

Addressing Telehealth Inequities in Alameda County District 1

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Introduction

Telehealth has rapidly transformed the delivery of healthcare by enabling patients and providers to connect through digital technologies such as video conferencing, remote monitoring, and mobile health applications. While telehealth has significantly expanded access to care and improved efficiency, it has also exposed and, in some cases, exacerbated existing disparities in healthcare access. In regions such as Alameda County District 1, where socioeconomic and demographic diversity is high, these inequities are particularly evident. This paper examines the history and importance of telehealth, evaluates whether access is equitable, analyzes the causes of inequity in Alameda County District 1, and proposes solutions, with a focus on telehealth hubs.

History of Telehealth

Telehealth has its roots in early communication technologies, including telephones and radio systems used to deliver medical advice to patients in remote locations. In the mid-20th century, healthcare providers began experimenting with transmitting medical data, such as radiologic images, over long distances. However, telehealth remained limited due to technological and financial constraints.

The expansion of the internet in the late 20th and early 21st centuries marked a turning point. High-speed broadband, electronic health records, and video conferencing technologies enabled

more sophisticated forms of remote care. Telehealth began to be used not only for rural populations but also for urban patients seeking convenience and efficiency.

The most significant acceleration occurred during the COVID-19 pandemic. In an effort to maintain continuity of care while minimizing infection risk, regulatory barriers to telehealth were relaxed through coordinated actions by the U.S. Department of Health and Human Services (HHS) and the Centers for Medicare & Medicaid Services (CMS), under the leadership of the Trump administration. These agencies used emergency waiver authority and legislation such as the CARES Act to expand telehealth access, remove geographic restrictions, and allow reimbursement for virtual care services (1). As a result, telehealth transitioned from a niche service to a central component of healthcare delivery.

Importance of Telehealth

Telehealth plays a critical role in modern healthcare systems by addressing multiple barriers to care. One of its most significant benefits is increased accessibility. Patients no longer need to travel long distances, take time off work, or arrange childcare to attend appointments. This is especially beneficial for individuals with chronic conditions who require frequent monitoring (2).

Telehealth also improves efficiency within healthcare systems. Virtual visits can reduce wait times, streamline workflows, and allow providers to see more patients. Additionally, telehealth supports preventive care and early intervention, which can reduce long-term healthcare costs. However, while telehealth offers these benefits, its effectiveness depends heavily on patients' ability to access and use digital technologies.

Is Access to Telehealth Equitable?

Despite its promise, telehealth access is not equitable. Research consistently shows disparities in telehealth utilization based on income, race, age, and language proficiency. Individuals from low-income households are less likely to have access to reliable internet or digital devices, which are essential for telehealth.

Older adults face additional challenges due to lower levels of digital literacy and discomfort with technology (3). Similarly, individuals with limited English proficiency may struggle to navigate telehealth platforms that lack adequate language support.

Racial and ethnic disparities are also significant. Structural inequities in healthcare, education, and technology access contribute to lower telehealth usage among minority populations. As a result, telehealth can unintentionally widen existing disparities if these barriers are not addressed.

Reasons for Inequitable Telehealth in Alameda County District 1

Alameda County District 1 includes a diverse population with varying levels of income, education, and access to resources. Several interconnected factors contribute to inequitable telehealth access in this region.

One of the most significant barriers is the digital divide, as many households in Alameda County lack reliable broadband or access to devices like smartphones and computers. Low-income individuals also face competing priorities, such as housing instability and food insecurity, that make it harder to prioritize telehealth. Even with access to technology, many patients, particularly older adults, lack the digital literacy needed to navigate telehealth platforms. Additionally, Alameda County's linguistic and cultural diversity creates challenges for non-English speakers, while mistrust and communication barriers can reduce engagement. These

issues are compounded by broader systemic inequities in healthcare, education, and economic opportunity, which disproportionately affect marginalized communities.

I spoke with Dr. Sonal Aggarwal, who works at both John Muir Health and Axis Clinic in Pleasanton, and she noted stark differences in the utility of telehealth, observing that most patients in county clinics rely primarily on audio-only visits, whereas patients at John Muir Health more commonly use video-based platforms. She attributed the disparity primarily to the limited digital proficiency of patients in county clinics to use specialized video platforms for telehealth, and also a language barrier, which limits their ability to comprehend instructions for use of video platforms. She further added that video visits enable providers to make better clinical decisions by providing important visual clinical information that is not available through audio-only encounters.

Possible Solutions to Telehealth Inequity

Addressing telehealth inequities in Alameda County District 1 requires a multifaceted approach. I spoke with Dr. Harsha Ramchandani, Chief Medical Officer at Bay Area Community Health (BACH) and a member of the Alameda County Public Health Commission (District 1). She has played a significant role in expanding telehealth access within the BACH patient population and shared several challenges encountered in this effort. Notably, she emphasized that, in Alameda County, limited digital literacy, rather than lack of devices or internet access, remains a primary barrier to effective telehealth utilization.

Dr. Ramchandani described several strategies BACH has implemented to address these challenges. Patient feedback indicated difficulties using Zoom for telehealth, particularly due to the requirement to download the app in order to effectively use it. In response, BACH

transitioned to using Doximity, which allows patients to access telehealth visits through a simple browser-based link. Additionally, BACH has partnered with a nonprofit organization to provide digital literacy training for patients. In some cases, nurses follow up with patients after telehealth visits to confirm understanding of medical instructions and reinforce care plans.

