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Telebehavioral Health

Workforce, Access, and Future Implications



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KEYWORDS

- Telehealth • Telebehavioral • Telepsychiatry • Psychiatry • Psychology
- Behavioral health

KEY POINTS

- Telebehavioral health (TBH) holds a great deal of promise in decreasing barriers to accessing care
- The success of TBH and Telehealth overall will depend on improvements in broadband access and infrastructure
- TBH has a unique appeal for the workforce in balancing work and home life
- Staff education in TBH delivery should be 2-fold in focus: (1) functionality and (2) translation of clinical skill and process to the virtual environment

INTRODUCTION

The use of telehealth for behavioral health services has been referred to as telepsychiatry, telepsychology, and telebehavioral health. As professionals from a variety of disciplines deliver behavioral health services (eg, Social Workers, Clinical Counselors, Psychologists, Psychiatrists, and so forth), in the interest of being inclusive in this article we will refer to telehealth as delivered in the context of behavioral health as telebehavioral health (TBH).

A growing body of literature substantiates TBH as an effective mode of service delivery for children, adolescents, and their families. Even before the coronavirus disease (COVID-19) pandemic, studies had established that TBH is feasible, well accepted and the interventions generated outcomes comparable to those delivered via in-person treatment.¹ Based on the mounting evidence of diagnostic validity and effectiveness of TBH across different disorders in children and adolescents, it has been recognized as a distinct venue instead of another modality to deliver care. Despite the evidence, adoption of TBH was stagnated due to several factors including

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regulatory barriers posed by federal and state guidelines, lack of parity or even coverage of TBH services for reimbursement by payers, challenges with licensure requirement to use TBH across state lines, costs associated with technology, lack of interoperability and integration between telehealth platforms with common electronic medical records (EMR), availability of broadband Internet connectivity in the nonmetro and rural areas, and often lack of clear metrics of success or incentives for health care organizations and providers to embrace TBH as part of their care model.² Fortunately, the relaxation of regulations and coverage of TBH by insurance providers during the public health emergency in response to pandemic provided an opportunity for telehealth service delivery volume and applications across all levels of acuity to grow exponentially in ways that were previously unimagined.³ The innovation and expansion TBH in the context of the pandemic will surely generate additional literature evaluating its efficacy and outcomes. In this article, we provide an overview of TBH implications as well as our experience at a large pediatric behavioral health institution in the context of quadruple aim for health care with focus on provider and patient experience, workforce, access to care, and future direction for newer models of care.

Equity and Access to Telebehavioral Health

The need for TBH adoption highlighted the existing disparities in equitable access to resources. Historically, the access to broadband has been lower for rural populations. In addition, there is a significant gap in access and adoption of technology by race (16% in Black individuals vs 79% in White individuals).⁴ Telehealth and transition to virtual learning by schools laid bare the lagging infrastructure of our telecommunications grids.^{2,5} Some families simply had no access to reliable broadband connections, resulting in their care occurring largely via telephone. Language barriers also came into focus, as many telehealth platforms and supporting documentation were initially available only in English.

On the positive side, for rural communities, seeking mental health services has historically been curtailed due to concerns around stigma and privacy, as well as geographic isolation and transportation challenges. TBH can eliminate all of these barriers. Even beyond rural communities, TBH was an equalizer for families who struggled with access to reliable transportation or for families with multiple young children who would either need to attend the appointment with the identified patient or for whom childcare would otherwise have to be arranged. These barriers were easily removed by their ability to log on for their TBH session from right within their home or community. The positive benefit of telehealth services with families whose primary language was not English was that our interpretation services previously relied heavily upon interpreters attending sessions in person within the clinic, whereas with telehealth they could join these sessions virtually, in an on-demand fashion. Lastly, the need for digital literacy in addition to health literacy seems to be important as TBH becomes an integral part of care delivery in rural and underserved populations.

Equity and Diversity in the Workforce

TBH provides benefits for the workforce as well. Individual practitioners in rural communities may be able to expand their catchment areas by minimizing or eliminating the need for families to attend sessions in person, thereby removing physical distance as a barrier. Virtual platforms also allow rural practitioners and their patients greater, more convenient access to specialists who may not be conveniently located. Rather than having to commute to work in an urban center to earn competitive wages, these clinicians can remain in the communities in which they reside.

