

Considerations for Conducting Telemental Health with Children and Adolescents



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KEYWORDS

- Telemental health • Telemedicine • Telepsychiatry • Health information technologies
- Outreach with underserved populations

KEY POINTS

- Child and adolescent telemental health has been practiced successfully across underserved settings with diverse youth, for most psychiatric disorders, and across development.
- Assessment and treatments have been provided successfully using secure videoconferencing, including pharmacotherapy and psychotherapy.
- Although evidence is emerging concerning the efficacy of telemental health, care should adhere to evidence-based guidelines and best practices set forth by professional organizations.
- Across telemental health clinic start up and implementation, close attention should be given to administrative issues, legal/regulatory considerations (eg, licensure, credentialing, reimbursement, prescribing regulations), and technical support at the teleprovider and patient sites.

INTRODUCTION

Child mental health disorders are an important public health issue in the United States because of their prevalence, early onset, and impact on the child, family, and community, with an estimated total annual cost of \$247 billion. Approximately 20% of children

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living in the United States experience a mental disorder in a given year, and surveillance during 1994 to 2011 has shown the prevalence of these conditions to be increasing.¹ Despite recent initiatives designed to expand behavioral health services for youth, such as the Patient Protection and Affordable Care Act, many children in need of mental health care still do not receive it, receive an inadequate “dose” of sessions, or receive services from local providers without specialty training with children or without training in evidence-based pediatric approaches. Even greater health disparities are seen across geographies and ethnicities.²

As part of telemedicine clinical services, telemental health offers an innovative way to address striking access gaps. The umbrella term refers to behavioral and mental health services that are provided via synchronous telecommunications technologies, including discipline-specific applications such as telepsychiatry and telepsychology.³ Secure videoconferencing technology allows providers and patients/families at different locations to interact in real time and strives to ensure comparable treatment to traditional face-to-face settings. It is a relatively low-cost technology solution because behavioral health interventions largely rely on verbal communication and observation rather than the need for more expensive peripheral devices.⁴

Because youth often have a comfort level and extensive exposure to technologies, telemedicine may be a particularly good fit for this age group. Telemental health saves telemental health providers, or teleproviders, the time and expense of travel and has been extended to both rural and urban settings.⁴ There are additional benefits of this telemedicine approach in connecting systems of care and enhancing care coordination. Supervised settings that include a telepresenter, such as clinics, hospitals, primary care practices, schools, daycare facilities, detention centers, and other settings, have been the most frequent sites of connection with youth and have been associated with reimbursement. Unsupervised settings such as homes are increasingly being considered with the expansion of secure videoconferencing over mobile devices. The authors summarize telemental health basics around the *why*, *what*, *when*, *where*, *who*, and *how* associated with safe and effective care.

WHY DELIVER CHILD TELEMENTAL HEALTH SERVICES?

Telemental health expansion is driven by increasing expectations for high-quality behavioral health services across geographies. Telemental health is further advanced by the decreasing cost of secure videoconferencing options and increasing access to high-speed connectivity. Health care reform has increased interest in creative solutions to increase access to behavioral health services due to access challenges associated with the shortages of youth behavioral health specialists, a maldistribution of available specialists, a shrinking behavioral health specialist workforce, and instability in behavioral health funding.⁵ Rural and frontier communities are particularly hard hit with access difficulties because of shrinking populations, declining economies, and increasing poverty as well as delays in treatment, less access to mental health insurance, and limited transportation options.^{6,7} The burdens of traveling for services are often magnified, with the frequent standard of care for regular sessions sustained over a period of time.

Patients and families report several reasons for participating in telemental health, and as with most telemedicine specialties, report high satisfaction with telemental health.⁸ These reasons include the following:

1. Conveniently finding high-quality services close to home;
2. Decreasing time away from both work and school;
3. Decreasing costs associated with traveling miles for care;

4. Decreasing stresses of travel with a child with a behavior disorder and siblings;
5. Decreasing worries about navigating unfamiliar health care settings;
6. Allowing additional supporters to attend and work together to coordinate care; and
7. Decreasing stigma by connecting to child friendly settings such as schools.