BACH, under the guidance of Dr. Ramchandani, has explored innovative approaches to improve telehealth access. For patients requiring telehealth consultations with specialists, BACH has arranged in-clinic telehealth visits, during which clinic staff assist patients in connecting to and participating in their virtual appointments. While effective, this model is resource-intensive and may contribute to increased wait times for other BACH patients. Another initiative involves a pilot program in which iPads are provided on loan to pregnant patients for the duration of their pregnancies to facilitate telehealth visits with their healthcare providers, accompanied by training on the use of telehealth technologies. However, the high cost of such programs presents challenges for broader scalability.

Dr. Ramchandani emphasized that continued innovation is essential to improving telehealth utilization. She also highlighted the importance of consistent reimbursement policies from insurance providers, noting that interruptions such as the temporary pause in telehealth funding in October 2025 can significantly hinder progress.

Telehealth Hubs

Based on my conversations with Dr. Aggarwal and Dr. Ramchandani, I further explored strategies to improve telehealth access. One promising approach is the establishment of telehealth hubs. Telehealth hubs offer a practical solution to many barriers in accessing virtual care by providing physical locations such as libraries or community centers equipped with the

technology and support needed for telehealth visits. These hubs supply devices, high-speed internet, and private spaces, eliminating the need for patients to have their own equipment or reliable home connectivity. Staff at telehealth hubs assist patients with using devices, navigating platforms, and connecting with providers, reducing digital literacy barriers and increasing confidence. By situating hubs in familiar and trusted community spaces, participation is encouraged among populations who may be hesitant to engage with traditional healthcare systems. Targeting underserved populations, telehealth hubs directly address inequities, serve as an entry point into care, and improve access and continuity, ultimately supporting better management of chronic conditions, fewer missed appointments, and improved health outcomes.

To identify a suitable location for a telehealth hub in Alameda County, I evaluated three potential sites: the Pleasanton Senior Center, City Serve, and the Pleasanton Public Library. I spoke with Nicole Thomas from the Pleasanton Senior Center, who explained that the facility lacks private spaces necessary for telehealth visits, limiting its feasibility as a hub; however, she expressed interest in organizing classes to help seniors develop digital literacy and navigate telehealth platforms. I also consulted Janette Pace from City Serve, who indicated uncertainty about the organization's capacity to function as a telehealth hub but noted that many of their clients would likely benefit from such services. In contrast, Tim Johnston, Senior Librarian for Technical Services at the Pleasanton Public Library, reported that the library has eight soundproof private rooms available for reservation, currently used for study rooms and literacy programs, along with reliable WiFi and laptops available for patron use. Library staff also routinely assist patrons with digital tasks such as online job applications. Based on these findings, the Pleasanton Public Library appears to be the most suitable site for a telehealth hub, given its existing infrastructure, technological resources, and availability of private spaces.

Krupinski et al. (5) note that libraries can play a valuable role in expanding telehealth services in rural and underserved communities. Library-based telehealth hubs are being implemented across several states as a way to expand access to virtual healthcare. In New York, the Community Library of Cobleskill and Cannon Free Library are developing Library Health Equity Hubs that provide internet access, devices, and support for telehealth visits, along with digital literacy and healthcare navigation assistance. In Idaho, the Idaho Commission for Libraries and the Northwest Regional Telehealth Center have established Telehealth Access Points in public libraries, offering private spaces with reliable internet and equipment for telehealth appointments. Similarly, Colorado's Rural Library Telehealth Program, supported by the Office of eHealth Innovation and the Colorado State Library, has created telehealth hubs in rural libraries that include private rooms, technology, and equipment for patrons to use. In Vermont, the VITAL-VT initiative is exploring the use of rural libraries as telehealth access points to connect residents in remote areas with healthcare services. Together, these examples demonstrate how libraries can serve as critical community-based telehealth hubs that address barriers such as lack of internet access, limited technology, and transportation challenges.

Currently, such a library-based telehealth hub has not been established in California, and implementing one in Alameda County District 1 would significantly improve access to telehealth services by addressing barriers related to technology, connectivity, and digital literacy.

Establishing a library-based telehealth hub will require securing a private, soundproofed space, equipping it with high-speed internet, computers, and webcams, setting up an appointment system to reserve the private space, training staff for technical support, and ensuring HIPAA compliance regarding patient privacy. Furthermore, funding for this initiative should be secured from multiple sources, including county and state governments, as well as insurance providers,

as all these stakeholders will stand to benefit from expanded telehealth utilization and resultant improved health outcomes and reduced hospitalization costs.

Conclusion

Telehealth has the potential to revolutionize healthcare delivery by increasing access, improving efficiency, and reducing costs. However, its benefits are not evenly distributed. In Alameda County District 1, disparities in technology access, digital literacy, and socioeconomic conditions create significant barriers to equitable telehealth use.

Addressing these challenges requires targeted interventions, including expanding broadband access, improving digital literacy, and ensuring culturally competent care. Telehealth hubs, in particular, offer a scalable and community-centered solution that can bridge the digital divide and promote health equity.

If implemented effectively, telehealth can move beyond convenience and become a powerful tool for reducing disparities and improving health outcomes for all populations.

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