TELEHEALTH AS A PROMISING STRATEGY IN THE FUTURE OF ADOLESCENT HEALTH

During the COVID-19 pandemic, telehealth was essential for delivering outpatient health care services, including for adolescents and young adults.[1] PolicyLab and CHOP research expands on previously limited data on adolescents' telehealth care and demonstrates a clear desire of adolescents, caregivers, and providers for continued telehealth services and related benefits. The research is relevant input for current telehealth policy discussions, including those about coverage and reimbursement, health system practices, and research on quality and effectiveness.

There are many partners involved in adolescent and young adults' health care—adolescents themselves, caregivers (adolescents' parents and/or guardians), and providers. They all report that telehealth is acceptable and feasible for adolescent health care, and that there are overall advantages related to efficiency, cost savings and accessibility. While there are also disadvantages, there is opportunity to further understand when and how telehealth works best for adolescents and to ensure that telehealth policy supports adolescents' access to health care specifically. This issue brief summarizes our findings on telehealth usage and views of different actors in adolescent health care on acceptability. It also offers recommendations for creating a policy, payer and provider landscape that supports adolescents' use of telehealth.


Defining telehealth

Telehealth is the practice of providing health care through a virtual modality. There are many factors that define telehealth. In this brief, we are focusing on patient–provider interactions through video or audio modalities.

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1   The *period of adolescence* commonly includes youth and young adults between the ages of 11 and 24.

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Specific pediatric patient populations that could benefit from telehealth

Children and youth with special health care needs. Approximately *one in five* children have a special health care need, requiring more care and services than their peers. While not appropriate for all care, telehealth appointments *eliminate* the need for transportation and the potential of health care associated infections, while allowing for observation of a child in their natural home environment and may be coordinated across state lines, per recent *federal guidance*.

Adolescents with limited proximity to specialists. Telehealth can provide patients with the opportunity to meet directly with a specialist without extensive travel. This can benefit adolescents in areas of the U.S. that have a limited number of *pediatricians* and *pediatric specialists*, such as pediatric cardiologists or *psychiatrists*, as well as adolescents temporarily in institutional settings (e.g., residential and behavioral health treatment facilities). Telehealth can also afford a primary care provider the opportunity to consult with a specialist about a patient's diagnosis and/or care.

Adolescents seeking behavioral health care. Behavioral health care can be *conducive* to telehealth care and consistently remains one of the most *common telehealth* care services. In the context of the youth *mental health crisis* and a shortage of behavioral health professionals, virtual behavioral health care can increase access to care. *Colorado's I Matter program*, for example, offers all youth, regardless of if they have a mental health diagnosis, access to six sessions of free mental health care; services are primarily delivered virtually.
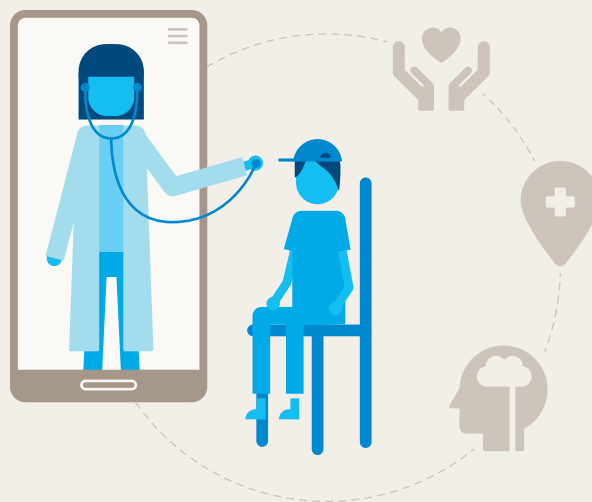
CONSIDERATIONS FOR ADOLESCENTS AND TELEHEALTH CARE

Adolescents are uniquely poised to benefit from telehealth due to their familiarity with technology and their increasing independence and desire for privacy.

Adolescents are digital natives, having *grown up* with exposure to and knowledge of different technologies. *Nearly all* have access to smartphones, use the internet daily and have experience with social media platforms. Adolescents engage with technology in school, as it is routinely used to support teaching and learning, even *before the COVID-19 pandemic*. Outside of school activities, adolescents also spend time on screens recreationally. Technology utilization expanded during the pandemic, with *increases* in screen time for both academic and recreational purposes.

