

Expanding Access to Pediatric Therapies in a Changing Healthcare System

The medical home and its changing landscape

The medical home has long evolved from its roots as a central location for health records of children and youth with special health care needs, to an approach of delivering patient-centered, coordinated, comprehensive, and safe primary care for children.

The forms and extents of primary care that medical homes and primary care pediatricians need to deliver continue to expand rapidly. The increasing rates of chronic conditions like ADHD, depression, and anxiety, and the increasingly complex medical needs of pediatric populations, have led to a significantly higher need and demand for pediatric subspecialty care. For instance, the percentage of children aged 6-17 ever diagnosed with either anxiety or depression increased from 5.4% in 2003 to 8% in 2007, and then to 8.4% in 2011–2012.¹

However, the current pediatric healthcare system cannot keep up. The shortage of subspecialists like developmental-behavioral pediatricians and child psychiatrists, extensive wait times for patients, and widening social and health disparities all result in significant care gaps.

The need for a shift in how pediatric care is sourced and delivered is clear.

Facts & Figures: Pediatric Demographics, Social Determinants of Health, Workforce Capacity and Environmental Health Influencers.

Prevalence of emotional and behavioral conditions

Depression, anxiety and behavioral problems are very common in children and adolescents in the U.S. [Studies](#) drawing on the National Survey of Children's Health show that among

¹ <https://www.cdc.gov/childrensmetalhealth/data.html>

children aged 3-17 years, 3.2% have diagnosed depression, 7.1% have diagnosed anxiety problems, and 7.4% have diagnosed behavioral/conduct problems. These studies also indicate that the prevalence of disorders like depression has increased over time².

The treatment rates for these mental health conditions differ. According to the Centers for Disease Control and Prevention (CDC), 78.1% of children with depression received treatment, 59.3% of those with anxiety received treatment, while 53% of those with behavioral disorders received treatment.³

The national prevalence of children with a mental health disorder who did not receive needed treatment or counseling from a mental health professional is also reported to be 49.4% (about half)—with the figures varying significantly from state to state.⁴

Finally, the CDC places suicide as the second leading cause of death in children and adolescents aged 13 and older.⁵

Children with developmental delays and/or disabilities and/or chronic health conditions

One out of every six children in the US (17%) have one or more developmental delays.⁶ ADHD is the most prevalent developmental disability, with 9.4% of children aged 2-17 in the U.S., having received an ADHD diagnosis.⁷

Between 2009 and 2017, the overall prevalence of developmental disorders in children increased significantly— from 16.22%–17.76%. The rates of diagnosis for conditions like ADHD, autism spectrum disorder and intellectual disabilities specifically have increased notably.⁸

Treatment rates for developmental delays and disorders are not well documented, with the exception of ADHD. About 77% of children in the U.S with current ADHD diagnoses receive

² [https://www.jpeds.com/article/S0022-3476\(18\)31292-7/fulltext](https://www.jpeds.com/article/S0022-3476(18)31292-7/fulltext)

³ <https://www.cdc.gov/childrensmentalhealth/data.html>

⁴ <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2724377>

⁵ <https://webappa.cdc.gov/sasweb/ncipc/leadcause.html>

⁶ <https://pediatrics.aappublications.org/content/144/4/e20190811>

⁷ <https://www.cdc.gov/childrensmentalhealth/data.html>

⁸ <https://www.cdc.gov/ncbddd/developmentaldisabilities/features/increase-in-developmental-disabilities.html>

some form of treatment. However, only 47% received either behavioral treatment alone or a combination of behavioral treatment and medication.⁹

Prevalence of formal education support for developmental delays and disabilities

Children with developmental disabilities need more specialized educational services and support than their peers. The Individuals with Disabilities Education Act (IDEA), enacted in 1975, makes provision for free and appropriate early intervention, special education, and other related services for eligible children with disabilities.

