



Bridging the Telemedicine Gap Among Seniors During the COVID-19 Pandemic

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Abstract

At the onset of the COVID-19 pandemic, many senior patients in the USC-Keck Family Medicine clinics were limited or lacking in telemedicine participation. Three factors contributed: lack of video-enabled devices, technological literacy, and/or absence of Wi-Fi connectivity. We addressed the first 2 of these factors. Via phone contact, 9 patients agreed to receive donated Android or Apple devices and to trial instruction manuals for use. Donated equipment and instructions were prepared and delivered in accordance with pandemic guidelines. Follow-up calls indicated that 4 participants were able to set up their devices and 3 of whom had connected with their providers. The remaining 5 participants had not set up their devices by the end of the follow-up period, had difficulty with device setup, accessing applications necessary for telemedicine, or had limited access to Wi-Fi. This project highlights some telemedicine barriers that senior patients may overcome with the additional support of care providers.

Keywords

telemedicine, telehealth, COVID-19, access to care, clinician–patient relationship, geriatrics, advocacy, technology

Introduction

The need for physical distancing in the COVID-19 pandemic has rapidly made telemedicine a vital component of health care delivery worldwide (1,2). Even prior to the pandemic, telehealth had been implemented to increase provider efficiency, reduce health care costs, and enhance access and convenience for patients.

In the context of the COVID-19 pandemic, offering telemedicine appointments helped providers and patients to maintain physical distancing and minimize use of personal protective equipment (3). Additionally, the convenience of accessing health care from home may have eased patients' fears of contracting the virus, thus encouraging provider and patient communications.

Despite these advantages of telemedicine during a pandemic, this abrupt shift in health care delivery revealed a disparity: access to telemedicine by many senior patients. This disparity was driven by lack of video-enabled devices, limited technological literacy among older patients, and limited access to reliable, high-speed internet connections (4). To address the first 2 of these disparities, we designed a student-led effort to

reach out to senior patients in the family medicine service and help them connect with their providers through telemedicine.

Description

The objectives of this project were to (a) listen to senior patients' concerns, (b) understand their perspectives around telemedicine, and (c) provide support for learning among those with limited technological literacy.

To increase telemedicine access for seniors, donations of video-enabled devices were solicited virtually. Connect for COVID-19, a nonprofit organization that provides donated video-enabled devices to hospitalized patients with

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COVID-19, also donated several new smartphones. All devices were factory reset and optimized for seniors by deleting extraneous applications, increasing text size, and activating magnification and voice-to-text features.

Simultaneously, 2 medical students made telephone calls to USC-Keck ambulatory patients to understand senior patients' perspectives on COVID-19 and telemedicine. We contacted patients who were 65 or older and had only or mostly telephone encounters between March and July 2020. We asked about their access to video-enabled devices, high-speed wireless networks, and interest in telemedicine. A secured data sheet was used to document the results of phone conversations and voicemail history. Patients who did not have access to a video-enabled device and wished to connect with their primary care providers via telemedicine were offered the opportunity to participate in this project.

While patients were being contacted, 2 other medical students developed Apple and Android smartphone-specific manuals that addressed potential age-specific barriers to using video-enabled devices. Additionally, a step-by-step manual was generated to guide patients in connecting to the USC TeleCARE mobile application, a telemedicine platform already in use by USC clinics. To this end, each manual included large font size, avoided technical jargon, and employed photographs and diagrams to enhance written instructions. Manual content included how to perform the following: power on and off the devices; enter simple, preset passwords; navigate among applications using button and finger-swipe gestures; access home Wi-Fi networks and individual email accounts; magnify text; and engage in a telehealth appointment using the USC TeleCARE app (Supplemental Figure 1).

All devices were sanitized and delivered to participants in zip-top bags with device-specific manuals. We arranged socially distanced, scheduled device deliveries to participants. An informal telephone questionnaire was administered to participants at 1 week, 2 weeks, and 4 months after device drop-off to evaluate their experience with setting up and using the devices.

Results

There were 193 patients and caregivers contacted. Seventy-four had access to Wi-Fi and a video-enabled device. Nine patients did not have access to Wi-Fi. Seventeen patients had access to Wi-Fi but did not have a video-enabled device at home and were thus relying on telephone calls with health care providers. Of these 17 patients, 3 preferred telephone appointments and were therefore not interested in project participation. Nine of these remaining 14 patients decided to participate. Ninety-three patients either did not answer project-recruitment phone calls or were not interested in the program (Supplemental Table 1).

