

**Evaluating Rural Healthcare Disparities and Applying Public Health Interventions**

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### Abstract

Many people in the United States of America live in rural areas. Out of the 330 million people that live in the United States 65 million live in rural districts (Leider et al., 2020). This is why it is important to address the existing health disparities in regions where large populations are being affected and have poorer health than urban residents. For instance, rural residents' mortality and morbidity rate is higher no matter the economic status compared to urban residents. There have been many studies performed that have determined factors of why the mortality rate is higher. The results are barriers in geographic dispersion, cost and insurance, and provider shortage. These barriers affect the quality of care and access for occupants causing them to be sicker and not recover from illness compared to urban occupants. However, the discipline of public health has different strategies to protect communities' health status. This paper will discuss different public health solutions, such as Medicaid programs, expanding telehealth, Public Health Departments, using the Health in All Approach, and implementing partnerships in rural communities. These possible solutions will hopefully close the gap and allow many people to benefit from the strategies, not just one person. Scholarly articles were used to gather information about rural healthcare and understand how public health strategies can benefit rural communities. These sources also suggested solutions and helped with the process of coming up with new ways to approach barriers. This paper will hopefully lead people in the right direction to address disparities and better health outcomes for rural populations.

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## Introduction

Rural areas face many healthcare disparities such as access, affordability, and quality of care. These factors affects the rural occupants' health status so significantly that their morbidity rate and mortality rate are higher than the occupants that live in urban areas. One of the factors of access is geographic dispersion. Healthcare facilities can be miles away from occupants, making them unavailable for some due to not having the means to travel. This is synonymous with another barrier, which is affordability. The cost is not only to go to these facilities but to pay for the care when you can go. Insurance and economic status will be discussed to illustrate why this is an issue. Quality of care is also a concern due to understaffing, especially in specialty care. Rural services lack the advanced technology to help patients receive early treatment. This is especially unfortunate because of their social factors, such as smoking prevalence is high in rural areas (Coughlin et al., 2019). This means many residents suffer from cancer, like lung cancer. However, they have less access to interventions, such as screening so the delay in treatment leads to poor outcomes, including death. All these disparities are possibly affecting 46.2 million to 59 million people because that is how many people live in non-metropolitan areas in the U.S (Coughlin et al., 2019). However, possible implementations like partnering with local organizations and using the Health in All Approach can counter these disparities. Having a public health department in the community that can provide education, and immunization will help lower morbidity and mortality rates. Applying Medicaid programs that provide better coverage for health services can expand availability as well. Advanced communication technologies, such as telehealth can improve quality because rural healthcare providers and specialists can support rural patients in real time through online exchanges (MacQueen et al., 2017). These solutions can possibly benefit the health status of approximately 46 million people

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or the equivalent to nearly one in five people in the United States who live in rural areas (Golembiewski et al., 2022). This paper evaluates health disparities in rural areas and describes public health strategies to improve conditions.

### **Methods**

The information gathered in this paper is from a collective of databases. These databases include Google Scholar, PubMed, and East Carolina University Database. In these databases search bars, the keywords used were "rural healthcare," "disparities," "public health," "solutions," "issues," "health insurance," "access," "barriers," "health in all approach," "telehealth," and "urban healthcare." All of the sources found using these keywords were scholarly articles that were written by credible authors. The method used to distinguish important information was based on the thesis statement components of rural healthcare facilities' overall availability, quality, and potential public health strategies to counter issues suggested. The information retrieved included qualitative and quantitative data from executing a variety of types of studies. Additionally, the articles include what led it to this status, such as disparities. Lastly, possible solutions that could close the gap.

