

# The promise and pitfalls of telemedicine

Children's mental health during and beyond COVID-19

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**T**he COVID-19 pandemic created significant shifts for the lives of children, families, and the healthcare providers that serve them. Emergency mandates permitted expanded use of telemedicine models to address certain medical and behavioral health conditions. Using a clinical case example, this article illustrates the many challenges that families of children with mental health needs face in receiving—and optimally benefiting from—mental health screening, assessment, treatment, and care coordination. These barriers have long been documented prior to the pandemic, but merit renewed consideration as telemedicine takes on a larger role in the healthcare system, particularly for primary care providers. Implications for patient families, providers, and healthcare systems are discussed, which could inform clinical and policy activities to achieve behavioral health equity for children.

## Case presentation

Alex (name and details changed to protect patient confidentiality) is a 6-year-old Black Dominican male with diagnosed attention-deficit/hyperactivity disorder (ADHD) and fetal alcohol spectrum disorder (FASD) who was seen in the primary care office. He was accompanied by his grandfather and a Spanish-speaking medical interpreter.



Alex was born pre-term to a primigravid mother with alcohol use disorder. He was diagnosed with FASD, based on palpebral fissure length and motor, cognitive, and language development impairments. He was diagnosed with ADHD, combined type, at age 6, after two years of parental and teacher concerns about his inattentive and hyperactive behaviors. He has been on high-dose methylphenidate, which has helped with symptoms of impulsiveness and inattention. However, disruptive behavior problems persisted, even before the pandemic: his teacher reports that he cannot stay seated for longer than 10 minutes, climbs onto the furniture during class, and gets physically aggressive when he does not get his way. His grandfather described Alex as “our little hurricane” and “everywhere all the time,” throwing multiple tantrums a day. Symptom severity and frequency increased while Alex was home all day during the pandemic, making it difficult for him to complete schoolwork tasks and causing significant family friction.

Previously, the patient's primary care provider recommended that Alex see a developmental-behavioral pediatrician to discuss optimal management of ADHD. When the family visited the specialist a year earlier, they found the office did not have a medical interpreter. An on-call, telephone-based interpreter service was used for the assessment, but the grandfather “[doesn't] really understand what happened at that visit.” They later received a letter

with a list of therapist options, but the family lives an hour away from the nearest clinic and when they called the office, they were told the service might not be covered by Medicaid. The grandfather was also unsure why a therapist would be needed for such a young child. No other treatments have been pursued since.

Alex lives at home with his mother, his mother's boyfriend, his grandfather, an aunt, and two cousins. His mother has been sober for three years. She was recently laid-off from her job as a custodian, subjecting the family to significant financial stress. Through an individualized education plan (IEP), Alex had been working with an aide at his school to improve executive function and manage disruptive behaviors. Alex loves *Blue's Clues*, videogames, and playing soccer with his cousins.

### COVID-19 and children's mental health

Alex's story reflects a robust body of children's mental health services research that preceded the COVID-19 pandemic, providing an example of the barriers that many children face in accessing needed behavioral healthcare, including: perceptions of mental health and treatment, knowledge and understanding of mental health conditions, socioeconomic circumstances, and structural-social factors. A clear thread running through his story is the delay in receiving appropriate work-up and treatment. Early identification and treatment of behavioral health conditions in childhood, including ADHD, can improve the developmental trajectory, setting the stage for long-term well-being. Unfortunately, many factors can impede the timely receipt of high-quality services, ranging from language barriers, to limited insurance coverage, to competing demands on family time and resources, to lack of provider education on evidence-based protocols. With the backdrop of the pandemic and broader declines in pediatric preventative care, children's behavioral health may be sidetracked, possibly resulting in under-utilization of services during a developmentally sensitive period.

