

Telehealth and Mobile Technology in Child, Youth, and Young Adult Behavioral Health

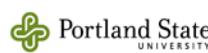
By **Melissa Schober, MPM** and **Shannon Robshaw, MSW**, The Institute for Innovation and Implementation, School of Social Work, University of Maryland, Baltimore

Sheila Pires, MPA, Human Service Collaborative

This brief provides information about policies and practices related to the use of communications technology, including telehealth and videoconferencing. This brief also addresses mobile technologies such as the use of text messaging and mobile applications, to provide access to health/behavioral health assessment, diagnosis, intervention, consultation, supervision, education, care coordination, and peer support for children, youth, and young adults with behavioral health challenges and their families.

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), in 2014, approximately 43 million American adults — one in every five — had a mental illness; 50 percent begin by age 14 and 75 percent before age 24. More than 40 percent of youth 13 to 17 experience a behavioral health problem by the time they reach seventh grade.¹

Despite the high prevalence of behavioral health disorders, there is a significant shortage of mental health professionals across the United States. A 2013 report to Congress found that “55 percent of U.S. counties, all rural, have no practicing psychiatrists, psychologists, or social workers ... [and] that 77 percent of counties had a severe shortage of mental health workers, both prescribers and non-prescribers, and 96 percent of counties had some unmet need for mental health prescribers. ... The two characteristics most associated with unmet need in counties were low per capita income and rural areas.”² The shortages are especially acute for children and youth enrolled in Medicaid and the State Children’s Health Insurance Program (SCHIP) because many providers do not accept public insurance, and a recent U.S. Department





of Health and Human Services study found that more than half of listed Medicaid providers do not offer appointments to enrollees or could not be contacted. The shortages are especially acute for children and adolescents.³ Given the challenges in access to behavioral health care, telehealth is one strategy to ameliorate capacity shortages.

Apart from provider shortages, recent research has shown that telehealth might improve help-seeking behavior in adolescents⁴ and distance treatment is as effective or even more effective than traditional, office-based therapies.^{5,6} As of early 2018, 95 percent of Americans had a cellphone and 77 percent owned a smartphone, a dramatic increase since the Pew Research Center's first survey of smartphone ownership was conducted in 2011.⁷ The widespread adoption of mobile technology has created opportunities to engage children and families in therapy and facilitate peer connections, extending the reach of services and supports that were previously only available in-person. The availability via mobile services is critical because many counties across the United States lack access to broadband internet.⁸

This national Technical Assistance (TA) Network brief is intended for use by multiple stakeholders engaged in the design, financing, implementation, and/or expansion of behavioral health services for children and families, including state and local family- and youth-run organizations, state Medicaid and other public child-serving agencies, Medicaid managed care organizations, providers, and others. In addition to highlighting practice guidelines and privacy considerations, this resource provides examples of how telehealth services and mobile technology are operationalized to help guide planning, design, and implementation efforts in other states and jurisdictions.

What is Telehealth?

Brief History

In 1964, the University of Nebraska established a link with Norfolk State Hospital, more than 100 miles away, for “group therapy consultations ... diagnosis of difficult psychiatric cases, case consultations, research seminars, and education and training,” ushering in the modern era of telebehavioral health.⁹ In the five decades since, telemedicine broadly defined has grown to encompass videoconferencing, store-and-forward imaging, wireless communications, mobile apps, SMS (short messaging service) text messages, chat rooms, social media platforms, and remote patient monitoring. Federal meetings and national practice guidelines have moved telehealth from experimental to established. Research has moved from examining the “how” of telehealth to its role in ameliorating provider shortages, effectiveness, and acceptability to various populations, including children, adolescents, and families.