### **Background**

Rural healthcare is the health services that people in rural areas receive. Compared to urban areas, rural communities face higher poverty rates, lower educational attainment, lack of transportation, a higher proportion of elderly individuals, and lack of access to health services (Coughlin et al., 2019). Poverty levels contribute to the affordability of care, such as insurance, and social behavior that can impact their health. An example is residents buying cheap food that tends to be unhealthy, which raises their risk of diseases such as coronary heart disease and

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diabetes. Diabetes is 17% higher in rural areas than in urban areas. Since there are more older people living in rural areas, health age-related conditions are being recorded, which contributes to morbidity and even the mortality rate being higher (Coughlin et al., 2019). There are not that many resources, such as technology and research, being implemented in rural health services that can lead to public health interventions. This causes a lack of knowledge and connections that leads to unsolved health problems. One example is physicians not being able to get in contact with their patients to see what's wrong because they do not have telehealth established. Another example is a provider not being able to diagnose them because they do not have the diagnostic tools needed. These two circumstances can lower the quality of care the patient receives and put the patient's health at risk. The lack of research in rural healthcare is also putting rural dwellers at a disadvantage in improving and advancing their health rates as urban dwellers are doing, causing the population to be left behind.

In the 1700s, public health began to take place in urban areas of the United States due to sanitation issues and communicable diseases promoted by large populations (Meit & Knudson, 2009). However, infectious diseases transferred to rural areas once transportation advanced in the late 1800s, leading to a need for rural public health services. Therefore, local governmental public health began to expand to rural areas in 1908. The Hill-Burton Act in 1945 helped fund the construction of community hospitals and rural health focused on ensuring access to healthcare services. There was a decrease in morbidity and mortality from infectious diseases, which led to a change in the population's age distribution. This caused the local health department's focus to shift to not only the prevention of onset illness but also the progress of illness in 1950. A study interviewed public health and healthcare professionals from across

Kansas perceptions of barriers to public health and they mentioned a lack of accessibility and affordability to health services.

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### **Challenges in Rural Healthcare**

One expected issue is access due to geographic dispersion. Rural residents generally live farther away from health services than people living in urban areas. This is especially unfortunate because there is usually a lack of public transportation in non-metropolitan areas in the U.S. So, rural residents do not typically have the ability to receive routine check-ups and see that a resident has high-risk factors for a disease or be able to see early signs of illness. This means that providers are not able to apply preventable approaches or be able to provide treatment early for their diseases. This is a significant factor in the morbidity rate and why it is much higher than in urban locations. In terms of the mortality rate being affected, there are residents who are not able to go see their doctor or visit a hospital when they are ill, so they die from their disease or poor condition being untreated, leading to a high mortality rate.

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One study interviewed rural adult childhood cancer survivors and found that many traveled to larger cities for care (Cyr et al., 2019). They also discovered that living further away from a treatment center contributed to them being more likely to be diagnosed at more advanced stages, and it is taking longer to complete treatments, and led to poorer outcomes to occur (Cyr et al., 2019). Another study looked at southern HIV treatment facilities and concluded that there were higher prevalence rates of HIV when the median travel times exceeded 60 min. One article described providers' perspectives that work in rural health centers and how they get patients who have had to travel for four hours round trip (Maganty et al., 2023). Sometimes, patients have had to make terrible sacrifices like walking because they could not afford a car and even forfeit a day's worth of income to make their appointment due to the long travel distance (Maganty et al.,

2023). Overall, geographic dispersion can affect their access to care and services that rural patients need, causing them to have poorer health outcomes compared to urban patients.

Secondly, the cost of health services is also a barrier.

One of the reasons is that poverty levels are high in rural areas. This means millions of individuals are struggling to obtain medications, diagnostic

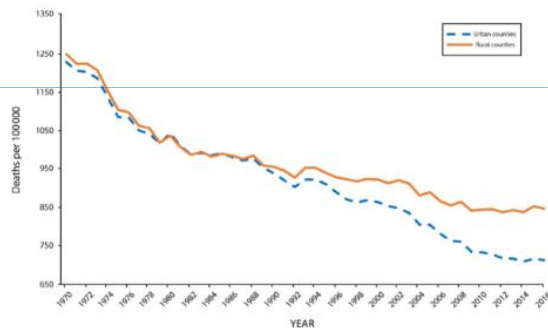


Figure one shows a comparison of rural and urban mortality in the U.S. from 1970 to 2016 (Harrington et al., 2020).