For the practitioners themselves, being able to deliver services via TBH can allow them greater flexibility in their work day, particularly if they are able to deliver these services from home. This can be particularly attractive for those with caregiver responsibilities for their own children or other family members, as they can be more accessible as needs arise. Being able to work remotely also allows for greater freedom of choice in terms of whereby one resides, thereby addressing the economic burden posed by moving to urban areas. Anecdotally, clinicians have indicated that working from home makes it easier for them to offer evening appointments, which are typically in high demand by patient families.

Telebehavioral Health Models for Workforce Development

A critical shortage of trained behavioral health providers is well established. The gap between demand for services and supply of providers continues to be a challenge to support the current needs for youth mental health. For example, despite the 22% growth in the number of child and adolescent psychiatrists (CAPs) over the past decade, it still leaves more than 70% of counties in the United States without any CAPs⁶ and more than 50% of youth without any services. As a result, relying on the traditional models of care is not sustainable and exploring ways to develop alternative means of meeting behavioral health care needs, such as through primary care providers (PCPs) and school health resources is imperative. PCPs are often the front line for pediatric patients presenting with behavioral health concerns but can experience some hesitance in initiating pharmacologic interventions that are less familiar to them. Telehealth-based models such as Project ECHO, Child Psychiatry Access Projects (CPAPs), and crisis consultations have been well-positioned to maximize the expertise of specialists to reach the communities through their primary care medical homes and school health clinics.

We adapted the established model of Project Extension for Community Healthcare Outcomes (Project ECHO) for the capacity development of our primary care workforce in the management of common behavioral health presentations of youth.⁷ Project ECHO uses a cohort-based teleconsultation model whereby a multidisciplinary “hub” team of specialists facilitates learning and shares expertise to the “spokes” of community providers over a videoconferencing platform. Project ECHO involves short “evidence-based didactics” wherein hub team members lead brief presentations to build content knowledge followed by case-based learning whereby the participants present real-world cases. In presenting cases, the participants are able to get live consultation from their peers and experts on the hub team to improve their comfort and competence. We demonstrated self-reported improvement in overall capacity, comfort, and competence as well as objective practice change based on insurance claims data for the providers participating in our cohorts.⁶ We have trained more than 100 pediatric practices more than 37 rural counties in the state who serve as the first access point for noncrisis behavioral health concerns for youth.

Similarly, we have been able to use virtual platforms for other types of provider-to-provider consultation specially for PCPs who have completed training through Project ECHO. Building on the existing CPAP model which is largely phone based, we incorporated the use of scheduled video consultation for PCPs.⁸ Our program allowed scheduling a video appointment with a psychiatrist within a day to provide individualized case consultation or more general treatment guidance. In addition, the case manager provides linkage and referral support within the community so that the PCP can confidently refer and implement the treatment plan discussed during the call. The service allows the youth and families to access services within their primary care medical home and behavioral health agencies without leaving their communities. The

telehealth-based, provider-to-provider consultation model not only mitigated the crisis of long wait times for specialty care but also created the capacity for the specialists to see youth with complex behavioral health needs. Our preliminary data indicate that the primary reason for calls is for medication management or referrals but the recommendations after case discussion are more likely to be therapy interventions and local resources thus reinforcing the evidence-based treatment modalities with judicious use of medications and avoidance of polypharmacy.

We have also realized the benefits of the virtual landscape for collaboration and consultation in crisis. Crisis clinicians are now able to consult with emergency department providers in surrounding areas to determine if a patient truly needs to make the journey to our psychiatric crisis department, or if with some safety planning and other support identification they can return home with caregivers. Along with saving these families a drive to another location, this also saves them the wait time, the strain of sharing their story with a new set of providers, and additional health care costs.

Workforce Education and Training for Telebehavioral Health

Training to adapt clinical functions to telebehavioral health

Our large pediatric behavioral health department learned important lessons in the rapid adoption of telehealth services.² First and foremost was the translation of our suicide screening and risk assessment protocols designed for clinic visits to the virtual realm. Information that could be taken for granted in a clinic environment (eg, location of patient, available adults) were unknown unless intentionally gathered in the session. We established a protocol by which providers and clinicians first established the location of the patient and others available to provide support in that environment should a crisis arise. By routinely gathering that information at the outset, providers could then focus on assessment and providing support as urgent needs arose rather than having to pause and gather this information, or worse yet, not having it in the event the telehealth session was disconnected for some reason. We educated our staff on this adaptation of our suicide prevention protocols through a detailed document outlining these changes, as well as a visual workflow document. As other resources were developed nationally we integrated those guidelines into materials available to our staff.