Telehealth Services

SAMHSA defines telehealth as “internet and communications technologies [ICTs], such as videoconferencing, chat, and text messaging, to provide health information and treatments in real time [synchronous]. Telehealth also includes exchanging information and delivering services asynchronously, such as through secure email, webinars, or ‘store-and-forward’ practices, which include videotaping a client encounter and forwarding the video to a professional who is offsite, for analysis at a later time.”¹⁰



SERVICE TYPE ¹¹	TELEHEALTH EXAMPLE
Screening	Online screening tool such as the Child and Adolescent Needs and Strengths Assessment
Treatment	Behavioral therapy via videoconferencing
Consultation	Telephonic consultations for pediatric primary care providers with child and adolescent psychiatrists for diagnostic issues, administering standardized screening and assessments, and medication management
Family Support and Peer Support	Private message boards for parents or a Facebook group for young people
Care coordination ¹²	The use of real-time video (such as FaceTime or Skype) with child and family team meetings to reduce discontinuity of care and/or ease caregiver burden related to travel, employment, child care, etc.
Self-monitoring/management	Daily, tablet-based program that asks users to record their medication adherence and monitor symptoms, and provides client education ¹³
“Smart wearables”	Smart watches, fitness bands, pedometers, and other devices that record heart rate, respiration, temperature, glucose levels, sleep patterns, etc. Recorded data can be shared with health care providers ¹⁴

Medicaid and Commercial Reimbursement for Telehealth

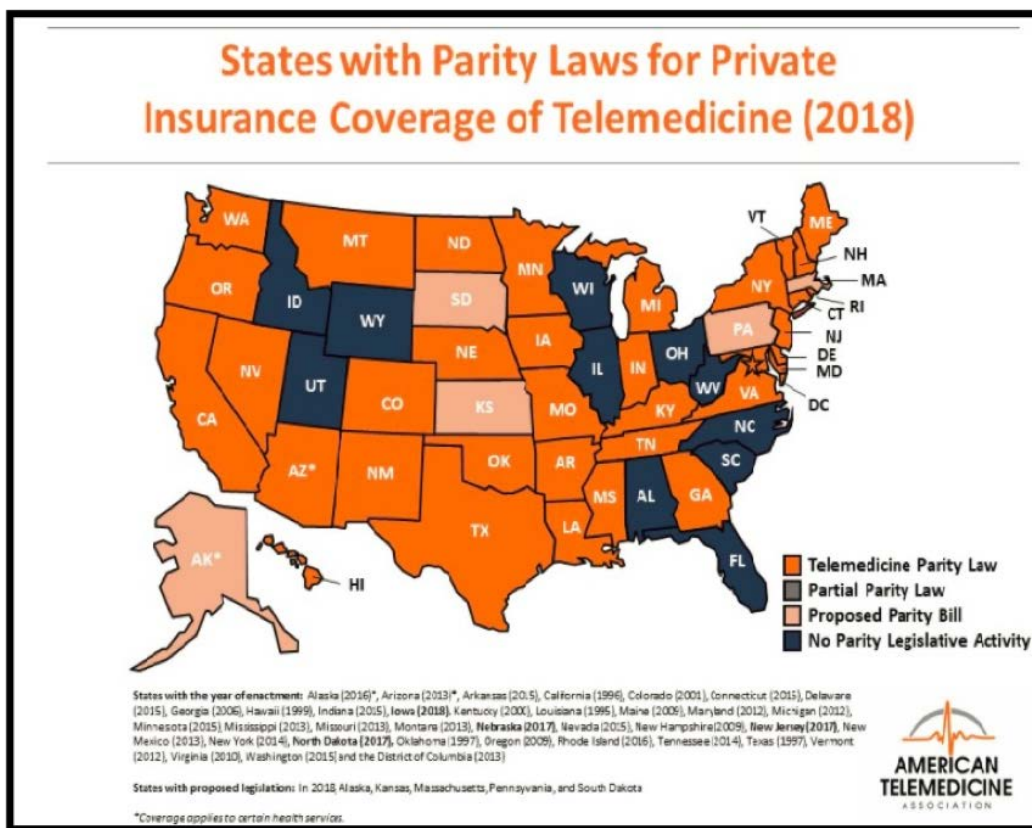
While some federal laws and regulations govern telehealth, most of the regulatory issues governing the provision of telemental health services are promulgated at the state level. As a result, state laws and policies for coverage of telehealth services in Medicaid and commercial insurance vary widely, including by treatment provider type, specialty, licensure, and location of service. In addition, coverage might differ among Medicaid fee-for-service and managed care systems and reimbursement rates for telehealth services may vary.