Learning disabilities are the largest disability category covered under IDEA¹⁰. The national center for learning disabilities reports that 1 in 5 children in the U.S. have learning and attention problems, but only a fraction of them are formally identified in school. 1 in 16 public school students have Individualized Education Programs (IEPs) for specific learning disabilities like dyslexia and for other health impairments (OHIs) which covers conditions like ADHD and dyspraxia. Finally, 1 in 50 public school students receive accommodations for disabilities through the civil rights statute, Section 504, which mandates school districts to provide free appropriate public education (FAPE) to students with physical and mental impairments.¹¹

Impact of social determinants of health

Children living in poverty:

Children living in rural areas are more likely to be diagnosed with a developmental disability than children living in urban areas. Nineteen percent of children in rural areas are diagnosed with a developmental disability, while 17.48% of children in urban areas are. ADHD in particular is diagnosed more in children in rural areas (11.4%) than in children in urban areas (9.2%).

Despite these significant disparities in diagnosis states, children in rural areas with developmental disabilities are markedly less likely to receive treatment such as seeing a mental health professional or therapist, or receiving yearly well-child checkups. They are also

⁹ <https://www.cdc.gov/ncbddd/adhd/data.html>

¹⁰ <https://www.understood.org/articles/en/learning-disabilities-by-the-numbers>

¹¹ <https://www.ncl.org/research/state-of-learning-disabilities>

significantly less likely than their urban counterparts to get Special Educational or Early Intervention Services.¹²

African American and Latino children living in poverty often have higher rates of mental health disorders, but they are also usually less likely to get specialized mental health services.¹³

Racial trauma & community unrest

Numerous studies have linked the impact of racism to mental health problems in children and adolescents.¹⁴

Community violence exposure (CVE) contributes to negative psychological outcomes in children.¹⁵ Children who have undergone more stressful life experiences have a greater likelihood of suffering from behavioral problems like rule breaking, aggression and social problems, and are more likely to have academic problems. Studies also show that children from the lowest-income families are more likely to be exposed to frightening or threatening experiences than other children. And that black children were 45 percent more likely than white children to have been exposed to one frightening or threatening experience,¹⁶

Capacity and Impact of environmental health influencers

Workforce shortages

There is a considerable shortage of pediatricians and other non-clinical providers specializing in treating mental health conditions, developmental delays, and other behavioral issues in children and adolescents.

Most states in the U.S states are experiencing severe child psychiatrist shortages, and are on average having between 1 and 17 psychiatrists per 100,000 children. More specifically, 36 states have less than 10 child psychiatrists per 100,000 children¹⁷. Further, estimates suggest that just 15% to 25% of children with psychiatric disorders get specialty care.¹⁸

¹² <https://www.cdc.gov/nchs/data/nhsr/nhsr139-508.pdf>

¹³ <https://pediatrics.aappublications.org/content/143/3/e20182738>

¹⁴ <https://pediatrics.aappublications.org/content/144/2/e20191765>

¹⁵ <https://pubmed.ncbi.nlm.nih.gov/29019632/>

¹⁶ <https://www.epi.org/publication/toxic-stress-and-childrens-outcomes-african-american-children-growing-up-poor-are-at-greater-risk-of-disrupted-physiological-functioning-and-depressed-academic-achievement/>

¹⁷ <https://pediatrics.aappublications.org/content/147/1/e20194012?download=true>

¹⁸ https://www.milbank.org/wp-content/uploads/2017/03/MMF_BHI_Executive-Summary-FINAL.pdf

11 states across the country do not have any Child Psychiatry Health Access Programs available to support pediatricians in early identification and managing mental and behavioral health issues.¹⁹

The American Academy of Pediatrics 2021 Report on the pediatric workforce also reveals that nearly 50% of children's hospitals reported vacancies in developmental and behavioral pediatrics and adolescent and child psychiatry.²⁰

These shortages task overburdened primary pediatric providers with identifying, treating and managing their patients' mental and behavioral health problems—despite a lack of adequate training.