For some patients and families, videoconferencing offers advantages, including less self-consciousness, increased personal space especially for adolescents,⁹ and decreased confidentiality concerns as the teleprovider is outside of the local community.

WHAT CONSTITUTES TELEMENTAL HEALTH?

A first consideration in what is meant by telemental health relates to the model of service delivery. Several telemental health models have been used to provide services to youth, each with a slightly different purpose.⁴ Telemental health services directly provided to the patient/family in supervised settings has been the most common service delivery model with youth and is the focus of this article. Other models complement these efforts, including consultation models that use videoconferencing to link the behavioral health specialist with the local PCP, supporting “virtual curbside consultation.” In addition, workforce capacity building models use videoconferencing to blend telehealth and distance education. Pioneered at the University of New Mexico, the Extension of Community Healthcare Outcomes (ECHO) model uses secure videoconferencing technology to connect multiple health care providers to a multidisciplinary team around a range of behavioral health topics (eg, attention-deficit/hyperactivity disorder [ADHD], autism, substance abuse intervention). The telementoring approach pairs weekly brief didactic updates around best practices with deidentified case presentations from the participating sites in order to build a community of practice. ECHO promotes increasing medical home and rural primary care collaboration with specialists and reducing variation in care using clinical best practices and algorithms.¹⁰ Some programs have developed specific models for consultation to primary care,^{11,12} including one that moves flexibly between consultation and direct care.¹³

In describing the “what,” or the content of telemental health services, comprehensive literature reviews inform the content of telemental health with children and adolescents.^{4,8} Because of the small but emerging child literature, lessons are often drawn as a downward extension from adult literature.¹⁴ Bashshur and colleagues¹⁵ completed a recent review of the empirical literature for telemental health across the lifespan following rigorous inclusion criteria. Overall, they concluded that there is strong and consistent evidence of the feasibility of telemental health as well as high acceptability across teleproviders and patients. Based on rating of the highest quality of scientific design, there was indication of improvement in symptoms and quality of life among patients across a broad range of demographic and diagnostic groups.

Although the literature base is small, comprehensive reviews of the child telemental health overall^{4,8,16} reflect good outcomes across child behavioral presenting concerns, in both rural and urban settings. Findings reflect adequate diagnostic efficacy, feasibility, and satisfaction across patients, families, teleproviders, and referring physicians.

With large sample sizes, 3 studies provide guidance specific to telepharmacotherapy with children and adolescents. Two retrospective chart reviews describe the results of telepsychiatry consultation. One study¹⁷ reviewed the charts of 223 patients and found that consultation resulted in changes in diagnosis (48%), treatment (81.6%), and clinical improvement (60.1%). In the second study, 100 patient charts were reviewed after consultation. The results showed that consultation was associated

with changes in diagnosis and treatment. Twenty-seven percent of those recommendations involved starting or managing medication, including stimulants, antidepressants, and antipsychotics.¹⁸

There is only one randomized trial noted specific to pediatric pharmacologic treatment with children.¹⁹ Myers and colleagues¹⁹ randomized 233 children diagnosed with ADHD to receive 22 weeks of treatment in 1 of 2 groups. The active control group received a single telepsychiatry consultation, with recommendations made to primary care providers (PCPs) to implement at their discretion during the trial. The intervention group received 6 sessions of pharmacotherapy via videoconferencing during the 22-week trial, complemented by caregiver behavior training delivered in person by a community therapist who was trained and supervised remotely. Findings suggest that the telepsychiatrists demonstrated high fidelity to consensus-based pharmacotherapy algorithms. Participants in both the intervention and the consultation groups improved, and those who received the 6-session intervention showed significantly better ADHD outcomes per caregivers' reports than did the consultation group. In addition, the caregivers themselves reported improved functioning.²⁰ This study provides high-quality evidence for the ability to provide guideline-based care through videoconferencing and the "added value" that a short-term telepsychiatric intervention provides over a single teleconsultation to primary care.