Forty-eight states and Washington, D.C. permit Medicaid reimbursement for synchronous video. Fifteen states permit Medicaid reimbursement for store-and-forward, including Maryland and Oklahoma, which passed legislation in 2017.¹⁵ Thirty-four states have parity laws requiring private insurance coverage of telemedicine.

In its March 2018 report to Congress, the Medicaid and CHIP Payment and Access Commission (MACPAC) acknowledged that “telehealth has the potential to improve access to service in underserved areas. ... It can also encourage appropriate use of underutilized services, such as oral health and behavioral health services, by making it easier or more convenient to access them. ... Telehealth

can facilitate provider consultation and collaboration as well as enable more confidential delivery of services. For example, a patient could use a primary care office as an

originating site and receive psychotherapy from a distant site, thereby avoiding the perceived stigma of visiting a mental health provider's office."¹⁶



However, MACPAC's report notes that Medicaid coverage is generally not available for (1) telephonic consultation, though Oregon and Maine permit such consultation under limited circumstances; (2) provider-to-provider consultations, such as those in which child psychiatrists provide advice to pediatric primary care providers; however, four states cover such consultation, including California, Colorado, New Mexico, and Oregon (such models are discussed further below), and some others use Medicaid administrative dollars, such as Wyoming;¹⁷ and (3) collaborative care models in which behavioral health coordinators are embedded in primary care practices, such as in Vermont.^{18,19}

Coding

Historically, states used the "GT" modifier when submitting Medicaid claims that involve telehealth. However, as of January 1, 2018, the Centers for Medicare and Medicaid Services eliminated the modifier for Medicare in favor of the new Place of Service code 02 to describe services delivered via telehealth or Modifier 95, established in 2017 by the American Medical Association for its Common Procedural Terminology (CPT) codes.

Source: <https://www.cms.gov> and <http://www.idsociety.org>



Telehealth Models

Telehealth for individual and group counseling is a well-understood and widely accepted practice; the American Telemedicine Association²⁰ and the American Academy of Child and Adolescent Psychiatry²¹ have each released practice guidelines on treating children and adolescents via videoconference. Some common terms associated with telehealth include: **hub-and-spoke**, in which the “hub” site offers a full range of services and acts as the anchor institution to “spokes” that are physically distant; **originating site**, generally defined as where the client is located; and **distant site**, generally defined as where the treating provider is located.

This section of the brief will focus on two well-established consultative programs as examples of the use of technology to expand access to supportive services for underserved populations and the use of texting and mobile apps.

Consultative Models

Massachusetts Child Psychiatry Access Program (MCPAP)

Begun in 2003 as a pilot program developed at the University of Massachusetts Medical School in Worcester, and expanded statewide in 2004 in partnership with the state Department of Mental Health, MCPAP²² is a system of regional children’s behavioral health consultation teams designed to help primary care providers and their practices promote and manage the behavioral health of pediatric patients. Massachusetts was divided into six service regions, and MCPAP teams were created within a division of child psychiatry in an academic medical center for each of these regions. The MCPAP teams were tasked with providing collaborative support to all pediatric primary care providers (PPCP) in their respective regions by implementing a system for the PPCP to obtain (1) immediate informal telephonic consultation regarding the mental health needs of any child in the primary care setting, (2) timely, as-needed provision of formal outpatient consultation for children referred by the PPCP, (3) assistance in coordinating care for children who need community mental health services, and (4) continuing

professional education regarding children’s mental health designed specifically for the PPCP.²³

Each of the six regional MCPAP teams is composed of one full-time equivalent (FTE) child psychiatrist, one FTE licensed child and family psychotherapist, and one FTE care coordinator. Several of the teams include a specialized advanced practice registered nurse who works, under supervision, in a role similar to that of a child psychiatrist.²⁴ The Massachusetts Department of Mental Health receives \$3.1 million annually from the state to fund the project; in addition, providers may seek reimbursement from commercial insurance and Medicaid.²⁵

