TELEPSYCHIATRY COMMITTEE

Keys to a Successful Telemental Health Practice

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Introduction

AM, a six-year-old male, goes with his mom to his school-based health clinic for an appointment with a telepsychiatrist. AM’s mother and his teachers have been concerned about his behavior and academic progress. Since there was not a psychiatrist in their community, AM’s parents choose to have him evaluated via videoconferencing. When they arrive at the clinic, the psychiatrist dials into the clinic, is introduced to AM and his mom, and then begins his appointment. Similar to a face-to-face encounter, the psychiatrist obtains a detailed history while observing the child. With the psychiatrist’s observations, a comprehensive history, and teacher/parent reports, a detailed understanding of the child evolves. The telepsychiatrist discusses his findings with AM’s mom and they review treatment options.

Prior to the existence of telemental healthcare (TMH), AM’s treatment would have been constrained by distance and a dearth of providers. Limited resources, long travel times, high travel expenses, unreliable transportation and provider shortages previously rendered this family unable to find care. TMH has changed the lives of people like AM. Establishing a successful, patient-oriented TMH practice requires careful consideration of several aspects. Some features are intuitive because they are no different from face-to-face appointments, but others are unique to telepsychiatry. Based on seven years of personal experience as a telepsychiatrist and a review of the literature, I have compiled a list of some key considerations when developing a TMH practice.

Space

Room size, décor, and design are critical when developing TMH clinics. The space must be suitable for the clinician to observe parent and child interactions. The patient must be able to stand, sit, wave, walk, and move during the appointment. The room needs to have enough space for at least one adult to sit next to the child and be visible on camera. A room that is too large, or filled with extraneous equipment, may be distracting or over stimulating to the child (AACAP 2008, ATA 2009b).

Bandwidth

Teleclinicians rely on observation of patients’ movements, affect, and communication for diagnostic evaluation and treatment decision-making. In order to accurately replicate face-to-face evaluations, there must be high bandwidth (384 Kbits/sec) and monitor resolution (> 30 frames/second) (AACAP 2008, American Telemedicine Association (ATA) 2009b, ATA 2013). Adequate bandwidth facilitates detection of affective state and withdrawal, mild tremors,tics, fine motor control, and neuroleptic-induced abnormal movements. Sufficient bandwidth minimizes the time lapse in verbal transmission, allowing the patient and teleclinician to freely converse and any anomalies of speech and prosody become evident. Insufficient bandwidth produces pixilation of the video signal and delay of the audio signal so that the teleclinician and patient interrupt one another, impeding the mental status examination (Glueck 2013).

Camera

Cameras have a crucial role during telehealth appointments. The task demand and bandwidth influence camera choice. Careful camera placement enables providers to easily observe participants and activity in the exam room. If a provider can remotely control the tilt, pan, and zoom (TPZ) functions to view the patient, the provider’s power of observation is heightened (AACAP 2008, ATA 2009b, ATA 2013). Having TPZ controls to view the provider’s side enables families to take a virtual tour of the provider’s office and feel more connected to the provider (AACAP 2008, ATA 2009b, ATA 2013). With TPZ ability, the provider may use the camera to play “hide and seek” with children (Glueck 2013). Placing the camera directly in front of the patient at eye level maximizes eye contact. Putting the monitor either higher or lower on the wall guides the patient and provider to have more natural eye contact. Currently many telehealth set-ups have the camera above, below, or to the side of the monitor. This placement produces a gaze that appears to have a person looking down, up, or sideways, respectively (AACAP 2008, ATA 2009b, ATA 2013). Since teleclinicians must look at the patient, the camera and the medical record during visits, the provider’s gaze is often diverted, leading the patient to think that the provider is not paying attention. An ideal system enables the provider to maintain eye contact with the patient at all times. Several solutions exist to solve this problem. By focusing the camera above mid chest some notes may be taken without an interruption in eye gaze, if the provider is able to write or type without looking. Unfortunately zooming in on the provider distorts the patient’s perception of the clinician.

An alternative set up uses two monitors placed close together to minimize changes in eye or head position. Figure 1 shows a novel set up with the monitors placed vertically and a camera in the middle. There is less head movement as the teleclinician looks up and down and his/her gaze passes the camera.

Toys/Artwork

Children can draw pictures and share with the provider. These pictures may shed insight into the child’s thoughts and feelings. This author worked with a

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site that let children use a nonfunctioning keyboard so they could type “just like the doctor.” Children like to bring a favorite toy and show it to the teleclinician. Some toys should be at the patient site so the provider can observe the child playing and occupy the child while adults talk. Noisy toys will interfere with auditory communication and toys with many parts will provide a cleanup burden for staff.

**Sound Quality**

Successful TMH sessions are predicated on quality sound production and transmission. Dropped signals, dysynchrony with the video signal, and echo interference all hinder the provider/patient relationship. Microphones should not transmit ambient noise but be able to detect quiet voices. Placing carpeting on the floor, draperies on the windows, and sound panels or textiles on the walls improves sound quality and softens hard surfaces. A sound machine outside the room decreases interference from outside noise and increases auditory privacy (AACAP 2008, ATA 2009b, ATA 2013).

**Picture in Picture**

A unique feature of videoconferencing is the “picture in picture” (PIP) function. A small box in the corner of the monitor shows the teleclinician how he/she appears to patients and vice versa. Teleclinicians may use the PIP function to see how they and their background appear, and to note their affective responses to the patient (AACAP 2008, ATA 2009b, ATA 2013). Children and adolescents enjoy seeing themselves on camera.

**Conclusion**

Telemental healthcare is a promising service delivery model to provide mental health care to children and adolescents who do not have access to usual models of mental healthcare. Conducting an accurate evaluation, providing evidence-based care, and achieving effective outcomes all via telehealth requires consideration of the technology, space, and system design. To ensure success, stakeholders must champion TMH by educating families, community members, and providers about its value.