There are also a handful of studies focused on child clinical interventions using videoconferencing.^{21,22} Lessons may be drawn from the more robust adult therapy literature, with roughly equivalent clinical outcomes using evidence-based practices to treat posttraumatic stress disorder, depression and anxiety, eating disorders, and substance abuse concerns and similar process findings across therapy satisfaction, alliance, attendance, and completion.²³ Individual therapy using videoconferencing has also been successfully implemented with urban and rural children in a variety of settings, with reports most often using cognitive-behavioral approaches.²⁴ Most studies have been therapy interventions for ADHD, but there are also examples in autism, behavioral concerns with juvenile offenders, depression, obsessive compulsive disorder, and tic disorders.^{3,21}

Telemental health has been shown effective with behavioral health interventions to support chronic illnesses.²¹ Case reports suggest the delivery can be used for supportive interventions with children with a range of conditions (eg, cancer, congenital heart disease, cystic fibrosis, diabetes, epilepsy, irritable bowel disorder) and their caregivers. In addition, an emerging literature suggests effectiveness of individual and group interventions to treat pediatric obesity.²⁵

WHEN IS A TELEPROVIDER READY TO BEGIN SERVICE?

Motivated to increase access for very needed behavioral health services, teleproviders and health systems are often drawn to the technology's potential and eager to begin services quickly. As with implementing any new onsite outreach service, it is advisable to consider a 12- to 18-month start-up period in order to ensure the safest care for the patients following ethical, legal, and regulatory best practices. This period allows relationship building with community sites to consider the long-term business planning and sustainability²⁶ from both the teleprovider and the patient sites, including administrative (eg, scheduling, billing), technical support, and legal/regulatory needs.

Establishing a Telemental Health Service

Technology makes it possible for teleproviders to offer services across the city, the state, the country, or even the world in real time. There is high need across settings

so it is important to take a thoughtful approach to timeframe and site selection. The developmental model of Shore and Manson²⁷ for rural telepsychiatry guides overall considerations in starting a child telemental health practice. They emphasize that the telemental health clinic purpose drives technology selection. It is sometimes difficult to avoid the marketing buzz for the newest technologies, which may or may not be a fit for the telemental health. A comprehensive *Needs Assessment* informs what telemental health services are of highest need/interest. The teleprovider has ongoing discussion across stakeholders, including community leaders, community organizations, consumer groups, local behavioral and mental health providers, local PCPs, and other key partners. A detailed assessment of the existing technological, organizational, and programmatic infrastructure at the outreach site or sites as well as within the teleprovider's own organization is recommended, including the equipment available and/or needed; the clinical space; the connectivity available (as well as the overall networking burden of the televideo application); the expectations concerning who will pay for equipment/connectivity over time; and staffing needs.

In addition, new telemental health services should clearly define roles and responsibilities across parties through clear protocols, including careful consideration of budget requirements immediately and long term, and reimbursement option for the target population.²⁸ About half of states have telemedicine parity, meaning that if services are reimbursed by the insurer in onsite settings then they are also reimbursed over telemedicine; this helps teleproviders and families consistently know what telemental health services will be reimbursed.²⁹ A Pilot Implementation phase, focused on a small-scale trial and continuous improvement, can assist in refining processes and promoting sustainability.