Educating staff on TBH practice would be a substantial undertaking even in ordinary times. Attempting to do so in the context of the COVID-19 pandemic and societal tension of the past year proved to be incredibly challenging. Stress and learning literature indicate that stress can enhance learning and memory when experienced in the context of the learning event, but the events of the past year were more chronic and pervasive in nature, likely leading to impaired cognitive performance and memory.^{9,10} Therefore, we determined that the best course of action was to focus on the functionality of performing TBH(eg, Initiating virtual sessions through our EMR, documentation requirements, troubleshooting with families experiencing difficulty accessing their virtual visit, and so forth), emphasizing that their pre-pandemic clinical skills were still applicable. As mentioned previously, pressing safety considerations associated with suicide screening and risk assessment and relevant adaptations were also educated. Additionally, we created telehealth support office hours where staff could join a Zoom session on designated days and times to talk with internal experts for advice, problem solving, and troubleshooting.

Training to develop competencies for effective telebehavioral health

Once our staff had roughly 90 days of experience with delivering TBH services, we generated additional education content to further develop their skills. These consisted of a series of on-demand learning modules covering such topics as session

Experience Rating	Strongly Agree (%)	Agree (%)	Somewhat Agree (%)	Disagree (%)	Strongly Disagree (%)
Telehealth improves my access to health care services.	65.36	23.09	8.38	2.15	1.02
My overall experience with NCH telehealth was good.	73.58	21.81	2.91	1.09	0.60
If given the option, I would use video visit for future appointments.	52.91	21.13	16.75	6.79	2.42

Experience Rating	Better (%)	Equal (%)	Worse (%)	Not Sure (%)
Compared with the level of care received during an in-person visit, the level of care received during the telemedicine appointment was...	11.21	64.72	4.79	7.36

engagement strategies, using motivational interviewing in the context of telebehavioral health and addressing and managing safety concerns (Table 1). We obtained continuing education (CE) credit for these modules, as many other CE events were either canceled or postponed, leading to difficulty in accumulating hours for licensure renewal.

Like many institutions, our organization historically outgrew space more quickly than we could build it, but remote work and telehealth both offered solutions to these problems not previously considered. Furthermore, our staff have only experienced the utilization of telehealth under remote working conditions, so we have had to be mindful of separating the 2 concepts (ie, telehealth does not equal working remotely). As we prepare for life in postpandemic times, discussions have turned to how and when telehealth should be used for services. Factors requiring consideration include practitioner skill and preference, patient/family preference and resources, and defining what patients are or are not a good fit for telehealth (eg, those experiencing chronic, acute safety concerns are not a good fit for telehealth). We are in the process of developing decision trees which first outline establishing whether the patient/family has the resources necessary (eg, reliable broadband network access; technological devices such as smartphones, tablets, or computers; comfort and confidence in using digital devices) to engage in telehealth services. Should they have these necessary resources, the next step in the decision tree will be establishing whether the patient and/or caregiver has any contraindicating factors for engaging in telehealth services, which would likely lead to poorer outcomes as compared with in-person care. Lastly, if both telehealth and in-person options are left on the table, patient/family preference will be considered.

Patient Satisfaction

The rapid adoption and continued utilization of TBH by providers as well as patients likely indicated acceptance and satisfaction with the services provided. Patient satisfaction surveys conducted at our organization beginning in August 2020 indicated that the vast majority of parents and caregivers experienced the level of care they received

Box 1**Education modules developed.**

The Basics of Telebehavioral Health

Addressing & Managing Safety Concerns

Using Motivational Interviewing to Improve Telebehavioral Health Practice

via telehealth as being equal to or better than the care they had received in person (Box 1). That trend has held in subsequent surveys. Patient families also indicated believing that telehealth improved their access to health care (88.45% agreed or strongly agreed this was the case). If given the choice, just less than 75% agreed or strongly agreed that they would continue to use video visits for future health care appointments. Just more than 95% indicated that they had a good overall experience with telehealth in our system. Some of the qualitative responses indicated that when the telemedicine appointment experience was rated as worse, it was largely attributed to the technical or technological difficulties during the initiation of the telehealth visit, not related to the clinical experience. Several youth using TBH indicated that they were hesitant in visiting with the behavioral health professional for years due to stigma, perceived impressions about the psychiatry or therapy clinics, and/or discomfort and anxiety around talking about sensitive and often emotionally overwhelming topics. However, they only agreed to engage in initial evaluation visits due to the availability of TBH which provided a sense of psychological safety as they were in their familiar or home environment, and it mimicked their most common mode of social communication which is audiovisual via smartphones, tablets, or computers.