Adolescence is characterized by increasing independence, including in engagement with the health care system and providers. Professional medical organizations such as *American Academy of Pediatrics*, *American College of Obstetricians and Gynecologists*, *Society of Adolescent Health and Medicine* and *American Medical Association* endorse that youth have one-on-one time with providers during appointments, and adolescents *value* confidential health care visits. One-on-one communication with health care providers recognizes adolescents' growing autonomy and can facilitate open communication about topics that adolescents may hesitate to raise with family members present. Adolescence is also a period of transition—young adults may relocate for college or work and/or start to *transition to adult* providers. Telehealth also addresses *practical barriers* to health care access, such as transportation, travel costs, travel time, and competing scheduling demands (e.g., work and school activities), and removes the dependence on parents. Telehealth can allow adolescents to maintain care with their existing providers as they make transitions and support warm hand-offs to new providers.

Adolescents may also encounter *challenges* in accessing telehealth, many of which mirror those that the general population experience. These challenges are explored in more detail in the following sections.

Devices and connectivity

A telehealth appointment requires access to a device, internet or data and/or phone line. While adolescents are overwhelmingly digitally connected, they may not use their own devices and therefore have limitations in accessing a telehealth platform at a specific time. Video appointments require internet access or cell phone data. Many parts of the country have limited internet connectivity and no *access* to broadband internet. Disparities in access to the internet are also pronounced: 43% of low-income households have access to broadband internet compared to 90% of high-income households.

Health care providers serving adolescents report *technology issues* (device access and connectivity) as a leading challenge of telehealth.

Health insurance

Insurance coverage is another factor that contributes to the availability of services. While the proportion of *uninsured children* is relatively low (in comparison to the adult population), young adults (age 19–26) are *more likely* to be uninsured than other age groups.

Health insurance may strictly limit or not adequately cover telehealth services. With regards to Medicaid and commercial insurance, state *telehealth policy*[2] governs the types of services that may be delivered by telehealth, the types of providers who may deliver these services, the locations that patients may be in for services and the modes that may be used. State policy *parity requirements* for private insurers may require service parity (the same services are available by telehealth or in-person care) and/or payment parity (reimbursement rates are the same for in-person care or telehealth care) broadly or for specific services.

- 43 states and Washington, D.C.'s Medicaid programs *reimburse* for audio-only services in some capacity, but reimbursement may be limited to specific services (e.g., behavioral health, care coordination)
- While all 50 states and Washington, D.C. *reimburse* for live video telehealth, reimbursement is often limited to specific provider types and where the patient is located (originating site).

Language

Individuals with emerging English proficiency are *less likely* to access telehealth services, in part because of *language barriers* when scheduling appointments and accessing the *digital platforms* used for the services.

Engaging a remote medical interpreter during telehealth appointments can help address language barriers, but also can introduce new *challenges*. Specifically, remote medical interpreters can have difficulty developing a rapport with the patient on video and with using the technology. In a study of primary care providers using telehealth to care for adolescents, the providers reported *difficulties working with a medical interpreter* as the fourth most common technological challenge.

Confidentiality and privacy

Privacy and confidentiality are important elements of quality adolescent health care. With telehealth appointments, adolescents must find a safe location *that ensures privacy*—a space where they will not be overheard or fear being interrupted. Confidentiality *improves* engagement with the health care system, including what adolescents disclose to providers. With telehealth delivery, *providers navigate confidentiality* in delivery of specific services[3] (e.g., sexual and reproductive health, mental health care) and working with interdisciplinary teams. In addition, there is the layer of ensuring confidentiality and consent with electronic health portals and telehealth applications, giving essential health information to caregivers and protecting adolescents' confidentiality.

Providers, *caregivers and youth* identify that securing safe spaces for telehealth appointments can be difficult but more research is needed to understand *how much of a barrier* it is.

> **With telehealth appointments, adolescents must find a safe location that ensures privacy— a space where they will not be overheard or fear being interrupted. Confidentiality improves engagement with the health care system, including what adolescents disclose to providers.**

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2   We focus on state policy as it guides Medicaid, CHIP and private insurers; adolescents who have health care coverage are most likely to be covered by these payors.