Increase in weather and climate disasters

The occurrence of natural disasters is increasing. According to The International Federation of Red Cross and Red Crescent Societies, the number of climate- and weather-related disasters has been increasing since the 1960s—rising nearly 35% since the 1990s. Moreover, over the past decade, 83% of all disasters triggered by natural hazards were caused by extreme weather- and climate-related events.²¹

Experiencing natural disasters has long-term effects on children's behavioral and developmental health. Somewhere between 7.5% to 44.8% of children affected by natural disasters experience depression. Anxiety disorder and behavioral problems increase too. For instance, after Hurricane Georges, around 6% of adolescents between the ages of 11-17 met the symptom criteria for separation anxiety, 3.2 percent for social phobia, 1.1 percent for panic disorder, and almost 2 percent for generalized anxiety disorder. Students displaced by Hurricane Katrina were also found to be 7.3 percent more likely than their counterparts to commit a discipline infraction.²²

Finally, natural disasters significantly reduce access to general and specialty pediatric healthcare —and indeed all other forms of healthcare— for people in affected communities.

The Pandemic: effects of COVID-19

¹⁹ <https://www.nncpap.org/map>

²⁰ <https://pediatrics.aappublications.org/content/pediatrics/early/2021/03/08/peds.2020-013292.full.pdf>

²¹ https://media.ifrc.org/ifrc/wp-content/uploads/2020/11/IFRC_wdr2020/IFRC_WDR_ExecutiveSummary_EN_Web.pdf

²² <https://www.samhsa.gov/sites/default/files/srb-childrenyouth-8-22-18.pdf>

The COVID-19 pandemic affected access to care for millions of patients in most medical specialties. Children have been experiencing reduced access to—and sometimes even complete loss of access to—services such as behavioral therapy, occupational therapy, and speech-language therapy.²³ Additionally, the pandemic has caused mental health burden to increase in children and adolescents who have an existing diagnoses and other special health care needs²⁴, and whose families experienced hardships related to the disease crisis.²⁵

Finally,, virtual schooling necessitated by the pandemic has lowered access to in-person speech/language therapy for students, increased social isolation and heightened risk for parental mental illness²⁶

Collaborating With Other Clinical and Non-clinical Providers: Pediatric Teletherapy

The myriad of factors explored above are contributing to the increase in the prevalence of mental, behavioral and developmental issues in children and adolescents, as well as limiting access to necessary specialty care for them.

Medical homes and their primary pediatrics need to build relationships and more actively collaborate with other clinical and non-clinical pediatric sub-specialists to help improve pediatric health outcomes. This needs to be done via methods that can inherently promote the breakdown of health disparities and limit the effect of environmental health influencers.

Pediatric teletherapy offers an easy and effective way through which trustworthy specialized pediatric care can be provided to children and families, wherever they may be and whenever needed. Pediatric teletherapy allows providers to overcome barriers to in-person therapy delivery like location, scheduling issues, illness, challenging weather conditions.

What is pediatric teletherapy?

²³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7982784/>

²⁴ Pediatric journal page 22 Colleen A kraft

²⁵ <https://pubmed.ncbi.nlm.nih.gov/32764151/>

²⁶ Pediatric journal page 22 Colleen A kraft

Pediatric teletherapy is the use of health technology, particularly video conferencing, to deliver mental and behavioral health support to patients and their families.

How pediatric teletherapy works

Pediatric care providers and specialists communicate and schedule appointments with patients and their families completely remotely. The actual therapy session takes place via a fully secure, video conferencing platform. All that's needed is a stable internet connection. Pediatric teletherapy can also be delivered asynchronously.

Families can find providers that offer pediatric teletherapy directly on teletherapy platforms, or they can be referred to them by their children's medical home/primary care provider.

Benefits of pediatric teletherapy

Research and studies indicate that pediatric teletherapy may be as good as and sometimes even more beneficial than in-person visits.²⁷ Telehealth has many proven clinical benefits in multiple medical subspecialties, and it holds similar promise for treating mental health conditions, behavioral issues, and developmental, speech and language delays in children. When used in the medical home context, telemedicine offers notable advantages such as increased patient satisfaction, cost-effectiveness, reduced emergency department visits, and less time off work for parents.²⁸

One meta-analysis of the use of telehealth for speech therapy in children of school age found that both telehealth and in-person participants made significant and similar improvements.²⁹ Another study explored treating children with ADHD via synchronous telehealth sessions and in-person treatment. Both groups of children showed improvement in symptoms, but children participating in the telehealth intervention experienced significantly greater improvement.³⁰

Asides from existing as an alternative and complementary offering to traditional in-office visits, and reducing the impact of health and social disparities, pediatric teletherapy offers specific benefits for patients, their families and providers.

²⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8078694/>

²⁸ <https://pedsinreview.aappublications.org/content/41/7/376>

²⁹ Wales D, Skinner L, & Hayman M. The Efficacy of Telehealth-Delivered Speech and Language Intervention for Primary School-Age Children: A Systematic Review. *Int J Telerehabil.* 2017;9(1):55-70

³⁰ Myers K, Vander Stoep A, Zhou C, McCarty CA, Katon W. Effectiveness of a telehealth service delivery model for treating attention-deficit/hyperactivity disorder: a community-based randomized controlled trial. *J Am Acad Child Adolesc Psychiatry.* 2015; 54(4): 263- 274. doi: 10.1016/j.jaac.2015.01.009.

For patients and their families

- **Increased access to care:** Telehealth gives families, especially those in rural areas where severe provider shortages exist, access to pediatric providers and specialists. With it, travel time to see available subspecialists in other better-served areas is also eliminated.
- **Reduced wait times:** Wait times for pediatric subspecialists that focus on mental, behavioral, and developmental health are extremely high. For instance, the national average wait time for developmental pediatric evaluations is estimated to be about 5.4 months.³¹ But with increased adoption of subspecialty care through pediatric teletherapy —by both primary care pediatricians and families—, these wait times will become shorter. This is because telehealth allows pediatric providers to see more patients during work-hours, as patient no-shows, travel time and other in-person logistical delays are reduced.
- **Improved parent and caregiver quality of life:** Pediatric teletherapy has been found to enhance the quality of life of parents and caregivers of children with special needs. A study assessed the impact of ADHD therapy and caregiver education delivered virtually/via telemedicine on parent's quality of life. It found that after 25 weeks of teletherapy, parents/caregivers experienced a significant decrease in parenting stress, and significant improvements in caregiver depression and strain, and family empowerment.³²

For providers

Pediatric providers frequently mention the flexibility that teletherapy offers.³³ With it they can interact with patients during parts of daily family routines they would otherwise have been unable to take part in in-person. Providers can also meet with patients multiple times daily as they do not have to commute to the family's residence.

Pediatric teletherapy is particularly useful to providers in rural settings. In one study, based on their experiences, rural pediatricians highlighted telehealth strategies like live video telemedicine and telehealth triage systems among others, for improving access to subspecialty care.³⁴ Rural pediatricians interviewed in the same study also noted that the benefits of subspecialty telehealth went well beyond improving care quality. They suggested

³¹ https://journals.lww.com/jrnldb/Abstract/2017/04000/Access_to_Developmental_Pediatrics_Evaluations_for.8.aspx

³² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8078694/>

³³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6597149/>

³⁴ <http://europepmc.org/article/MED/25919585>

that “improved connection with subspecialists would improve rural pediatrician recruitment and retention by providing clinical support and combatting professional isolation.”

Pediatric teletherapy for children aged 0-4

Very young children undergo pediatric teletherapy in ways markedly different from how their older counterparts do.

With children aged 0-4, pediatric teletherapy takes the form of ‘parent training’.

“When you use teletherapy for younger children, it is in a parent coaching mode. You demonstrate the skills to the parent, and then have the parent transfer and practice those skills with the child in the home. Paying attention to screens is not something that young children do well, nor should they,” Colleen Kraft, MD, former president of the American Academy of Pediatrics (AAP) and early child development specialist, explains.

This parent coaching takes place virtually, eliminating the need for the parents to travel and interrupt their daily routines and schedules.

