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## Public Health Policy: Internet Access to Advance Health Equity

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**Public Health Policy: Internet Access to Advance Health Equity**

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**Abstract:**

Internet access could be the 21<sup>st</sup> century's great equalizer, interrupting access barriers that negatively impact health. Mississippi reigns as the poorest state in the nation (CB, 2020), with some of the country's worst health outcomes (UHF, 2022), particularly among rural populations. The Community Engagement Center (CEC), one of three Jackson Heart Study (JHS) centers, leverages community partnerships and *connections* to improve public health. In these times of public health crises, *connections* are relevant - that is, *internet connections*. Internet, or broadband, access is the far upstream approach needed to ameliorate the socioeconomic and geographic barriers that eclipse opportunities for health equity among Mississippians. The National Academy of Medicine says it best, "Everyone in this country deserves the opportunity to be healthy and reach their full potential no matter who they are or where they live" (NAM, 2021, para 1). Simply living in the beautiful state of Mississippi should not be an automatic predictor of excess morbidity and early mortality. Mississippi public health advocates must promote increased internet access, to break down long-standing barriers and maximize the health and well-being of all Mississippians.

### Public Health Policy: Internet Access to Advance Health Equity

Internet access could be the 21<sup>st</sup> century's great equalizer – or in public health terms, a root determinant of health equity. Health equity is the opportunity to achieve one's full health potential without socioeconomic interference or impairment (CDC, 2020). As public health resources dwindle in the ongoing COVID-19 battle, policy efforts should invest in far upstream actions that effect the most robust returns on investment. A foundational reality for public health practice is the need to *do more with less*. Mississippi reigns as the poorest state in the nation (CB, 2020), with some of the country's worst health outcomes (UHF, 2022). Geographic and socioeconomic challenges disrupt access to the opportunities that internet service offers. The Community Engagement Center (CEC), one of three Jackson Heart Study (JHS) centers, leverages community partnerships and *connections* to improve public health. In these times of public health crises, *connections* are relevant - that is, *internet connections*. Internet, or broadband, access is the far upstream approach needed to ameliorate the socioeconomic and geographic barriers that eclipse opportunities for health equity among Mississippians.

The social determinants of health reference the circumstances and situations in which people work, play, and live, and ultimately impact health (USDHHS, 2021). Categorically, social determinants include economic stability, education access, health care access, the built environment, and social community contexts (USDHHS, 2021). All of these determinants negatively impact rural Mississippians, contributing to poorer health. More than half of Mississippi's population lives in rural communities (RHIH, 2022a). Limited access to health care, higher rates of uninsured, higher poverty, lower income, and lower high school completion rates, growing health professional shortages and pandemic-related burnout are just a few of the long-standing problems plaguing rural communities (RHIH, 2022b; Wakefield et al., 2022). Improving health in these communities lies dependent on consistent, sustainable access to high quality health care (Wakefield et al., 2022).

The Federal Communication Commission's *Connect2Health* (C2H) program overlaps health and broadband data maps, illustrating links between internet access and health outcomes (FCC, 2017). Less than 65% of Mississippians have broadband access, the lowest proportion in the country (FCC, 2017). FCC (2017) data also cites Mississippi as having the worst ratings among all C2H health indicators. Compared to national statistics, Mississippi's C2H outcomes readily support the theory that lower broadband access equates to poorer health outcomes (See Table 1). Could such an alignment be merely coincidence?

