



# A Systematic Review: Rural Health Disparities During the COVID-19 Pandemic in the United States



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## Background

There are approximately 40 million U.S residents who reside in rural areas, making up 14% of the nation’s population. While there are noticeable geographical and spatial differences when comparing both urban and rural areas, there are also vastly different health outcomes associated with each area.

The health of rural Americans has been significantly poorer than their urban counterparts due to various factors such as geographic isolation, lower socioeconomic status, poor health literacy, and broadband internet access for decades.

Key indicators such as geographic isolation, health literacy, broadband access, mental health, substance use, socioeconomic status, and chronic disease should be considered for improving healthcare in rural communities

**The goal** of the current project is to understand the impact of COVID-19 on preexisting rural health disparities using the key indicators previously described while examining all new relevant challenges to rural health. We also seek to determine the efficacy of rural health resources available to these communities.

## Methods

A PubMed literature review was conducted using the search terms: “COVID-19”, “Rural”, “Preventative Measures”, “Heart Disease”, “Diabetes”, “Substance Use”, “Access to Healthcare”, “Telehealth”, “Mental Health” and “Vaccines”.

An excess of fifty-four articles were generated; the quality of the studies and the results were analyzed.

## Objective

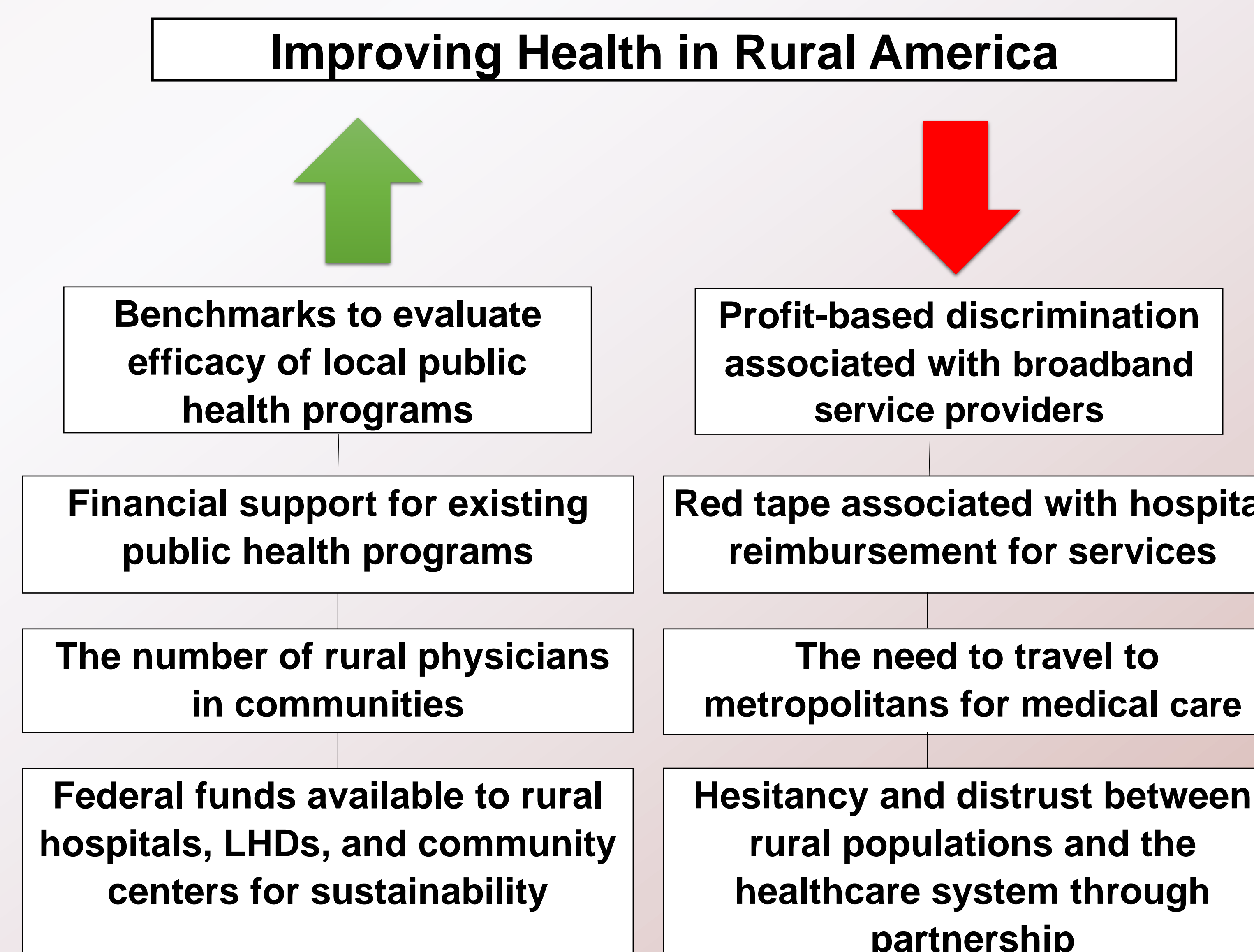
Conduct a systematic review of the literature to evaluate the effect of the COVID-19 pandemic on rural populations both at the individual and community level.

## Results

**Table 1: Systematic review of key indicators for rural health disparities during the COVID-19 pandemic**

Key Indicator	Sources	Key Indicator	Sources
Geographic Isolation	Dobis et al., 2021 Chapman et al., 2022	Substance Use	Lambert et al., 2008, Oser et al., 2011 Bond Edmond et al., 2015, Calcaterra et al., 2019, Stack et al., 2021
Health Literacy	Eng et al., 1998, Berkman et al., 2011, Neter et al., 2012, Kelley et al., 2016, Chen et al., 2019	Chronic Disease	Verdejo et al., 2015, Doogan et al., 2017, Garcia et al., 2019 Buettner-Schmidt et al., 2019, Okobi et al., 2021, Dugani et al., 2021, Khan et al., 2021, Kegler et al., 2022
Broadband Access	Prieger et al., 2003, Reddick et al., 2020, Julien et al., 2021, Pollard et al., 2021, Zahnd et al., 2022	Rural Health Resource Disparities	Harris et al., 2016, Dauner et al., 2021
Socioeconomic Status	Hotez et al., 2008, Bailey et al., 2014, Williams et al., 2018, Saint Onge et al., 2020, Leider et al., 2021, Chapman et al., 2021, Snowden et al., 2021, Kurani et al., 2021	COVID-19 & Rurality	Summers-Gabr et al., 2020, Hirko et al., 2020, Cacari Stone et al., 2021, Callaghan et al., 2021, Sood et al., 2021, Mueller et al., 2021, McElfish et al., 2021, Dobis et al., 2021, Hirsch et al., 2022
Mental Health Status	Roberts et al., 1999, Brenes et al., 2015 Bean et al. 2021		

## Significant Findings



## Conclusions

- Rural communities were disproportionately affected by COVID-19 compared to their urban-counterparts
- Rural Americans who were younger, belonged to an underrepresented minority, or had a lower socioeconomic status were most vulnerable to COVID-19.
- Rural communities were shown to be understaffed and unequipped to handle the volume of COVID-19 cases
- Indicators such geographic isolation, broadband internet and resource disparities interferes significantly with healthcare accessibility
- Changes at the macro-level can ultimately improve the overall health of rural Americans while decreasing the gap in health disparities.