Ethical and Regulatory Considerations

The careful consideration and planning around regulatory and ethical issues also impact when the telemental health program may launch. Just as in on-site clinical settings, the core ethical concern to protect the patient remains paramount for video-conferencing settings.^{5,21} In addition, professional guidelines addressing telemental health are emerging to inform "reasonable steps" for telemental health practice across clinical, administrative, and technical considerations, including child-specific guidelines.³⁰ Telemental health guidelines include the American Academy of Child and Adolescent Psychiatry,³¹ the American Psychological Association,³² as well as a growing list of other organizations.³ Existing guidelines from the American Telemedicine Association^{33,34} as well as soon to be released child telemental health guidelines and general pediatric practice guidelines are excellent resources.

At the national level, The Joint Commission for the Accreditation of Healthcare Organizations has regulations applicable to telemedicine. Federal, state, and local laws, as well as institutional requirements, must also be reviewed related to the following: (1) involuntary commitment and reporting child maltreatment; (2) teleprovider credentialing and privileging requirements; and (3) malpractice insurance specific to telemedicine.³⁵

Interstate licensure is a complex issue; the teleprovider is encouraged to review state licensure requirements related to the teleprovider location and the patient location. In most states, the teleprovider is required to hold a license where the patient is being seen; some states have additional requirements. Other regulatory/ethical requirements to consider include verifying the patient identity and confirming the location of the patient³⁴; this is often more easily accomplished in supervised than in unsupervised settings/homes. It is equally important for the teleprovider to inform the patient of the teleprovider's location and credentials.

Other important factors to consider when initiating a telemental health service include the patient's privacy and compliance of the videoconferencing transmission with the Health Insurance Portability and Accountability Act. State law regarding confidentiality of behavioral health information should be reviewed, and when applicable, school-specific confidentiality requirements as outlined in the Family Educational Rights and Privacy Act Regulations. Informed consent for treatment may include an additional consent to receive telemental health services. A review of the potential limitations and acknowledgment of the patients' right to refuse treatment over videoconferencing is part of informed consent as well as clarification of whether the sessions will be recorded and/or stored in any way. Best practices in documentation and use of the electronic health record should also be followed.

WHERE ARE PATIENTS AND FAMILIES RECEIVING TELEMENTAL HEALTH SERVICES?

In order to increase access for children and families, there has been much creativity in "meeting the child and family where they're at" and deliver services as conveniently as possible. Direct-to-consumer telemental health vendors and private practice teleproviders are expanding delivery sites. It is important to keep in mind the unique needs across settings and carefully consider the ethical, regulatory, and training needs as later discussed in the "how" section.

Supervised settings are the most frequently reported sites of youth telemental health services, including rural and urban settings. Examples include schools, outpatient clinics, primary care clinics, community mental health centers, physician offices, and correctional settings.³⁶ Individual reports describe delivery to other settings such as residential treatment facilities, critical access hospitals, group homes, Area Health Education Centers, colleges, sites serving foster care, military bases, inpatient psychiatry settings, and daycare centers.^{5,22} Unsupervised settings including patient homes are emerging points of service delivery that bring both new benefits and risks³ due to decreased teleprovider control over the environment.

With a focus on family-centered assessment and treatment, telemental health services are being moved outside of traditional mental health care settings. These settings offer advantages in identifying contextual factors involved in youths' behavior and mental health needs as well as in working with a wide range of caregivers/supporters involved in implementing recommendations. One collaborative opportunity is using the technology to link teleproviders with PCPs. Telemental health affords increased communication and coordination to benefit the child and family, support positive outcomes,³⁷ and has the potential to advance patient-centered medical home ideals.³⁸

In addition, school-based telemental health services engage youth during the school day, thereby reducing missed school days, decreasing disruption in the child's classroom time and parent's workday, allowing parents to be involved in a setting that is familiar and convenient, and incorporating school personnel into treatment planning.³⁹ In addition to direct telemental health services, the technology allows the youth's teleproviders to engage in multidisciplinary planning, student evaluation, Individualized Education Plan/504 plan meetings, and collaboration with teachers, school specialists (eg, school psychologists, social workers, and allied health specialists), nurses, and administrators.³³ Distance education for staff around behavioral health topics as well as consultation on both classroom-specific and general school issues, provides unique opportunities to support children and adolescents and deliver guideline-adherent care.⁴⁰

