

# Health disparities within rural communities in the southern region of the United States

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## ABSTRACT

This poster discusses health disparities within rural communities, including those related to race, ethnicity, and socioeconomic status. A literature search was conducted using pre-identified search terms to identify relevant publications from the past 10 years. Results revealed that nonmetropolitan households had less digital access and were more likely to be uninsured. Universal policies and procedures geared toward at-risk populations reduced health disparities. Rural residents were more likely to exhibit healthcare avoidance behaviors and lack confidence in personal health care. Rural areas had fewer physicians and poorer health, and disparities in personal income and finances were associated with higher infant mortality rates among black populations. These disparities are impacted by factors such as digital access, socioeconomic status, race/ethnicity, and beliefs about mental health. The study highlights the need for equity in healthcare across all communities, particularly in rural areas where access and quality are declining.

## INTRODUCTION

Historical studies have shown that health disparities exist between urban and rural communities, however additional disparities are also known to exist within rural communities as well. These include health disparities between races, ethnicities, and socioeconomic statuses, among others. While the disparities between urban and rural communities have been researched and described more extensively, there is a paucity of information available about the disparities that exist within rural communities. Our goal in this research initiative was to characterize the disparities that exist within rural communities by examining the findings of several publications that sought to describe this phenomenon in the past.

## MATERIAL AND METHODS

Protocols evaluated current research studies and identified areas where research was scarce, or nonexistent. Following this evaluation, a literature search was performed using PubMed with the goal of locating and utilizing papers from the last 10 years on the specified topic. Queries were used for pre-identified search terms, which aimed to include the entire range of this topic: 'rural', 'health', 'disparities', 'minority', 'mental'. Inclusion criteria for the literature review included mention of health disparities in rural areas, and that data were from the United States. Exclusion criteria included if data were from a country outside of the United States, or if there was no discussion of rural health. Results of the initial literature search were reviewed manually, and the inclusion and exclusion criteria were applied at that time.

## RESULTS

The results of this study reveal that nonmetropolitan households were less likely to have digital access which greatly contributed to being uninsured. These results also show that universal policies and procedures geared toward at-risk populations drastically reduced health disparities among these communities. An odds ratio of 1.69 based on a bivariate analysis revealed that rural residents were most likely to exhibit healthcare avoidance behaviors and an odds ratio of 2.24 was indicative in the lack of confidence in personal health care. Furthermore, rural areas were less likely to retain physicians and more likely to have residents with poorer health. Stressful living environments and broader community held beliefs were shown to impact perceptions of mental health and served as a barrier to seeking health. Disparities such as personal income and finances served as estimated predictors of 38.8% of microbial taxa. Such disparities were associated with higher infant mortality rates among black populations and were highest in rural counties.

## CONCLUSION

This study was done to compile data from different studies and reports to prove that there is a need for equity amongst healthcare in all communities throughout the southern United States region. There is a significant decline in both the access and quality of healthcare in rural communities in this region. Multiple challenges exist due to several factors such as socioeconomic status, digital access, race/ethnicity and many other secondary resources that may need to be acquired in order to access necessary quality healthcare.