tests, and other treatment methods. One research study learned that even insured patients do not get adequate coverage for health care, such as clinic visits, medications, and other necessary treatments (Maganty et al., 2023). This just leaves patients untreated since they are unable to afford it without the coverage. Additionally, coverage is especially limited in specialty care. So, with the lack of coverage, health facilities are also struggling to provide specialty services. The National Institute of Health (NIH) provided an example of rural areas in Georgia that have too low Medicaid reimbursement rates to continue providing obstetric care (Cyr et al., 2019). Some local specialty facilities and providers even reject Medicaid and other federal assistance programs, so primary care providers have difficulty referring patients to obtain advanced specialty care, such as dermatology and endocrinology.

Thirdly, there is also a provider shortage because healthcare facilities lack financial support, they need to have additional staff for both primary and specialty care. Some providers that do come get burnout because of the number of patients they have to see. Health Affairs published an article describing how detrimental it is to have specialists in the community. Figure two above

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shows, "An increase of one standard deviation in the supply of medical specialists was associated with an 8.3 percent lower mortality rate" (Johnston et al., 2019). All in all, coverage needs to expand in order to provide these patients with the care they need. The quality of care that a staff provides also needs to be improved upon. One study found that

many participants want health care professionals to be more culturally sensitive (Golembiewski et al., 2022). They feel there is a cultural barrier where practitioners are being condescending and do not explain their findings well enough. Insufficient communication can hinder treatment plans and cause harm to the patient. It is important that rural health care centers find the right staff for the community.

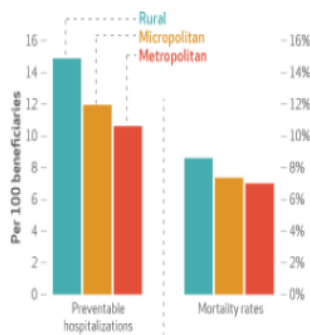


Figure two is from a Medicare Current Beneficiary Survey and shows the significant difference between rural, micropolitan, and metropolitan areas when it comes to preventable hospitalizations ( $p < 0.05$ ) and mortality rates ( $p < 0.01$ ) (Johnston et al., 2019).

### Public Health Solutions

The first solution that can be implemented are local health departments (LHDs). Rural residents have disparities that cause them to have lower socioeconomic status and lower rates of insurance (Beatty et al., 2020). The role of public health agencies shifted to be more focused on population-based public health services. The local health departments aided in providing populations with health improvements by “conducting community health assessments; communicable disease prevention, investigation, and control; population health promotion; emergency preparedness and response; management of vital records and statistics; and environmental health, among others” (Beatty et al., 2020). The LHDs activities represent and

follow the core functions of public health: assessment, policy development, and assurance, which are applied into the 10 Essential Public Health Services. However, these departments are not being used to their full potential and are underfunded by the government. The government needs to invest in the local health department. LHDs are in growing demand due to infectious diseases and bioterrorism, but LHDs need to be able to provide the essential services needed. LHDs collaborating with one another would be helpful to share information and resources. This would be especially beneficial for when there is an outbreak of disease. There needs to be more effort in tracking and reporting health conditions. One study mentioned that the larger LHDs are usually more effective and cost-effective for service delivery. LHD mergers may enhance local public health service delivery.

Another solution that needs to be addressed involves solving the staffing shortage of small rural health centers by partnering with larger health systems that are in the nearby urban areas (Maganty et al., 2023). By having these partnerships, they not only got an increase in staff support but are able to establish an electronic health record system. There also needs to be a program implemented in rural communities to nurture future health care workers in rural communities. Now, most rural communities lack education compared to urban communities. There are also less efficient education opportunities, which is why a health education program that can be called Future Rural Health should be implemented in rural schools to promote going into the health field and advocating to young generations that they are needed. They can provide basic training to highschoolers such as CPR as an extracurricular activity, but they could also provide courses like “Health Team Relations” and “Health Science.” This can be beneficial compared to other programs that do staff recruitment for rural communities because they are attracting more people who want to live in rural environments for the long term. Instead of