Residential treatment centers and correctional settings often require prolonged separations between the confined youth and their family and local providers.^{5,41} Although privacy and confidentiality must be carefully considered, telemental health

allows families to participate in a youth's treatment while remaining in their home communities or allow a teleprovider to connect to the youth's facility. Home-based telemental health offers potential advantages to observe the youth in a naturalistic setting and to practice skills in the lived environment. Comer and colleagues⁴² are pioneering the evaluation of delivering telemental health interventions for early onset behavior disorders delivered to the home. A recent feasibility study⁴³ successfully delivered home-based telemental health services to children who had experienced trauma and found that trauma-informed care elements could be translated to the home-based setting. Finally, positive results are emerging from a nationwide clinical trial across the lifespan that evaluated support group services for homebound individuals and their caregivers using mobile tablets for videoconferencing. Early reports⁴⁴ note positive, cost-effective results related to satisfaction and health outcomes.

WHO PARTICIPATES IN TELEMENTAL HEALTH SERVICES?

This section addresses the different people involved in telemental health encounters, including the patient and family, the therapist and trainees, the telepresenter (in supervised settings), and the community stakeholders/supporters.

Patients and Family

Across telemental health clinics, patients tend to present with the same concerns as seen in traditional clinic settings.³³ No presentation or diagnostic category has been excluded from telemental health services. However, the same careful consideration used in traditional clinics is taken related to competence with the presenting concern as well as access to requisite resources, particularly with severely impaired patients. The choice of who will be seen depends on developmental and diagnostic considerations, personnel and resources at the distant site, patient and guardian preferences, the teleprovider's judgment, and input from the referring provider.³¹ The teleprovider should make sure there are appropriate on-site clinical resources in order to safely conduct an evaluation, including resources to support patients in crisis. Depending on the situation, exclusion criteria may include factors such as youth without accompanying guardians, patients without a PCP, or patients with a PCP who are uncomfortable resuming care for psychiatric patients. Unsupervised setting may have additional inclusion/exclusion considerations in order to ensure patient safety. For example, the report of a current or previous person in the home who has acted violently and abusively may be contraindicated due to concerns the person could be off screen and able to eavesdrop, or may become violent or impulsively disconnect during a session.^{3,43}

Teleproviders and Their Trainees

There is no profile distinguishing between teleproviders who choose to engage in telemental health, although it is not uncommon that they also engage in onsite outreach and value a community. Common goals noted by teleproviders include the following:

- Strive to translate the same effective communication and intervention skills that they use in the onsite setting to the telemedicine context;
- Provide services within the scope of their appropriate practice for in person encounters, including the necessary education, training, cultural competency, and ongoing continuing education/professional development; and
- Set appropriate expectations regarding the telehealth encounter, including, for example, prescribing policies, scope of service, communication, and follow-up. Familiarizing oneself with the federal Controlled Substances Act (US Code Title 21) and other relevant state and federal regulations is important.

Because of the newness of the field, there are no established performance competencies specific to technology, but telehealth guidelines provide direction.^{31,33} Hilty and colleagues⁴⁵ have proposed an innovative competency model aligning telemental health competencies with the Accreditation Council for Graduate Medical Education framework. These telemental health competencies span patient care, system- and practice-based learning, professionalism, communication, knowledge, and technology. The competencies encompass novice or advanced beginner, competent/proficient, and expert levels. Following adult learning best practices, teaching and assessment methods for the telemental health competencies are outlined. Additional resources are available through both the federally funded telehealth resource centers (www.telehealthresourcecenter.org) and public and private programs (eg, www.tmhguide.org, others).

