

Telemedicine and Health Disparities During COVID-19

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The coronavirus disease 2019 (COVID-19) pandemic has resulted in rapid and large-scale expansion of telemedicine. At a time when physical contact with the medical system poses a risk of infection, telemedicine offers a vehicle for delivering medical care at a safe social distance. It allows for attention to acute concerns as well as routine screening for medical and social needs, which may be heightened during this time. For families with limited resources, telemedicine offers particular advantages, obviating the need for transportation, child care, and additional time needed for in-person office visits. For these reasons, telemedicine has been proposed as a solution to health care inequities in the past and implemented with success in select populations.¹ Although the promise of telemedicine is an expansion of access, reliance on technology is likely to highlight existing vulnerabilities and widen disparities if precautions are not taken. Previous reports have outlined how technology-based solutions are highly susceptible to intervention-generated inequalities driven by underlying inequalities in access and uptake.² Because rollout of telemedicine on this scale is unprecedented, the use of telemedicine in ambulatory settings during this time may illuminate important lessons for the field of telemedicine as a whole.

As medical systems have shifted resources to COVID-19 management, acute concerns and preventive care unrelated to COVID-19 are at risk of being foregone. Several health systems have recently reported large increases in telemedicine use, particularly as a mechanism to screen for COVID-19 and provide appropriate guidance on follow-up care.³ As a general pediatrics practice, we are also using telemedicine to provide vital preventive and chronic care, including newborn follow-up visits, developmental screening, nutrition counseling, asthma management, behavioral health, and management of children who are medically fragile and technology dependent. After initial implementation of telemedicine for our large, academic, pediatric primary care practice, we have identified barriers to telemedicine that may exacerbate existing health inequities.

A successful telemedicine encounter requires access to an Internet-enabled device compatible with the platform that the medical practice is using. Although 80% of adults in the United States have access to

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a smartphone and 75% have access to broadband Internet at home, these numbers are lower among those with lower educational attainment and those with a low income, precisely those who already suffer from various health disparities.^{4,5} In our practice, only two-thirds of patients have an e-mail address in the health system database. As an example, we received a call from the mother of a toddler with a complex, chronic illness reporting that he was vomiting up blood. Before COVID-19, this family would have been directed to go to the emergency department (ED); but the risk and benefit calculation of ED use in the COVID-19 era is different, so we planned for a telemedicine visit. The patient's mother was undocumented, did not speak English, and did not have an iPhone, data plan, or e-mail address. However, this mother did have an alternative, free and internationally popular chat application that functions on all mobile devices. Typically, applications not designed for telemedicine would not be available options for communication of personal health information, but, given the state of emergency and relaxed restrictions,⁶ the provider was able to use this application to place a video call, easily see the slightly blood-specked sputum on a paper towel, and visualize the happy, well-appearing, playful child wrestling with his cousins, clearly not in need of emergency medical attention. Not only was an ED visit avoided, but the patient did not have to leave his home to be adequately evaluated that evening. Our practice has put a policy in place to prioritize patient access over the use of any one specific application; this degree of flexibility is necessary to deliver quality care to communities across the spectrum of socioeconomic status and digital proficiency. Once the state of emergency is lifted and regulations on allowable digital platforms is more restrictive, strong advocacy efforts will be required to maintain this level

of access to medical care for vulnerable populations.

Limited English proficiency and the need for appropriately trained medical interpreters add an additional layer of complexity to delivering care via telemedicine. Although the applications designed for telemedicine theoretically have the functionality to use interpreters, adding a third party to the call requires additional resources and time. For the patient discussed above, there was no simple way for the provider to use an application familiar, acceptable, and accessible to the patient and use an interpreter simultaneously, so she improvised, calling the patient by phone with a medical interpreter service to get the history and following-up with a video call to perform the physical examination. For another family in our practice whose head of household is deaf, an American Sign Language (ASL) interpreter is typically present for their health care visits. Because ASL interpretation is only available in person or via a particular video platform loaded on its own machine, the office staff had to set up one computer with the remote providers on telemedicine and another computer with a video ASL interpreter. This worked but was extremely resource intensive. We have worked to recruit staff and volunteers with diverse skill sets to assist families who need additional help with telemedicine access; to prevent the worsening of disparities in health care access, practices that plan to use telemedicine should consider doing the same.

Uptake or use of telemedicine as a platform depends on digital literacy to navigate the application or Web site, influenced by previous experience, technical skills, and knowledge that telemedicine is available. Low-income families and those with less education may have more difficulty downloading, installing, and using unfamiliar

software or applications, requiring more hands-on support in preparation for the visit. Trust in technology and health care in general, which can be lacking in lower socioeconomic groups, can also impact uptake of telemedicine. Additionally, the family must have access to sufficient Internet speed and bandwidth to accommodate audio and visual data. Because families have quickly become limited by the number of Internet-enabled devices in the household, engaging in a telemedicine visit for one family member may require sacrificing work or school for other family members. In addition to the quantity of digital devices in the household, the quality of the camera and microphone on the device will impact the quality and diagnostic accuracy. Some of these barriers are surmountable with appropriate staffing, outreach, and education, spearheaded by the health care system. Solving issues around limited quantity and quality of technological devices and broadband Internet, however, would benefit from more creative cross-sector collaboration and public-private partnerships. We believe that health care systems, local governments, and private companies can and should work together to develop solutions and advertise these services across a broad range of diverse outlets.

As data emerge that COVID-19 is disproportionately impacting low-income families and communities of color,⁷ it is critical that innovative care delivery solutions are implemented thoughtfully to avoid further exacerbating these disparities. First, additional staff and volunteers from diverse backgrounds should be recruited to assist families who may need additional help accessing telemedicine platforms. Second, diverse media outlets popularly used by racial minority groups, low-income, and low-literacy families should be used to advertise telemedicine services. Finally, health

systems and regulatory bodies need to be flexible in the platforms they use to deliver telemedicine-based care.

ABBREVIATIONS

ASL: American Sign Language
COVID-19: coronavirus disease
2019
ED: emergency department

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