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people from urban areas that will only be there for their two-year contract for loan repayment and for taxes (Leider et al., 2020). The communities need programs that will support them in the long run and the way to help ensure that is motivating people early on that have not been to college yet. The rural health care centers need good quality staff that can adhere to rural patients' needs. One source has made a curriculum for nurse practitioner students to take to prepare to practice in rural primary care (Brommelsiek & Peterson, 2020). This includes building the students' knowledge of rural culture and values as well as enhancing their strategy and communication skills. The article reported that students did gain a substantial amount from participating in the course. Expanding this course can better the quality of care the patients receive. For example, if the health care workers can properly communicate with them during an appointment such as a check-up, they could find a diagnosis that needs to be made because they had a good comprehension of what health issues people who live in rural areas struggle with and knew what to look out for. This could then lower the mortality rate because patients are being diagnosed more for their conditions and earlier, which helped their treatment process. Overall, aiding in helping the patients recover instead of dying from curable diseases.

Changing the policies that determine how the system is carried out and executed can also impact the underlying disparities. The government should expand coverage, like Medicaid, to improve access. The rural population does experience more financial strain than urban population as mentioned, which is causing them to have fewer opportunities to get preventive care and treatment. Expanding the coverage can better both aspects of services and care for rural patients. This is especially true since physicians will be able to provide better quality when having more economic stability in their health centers. They can hire more staff in general to cover their population in numbers and also their needs by hiring specialists to work on their

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facilities. A journal explain how certain actions in reforming insurance policies can be beneficial to rural areas, "... such as broadening rating areas, allowing Medicaid or Medicare buy-in, and enhancing consumer support to ensure that individuals are fully taking advantage of subsidies for which they qualify could improve rural insurance markets (Harrington et al., 2020). This could mean providing a transportation fee or a sliding fee, so a patient with financial concerns can still have office visits (Maganty et al., 2023). Overall, accessibility will improve with new insurance policies that will financially support those in need.

An additional solution to address disparities is to ensure that rural dwellers are able to take advantage of telehealth because that can help close the gap in access. According to one study that gathered data on people's perception of telehealth they found that most people found it was beneficial to their healthcare access (Kolluri et al., 2022). This means that the network helped patients that struggled to get to their appointments or services that are hours away. The government should sponsor high-speed Internet access as part of individuals' health insurance when they need it for telehealth. Another way is for communities to get sponsored by telecommunication companies, like T-Mobile.

### **Discussion**

The first barrier that was mentioned was geographic dispersion. It is unjust that people do not get the care that they need just because of where they live. Health care services should be accessible no matter what because everyone needs health care in some form. Traveling for hours is extremely an obstacle for people because of the time and resources they will have to use. These rural residents have jobs they cannot take off for because they need to make money to provide for their family. They also may not have resources like having a form of transport or extra gas money to spare. Since poverty is so prevalent in rural areas, many struggle to pay for the services

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they need, which is why the government needs to develop policies for insurance that expands health coverage. Financial struggles with facilities are causing staffing storage, but also the way the hiring programs are set up is ineffective. They need to start looking at potential health care workers in rural schools, since they are more likely to stay in the area. They will also be more equipped to deal with specific rural health care difficulties because they grew up in that area. This means they will also be better prepared to communicate with patients through telehealth because they are well versed on possible cultural factors.

### Conclusion

In conclusion, although there is worse availability and quality in the rural health care environment there are solutions that can be applied to improve rural areas' healthcare delivery system. There was substantial evidence that there are significant gaps in rural health care compared to urban health care. Due to the way health services are spread out and the insufficient health insurance coverage the availability and affordability was essential to address. Possible solutions that can close the gap are new government policies surrounding healthcare coverage. Finally, the quality of care was addressed with a provider program and excellent monitoring methods such as telehealth.

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