Teleproviders need practice with the technology as well as cultural competence with the population served and communication skills in working across systems of care. Ideally, new teleproviders shadow and receive guidance from established teleproviders and complete “test” runs in order to build confidence with the technology. Federally funded telehealth resource centers, professional organizations such as the American Telemedicine Association, and training companies offer training related to these competencies.³

It is appealing to include trainees in telemental health clinics in order to encourage consideration of future outreach practice and the rewards of working with underserved children and their families across systems of care. Training resource and supervision should be considered as well as opportunities for trainees to engage in telemental health evaluation efforts. Telemental health offers unique training advantages because several trainees can be unobtrusive in the telemedicine room without crowding the patient.^{46,47}

Telepresenter

The telepresenter, sometimes called a presenter or facilitator, at the distant site facilitates sessions and is often the site’s “champion.” This telepresenter is someone with a clinical background trained in the use of videoconferencing equipment to “present” the patient and manage the technical components of the encounter⁴⁸; additional training around supporting behavioral health patients may also be beneficial. The telepresenter serves as the bridge between the therapist and the patient/family at the distant site and assists by promoting the telemental health service, scheduling the consult, compiling intake packets, socializing the patient/family to televideo, using the technology, assisting during the consultation, and helping the patient/family follow-up on recommendations. Thus, the telepresenter requires support across administrative leaders and colleagues in completing these many tasks as they may be in addition to typical responsibilities and workflow.

Multiple Informants

Videoconferencing often links together systems of care by connecting the teleprovider with schools, rural clinics, primary care offices, and other systems. Increased communication across technology systems represented by these multiple informants is a chief advantage of telemental health. If the patient is under the age of 18, the parent/guardian guides who participates in sessions, but generally welcomes these additional support personnel in developing and implementing the treatment plan. The videoconferencing session allows everyone to contribute their unique piece to the diagnostic and treatment puzzle. Communication occurs not only with the teleprovider but also with each other. For example, it is a frequent situation in school-based

clinics that parents and teachers have had very little or no direct communication about the child's behavior in different settings or family stressors that may be impacting the child's functioning.

HOW IS CHILD TELEMENTAL HEALTH IMPLEMENTED?

The authors first describe overarching elements that relate to quality of care in telemental health practice.^{3–5} They then summarize specific considerations related to evaluation and pharmacology. One overarching consideration is support for diverse families, including resources for interpreting needs, needs around hearing impairment, mobility needs in accessing the telemental health space, and other culture- and community-specific considerations.

Confidential Clinical Space at the Patient and Teleprovider Sites

An ideal room is large enough to accommodate the youth, a clinical staff person, and at least 2 other adults, but not so large that it encourages distractibility or hyperactivity. The room should be large enough to evaluate children's motor skills, play, and exploration and to note abnormal movements.⁴ A table allows the child to draw or play but should not interfere with viewing motor skills. Some developmental teams prefer not to have tables in the room to decrease the chance of young children hiding beneath. Both the interview room at the patient site and the clinician's room at the teleprovider site should be maintained as confidential and quiet space. The space that teleproviders use will likely be construed as their offices. Thus, it will be expected to appear professional and reassure the patient that the space is confidential and family friendly. Consideration should be given to a room that is large enough to accommodate trainees.

At the patient sites, practical considerations may include placing a "Clinical Session in Progress—Quiet Please" sign on the door and informing staff about the importance of maintaining a trusted clinical space. The physical layout of the room should be considered, including limiting the possibility that the encounter could be observed through a window or that eavesdropping could occur. This consideration is sometimes challenging at sites that use the telemedicine room for multiple purposes, such as the school nurse's office. The room setup should take into consideration the target population. For example, if working with many patients presenting with ADHD, extra attention may be given limiting access to equipment or other room supplies when a child has difficulty sitting still and/or keeping their hands to themselves. If working with a potentially aggressive population, extra attention should be given to limit equipment or room components (eg, blinds) that could be torn from the walls, as well as close support from the telepresenter.