**Table 1. U.S. and Mississippi Connect2Health outcomes.<sup>1</sup>**

	U.S.	Mississippi
<b>Broadband Access</b>	90.4%	64.9%
<b>Diabetes Rate</b>	9.9%	13.6%
<b>Obesity Rate</b>	27.8%	35.2%
<b>Poor/Fair Health</b>	16.1%	21.7%
<b>Physician Access</b>	75.6 per 100,000	53.1 per 100,000
<b>Preventable Hospitalizations</b>	48.7 per 1,000	66.3 per 1,000

<sup>1</sup> Source: Federal Communications Commission [FCC]. (2017). *Connect2Health: Mapping broadband health in America*. <https://bit.ly/3EYSqwZ>

Internet access is a far upstream policy solution that resolves barriers impacting rural health. Increasing internet availability opens doors to telehealth care, automated public health data collection and use, and global education opportunities, ultimately improving health and well-being (Bauerly et al., 2019). Although telehealth stands to greatly increase access to rural

health care, it becomes irrelevant in communities with limited or no internet services. Without internet service, telehealth is non-existent. One of the few benefits of the COVID-19 pandemic has been the accelerated automation of traditionally resource- and time-consuming public health functions, such as contact tracing, data collection, and disaster response. But such automations also depend on internet and cloud-enhanced functionality. Secondary distance education has been around for decades, but the pandemic forced even lower elementary schools to convert to virtual learning formats, laying bare the disturbing inequality in internet access among rural communities. Likewise, the pandemic highlighted the technological limitations of some public health infrastructure, forcing a paradigm shift in public health outreach and communication efforts.

The Jackson Heart Study (JHS) Community Engagement Center (CEC) values and provokes community engagement, at individual and organizational levels. The CEC's *Community Engagement Strategy* and complementary *Communications Plan* leverages resources to communicate health promotion messages, conduct evidence-based programming, and, most importantly, build trust within communities. The plan facilitates delivery of culturally appropriate messages about heart health and healthier lifestyles. Initially, health promotion messaging was primarily delivered via face-to-face interactions, recognizing the personal touch as a trust-building strategy.

At the onset of the COVID-19 pandemic shutdown, disease mitigation strategies pushed the CEC to rethink their approaches, and move towards virtual engagement methods. Unfortunately, virtual engagement plans proved impractical for reaching the most vulnerable Mississippians, with the greatest risk for the worst COVID infection outcomes. Social media efforts and educational materials targeting COVID-19 disparity reduction were developed, but with limited effectiveness in communities lacking internet service. Old school, grass roots strategies such as TV/radio public service messages were deployed, but done at great expense. Community resilience was strengthened by utilizing community-level partners and celebrities, and recognizable community heroes to deliver culturally appropriate information and expand public health's reach to vulnerable populations.

A pandemic lesson learned is the value of mass-communication, health care, and education methods that could be enabled and expanded through increasing internet access. As new COVID-19 variants spread, the recurrent need for social distancing measures to protect our most vulnerable and high-risk groups continues. Public health leaders must be able to communicate with and promote health among all Mississippians. Educators and students must be able to connect in safe and efficient environments. Finally, telehealth poses great potential for providing all Mississippians access to high quality and specialized physical and mental health care. But getting this valuable service to rural communities will be a significant challenge. Internet access is available through hard-wired, cellular, and satellite services – all with both pros and cons. Hard-wired offers the highest speeds with most reliable connection, but laying fiber optic lines down every highway and backroad is impractical. Cellular signals are accessible to wider areas, if enough cellular towers are erected in locations that allow the greatest transmission. Satellite internet has no geographic limitations, but is easily interrupted by poor weather conditions.

Another lesson learned is that internet availability does not automatically equate to consumer uptake. Lack of hardware or software is one explanation. Schools recognized this barrier early in the shift to virtual learning, and leveraged government-provided emergency

funding to distribute laptops and tablets, expand outdoor Wi-Fi hotspots, or issue passwords to district-supported cellular Wi-Fi.

Cost is another barrier to consumer uptake. Monthly service and data fees, whether hard-wired, cellular, or satellite, are prohibitive to many Mississippi households. Accounts are allotted data bandwidth, and when exceeded, either additional fees must be paid to purchase more bandwidth, or do without until the next month's allotment.

