this, we expect to better understand the disparities in health outcomes in these rural populations, and make changes so that these people can have healthier lives,” Durda concluded.