Technological Factors Affecting the Clinical Encounter

A high-quality video signal is crucial to the success of the telemental health session, with recommendations generally advising a bandwidth of greater than 384 kB per second.^{4,33} High-quality audio signal also assists with identifying nuances of each other's verbal communication. The room should ideally be away from clinic and street noise because the microphones are very sensitive, and extraneous sounds can interfere with the session. Toys can produce uncomfortable levels of noise and foam blocks, books, markers, and papers may be an alternative, depending on the patient population and developmental stage.

Video quality and camera placement are also important to the quality of the telemental health session in order to clearly observe facial expressions, affect,

relatedness, crying, and other nonverbal reactions. Considerations include the following^{3,4}:

- To minimize shadows, lighting should emanate from behind the camera;
- Rooms with no windows or adequate window cover in order to control lighting;
- Professional colors/backgrounds consistent with typical office settings; and
- Avoidance of clothing with high contrast, such as stripes and busy patterns.

The Patient-Provider Relationship and Videoconferencing Etiquette

It is important to translate the same patient engagement and rapport building strategies to the telemental health session.⁴⁹ Shadowing existing teleproviders and consulting with colleagues often foster the teleprovider comfort level associated with strong therapeutic relationship building. Strategies used in onsite visits translate to the telemental health environment, such as noting a child wearing a shirt from a favorite team or taking time to talk about local/school events. Some teleproviders may use more animated gestures or attend more closely to nonverbal cues such as facial expressions, although overly exaggerated/fast movements/hand gestures should be kept to a minimum to avoid pixilation. Verbal communications may be more deliberate to adjust for the slight auditory lag and to clearly indicate when the teleprovider has finished speaking in order to facilitate reciprocity in communication, although this is decreasing as a less frequent concern due increasing availability of high-speed connectivity.

Families often quickly accommodate to the technology setting because of previous experience in using videoconferencing for social purposes, such as Skyping/Face Timing with friends or family members.⁴ Reminders of the clinical nature of the interaction and the additional security of the videoconferencing systems are encouraged. The technology itself may be used to build rapport, such as a virtual “high 5” or holding a drawing to the camera.

Assessment

As in onsite assessment, telemental health assessment may include time with the child and adult together and individually, depending on the child’s age, impulse control, verbal skills, and ability to separate from caregivers. The teleprovider often directs the telepresenter in assisting with managing who is in the room, and directing those outside the room to the waiting area or engaging children as they wait their turn. In evaluating preschoolers, it is helpful to observe the child in developmentally appropriate interactions with the support of the family, telepresenter, and other supporters such as teachers. The child may be observed in both free play and interactions with family and staff in order to assess social, motor, and verbal skills. This observation may assist in assessing the young child’s level of attunement, pleasure in the interaction, or spontaneity in play. Another consideration is the child’s level of cognitive development and ability to understand videoconferencing. Preschool-aged children may have difficulty with the concept that the teleprovider is a “real” person existing in a different location.⁴

Several innovative strategies are being developed to assess developmental disorders over videoconferencing. Reese’s team⁵⁰ report on the utility and validity of an autism spectrum disorder assessment protocol conducted via videoconferencing. They have also developed an innovative, cost-effective Integrated Systems Using Telemedicine model for autism. This telemedicine model links students and families, trained local early intervention providers and educators at the child’s school, and a team of professionals at the academic health center in order to complete comprehensive autism evaluations,⁵¹ helping keep the child close to home.

Pharmacotherapy

Pharmacotherapy can be accomplished with consideration of clinical, regulatory, and logistical issues,^{4,52} consistent with all American Academy of Child and Adolescent Psychiatry practice parameters. Approaches used in prescribing medications depend on the model being used. In one model, medication is prescribed directly by the teleprovider, most often a child psychiatrist. In another, the teleprovider manages the patient until he or she is stabilized, and care is then transferred back to the referring clinician. Finally, the telepsychiatrist may see the patient for a one-time consultation with recommendations for the referring clinician. With all models, maintaining communication with the PCP is essential. The teleprovider often requires a recent physical examination and may order additional diagnostic tests depending on the child. In order to provide medication treatment, it is necessary to perform a diagnostic evaluation before prescribing medication.