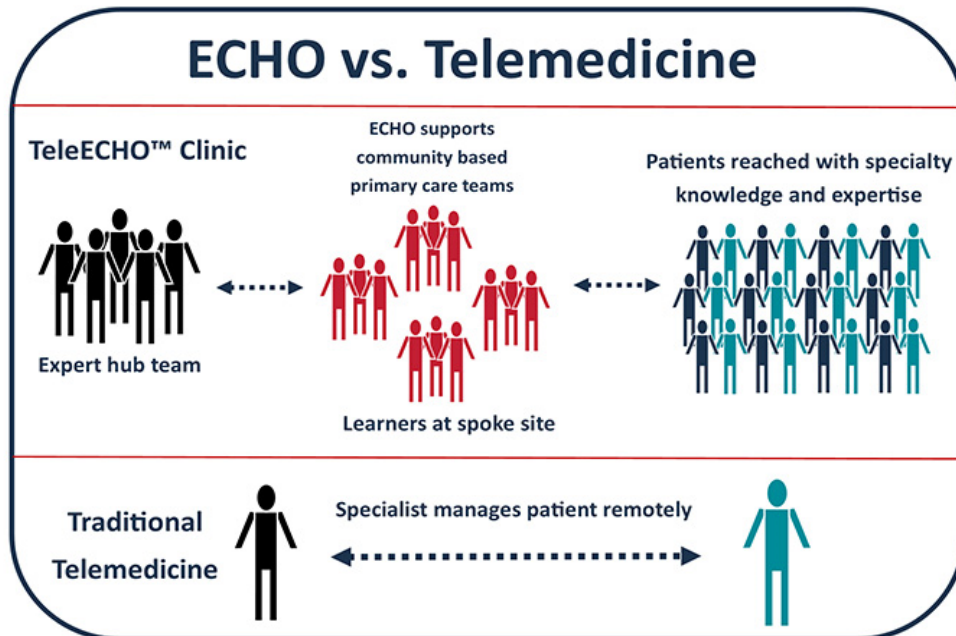
In 2011, pediatrician and child psychiatrists established the National Network of Child Psychiatry Access Programs (NNCPAP) as “an informal association to support existing and emerging child psychiatry consultation programs and further national progress toward effective integration of mental health with primary care.”²⁶ According to NNCPAP, 19 states and the District of Columbia have adopted MCPAP-like programs.²⁷

Project ECHO (Extensions for Community Health Outcomes)

Begun in 2004 as the Hepatitis C TeleECHO Clinic in New Mexico and renamed Project ECHO in 2009, the model “allows physicians, nurse practitioners, and other clinicians to jointly manage complex illness and promotes the use of best practices in care while enabling patients to receive treatment in their home communities.”²⁸ The Hepatitis C Clinic started with \$600,000 of in-kind support from the University of New Mexico Health Sciences Center, a \$1.4 million grant from the Agency for Healthcare Research and Quality (AHRQ), and a \$900,000 grant from the New Mexico Legislature.²⁹

Over time, the ECHO model has been adapted to address more than 40 conditions, including behavioral health, and has been replicated by 52 hub sites spanning 22 states and eight countries outside the United States.³⁰ Since its inception, Project ECHO has been rigorously evaluated as evidenced by dozens of peer-reviewed journal articles and found effective in delivering behavioral health care to historically underserved populations.³¹

ECHO vs. Telemedicine




<https://www.urmc.rochester.edu>

Today, the Integrated Addictions and Psychiatry (IAP) TeleECHO Clinic operates to expand high-quality and effective medical and behavioral health treatment for addiction and mental illness in communities throughout New Mexico.³² The IAP weekly TeleECHO Clinic session supports primary care clinicians by providing them with a knowledge network that helps identify and treat addiction and psychiatric illnesses in their patients. The clinic includes presentations by specialists and in-depth, case-based presentations by community clinicians for feedback and recommendations.