Results of eliciting senior patients' telemedicine-related concerns included the following: (a) affordability of Wi-Fi, (b) telemedicine as an invasion of privacy, as though inviting

providers into their homes, (c) lack of understanding of how telemedicine works and concern that video encounters would be recorded and stored on the internet, (d) preference for telephone appointments over telemedicine, and (e) preference for in-person appointments with providers (Supplemental Table 2).

The telephone questionnaire yielded the following feedback (Supplemental Table 3):

- One week after device drop-off, all patients expressed that receiving the device and instructions went smoothly and that they felt safe through the physical distancing protocols in place.
- Within 2 weeks after device drop-off, 4 of the 9 participants successfully set up their devices by using the provided manuals. One participant followed the manual and set up the device independently, while the other 3 had assistance from children or caregivers.
- At the 4-month follow-up, 6 of the 9 participants could be reached, and 3 had successfully used the USC TeleCARE instruction manual to connect with their providers via video conferencing.

Lessons Learned

The goal of this project was to better understand how the COVID-19 pandemic and use of telemedicine was affecting senior patients with limited technological literacy. Many lessons were learned while speaking with senior patients directly, listening to their hesitations and experiences with telemedicine, and implementing this project among 9 senior participants (Supplemental Table 4).

First, senior patients are resilient and willing to adapt to the changing nature of health care delivery within the pandemic. Most patients contacted had quickly found a way to connect to telemedicine, many with the help of a child, caregiver, or neighbor. While several patients shared that they generally preferred in-person visits to telemedicine, they understood the need for physical distancing and ultimately felt safer using the video-conferencing platform.

A few patients were less receptive to partaking in virtual health care delivery as they had unanswered questions and concerns. Some expressed that telemedicine was an invasion of privacy and they did not want their doctor seeing their homes. Others questioned the logistics of video conferencing, whether video appointments would be stored on internet servers, how they should arrange video equipment, what the appropriate attire would be, and how to access the appointment online. For these questions, project team members proposed possible solutions that may allay their concerns. One possible solution would be for clinics to offer a practice telemedicine appointment for first-time users prior to their clinical appointment. This way, patients would have the opportunity to experience video conferencing in a low stress environment, practice setting up their device and background, and learn how to implement a virtual background to limit privacy concerns.

All 9 participants expressed appreciation for the program, check-ins, and the opportunity to connect with their providers. Being older individuals, they felt that telephone and telemedicine communications were a much safer option for many types of appointments during the COVID-19 pandemic. However, one participant still felt that physical interactions with doctors were necessary from time to time and continued to schedule in-person appointments in between telemedicine appointments. Notably, the participant with the greatest satisfaction with the program, who shared weekly video-conferencing interactions since receiving the device, was provided with a larger screen tablet. Thus, devices with larger screens may be associated with improved patient participation. Additional participant feedback provided future directions of this work, including additional instructions regarding how to switch languages on their devices, greater access to technical support personnel, and access to larger devices such as tablets.

One notable limitation of this project is that only participants who had access to Wi-Fi were included. This reflects that Wi-Fi access remains a widespread barrier for participation in telemedicine. A 2017 study noted that only 67% of Americans aged 65 and above have internet access (5). Thus, in order for telemedicine to adapt appropriately with the ever-changing health care system, reliable access to Wi-Fi for seniors is a priority.

Conclusions

This project provided insight into senior patients' experiences with telemedicine early in the COVID-19 pandemic. We learned that most were willing to use telemedicine, feeling that it was safer than in-person encounters. However, many either did not have access to a telemedicine-capable device, Wi-Fi, or had limited technological literacy. While some preferred telephone appointments to video-conferencing, the latter has been shown to improve quality of life, physical and mental health, and self-efficacy among seniors, underscoring the importance of advocating for video-enabled telemedicine (6). Patients expressed that they increasingly required the assistance of family members and caregivers to access health care, reflecting the limited past experience that this patient population had using computers for telehealth prior to the COVID-19 pandemic (7).

Our work suggests 2 ways in which senior patients' telemedicine experience may be improved. First, contacting patients relying on telephone appointments in order to assess barriers to participating in video-enabled encounters may increase use of the latter. Second, securing tablets and technology support resources for senior patients aids those with limited technology literacy. Offering such resources additionally affirms patient autonomy by recognizing that patient privacy may be curtailed when family members and caretakers assist with access to telemedicine. With these suggestions in mind, we hope that this project illustrates the

necessity of advocating for senior patients within the COVID-19 pandemic and beyond (Supplemental Table 5).

Authors' Note

This article does not contain any studies with human or animal subjects. Informed consent for patient information to be published in this article was not obtained because this was not a research project, but rather an advocacy project aimed to expand healthcare access during the COVID-19 pandemic.

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Supplemental Material

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