Given our heavy forests, wide open farmland, and rolling hill country, Mississippi geography is another explanation for poor consumer uptake. Hard-wired service available at the roadside is not useful in farm and cattle country. Homes are often situated half a mile or more from the road, and the expense of connecting the home to the service line is the financial burden of the homeowner. Cellular service overcomes the distance barrier, although interferences such as metal roofing or walls can diminish cellular signals, and manufactured housing is a popular residential option. Cellular signals are weak in low-lying areas sandwiched between hills. Satellite service often requires trimming and cutting trees to diminish interference with satellite signals.

So how do we solve this dilemma? The American Action Forum (AAF) offers some responsible approaches for states to expand access to broadband (Huddleston & Triska, 2021). AAF suggests getting consumers involved, which would be helpful in understanding what type services works best where among Mississippi's forests, farmlands, and hill country. Start at the least served, most difficult to access spaces first, which could require more resources. The process will then get easier as it goes, and unserved communities won't get left out again if resources are consumed before the area is reached. Don't put all the resources behind a single option. Recognize that different communities may require different service options. Avoid the pitfalls of government-owned networks that end up over-regulated, under-staffed, and under-funded. Private-sector alternatives better manage costs and services. Finally, avoid making assumptions about why people don't utilize internet services. Costs are a primary reason, but many other plausible reasons exist.

The National Academy of Medicine says it best, "Everyone in this country deserves the opportunity to be healthy and reach their full potential no matter who they are or where they live" (NAM, 2021, para 1). Simply living in the beautiful state of Mississippi should not be an automatic predictor of excess morbidity and early mortality. Some enabling health policies offer more impactful solutions that improve the circumstances of the most people, truly dignifying claims of health policies to *serve the greater good*. Mississippi's opportunity to ameliorate barriers that negatively impact health and health equity has arrived. Public health policies must advocate for internet access for even the most rural communities, to maximize the health and well-being of all Mississippians.

### References

- Bauerly, B.C., McCord, R.F., Hulkower, R., & Pepin, D. (2019). Broadband access as a public health issue: The role of law in expanding broadband access and connecting underserved communities for better health outcomes. *The Journal of Law, Medicine & Ethics*, 47(S2), 39-42. <https://doi.org/10.1177/1073110519857314>
- Census Bureau [CB]. (2020). *Poverty rates, United States, 2020*. Available online at <https://www.census.gov/topics/income-poverty/poverty.html>
- Centers for Disease Control and Prevention [CDC]. (2020). Social determinants of health: Health equity. <https://www.cdc.gov/chronicdisease/healthequity/index.htm>
- Huddleston, J. & Triska, O. (2021). How states can responsibly expand broadband. American Action Forum. <https://bit.ly/3sk5gSk>
- National Academy of Medicine [NAM]. (2021). *Programs: Culture of health*. <https://nam.edu/programs/culture-of-health/>
- Rural Health Information Hub [RHIH]. (2022a). *State guides: Mississippi*. <https://www.ruralhealthinfo.org/states/mississippi>
- Rural Health Information Hub [RHIH]. (2022b). *State guides: Selected social determinants of health for rural Mississippi*. <https://www.ruralhealthinfo.org/states/mississippi>
- United Health Foundation [UHF]. (2022). *America's health rankings composite measure, Mississippi*. <https://www.americashealthrankings.org/explore/annual/state/MS>
- U.S. Department of Health and Human Services [USDHHS]. (2021). *Health People 2030: What are the social determinants of health?* <https://bit.ly/3G7XXml>
- Wakefield, M., Conroy, J.M., McLafferty, S., Moser, R., Murry, V.M., Sankaranarayanan, J., & Slifkin, R. (2022). *Improving rural health through telehealth-guided provider-to-provider communication [final draft]*. National Institutes of Health Pathways to Prevention Workshop: Improving Rural Health Through Telehealth-Guided Provider-to-Provider Communication. <https://bit.ly/3t4XRZ3>