The pandemic undeniably created significant shifts to the lives of U.S. children, including their family, peer, school, and community relationships. Children's emotional and social well-being are patterned by the presence or absence of safe, stable, and nurturing environments—for many, these contexts underwent radical changes. Disruption of peer and family relationships, increased parental workloads and economic stressors, and impaired access to school-based nutritional, educational, or behavioral supports are just a few realities families have faced. These disruptions may be exacerbating symptoms for children with existing conditions (e.g., anxiety, PTSD), as well as increasing the degree of physiologic or functional dysregulation among at-risk children that previously did not meet diagnostic criteria. Importantly, Black, Indigenous, people of color, and those in socially disadvantaged circumstances are disproportionately at risk to the pandemic's toll on mental health.

Although data continue to emerge regarding the effects of the pandemic and associated mitigation actions on children's mental health, data on rising pediatric mental health-related emergency

department visits, child and parent-report of attention problems, externalizing behaviors, and anxiety symptoms associated with stay-at-home measures point to the pandemic's likely collateral consequences. Emerging data indicate that low-income households or those with children with disabilities are being disproportionately affected. Elevations in caregiver symptoms of depression and anxiety also have been documented, highlighting the complex dynamics of the public health crisis within individual family units.

## Children with ADHD treated with synchronous videoconference vs. in-person psychotherapy demonstrated greater symptom improvement.

### An old solution to a new problem: telebehavioral health

With the onset of physical distancing and quarantine measures, healthcare systems demonstrated a rapid uptake in the use of telemedicine, owing in part to emergency mandates that required insurance plans to cover phone- and web-based services. Provision of mental health screenings, evaluations, treatments (both pharmacologic and psychotherapy), and management services at a distance has long been discussed as a path to rectify longstanding issues of geography and workforce supply. Until now, expansion of telebehavioral health services for children has been limited to certain states and been stymied by legal and financial hurdles concerning privacy, clinical supervision and licensure, eligibility requirements, and reimbursement. The current moment offers healthcare system administrators, providers, and advocates a window to understand the opportunities—and possible downsides—of telebehavioral health when implemented at-scale.

Research has shown that telemedicine can be as effective for many adult behavioral health conditions with respect to symptom improvement, patient satisfaction, quality of life, and treatment adherence. There may also be similar levels of treatment satisfaction and therapeutic alliance. Although evidence on managing these conditions in children is more limited, there is reason to believe similar findings would emerge. In fact, children with ADHD treated with synchronous videoconference vs. in-person psychotherapy demonstrated greater symptom improvement. Fortunately, many evidence-based programs for children's mood, substance use, and eating disorders have been developed and deemed efficacious over video format. Primary care providers can informally or formally consult with therapists, psychiatrists, and other behavioral health providers for expert guidance on pharmacotherapy and psychotherapy options, functionally serving as the hub of the patient's medical wheel. There is also burgeoning evidence that telehealth modalities can yield benefits for the patient-

provider relationship, such as improved emotional connection, reduced anxiety, and observation of the patient's home milieu.

Telemedicine has limitations, however. It may not effectively reach certain vulnerable populations with limited access to stable or reliable internet, or those in unsafe or non-private living situations. This could include children and youth who are experiencing homelessness, those subject to significant household chaos or family dysfunction, or those living in rural and remote locations. Children and youth in institutional settings, such as juvenile correctional and emergency shelter facilities, can only benefit from telemedicine if attendant organizations designate appropriate resources to enable them to participate in a confidential and meaningful manner. Decision-makers at multiple levels must recognize the possible exacerbation of existing inequalities when designing telehealth policies.

Providers must consider telecommunication infrastructure investment, training, and liability insurance when looking at telemedicine. Working with patients over video may affect clinical decision-making due to challenges in performing physical or mental status examinations or observing nonverbal cues that are particularly relevant to psychiatric care.

