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Abstract

Context

A disaster is indiscriminate in whom it affects. Limited research has shown that the poor and medically underserved, especially in rural areas, bear an inequitable amount of the burden.

Objective

To review the literature on the combined effects of a disaster and living in an area with existing health or health care disparities on a community’s health, access to health resources, and quality of life.

Methods

We performed a systematic literature review using the following search terms: disaster, health disparities, health care disparities, medically underserved, and rural. Our inclusion criteria were peer-reviewed, US studies that discussed the delayed or persistent health effects of disasters in medically underserved areas.

Results

There has been extensive research published on disasters, health disparities, health care disparities, and medically underserved populations individually, but not collectively.

Conclusions

The current literature does not capture the strain of health and health care disparities before and after a disaster in medically underserved communities. Future disaster studies and policies should account for differences in health profiles and access to care before and after a disaster.

**Keywords:**disaster, health disparities, health care disparities, medically underserved, surge capacity

A disaster is indiscriminate in whom it affects, but limited research has shown that poor and medically underserved people, especially people residing in rural areas, bear an unequal amount of the burden.[1](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R1)–[7](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R7)Rural communities nationwide disproportionately suffer from a lack of public health infrastructure.[8](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R8)–[11](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R11) In a disaster, continuity of care is often disrupted, leaving behind the vestige of a fragmented primary and mental health infrastructure.[2](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R2)–[4](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R4),[7](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R7),[12](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R12)–[14](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R14) This situation is especially distressing for medically under-served areas struggling with persistent health and/or health care disparities. Disasters themselves can catalyze new or exacerbate existent disparities in health and health care within the affected population. We define *health*and/or *health care disparities* as differences in health and health care availability across diverse populations.[15](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R15) There is limited information on the impact of disasters on access to health care, use of health care services, and the exacerbation of health disparities in medically underserved areas.

Medical resource–poor communities can be labeled as medically underserved areas. Medically underserved areas are currently indexed by the US Department of Health and Human Services Health Resources and Services Administration based on inherent disparities in the following: (1) health care provider to population ratio, (2) infant mortality rate, (3) the percentage of population living at less than 100% of the federal poverty line, and (4) the percentage of the population aged 65 years or older.[16](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R16),[17](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R17) For this article, we use medically underserved areas as an indicator for health care disparities. Medically underserved areas are low-income areas that demonstrate insufficient primary medical care coverage and are often located in rural communities.[3](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R3),[16](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R16),[18](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R18)–[23](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R23)

In 2007, roughly 20% of Americans experienced delayed access or were unable to obtain access to medical care[24](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R24); since then, access for insured and uninsured people has declined. Persistent unmet needs and delayed care contribute to underlying health disparities in communities, especially among vulnerable populations. Disparities in need and deferred care pose serious threats to health for disaster victims.

Rural areas are likely to carry an inequitable amount of the burden of health care disparities and are home to a unique set of health care disparities. These disparities contribute to the inadequate provision of basic health care services that arise from fewer medical facilities, a minimal number of providers, fewer specialty practices, and a lack of accompanying technical innovations.[19](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R19)–[21](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R21),[25](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R25)–[27](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R27) In rural medically underserved settings, people experiencing barriers to primary health care tend to be low income, people of color, underinsured or uninsured, less educated, and unemployed.[24](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R24),[28](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R28)–[35](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R35) Nearly a quarter of the US population lives in rural areas, and more than 20% of rural residents are living at or below the US poverty line.[28](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R28),[33](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R33)Rural communities are faced with a myriad of health care disparities, each posing as a barrier to timely response and complete recovery from a disaster, including insufficient public health infrastructure.[7](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R7),[9](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R9),[28](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R28),[36](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R36)Reports show that rural areas experience disproportionate access to adequate medical care. These reports have informed an emerging literature revealing that health care disparities have been a persistent understudied and underaddressed issue.[1](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R1),[15](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R15),[37](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R37),[38](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2875675/#R38)