Project ECHO has received financial support from the Robert Wood Johnson Foundation;³³ the GE Foundation “for the development of a new model for integrating behavioral health care with primary care, known as ECHO Access”³⁴; the Center for Medicare and Medicaid Innovation (CMMI)³⁵; the Con Alma Health Foundation³⁶; and others, including the Department of Defense, Centers for Disease Control and Prevention, and the Indian Health Service.³⁷ In addition to foundation and government support:

- New Mexico requires that the state’s Medicaid managed care plans participate in the initiative.³⁸
- Two of Oregon’s Medicaid Coordinated Care Organizations use their flexible funds (provided under a global budget) to contract with the Oregon Health & Science University to “serve as the ECHO hub to support effective medication management for individuals with psychiatric conditions.”³⁹
- Colorado used the state’s general funds to implement a chronic disease/pain management program for two years (2015-2017). The state used a hub from the integrated pain clinic at the University of Arizona. In addition to state funds, Colorado used Medicaid administrative match dollars to support training for providers “to promote adherence to evidence-based guidelines and improve provider-patient communication skills.”⁴⁰

In addition to New Mexico and the other state examples above, below are examples of how Project ECHO is being used specifically for populations of children with behavioral health challenges:

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- University of Nevada, Reno: To “provide school-based mental health professionals and primary care providers a forum to collaborate on the treatment of students with mental and behavioral health disorders. ... Additionally, by bringing together multidisciplinary teams of primary care providers and school staff, we can facilitate cross-system collaboration to provide these students with the most appropriate care.”⁴¹
 - University of Montana Center for Children, Families and Workforce Development, the Billings Clinic, and child protective services: To discuss and collaborate on complex child welfare cases submitted by child protection specialists.⁴²
 - Children’s Specialized Hospital in New Jersey: “To meet the needs of children with autism, attention deficit hyperactivity disorder, and mental health needs within primary care settings.”⁴³
 - Oregon Health Authority and Oregon Health & Science University: To “boost the capacity of primary care providers to diagnose and treat children’s mental health issues. ... Twenty-nine primary care providers from 17 clinics around the state — most of them in rural areas, and all outside the Portland metro area — are participating. Each week, participants connect to a live session that includes lectures and case reviews with child psychiatrists, pediatricians, and a pharmacist. Topics include anxiety, depression, learning disabilities, trauma, medication management, and other pediatric mental health issues.”⁴⁴
 - A multi-method evaluation was conducted to assess Nevada’s TextToday pilot program, the nation’s first crisis line with the capacity to accept text messages. Evaluators examined how successful the system was in meeting the needs of underserved youth and how effectively the social marketing campaign reached the target population with information about the texting crisis service. Findings demonstrated an increase in help-seeking behaviors by youth. In addition, youth noted that a text-based line was a preferred method of communication among their age cohort.⁴⁵
 - A systematic review of the literature examined outcomes and text messaging for individuals with mental health or substance use disorders published from January 1999 to October 2015. Of the studies reviewed, five reported significant improvements in mental health-related outcome measures as a result of text messaging interventions. Although the study did not find a significant improvement with text messaging alone, “the combination of text messaging and telephone contact significantly improved mental health outcome scores as measured by the Brief Psychiatric Rating Scale.”⁴⁶
 - An app from Valera Health “designed to measure patients’ communication directly with their care team, track wellness targets, and report their well-being” was evaluated through a yearlong study with Montefiore Medical Center at locations in the Bronx and Westchester County, N.Y..⁴⁷ Individuals using the Valera app “showed higher engagement and follow-up rates compared to patients not using the application, with a 73 percent patient satisfaction rate and patient-provider contacts per month increasing threefold. Furthermore, patients using the app received a follow-up contact an average of eight days after their initial clinical appointment, whereas patients not using the app had their first follow-up an average of 19 days later.”⁴⁸
 - The Peer Recovery Network PORTAL (Peers Organizing Results Through Advocacy and Leadership) is a SAMHSA-funded way for peers in recovery to develop and strengthen recovery communities, communicate with each other, and have

Texting and Mobile Applications

Text messaging (or texting) is a fast, economical, and simple communication between users. A mobile application, commonly referred to as an app, is software designed to run on a mobile smartphone, tablet, or other device. Text messaging and mobile apps are at a nascent stage of development in behavioral health care compared to videoconferencing. Despite their respective relative newness, studies have demonstrated their promise, including preference by adolescents, including:

