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The telehealth divide: health inequity during the COVID-19 pandemic

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Telehealth and the COVID-19 pandemic

On 2020 March 11, the World Health Organization (WHO) declared COVID-19 a global pandemic.[1] Over the ensuing 20 months, primary care has had to transform rapidly, and one of the most significant changes was the expansion of telehealth.

Telehealth is defined as the delivery of health services over a distance via the use of telecommunication technologies,[2] with the most common form being videoconferencing and telephone consultations. Some countries, such as the United States of America, had already implemented telehealth in rural primary care settings prior to the pandemic, however, not to a substantive degree. In 2020 February, only 0.1% of Medicare fee-for-service primary care visits in the United States of America were performed via telehealth (increasing to 43.5% in 2020 April with the onset of the COVID-19 pandemic).[3] Many countries were still at the innovation phase pre-COVID-19.[4] In Australia, for example, pre-pandemic, telehealth was primarily utilized in rural and remote settings for specialist videoconferencing.[5] However, telehealth represented less than 1% of all specialist consultations conducted in 2018–2019.[6] During the pandemic, many countries have made significant changes to their primary care telehealth practice.

Overall, satisfaction with telehealth was high during the pandemic,[7–10] and primary care physicians have lobbied for telehealth as a permanent part of the healthcare system.[11,12] The Chair of the United Kingdom's Royal College of General Practitioners has also suggested that half of all primary care consultations could be performed remotely post-pandemic.[13]

Telehealth and health inequity

Primary care, including general practice, is the major health systems influence on equity of healthcare provision and health outcomes.[14] Is general practice telehealth friend or foe to healthcare inequity? Will it bridge the gap for patients who typically experience significant barriers to accessing primary care or will it further the disparity between advantaged and disadvantaged populations?

On the one hand, telehealth has the potential to increase healthcare access for vulnerable patients. One example is patients living in rural areas, who would usually travel significant distances to see their family physician. This is particularly relevant for a country like Australia, where 28% of the population live in rural and remote regions.[15] These patients often have poorer health outcomes compared to people living in metropolitan areas, including higher rates of hospitalizations and reduced access to primary care services.[15] Being able to utilize telehealth could help to bridge this gap and improve healthcare outcomes. Telehealth may also be helpful for patients living with chronic diseases, who typically have significant barriers to accessing primary care, for example, reduced mobility and reliance on carer support to get to appointments.[16] Similarly, telehealth can increase access for those from lower socioeconomic backgrounds, who typically have reduced access to transport[17] and a higher prevalence of chronic disease.[18] In addition, regardless of rurality or socioeconomic status, telehealth can save patients in travel time, employment disruption, and cost of transport.

Telephone versus videoconference

It should be noted that access to telehealth will depend on whether the service is delivered by phone or videoconference. Telephone consultations, in theory, should be accessible to most individuals, as almost every developed country has at least 90% mobile phone penetration.[19] However, to support a video consultation, an internet connection and digital device with a webcam are often required, and this has the potential to decrease access for patients from lower socioeconomic backgrounds and those living in rural areas. These populations typically have reduced access to internet and technological infrastructure, including poor internet speeds, unstable internet connections, and lack of access to webcams and computers.[20,21] Other vulnerable populations, such as the elderly, may also lack familiarity with the technological applications required to support videoconferencing and/or lack access to digital devices.[22] There are also additional barriers to telehealth for those with disabilities, particularly individuals who are vision or hearing impaired.[23] The accessibility of videoconference technologies for these populations needs to be considered.

Addressing the socioeconomic-related barriers to performing telehealth via videoconferencing is important as videoconferencing offers distinct in-consultation advantages over telephone, including visual cues, non-verbal communication, and improved rapport.[24] Videoconferencing has also been shown to result in fewer medication errors and greater diagnostic accuracy compared to telephone.[25] In addition, whilst phone consultations may be easily accessible, the ability to perform remote physical examination using this modality is even more limited than for videoconferencing. As such, it is likely that videoconferencing will become the more prominent modality for telehealth in the future. A further issue related to the physical examination limitations of telehealth is that some proposed means of attenuating these—patients buying and using home monitoring equipment in lieu of that owned by the general practice, and often employed in face-to-face consultations (oximetry, glucometers, blood pressure monitors, spirometry, point-of-care international normalised ratio testing)—may be less accessible to lower socioeconomic populations.