3   Depending on the *state laws*, youth under the age of 18 can consent to different health services

WHAT THE RESEARCH TELLS US

At a glance

- Patients and families find adolescent health care delivered by telehealth to be acceptable, feasible and comparable quality to in-person care
- Providers report telehealth delivery is feasible, but opinions vary by provider type
- Disparities in telehealth utilization exist among youth
- Innovative applications of telehealth can improve patient care

Patients and families find adolescent health care delivered by telehealth to be acceptable, feasible and comparable quality to in-person care

In two Children's Hospital of Philadelphia (CHOP) studies (described below) of telehealth services for adolescent patients, most patients and caregivers found telehealth care to be feasible and acceptable. In both studies, caregivers and adolescents reported saving time and money (e.g., transportation costs and missing less time at work) as well as improved accessibility as advantages of telehealth. Across the two studies, disadvantages of telehealth include not being able to complete physical examinations or tests and challenges with quality communication and building rapport.

In one *study*, adolescent patients and their caregivers (e.g., parents and guardians) were surveyed on their experiences with telehealth delivery of adolescent health care including management of eating disorders, gynecology/reproductive health needs, or gender affirming care.

Specific findings included:

Devices and connectivity:

- Patients primarily used smartphones and Wi-Fi to attend appointments.
- While many adolescents and caregivers reported telehealth technology easy to use and efficient (e.g., saved time), some caregivers (32%) and adolescents (25%) encountered technical difficulties.

Confidentiality and privacy:

- Nearly all adolescents were able to identify a private space for their telehealth appointment.
- Nearly two-thirds of the adolescents spoke to a provider alone; a few, 5% (n=3), wanted to and did not.
- With regards to privacy, more than 20% of the adolescents felt that telehealth was inferior, or worse, than in-person care compared to 2.5% of caregivers.

Acceptability:

- Patients and caregivers reported telehealth care as noninferior, or not worse, than in-person visits with regards to communication, managing medication questions, and discussing test results, mood and mental health.
- Caregivers identified preexisting provider–patient relationships as important for telehealth visits.

Another *study of acceptability of telehealth* among adolescents and caregivers focused on youth accessing gender-affirming care (physical and behavioral health care). Even though there were small differences between adolescents and caregivers, a majority in both groups found the care acceptable.

- Patients and caregivers reported telehealth as the same or better than in-person visits with regards to communicating with providers, convenience and the ability of the provider to listen to the patient.
- However, adolescents were less likely than caregivers to report that telehealth was the same or better than in-person visits.
- Patients reported telehealth was worse for starting gender-affirming hormone therapy and for discussing surgery or learning to administer hormone self-injections.
- Patients also identified privacy as a disadvantage.

Providers report telehealth delivery is feasible, but opinions vary by provider type

An *annual survey* of physicians (adult and pediatric) practicing in the U.S. found that more than 70% of primary care providers, inclusive of pediatricians, and specialists reported that they were "to some or a great extent" able to provide a similar quality of care during telemedicine visits compared with in-person visits. In a pediatric-specific provider survey about the appropriateness of telehealth, three types of providers—primary care, subspecialist and mental health providers—reported that telehealth was a suitable method for care.[4] However, the pediatric-specific survey found variation by provider type. Pediatric mental health providers rated telehealth as highly appropriate, followed by subspecialists, and then primary care providers.

Opinions changed over the course of the pandemic, too. Pediatricians' opinions of acceptability and appropriateness of telehealth significantly decreased from early to late pandemic. However, pediatric mental health providers' favorability increased in the same window. Amongst the three provider groups, primary care providers were the least favorable to telehealth even after five months of use. During the pandemic, pediatricians utilized telemedicine at unprecedented volume and as a result, gained insight into which clinical care activities could or could not be effectively delivered via telemedicine. This experience may have contributed to pediatricians' response following the pandemic and their evolving perspective. Optimizing a hybrid approach of in-person/telemedicine care requires research to determine which care activities can be effectively delivered by each modality.