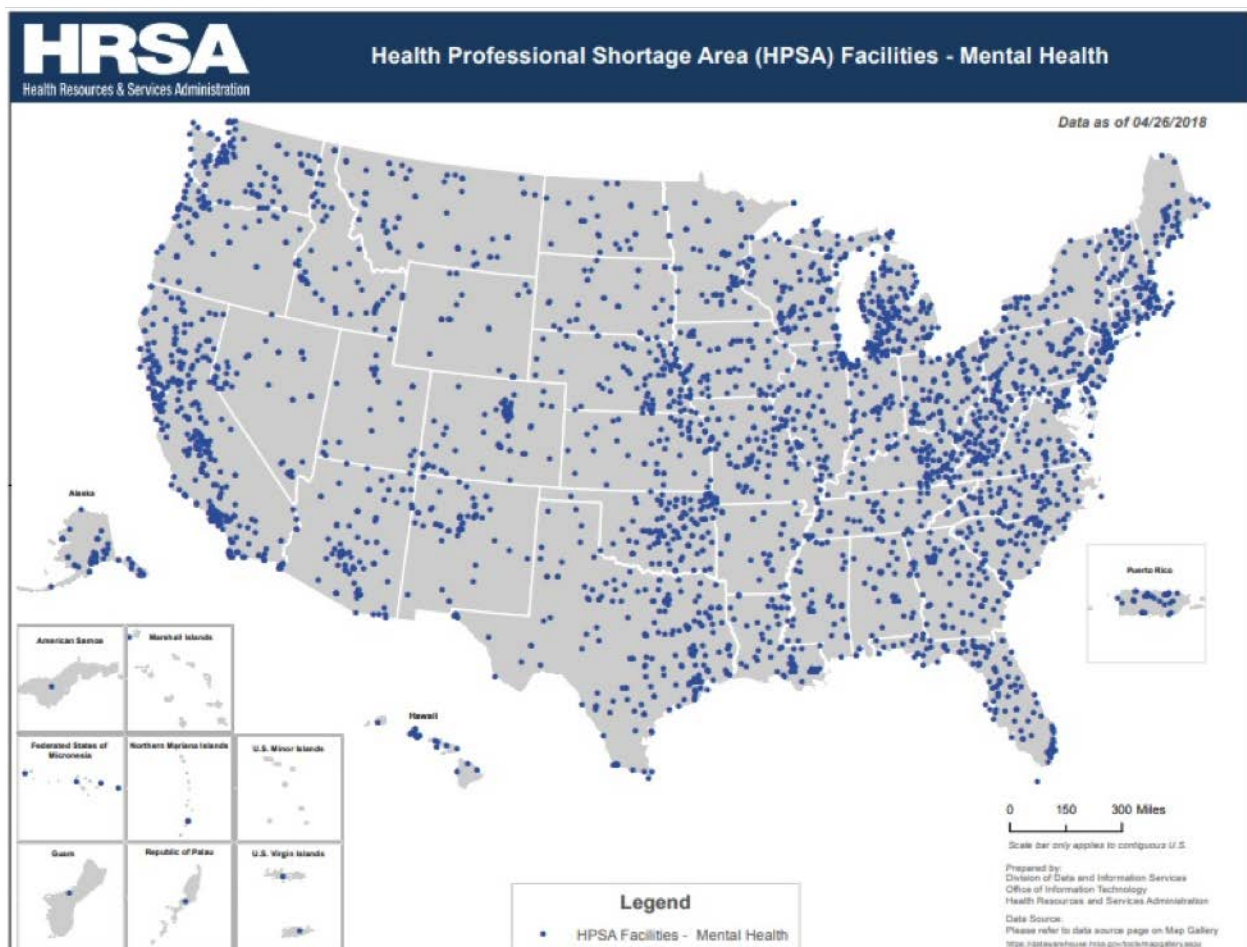
a more unified, stronger voice for advocacy. “Community rooms” are geographically based, private online spaces to enable individuals to have virtual private meetings and discussions. Although there is not peer-reviewed literature on PORTAL, users have rated their experiences highly.⁴⁹