Future Directions

As we enter the “new normal” of health care, the experiences during the pandemic will make TBH an integral part of care delivery as a solution to improve equity and access to diverse populations irrespective of their geographic location and socioeconomic status. To optimally use TBH, it is crucial to break the traditional dichotomy of in person versus TBH care. The true value is in the “hybrid model” of using both in person and TBH during the episode of care based on the clinical acuity, interventions, patient factors, and clinician factors. Although, the continued progress is possible only if the regulatory changes are continued and made permanent to allow services and remove barriers that mandate the in-person visits to initiate care. In addition, active investment in the infrastructure for broadband and connectivity is imperative to further bridge the chasm and disparities between urban and rural communities. Furthermore, creative solutions like creating access points at schools, libraries, or local clinics could address the barriers related to social determinants of health. In the interim—phone only visits for limited use cases could continue to be of value for many individuals.

TBH has demonstrated the opportunities to recruit and retain a diverse workforce without the need to leave their communities. It is imperative that the health systems, academic centers, and state regulations allow the design of remote work models for clinicians to work in the local hubs to provide culturally sensitive care customized to the needs of their respective communities. However, there should be emphasis on recognizing that TBH is a distinct venue and modality that requires training to acquire unique competencies to deliver effective and authentic care. The different disciplines within behavioral health would benefit from replicating the efforts by the American

Academy of Child and Adolescent Psychiatry to implement a national telepsychiatry curriculum.⁶

DISCLOSURE

The authors have nothing to disclose.

REFERENCES

1. Academy of Child A. Psychiatry Committee on Telepsychiatry, A., & Committee on Quality Issues, A). AACAP OFFICIAL ACTION Clinical Update: Telepsychiatry With Children and Adolescents American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Telepsychiatry and AACAP Committee on Quality Issues. *J Am Acad Child Adolesc Psychiatry* 2017. <https://doi.org/10.1016/j.jaac.2017.07.008>.
2. Ramtekkar U, Bridge JA, Thomas G, et al. Pediatric telebehavioral health: A transformational shift in care delivery in the era of COVID-19. *JMIR Ment Health* 2020;7(Issue 9). <https://doi.org/10.2196/20157>.
3. CDC. *Using Telehealth to Expand Access to Essential Health Services during the COVID-19 Pandemic*. Centers Dis Control Prev 2020.
4. Walker DM, Hefner JL, Fareed N, et al. Exploring the digital divide: Age and race disparities in use of an inpatient portal. *Telemed E-Health* 2020;26(5). <https://doi.org/10.1089/tmj.2019.0065>.
5. Ekezue BF, Bushelle-Edghill J, Dong S, et al. The effect of broadband access on electronic patient engagement activities: Assessment of urban-rural differences. *J Rural Health* 2021. <https://doi.org/10.1111/jrh.12598>.
6. Hostutler CA, Valleru J, Maciejewski HM, et al. Improving Pediatrician's Behavioral Health Competencies Through the Project ECHO Teleconsultation Model. *Clin Pediatr* 2020. <https://doi.org/10.1177/0009922820927018>.
7. Hager B, Hasselberg M, Arzubi E, et al. Leveraging behavioral health expertise: Practices and potential of the project ECHO approach to virtually integrating care in underserved areas. *Psychiatr Serv* 2018;69(4). <https://doi.org/10.1176/appi.ps.201700211>.
8. Sarvet B, Gold J, Bostic JQ, et al. Improving access to mental health care for children: The Massachusetts Child Psychiatry Access Project. *Pediatrics* 2010. <https://doi.org/10.1542/peds.2009-1340>.
9. Joëls M, Pu Z, Wiegert O, et al. Learning under stress: how does it work? *Trends Cogn Sci* 2006;10(4). <https://doi.org/10.1016/j.tics.2006.02.002>.
10. Smeets T, Giesbrecht T, Jelacic M, et al. Context-dependent enhancement of declarative memory performance following acute psychosocial stress. *Biol Psychol* 2007;76(1–2). <https://doi.org/10.1016/j.biopsycho.2007.07.001>.