Disparities in telehealth utilization exist among youth

Studies on the utilization of telehealth highlight disparities by race. One *study* focused on the utilization of behavioral telehealth services at two children's hospitals during the early months of the COVID-19 pandemic found that *preexisting racial disparities* in pediatric mental health services grew. The proportion of racially minoritized patients accessing care also significantly decreased. Similarly, *a study* of the scale-up of telehealth in an adolescent health program found racial differences in visit completion: White patients attended telehealth visits at higher rates than others. The authors conclude that systematically monitoring utilization of telehealth is a critical action for health systems to identify and address inequities in access. For specific recommendations, see *Health systems and clinics should strive to create and maintain telehealth infrastructure* at right.

Innovative applications of telehealth can improve patient care

Telehealth offers opportunities to continue to improve patient care. In a *pilot project*, adolescents who had not attended a well-visit in more than two years were offered a telehealth well-visit. Interest in the telehealth appointments exceeded expectations, with a nearly 75% show rate among the 15 patients who scheduled appointments. Most patients completed a pre-appointment questionnaire and nine needed in-person follow-up appointments. All five patients who attended the in-person follow-up visit received vaccinations and sexually transmitted infection screening. Patients reported that the appointment model was convenient while the provider found the model increased the time for conversation with the patient. The telehealth appointment was billed as a preventive health visit and the in-person visit as a no-charge nurse visit. This pilot highlights the opportunity to innovate with telehealth services and the potential to reach different populations

CONSIDERATIONS FOR TELEHEALTH POLICY TO SUPPORT ADOLESCENT HEALTH

Telehealth is an acceptable mode for adolescent health care delivery, but more research is needed

While there are limitations to what services can be offered by telehealth (e.g., physical examinations and vaccinations are not possible), current evidence shows that telehealth is as acceptable as in-person care for multiple adolescent health services. Adolescent health care typically involves providers, patients, and their families, and all expressed support and desire for telehealth services. Health system and payment policy decision-making should align with the needs of adolescents and the opportunities within providing health care to adolescents. Research and evaluation of telehealth quality, including that which Congress has required of the *Centers for Medicare & Medicaid Services*, should uniquely consider adolescent health services.

Health systems and clinics should strive to create and maintain telehealth infrastructure

Offering telehealth services can expand care to patients who may not be able to access consistent in-person care, and it can increase care retention by reducing patient visit burden. Health systems should support telehealth services, enabling providers to schedule appointments in the patient's preferred mode. For telehealth services, *existing HIPAA-compliant platforms* for synchronous telehealth services offer information security benefits, an important aspect of privacy and confidentiality concerns.

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4   Manuscript in progress: Chuo J, Petsis D, Maleki P et al. Changes in Pediatric Provider Perceptions of Telehealth Use and Compared to In-Person Practices during the COVID-19 Pandemic.

To support providers and patients in utilization of telehealth options, health care systems can create shared decision-making tools to determine whether youth would benefit from telehealth services. Some factors highlighted in the research include existing patient–provider relationships and the need for physical examinations.

Additionally, health systems should create and maintain infrastructure that can *monitor and analyze* telehealth quality and safety measures at the encounter level. With this highly granular data, health systems can assess telehealth's value and equity for various care types in different scenarios over time. *Measures* should be stratified with variables measuring equity at the individual (e.g., race, ethnicity, language) and population (e.g., Child Opportunity Index, Social Vulnerability Index) level to uncover opportunities to reduce care disparities. Tools, such as this *pediatric framework*, may help health systems develop evaluation mechanisms for existing and emerging virtual care programs and services.

Provider–provider consultations

Another area of opportunity to extend the geographic reach of adolescent specialty care is through provider-to-provider consultation. Recent federal *guidance* clarifies that Medicaid/Children's Health Insurance Program (CHIP) may reimburse for provider-to-provider consultation that directly benefits patients as long as both providers are enrolled in Medicaid/CHIP. This consultation can take place across state lines and may support providers in offering some specialty adolescent health care—not unlike existing *behavioral health consultant lines* such as *Massachusetts Child Psychiatry Access Program*.

While telehealth may not provide optimal care in all situations, having the option may help adolescents continue to engage in care. Telehealth may be uniquely appropriate for reaching adolescents who have disengaged from care.