## REFERENCES

- Amato, K. R., Arrieta, M., Azad, M. B., Bailey, M., Broussard, J. L., Bruggeling, C. E., Claud, E. C., Costello, E. K., Davenport, E. R., Dutilh, B. E., Ewald, H. a. S., Ewald, P. W., Hanlon, E. C., Julion, W., Keshavarzian, A., Maurice, C. F., Miller, G. E., Preidis, G. A., Ségurel, L., . . . Kuzawa, C. W. (2021). The human gut microbiome and health inequities. *Proceedings of the National Academy of Sciences of the United States of America*, 118(25). <https://doi.org/10.1073/pnas.2017947118>
- Curtis, M. E., Clingan, S. E., Guo, H., Zhu, Y., Mooney, L. J., & Hser, Y. (2021). Disparities in digital access among American rural and urban households and implications for telemedicine-based services. *Journal of Rural Health*, 38(3), 512–518. <https://doi.org/10.1111/jrh.12614>
- Haynes, T., Cheney, A. M., Sullivan, J. P., Bryant, K., Curran, G. M., Olson, M. K., Cottoms, N., & Reaves, C. (2017). Addressing Mental Health Needs: Perspectives of African Americans Living in the Rural South. *Psychiatric Services*, 68(6), 573–578. <https://doi.org/10.1176/appi.ps.201600208>
- James, C. V., Moonesinghe, R., Wilson-Frederick, S. M., Hall, J. C., Penman-Aguilar, A., & Bouye, K. (2017). Racial/Ethnic Health Disparities Among Rural Adults — United States, 2012–2015. *Morbidity and Mortality Weekly Report*, 66(23), 1–9. <https://doi.org/10.15585/mmwr.mm6623a1>
- Long, A., Hanlon, A. L., & Pellegrin, K. L. (2018). Socioeconomic variables explain rural disparities in US mortality rates: Implications for rural health research and policy. *SSM-Population Health*, 6, 72–74. <https://doi.org/10.1016/j.ssmph.2018.08.009>
- Morales, D. A., Barksdale, C., & Beckel-Mitchener, A. (2020). A call to action to address rural mental health disparities. *Journal of Clinical and Translational Science*, 4(5), 463–467. <https://doi.org/10.1017/cts.2020.42>
- Purnell, T. S., Calhoun, E. A., Golden, S. H., Halladay, J. R., Krok-Schoen, J. L., Appelhans, B. M., & Cooper, L. A. (2016). Achieving Health Equity: Closing The Gaps In Health Care Disparities, Interventions, And Research. *Health Affairs*, 35(8), 1410–1415. <https://doi.org/10.1377/hlthaff.2016.0158>
- Spleen, A. M., Lengerich, E. J., Camacho, F., & Vanderpool, R. C. (2014). Health Care Avoidance Among Rural Populations: Results From a Nationally Representative Survey. *Journal of Rural Health*, 30(1), 79–88. <https://doi.org/10.1111/jrh.12032>
- Vilda, D., Hardeman, R. R., Dyer, L., Theall, K. P., & Wallace, M. (2021). Structural racism, racial inequities and urban–rural differences in infant mortality in the US. *Journal of Epidemiology and Community Health*, 75(8), 788–793. <https://doi.org/10.1136/jech-2020-214260>

National Institute on Minority Health and Health Disparities Research Framework

		Levels of Influence*			
		Individual	Interpersonal	Community	Societal
Domains of Influence (Over the Lifecourse)	Biological	Biological Vulnerability and Mechanisms	Caregiver–Child Interaction Family Microbiome	Community Illness Exposure Herd Immunity	Sanitation Immunization Pathogen Exposure
	Behavioral	Health Behaviors Coping Strategies	Family Functioning School/Work Functioning	Community Functioning	Policies and Laws
	Physical/Built Environment	Personal Environment	Household Environment School/Work Environment	Community Environment Community Resources	Societal Structure
	Sociocultural Environment	Sociodemographics Limited English Cultural Identity Response to Discrimination	Social Networks Family/Peer Norms Interpersonal Discrimination	Community Norms Local Structural Discrimination	Social Norms Societal Structural Discrimination
	Health Care System	Insurance Coverage Health Literacy Treatment Preferences	Patient–Clinician Relationship Medical Decision-Making	Availability of Services Safety Net Services	Quality of Care Health Care Policies
Health Outcomes		Individual Health	Family/Organizational Health	Community Health	Population Health

National Institute on Minority Health and Health Disparities, 2018  
\*Health Disparity Populations: Race/Ethnicity, Low SES, Rural, Sexual/Gender Minority  
Other Fundamental Characteristics: Sex/Gender, Disability, Geographic Region

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