The digital divide

Telehealth may be a manifestation of the "digital divide," a term coined by Lloyd Morrisett, former President of the Markle Foundation. The digital divide describes the disparities in access to technology resources between socioeconomic groups.[26] It includes not only access to technology and the internet, but also to internet skills and computer training. For example, there exists a divide between those with high-level and low-level internet skills.[27] A study by Hargittai and colleagues demonstrated that amongst American adults aged 60 and older who used online services, there were differences in internet proficiency, with those from more privileged backgrounds, particularly those with higher income and education levels, possessing greater internet skills.[28] This disparity is further demonstrated by a systematic review, which found that internet-based consultations (such as videoconferencing) were more likely to be used by younger, affluent, and educated patient groups.[29]

This discussion has so far focussed on the experience of high-income countries and does not consider the technological infrastructure limitations that exist in low-income nations. For instance, at the end of 2019, 3.7 billion people (nearly half of the world's population) did not have access to the internet.[30] This is despite the fact that 93% of the global population have mobile-broadband network coverage.[30] In the developing world, the urban–rural divide is even more pronounced. In 2020, among the least developed countries, 17% of the rural population had no mobile coverage at all, and urban access to the internet was 2.3 times as high as rural access.[30]

A further consideration is funding. In response to the COVID-19 pandemic, many countries began to publicly fund telehealth services, including the United Kingdom, United States of America, and Australia.[31] However, if this funding were to cease post-pandemic (as has been proposed, for example, in Australia[32]), this could further widen the health inequity between patients from advantaged and disadvantaged groups. This will disproportionally affect people living in rural and remote regions, who have lower incomes and employment rates compared to those living in metropolitan areas.[15]

Inverse Care Law and the telehealth divide

Thus, telehealth may prove to be a case of Morrisett's digital divide meets Tudor Hart's Inverse Care Law—disadvantaged and vulnerable populations need greater access to healthcare compared to advantaged populations, but actually receive less.[33] As a recent Lancet editorial points out,[34] this concept is just as applicable in 2021 as it was when it was first proposed 50 years ago. Telehealth has the potential to increase access for disadvantaged groups, but only if the infrastructure and technology is equally available to all. Without adequate solutions to the digital divide, the Inverse Care Law will operate—creating a "telehealth divide."

Solutions are needed to bridge the potential telehealth divide. Yusen Zhai (2021) proposes several of these, including outreach programmes for individuals with limited internet access; financial support for essential digital devices and internet access in underserved populations; funding for telehealth infrastructures; and training programmes for telehealth technologies, which would need to target both patients and doctors.[35] This highlights two very important aspects of closing the telehealth divide: funding and training. Given the likelihood that telehealth will become a permanent part of healthcare systems globally, permanent funding will be necessary to ensure it is equally available to all persons. There may also be a need to positively discriminate by offering higher remuneration for telehealth use in disadvantaged populations (for fee-for-service remuneration systems) or offering incentive payments as has been utilized by the NHS to encourage digital transformation.[36]

Conclusion

Ultimately, telehealth has the potential to bridge healthcare inequity and increase access for vulnerable and disadvantaged populations. But there is, paradoxically, potential to exacerbate existing inequity. Policymakers and healthcare organizations need to carefully consider the barriers to telehealth uptake amongst disadvantaged groups and ensure that solutions, such as adequate funding and telehealth training, are provided. Without this, we risk perpetuating the Inverse Care Law and allowing telehealth to become just another aspect of the digital divide. More privileged nations also need to consider aiding low-income countries with their internet and technology health access, to ensure that health inequities can be addressed not only within high-income countries, but on a global scale as well.

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