Pediatric teletherapy’s effectiveness for younger children also varies from case to case. “The care team—the primary pediatrician, specialist teletherapy provider and parents—are in the best position to determine the appropriateness of pediatric teletherapy,” Kraft clarifies. Many times, younger children will transition from in-person therapy to teletherapy, as opposed to undergoing teletherapy from the very start. The care team will make the decision to change the care setting after evaluating the objectives and the trajectory of the child's progress.

Teletherapy Strengthening the Role of Enhanced Primary Care/Medical Home and Chronic Care Management

Primary care pediatric providers are increasingly tasked with identifying behavioral health issues and developmental delays in patients. In fact, as much as half of primary pediatric care visits are related to behavioral health concerns. Unfortunately, many primary care providers disclose being unable to find specialty services when needed for their patients. One study reveals that about 60% of pediatricians say they lack training in treating mental health disorders in children and 70% cite lack of time to treat as a reason for limited access to care.³⁵

³⁵ <https://pubmed.ncbi.nlm.nih.gov/26409303/>

Pediatric teletherapy is well positioned to fill in these gaps and take up these shortfalls. Many primary pediatric providers already acknowledge the need to prescribe physical, occupational, and speech and language therapies for children and adolescents with disabilities during the course of their clinical practice.³⁶

Promoting collaborative enhanced primary care

Properly managing the needs of children and adolescents with mental and behavioural health conditions and developmental delays and disabilities requires collaboration between primary pediatricians, specialized providers and the families of patients.

Seamlessly integrating mental, behavioral and developmental health care into pediatric primary care, through pathways like pediatric teletherapy, offers a unique opportunity to improve outcomes. Pediatric telehealth allows primary care providers and specialized (clinical and non-clinical) providers to form much needed systems of care coordination, communication and collaboration beneficial to patients and their families.

It efficiently leverages already scarce specialized pediatric provider resources by making referrals and subsequent treatment more timely and effective.

Identifying Quality Pediatric Telehealth Services

To minimize the potential risks associated with pediatric teletherapy, providers must have adequate pediatric experience and solid training in virtual therapy best practices. Pediatric teletherapy providers should also maintain regular and continuous communications about telehealth sessions with the patient's primary care pediatrician and other subspecialists involved.

To deliver quality pediatric telehealth services, the technology used must have an easy-to-use interface, be secure, private, and comply with medical-grade security regulations, and have strong internet connectivity.

Referral of children with special needs through teletherapy

³⁶ <https://pediatrics.aappublications.org/content/143/4/e20190285#ref-16>

After identifying a mental health condition, behavioral issue, and developmental delay in a child or adolescent that requires specialized care and cannot be addressed adequately enough in the medical home, the next step is a referral to a pediatric telehealth provider.

Intake process and bi-directional communication

Pediatric telehealth services commence with an assessment session. The assessment sessions(s) are focused on defining the presenting issue, determining current levels of functioning, gathering historical and background information, and crafting a treatment plan, among other things. Depending on the age of the patient, parents may need to be heavily involved in the intake process and assessment sessions. In some cases involving occupational therapy, equipment may need to be sent to the family ahead of the assessment.

It is important that the primary pediatrician stay abreast of the progress of their patient. It is equally as important for teletherapy providers to be able to glean useful information that could help the patient from the primary pediatrician. For these reasons, teletherapy providers encourage and employ bi-directional communication. Referring providers are asked to indicate if they would like to receive communications about the patient and at what frequency. Parents are also encouraged to sign release of information forms to foster effective collaboration between the providers.

Insurance coverage

Parents and caregivers have multiple financial options with pediatric teletherapy— self-pay, in-network insurance benefits, and out-of-network benefits. The ideal pediatric teletherapy service will be a network provider for most major health plans, or open to suggestions and collaborations with the referring primary provider to join the network of preferred payers and insurance companies. This makes it easier for families to utilize their in-network insurance benefits. In situations where this is not possible, families can still choose the out-of-network service provider and still get benefits, albeit reduced. Alternatively, families can make payment completely out of pocket.

By leveraging teletherapy in clinical practice, pediatric providers can give their patients increased access to specialty care, close health disparities, promote continuity of care and improve overall care quality.

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