Guidance on patients' logistical set-up may be needed, including the field of view, speakers, and microphones of participants' technology (e.g., smartphone, tablet, computer) as well as their physical location. Depending on the concern or nature of the visit, guidance on logistics can be offered during scheduling or prior to the visit. This could include, but is not limited to, pre-completing relevant instruments (e.g., Patient Health Questionnaire), limiting distractions and competing activities, and troubleshooting tips for common videoconference issues. Privacy may be important for discussing sensitive topics such as substance use. Conversely, clinician observation of interactions between children/youth and family members may be important for informal or structured psychotherapy. Inclusion of family members for collateral information (e.g., medication side effects) can be beneficial but may be influenced by technological constraints like audio quality. Ultimately, efforts that assess providers' and patients' perceptions of and experiences with telebehavioral health will be crucial for characterizing the process of care, and informing changes for future practice.

Policies that facilitate telebehavioral health service uptake—such as expanded telehealth coverage by insurers or widespread development of broadband infrastructure—on a permanent basis, beyond the pandemic, could optimize outcomes for children with unmet needs. However, increased adoption of these models is likely not enough to overcome the many other barriers that families encounter in accessing services; multiple policy strategies are needed. For example, families that now have enhanced access to mental health care providers may not benefit if they continue to hold misperceptions about mental health treatment.

Children's mental health needs at the population level continue to outstrip the available supply of providers; even if telebehavioral health addresses concerns about provider maldistribution, the

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provider pool itself will need to be expanded. Without sufficient providers, long wait lists to see mental health professionals will only grow, even with telemedicine. Greater involvement of primary care practitioners in assessing and managing pediatric behavioral health concerns within collaborative care models would be important for telemedicine to generate meaningful changes moving forward.

#### Case outcome

The progression of Alex's symptoms, functional impairment, and family distress suggested that methylphenidate may not be sufficiently controlling the patient's ADHD, particularly in the context of the pandemic. Increasing the dose of methylphenidate was deemed to be inappropriate, given the patient's age and risk for adverse effects. In addition, consultation of American Academy of Child and Adolescent Psychiatry guidelines on the management of ADHD in young children indicated evidence-based parent behavior therapy before to considering further pharmacologic approaches.

With the assistance of a trained Spanish-language medical interpreter using appropriate simultaneous interpretation technique, the provider explained to Alex's grandfather the benefit of therapy for children with ADHD poorly controlled on stimulant medication. A teach-back method was used to gauge the grandfather's understanding of the condition and then fill any knowledge gaps. A nurse case manager made a follow-up call to the patient's mother to ensure she understood the situation and the need for therapy, explain coverage options, and facilitate a warm hand-off to the therapist's office. The care team shared plain-language materials and videos on ADHD and FASD in Spanish and encouraged the family to connect with Alex's IEP team for guidance on contingency planning for the services he had previously received at school while in the classroom. Contact information for a legal program for low-income families was also provided.

Alex and his mother registered for videoconference-based Parent-Child Interaction Therapy (PCIT), an evidence-based program for children with ADHD. The service was covered through Minnesota's Medical Assistance program and implemented through a secure, HIPAA-compliant software. Although Alex's mother said it may be difficult to attend sessions due to her schedule, she appreciates the convenience and being able to complete sessions using her phone at home. Now that Alex's grandfather also has a better understanding of ADHD and appropriate therapies, Alex's care is more openly discussed in the home. The grandfather often reminds the mother about upcoming sessions and listens in from time-to-time, facilitating increased treatment engagement.

The primary care provider set a follow-up visit after three months to assess Alex's symptom progression, academic and social functioning, and family perceptions of PCIT services. **MM**

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## REFERENCES

Committee on Pediatric Workforce. The Use of Telemedicine to Address Access and Physician Workforce Shortages. *Pediatrics*. 2015;136(1):202-209. doi:10.1542/peds.2015-1253

Cree RA, Bitsko RH, Robinson LR, et al. Health Care, Family, and Community Factors Associated with Mental, Behavioral, and Developmental Disorders and Poverty Among Children Aged 2-8 Years — United States, 2016. *MMWR Morb Mortal Wkly Rep*. 2018;67(50):1377-1383. doi:10.15585/mmwr.mm6750a1