The literature indicates that adolescents embrace technology as part of their desire for privacy and autonomy: Adolescents report that telemedicine promotes transfer of power and control by allowing them to feel more comfortable about terminating the consultation; the process is more structured, resulting in a better understanding, and a greater sense of shared responsibility.⁵⁰ Some studies indicate that children and adolescents “prefer an informal delivery format” and find

completing assessments online easier than via paper and pencil.⁵¹ Among the contributing factors for adolescent satisfaction with internet-based tools adolescents report “the experience as exciting; some adolescents feel that the interaction is more visual, video-game like, and, consequently, less threatening; capacity to provide direction, along with the extra distance involved [psychological and physical].”⁵²

Workforce Development

Several studies have demonstrated lengthy wait times for appointments with child psychiatrists. The American Psychiatric Association estimated that only “21 percent of children and adolescents receive care for their symptoms due to the lack of appropriate mental health facilities, and wait times often range from three months up to one year





for assessment and treatment.”^{53,54} The consequence of untreated mental health illness in children and adolescents can be devastating. Suicide is the second-leading cause of death for children, adolescents, and young adults ages 5 to 24.⁵⁵ Fifty to 70 percent of children and adolescents in the juvenile justice system meet the criteria for a mental disorder and 60 percent meet the criteria for a substance use disorder.⁵⁶

Mental health professional shortages exist across the United States, not just in rural and frontier states.⁵⁷ As of December 2017, there were 5,402 designated shortage areas; to close the gap, the United States needs an additional 5,906 providers.⁵⁸ The jurisdictions with the lowest percentage of needs met are the District of Columbia (5.31 percent), Delaware (7.77 percent), New Mexico (12.3 percent), South Dakota (12.69 percent), and Tennessee (13.41 percent).

Training and Practice Standards

Professional association standards and guidelines have been developed that can help providers implement telehealth and develop competencies with technology more generally. The American Telemedicine Association’s videoconferencing and internet-based care guidelines for adults, children, and adolescents serves as one example. Others include the [American Psychological Association Guidelines for the Practice of Telepsychology](#), the [American Academy of Child and Adolescent Psychiatry](#), and the [National Association of Social Workers Standards for Technology in Social Work Practice](#).⁵⁹


While practitioners and users should be knowledgeable about the technologies they employ, including hardware, software, licensing, ownership of data, and user permissions, there is a lack of formal training opportunities for telehealth, mobile, or text-based clinical and peer support practice, and no nationally agreed-upon standards for demonstrating competence in providing telehealth or mobile technology services.⁶⁰ Few graduate or medical programs offer formalized training in telehealth; the American Medical Association only released a statement encouraging such training in residency programs in mid-

2016.⁶¹ In a 2014 survey of family physicians, more than half cited lack of training as a major impediment to using telehealth.⁶² To encourage the adoption of telehealth, the U.S. Department of Veterans Affairs (VA) released a Request for Proposals in 2017 to provide funding to expand graduate medical education into “nontraditional training sites.”⁶³

In addition to the VA, Hawaii developed a telemental health (TMH) training curriculum for child and adolescent psychiatry fellows in collaboration with the Mayo Clinic, the University of Hawaii at Manoa’s Department of Psychiatry, and the Child and Adolescent Mental Health Division at the state Department of Health. During their rotations, fellows are paired with a supervising faculty member for six to 12 months, during which they make on-site visits to their distant community every eight to 12 weeks. The program provides consultation for TMH and school-based mental health therapists and provides direct services to youth in school-based settings. School staff join case conferences and participate in treatment team planning for youth transitioning from hospital- and community-based treatment programs through the Hawaii Department of Education’s Teleschool Program, which provides a secure and enclosed network at district offices and school campuses statewide using high-definition connectivity.⁶⁴

Licensure

State regulatory bodies have an opportunity to address workforce shortages by examining ways telehealth can play a role in meeting clinical hour requirements for initial and subsequent licensure. In rural and historically underserved areas, it can be difficult for clinical staff to accrue enough hours of supervision to obtain licensure. Supervisors also find it difficult to simultaneously perform managerial tasks, mentor and observe trainees, and accrue enough direct client contact to maintain their own licensure. Permitting accrual of direct client hours through telehealth and expanding opportunities for telesupervision for trainees/associates could expand access to quality



supervision without overburdening the limited supply of licensed providers in rural and underserved areas.^{65,66}

