The COVID-19 pandemic has required the rapid adoption of telehealth services at Stanford Children’s Hospital in order to continue provision of clinical care. This study aims to elucidate the combined impact of demography, disease susceptibility, and the digital divide on the uptake of telehealth in pediatric populations.

**Methods**

Outpatients seen by pediatric cardiology, nephrology, oncology, neurology, pulmonary and endocrinology between March – June 2019 and March – June 2020 were included in this retrospective cohort analysis. Demographic information included age, gender, interpreter usage, race/ethnicity, insurance status, zip-code derived distance from SCH clinic, and broadband access. Family income was approximated using the zip-code level annual data from the 2018 American Community Survey. The broadband variable was derived from the Federal Communication Commission’s Fixed Broadband Deployment database (FCC). Adequate broadband was defined as having 2+ providers of 100/10 Mbps download/upload speed of fiber, cable, or wireless technologies.

**Clinical Trends**

- There was a 24% decline in new patients and 9% decline in established patients across years. Established patients were significantly more likely to schedule and complete appointments than new patients.
- Total telehealth utilization rose from .6% of total visits in 2019 to 36% of total visits in 2020.
- Relative to endocrinology visits, there were significantly more completed neurology and nephrology telehealth visits. There were significantly fewer completed cardiology, oncology, and pulmonology telehealth visits.

**Sociodemographic Trends**

- Patients that requested interpreters or lived > 50 miles from SCH were significantly less likely to successfully complete a telehealth appointment.
- Patients with the lowest access to high-speed broadband were significantly more likely to complete appointments. This suggests that broadband—as it is currently measured—plays only a partial role in pediatric subspecialty care utilization.
- Interestingly, Black families experienced increased access to telehealth, suggesting that telehealth may function to increase access for some. Telehealth has been previously shown to facilitate access to care by eliminating appointment-related transit barriers, and may have additionally provided access to specific populations.
- There was no significant differences in successful telehealth appointment completion by payer status, age, or gender.

**Recommendations**

Prior patient-clinician relationship is often a foundational requirement for successful appointment completion. Future interventions that increase the accessibility of health services for new patients could serve to increase access to SCH’s health services. The heterogeneity in telehealth usage across subspecialties likely reflects differences in clinical needs and may persist in a post-COVID era. It will be necessary to find an optimal balance between in-person visits and telehealth visits for each subspecialty that is both high-quality and accessible to all populations.

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