Continued coverage and reimbursement for telehealth will play an integral role in adolescent health and well-being

Adolescents' unique health care needs should be considered when *developing telehealth policy* about services, modalities, provider types and patient locations. Flexibilities exist within *Medicaid and CHIP*, and state-specific policy development should explore the following:

→ **Are adolescent health needs reflected in the types of services that are permitted to be delivered by telehealth and in the modes that are offered?**

State telehealth policy can permit specific types of health services to be delivered by specific modes (e.g., video, audio only) or specific types of providers. Covering specialty services that adolescents access (e.g., behavioral health, contraceptive health), relevant provider types, and accessible modes is important.

→ **Are specialty providers able to reach youth in areas with workforce shortages?**

State policy around licensure may allow specific provider types to practice in states where they are not licensed through *licensure compacts* and to increase access to specialty providers, such as those who treat eating disorders or mental health conditions.

→ **Are specialty providers able to treat adolescents while they are temporarily out of state (e.g., for college)?**

Several states allow *patients with existing relationships with providers* to have telehealth appointments while they are out of state.

→ **Are youth able to attend appointments from convenient locations?**

State policy is increasingly allowing patients to take *appointments from locations (originating sites)* such as schools or homes—places where adolescents are likely to be.

Addressing health disparities must be at the forefront to ensure equitable access to high-quality telehealth services

Given the challenges and disparities associated with telehealth, it should be available as an option for youth and their families *in addition* to in-person care. *PolicyLab researchers* and their colleagues identified that some groups face more challenges in utilizing telehealth: families who speak languages other than English; those who experience technological barriers like poor access to devices and high-speed internet, or who have less comfort using digital devices; families experiencing housing insecurity; those without a private or quiet space, who have multiple children or fewer adults at home to help manage the visit. Further research to understand the drivers of these inequities will be critical to developing resources and policy to support access.

At the state level, opportunities exist related to reimbursement rates and network adequacy. Specifically, reimbursement rates should enable providers to offer telehealth options. Further, policymakers can reinforce equity by measuring virtual service options and ensuring oversight on provider network adequacy. To support this, Medicaid and CHIP-managed care organizations will be required to *maintain provider directories by July 2025*, including details about providers accepting new patients and if they offer telehealth services. Measurement and oversight mechanism standards specific to children and youth, such as those proposed in *Network Adequacy for Equitable Access to Mental Health and Substance Use Care for Children and Youth*, should also be considered. At the health system level (see section: *Health systems and clinics should strive to create and maintain telehealth infrastructure* on pages 5–6), evaluating patient utilization of telehealth will help identify disparities and other opportunities for improving access.

Partnerships and collaborations outside of health care are needed to address barriers to telehealth, including assistance with devices and internet connectivity, confidential and private spaces for youth to safely engage in telehealth visits, and insurance coverage support. Solutions to broadband or internet access will *involve other stakeholders and agencies* to address the infrastructure and costs of access. Meanwhile, the *growing support for school-based health services* reinforces the role that *schools* can have in increasing services, which may be delivered by telehealth if providers are offsite. In addition, schools may serve as a partner in addressing some of the barriers identified, i.e., schools might have private spaces, broadband access and devices.

CONCLUSION

Adolescent health care is specialized care for youth as they rapidly develop and ultimately transition to adult care. As detailed in this brief, some of the benefits of telehealth care may be appealing to and lend themselves to adolescents' health care needs. While telehealth may not provide optimal care in all situations, having the option may help adolescents continue to engage in care. Telehealth may be uniquely appropriate for reaching adolescents who have disengaged from care. Adolescent health specialties should be reflected in studies of the quality of telehealth care delivery and in the evolving telehealth policy.

We recommend that telehealth continues to be an option for youth and their families *in addition* to in-person care. Policymakers, payors, and health care institutions each have a role to play in supporting adolescents' access to telehealth care and furthering a related research agenda.

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ACKNOWLEDGEMENTS

SUGGESTED CITATION

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PolicyLab is a Center of Emphasis within Children's Hospital of Philadelphia's Research Institute, one of the largest pediatric research institutes in the country.

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