When a patient is seen for the first time, the teleprovider obtains consent that acknowledges that the family has the right to seek out in-person treatment should they choose.³¹ Teleproviders should review the procedures for medication prescribing and obtaining refills. Prescriptions that are not controlled can be ordered by calling the pharmacy, written and mailed, or e-prescribed. E-prescribing, which fits logistically with telemental health, is an increasing practice. Controlled substances such as schedule II stimulants have more regulatory constraints and cannot be refilled or called to the pharmacy. Stimulant prescriptions can be mailed directly to patients' homes or their pharmacies. Some sites may require that prescriptions be mailed to the patient site for distribution to families, or that copies of prescriptions be maintained according to the specifications of a Medicaid contract or other regulations. E-prescribing of stimulants is also an option in some venues because the Drug Enforcement Administration (DEA) approved the electronic prescription of controlled substances. This DEA-sanctioned practice is approved in most states, but adoption has been slower than e-prescribing in general, likely because of the security restrictions and collaboration requirements (Department of Justice, DEA, Office of Diversion Control: http://www.deadiversion.usdoj.gov/ecomm/e_rx/). In addition, teleproviders should monitor federal updates related to prescribing controlled medications and the Ryan Haight Online Pharmacy Consumer Protection Act of 2008.

Medication monitoring is also possible via telepsychiatry and should be followed according to the same standards of care as in-person psychiatric management.⁵² Staff at the patient site can obtain vital signs, height, and weight on the patient as well as the Abnormal Involuntary Movement Scale. Laboratory tests and electrocardiograms may also be obtained. For care between telemental health sessions, teleproviders assist with clear direction and contact numbers for interim needs such as requesting refills, asking questions, and reporting adverse effects. Protocols describing this process help to ensure safe monitoring of medications and to define expectations for staff at both sites. Families should be educated about this policy and given adequate time for refill requests to prevent running out of medications.

SUMMARY

Telemental health services with youth will likely continue to grow because of the increasing workforce gaps between need and service across behavioral health specialties as well as the call for new models of family-centered care and collaboration across child-serving systems. Ideally, they also assist with 2-generation needs such

as onsite and telemedicine services that also address parent/family health needs. National and state initiatives continue to work to address regulatory/legal barriers to telemedicine in general, including efforts around interstate licensure and parity. Although technology advances and improved connectivity open many doors to expand telemental health, the defining *why*, *what*, *when*, *who*, *where*, and *how* will remain key considerations in delivering effective interventions.

Going forward, expanded telemental health services to children and adolescents will be supported by the continued evolution of secure, high-speed, mobile videoconferencing options across the range of current and future devices. Technology advances will further expand telemental health service delivery sites, including unsupervised settings such as the home and youth mobile devices. With this expansion comes the need for careful consideration and evaluation of services to maximize benefit for youth and families, minimize risk, and optimally support community stakeholders to test models of care, to evaluate quality improvement efforts, and to examine the effectiveness of services delivered through telemental health across diverse populations.

With an at times overwhelming array of technology options to assess and treat child behavioral health concerns (synchronous mental health/videoconferencing, social media, asynchronous mental health, mHealth, virtual technologies, virtual reality, augmented reality, intelligent wearable devices, and artificial intelligence), it is essential that teams of experts (eg, clinicians, health information technologists, informatics leaders, evaluators, patient advocates, and others) work together to carefully match the best technology options for the specific needs of youth and their families.^{53,54} With these exciting new options comes continued need for guidance from professional organizations and for careful consideration of training to support teleproviders around competencies to provide the safest and most effective pediatric services.

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