Network Adequacy

On May 6, 2016, the Centers for Medicare and Medicaid Services issued a final rule related to Medicaid managed care requirements, titled “Medicaid and Children’s Health Insurance Program (CHIP) Programs: Medicaid Managed Care, CHIP Delivered in Managed Care, and Revisions Related to Third Party Liability.”⁶⁷ The new Medicaid managed care regulation is designed to strengthen, standardize, and modernize requirements in a number of areas, including policy standards related to network adequacy, and states must implement new network adequacy standards by July 1, 2018. The final rule establishes time and distance standards for many types of providers to limit how long and/or far an enrollee has to travel to receive care. Additionally, the rule lists a multitude of factors for states to consider in determining network adequacy, including but not limited to:

- Anticipated Medicaid enrollment
- Expected service utilization
- Characteristics and health care needs of populations
- Numbers and types (in terms of training, experience, and specialization) of network providers required to furnish the contracted services
- Geographic location of network providers and Medicaid enrollees (time, distance, means of transportation used by Medicaid enrollees)
- **Availability of triage lines or screening systems, as well as the use of telemedicine, e-visits, and/or other evolving and innovative technological solutions** [emphasis added]

Telehealth has the potential to be a key strategy for states and Medicaid managed care organizations in meeting network adequacy standards. In November 2015, the National Association of Insurance Commissioners published the Health Benefit Plan Network Access and Adequacy Model Act, which includes telemedicine under its criteria for meeting network adequacy.⁶⁸

Despite the model act, few states have explicitly included telehealth in their network adequacy standards: Maryland

enacted HB 1318 in 2016 (effective Jan. 1, 2017), permitting managed care organizations to use telehealth to meet network adequacy⁶⁹; Colorado enacted legislation in 2015 to include “the use of providers through telehealth for services that may appropriately be provided through telehealth”⁷⁰; and Illinois and Hawaii enacted SB 387⁷¹ and HB 311⁷², respectively, in 2017, allowing telehealth to be used to meet network adequacy.

A 2016 report from the Robert Wood Johnson Foundation and the Urban Institute highlighted challenges and opportunities through the study of six states: Arkansas, Colorado, Illinois, Maine, Texas, and Washington.⁷³ A significant barrier highlighted by study participants was “clinical practice policies from some state boards of medicine [that] can impede the widespread adoption of telemedicine.” The lack of support from medical boards and other licensing bodies means that relatively few providers invest in technology infrastructure and training. Similarly, insurers have made “minimal” investment to promote telehealth, with one Colorado insurer stating that it “relies on [hospitals and health systems] to bring the platform to us.” The result is that there is interest and enthusiasm for telehealth, including as a strategy to meet network adequacy, but an inadequate support for providers, especially smaller provider organizations, leading to low penetration rates. The issue of financial support for infrastructure is especially acute for behavioral health providers, most of whom were not eligible for federal electronic health record “meaningful use” incentives under the Health Information Technology for Economic and Clinical Health Act, and many remain ineligible for incentives under the Medicare Access and CHIP Reauthorization Act of 2015.⁷⁴

Conclusion

Fully incorporating telebehavioral health and mobile technology into behavioral health systems for children, youth, and young adults and their families will require a coordinated effort by state Medicaid agencies, purchasers, and stakeholders, including state and local family-run organizations and youth. Implementing telebehavioral health services will require regular thoughtful and strategic planning to ensure that advances and applications are



based on user-centered design⁷⁵ while ensuring privacy, security, and confidentiality. Telebehavioral health should promote family-centered care and, to the fullest extent possible, be integrated into the overall plan of care, because telehealth that functions for one-off, stand-alone encounters risks interrupting continuity of care. Apart from application, educational institutions will need to develop and promote training in telehealth to ensure a competent workforce and payers will need to consider infrastructure support for providers who have historically been left out of

technology-based incentive programs. Despite these challenges, telehealth holds tremendous promise for ameliorating unmet behavioral health needs, and mobile technology is a particularly acceptable mode of service delivery and support among youth. The TA Network anticipates exploring, in greater depth, facets of telebehavioral health and mobile technology, such as user considerations, privacy, and security, as well as highlighting more examples from the field, in subsequent briefs.

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