Early childhood evidence-based practices. Published 2017. <https://mn.gov/dhs/partners-and-providers/training-conferences/childrens-mental-health/early-childhood-mh-ebp.jsp>

Fegert JM, Vitiello B, Plener PL, Clemens V. Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: A narrative review to highlight clinical and research needs in the acute phase and the long return to normality. *Child Adolesc Psychiatry Ment Health*. 2020;14(1):20. doi:10.1186/s13034-020-00329-3

Garcia-Huidobro D, Rivera S, Chang SV, Bravo P, Capurro D. System-wide accelerated implementation of telemedicine in response to COVID-19: Mixed methods evaluation. *J Med Internet Res*. 2020;22(10). doi:10.2196/22146

Gloff NE, Lenoue SR, Novins DK, Myers K. Telemental health for children and adolescents. *Int Rev Psychiatry*. 2015;27(6):513-524. doi:10.3109/09540261.2015.1086322

Golberstein E, Wen H, Miller BF. Coronavirus disease 2019 (COVID-19) and mental health

for children and adolescents. *JAMA Pediatr*. 2020;174(9):819-820. doi:10.1001/jamapediatrics.2020.1456

Gurwitsch RH, Salem H, Nelson MM, Comer JS. Leveraging Parent-Child Interaction Therapy and Telehealth Capacities to Address the Unique Needs of Young Children During the COVID-19 Public Health Crisis. *Psychol Trauma Theory, Res Pract Policy*. 2020;12(S1):S82. doi:10.1037/tra0000863

Horwitz SMC, Kelleher KJ, Stein REK, et al. Barriers to the identification and management of psychosocial issues in children and maternal depression. *Pediatrics*. 2007;119(1):e208-e218. doi:10.1542/peds.2005-1997

Jenkins-Guarnieri MA, Pruitt LD, Luxton DD, Johnson K. Patient perceptions of telemental health: Systematic review of direct comparisons to in-person psychotherapeutic treatments. *Telemed e-Health*. 2015;21(8):652-660. doi:10.1089/tmj.2014.0165

Juckett G, Unger K. *Appropriate Use of Medical Interpreters*. Vol 90; 2014. Accessed December 6, 2020. <http://www.rid.org>

Lee J. Mental health effects of school closures during COVID-19. *Lancet Child Adolesc Heal*. 2020;4(6):421. doi:10.1016/S2352-4642(20)30109-7

Patrick SW, Henkhaus LE, Zickafoose JS, et al. Well-being of Parents and Children During the COVID-19 Pandemic: A National Survey. *Pediatrics*. 2020;146(4):e2020016824. doi:10.1542/peds.2020-016824

Reardon T, Harvey K, Baranowska M, O'Brien D, Smith L, Creswell C. What do parents perceive are the barriers and facilitators to accessing psychological treatment for mental health problems in children and adolescents? A systematic review of qualitative and quantitative studies. *Eur Child Adolesc Psychiatry*. 2017;26(6):623-647. doi:10.1007/s00078-016-0930-6

Siemer CP, Fogel J, Voorhees BW Van. Telemental Health and Web-based Applications in Children and Adolescents. *Child Adolesc Psychiatry Clin NA*. 2011;20:135-153. doi:10.1016/j.chc.2010.08.012

Singh S, Roy D, Sinha K, Parveen S, Sharma G, Joshi G. Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. *Psychiatry Res*. 2020;293:113429. doi:10.1016/j.psychres.2020.113429

So M, McCord RF, Kaminski JW. Policy Levers to Promote Access to and Utilization of Children's Mental Health Services: A Systematic Review. *Adm Policy Ment Heal Ment Heal Serv Res*. 2019;46(3):334-351. doi:10.1007/s10488-018-00916-9

Wolraich ML, Hagan JF, Allan C, et al. Clinical practice guideline for the diagnosis, evaluation, and treatment of attention-deficit/hyperactivity disorder in children and adolescents. *Pediatrics*. 2019;144(4). doi:10.1542/peds.2019-2528



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