



COVID-19, TELEHEALTH, AND THE DIGITAL DIVIDE: IN THE RUSH TO PROVIDE TELEPRACTICE, WHO GETS LEFT BEHIND?

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— ABSTRACT —

In an effort to mitigate community transmission of COVID-19, many speech-language pathologists (SLPs), audiologists, and communication sciences and disorders scientists quickly shifted their practice and research online. However, the rise of telepractice creates new barriers to care and research participation in populations that are historically unserved or underserved. This commentary describes the populations most at risk for being left behind due to the “digital divide” and the specific barriers that limit access to telepractice services and research. Implications and cursory suggestions are discussed.

Keywords: COVID-19, telehealth, barriers, digital divide

Since the first confirmed case in the United States was reported in January 2020, SARS-CoV-2 – the virus that causes COVID-19 – has dramatically altered day-to-day life. In early efforts to “flatten the curve” and reduce transmission rates, many states issued stay-at-home orders; citizens were ordered to minimize travel outside of their homes. In the wake of these orders, schools closed, and many “non-COVID-19” healthcare services such as speech-language pathology (SLPs) and audiology were postponed, cancelled, or delivered via telepractice (Centers for Disease Control and Prevention, 2020). Universities also suspended on-campus activities, causing many researchers in communication sciences and disorders (CSD) to quickly shift data collection online (Omary et al., 2020). Many CSD professionals and scientists have overcome herculean obstacles to quickly and efficiently transition to online practice and research; however, in the rush to maintain productivity, telehealth providers are likely creating access barriers for the most vulnerable populations we serve. When already underserved individuals cannot

access services and participate in research, they are at risk of being left even further behind. The aim of this commentary is to describe the communities that experience these access barriers, explore the types of barriers experienced, and provide considerations for maximizing outreach to these communities.

The “Digital Divide”

The term “digital divide” refers to inequities in internet access and use (Kumar, Hemmige, Kallen, Giordano, & Arya, 2019). Specifically, people are less likely to have consistent and equal internet access if they live in rural areas, are impoverished, are over 65 years of age, are Black, Latinx, or Native American, have low educational attainment, speak limited English, and/or have a disability (Federal Communications Commission [FCC], 2019; Herd & Giray, 2020; Lewis, 2017; Martin, 2019; Ryan, 2016). Digital disparities are consistent with health disparities among historically unserved or underserved (henceforth, “underserved”) populations, suggesting that similar systemic and institutional barriers im-

pact health outcomes and internet access (National Academies of Sciences, Engineering, and Medicine, 2017). Limited internet access may also *contribute* to poor health outcomes (American Medical Informatics Association, 2017). Whether they contribute to poor health outcomes or not, internet access barriers are analogous to healthcare access barriers, and include availability, quality, cost, and literacy/usability (Kumar et al., 2019; Martin, 2019).

- **Availability:** The infrastructure to support high-speed internet access is still a work in progress in the US, particularly on Native American reservations (FCC, 2019). According to a 2019 report by the FCC, compared to 98.3% of urban dwelling individuals, fewer Americans in rural areas and those living on tribal lands had both high-speed internet access and mobile internet coverage (73.2% and 67.7%, respectively). Furthermore, availability is not uniform across the US: Some states (e.g., New Mexico, Oregon) varied in their availability of high-speed and mobile LTE access from $\geq 95\%$ of residents in urban areas to $\leq 49\%$ of residents in rural areas.
- **Quality:** The FCC defines high-speed internet as download rates of at least 25 megabits per second (Mbps) and upload rates of 3 Mbps. In 2015, the average American broadband subscriber enjoyed download speeds of more than twice the federal minimum; nevertheless, 30% of US counties had download speeds of less than 25 Mbps, and 20% had download speeds of 20.6 Mbps or less (Martin, 2019). Although some people with limited or poor high-speed internet availability may be able to supplement their internet access with their mobile network, the FCC acknowledges that mobile networks are not perfect substitutes for broadband internet, partially because of reliability issues (FCC, 2019).
- **Cost:** The cost of broadband subscriptions, coupled with the cost of devices, is the greatest barrier to internet access among many underserved populations (Herd & Giray, 2020; Lewis, 2017; Martin, 2019). Assuming that it is available, rural communities are likely to pay higher prices for high-speed internet, and consumers in urban areas with fewer internet service providers (ISPs) do not benefit from subscription fee reductions associated with competition among ISPs (Martin, 2019). The prohibitive costs of internet subscriptions lead many lower-income people to become “mobile-only users,” or to rely on mobile devices (e.g., smartphones) as their sole means of internet access. This access can be tenuous: mo-

bile-only users often face data limits and/or have difficulty paying for consistent phone service (Kumar et al., 2019; Lewis, 2017). For example, Kumar et al. (2019) reported that 33% of participants in their study did not text due to data caps; thus, communicating health information to mobile-only users was suboptimal. Notably, the vast majority of mobile-only users are Black and Latinx (Lewis, 2017; Martin, 2019; Ryan, 2016).

- **Literacy/usability:** Lower educational attainment is associated with reduced internet access, likely due to a number of factors, including lower income, lower literacy levels, and limited experience with modern, internet-connected computers in educational settings. While income affects the affordability component of access, literacy and experience with technology directly affect individuals’ ability to engage with internet-connected devices (Herd & Giray, 2020; Kumar et al., 2019). Usability also poses difficulties for older people, who may have limited experience navigating the internet, and people with disabilities, who may experience physical barriers to device use (Herd & Giray, 2020; Martin, 2019; Ryan, 2016).

Implications and Considerations

The rapid and universal adoption of telepractice creates tangible barriers to healthcare and research participation for our most vulnerable populations. Adult clients may miss out on time-sensitive rehabilitation for stroke or traumatic brain injury. Children may fall even further behind their peers in linguistic and social skills. In research contexts, digital inequities may further limit study findings to metropolitan, affluent, educated, White, and able-bodied populations. Unfortunately, the true scale of the disparities that underserved populations are currently experiencing may not be understood until well after COVID-19 is contained.

To combat these disparities, SLPs, audiologists, and researchers must rethink current telepractice strategies and tap into community resources. Adjusting our approaches may include determining how treatment activities appear on smartphones or tablets, counseling or providing support over the phone, or mailing materials to clients. We should also consider providing loaner devices, training loved ones and caregivers to implement treatments, and lobbying our local governments to provide low-cost, high-quality broadband for everyone. The onus cannot be on our underserved populations. We, as CSD professionals and scientists, must help to bridge the digital divide.

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