



# Barriers and Facilitators to Delivering Tele-Mental Health Services to Children and Families: 2022 Follow-up Survey Results of Louisiana Medicaid Providers After Rapid Telehealth Implementation During COVID-19

Gabrielle Gonzalez<sup>1,2</sup> · Willandra Whiting-Green<sup>1</sup> · Denise Danos<sup>1</sup> · Sonita Singh<sup>1</sup> · Kelsey Witmeier<sup>1</sup> · Stephen Philippi<sup>1</sup>

Received: 8 April 2024 / Revised: 23 October 2024 / Accepted: 1 November 2024  
© The Author(s), under exclusive licence to Springer Nature Switzerland AG 2024

## Abstract

The COVID-19 pandemic presented unique challenges to implementing and delivering telehealth services to children and their families. A study conducted by the Center for Evidence to Practice at Louisiana State University Health Sciences Center (LSUHSC) explored barriers and facilitators to providing and receiving telehealth services among providers delivering behavioral health (i.e., mental health and substance use service) to patients. A survey to determine barriers and facilitators to telehealth services was sent to providers in Louisiana in 2020 and again in 2022. In this study, we summarize the 2020 data and share updated barriers and facilitators identified in 2022. The 2022 survey results show how these barriers and facilitators changed for patients and providers as the pandemic progressed, as well as how providers adapted to telehealth services. The top barriers found in the 2022 survey included the number of clinicians and inadequate workforce; client access to the Internet, data, and devices; and the client's knowledge of technology. The most common facilitators included increased access to clients, ability to reach hard-to-reach populations, and client access to Internet, data, and devices. Additionally, significant differences between providers using evidence-based practices and less structured approaches to therapy were explored. This study also included an examination of the providers' treatment location and the modality. Future policies and practices related to telehealth services should consider these findings related to barriers and facilitators to improve any future transitions to telehealth services when in-person care is not accessible or safe. Notably, this study did not examine the overlap between responses from the 2020 and 2022 surveys and lacked statistical comparisons, leading to a focus on descriptive discussions and comparisons of survey percentages. This is one of the few studies that compare the rapid movement to telehealth in behavioral healthcare to a more recent period of care as services have returned to more practice as usual.

**Keywords** Behavioral health · COVID-19 · Telehealth · Barriers · Facilitators

---

✉ Gabrielle Gonzalez  
ggonz4@lsuhsc.edu

Willandra Whiting-Green  
wwhiti@lsuhsc.edu

Denise Danos  
ddanos@lsuhsc.edu

Sonita Singh  
ssingh2@tulane.edu

Kelsey Witmeier  
kwitme@lsuhsc.edu

Stephen Philippi  
SPhil2@lsuhsc.edu

<sup>1</sup> School of Public Health, Community Health Science and Policy, Louisiana State University Health Sciences Center, New Orleans, LA, USA

<sup>2</sup> New Orleans, USA

## Introduction

The onset of the COVID-19 pandemic disrupted and dramatically shifted methods of delivering healthcare, including behavioral healthcare, in Louisiana and nationwide (Gajarawala & Pellowski, 2021; Singh et al., 2022). Although historically used to improve healthcare access to rural and underserved populations, telehealth services became a more common method of providing healthcare during the pandemic (Demeke et al., 2021). Still, telehealth delivery uptake varied depending on vacillating case numbers (Demeke et al., 2021). Telehealth allowed for healthcare service delivery while mitigating the spread of the virus by using telephone, email, video chat, and other remote services (Gajarawala & Pelkowski, 2021; Rutledge et al., 2017). Before 2019, variations of telehealth were used by less than half of mental health providers (Cunningham et al., 2021; Perry et al., 2020). Circumstances created by the pandemic (e.g., increased isolation, anxiety, and depression) exacerbated the need for mental health services for children and their families, making telehealth an essential tool for behavioral health assessments and interventions (Cunningham et al., 2021; Perry et al., 2020).

Telehealth became less of a provider's choice and one done with necessary haste to prioritize the safety of patients. Before COVID-19, many clinics and clinicians in the USA were not equipped to offer telehealth services; insurance providers, including Medicaid, curtailed telehealth use by not covering or reimbursing the treatment delivery method (Barney et al., 2020; Cunningham et al., 2021; Sisk et al., 2020). During the COVID-19 pandemic, clinics and programs had poor rates of telehealth service offerings because of staff shortages and structural concerns (Cunningham et al., 2021).

In Louisiana, telehealth services were used infrequently, and there were notable disparities in use among Medicaid populations state-wide in March of 2020 despite telehealth being equally compensated with in-clinic services before the onset of COVID-19 (Callison et al., 2023). During the pandemic, the Louisiana Department of Health promoted telehealth services and the reliance on telehealth for safety reasons, coupled with relaxed restrictions on the types of care provided with telemedicine (e.g., substance use disorder treatment), resulting in extensive uptick in telehealth services (Callison et al., 2023). The increase in telehealth services was not without criticism and hesitation. Some clinicians reported difficulty treating conditions requiring a physical examination via online visits; others noted that online patient-provider interactions were impersonal (Gajarawala & Pelkowski, 2021). The expansion of telehealth use led to the need for protocols and regulations for delivering care virtually, which varied widely across states, limiting state-specific guidelines initially (Gajarawala & Pelkowski, 2021).

The rapid shift in behavioral health service delivery for youth, associated with the pandemic, saw most services offered synchronously on web- and telephone-based platforms. Moving programs online removed pre-existing physical barriers to delivering care for some. For example, caregivers or parents of children did not need to transport individuals to services, thus reducing the extra time, distance, and money that previously precluded youth from receiving services (Norman et al., 2022; Riley et al., 2023). Insurers expeditiously expanded coverage to include telehealth services, which reduced the financial burden that online behavioral health services previously posed to people seeking care (Norman et al., 2022). Providers were able to conduct mental health assessments and remained adherent to evaluation protocols despite being online (Ros-DeMarize et al., 2021). Therapies for conditions like ADHD, depression, and anxiety were also found to be effective online (Ros-DeMarize et al., 2021). Treatment provided a social connection to isolated youth and may have improved perceived connectedness as well as psychological outcomes (Damian et al., 2022).

Online services may have also exacerbated previous equity concerns at the individual level. Youth in rural areas or those living in a low socioeconomic status (SES) situation may have had poorer access to high-speed Internet or necessary devices when compared to their higher SES and/or urban counterparts (Ros-DeMarize et al., 2021; Schriger et al., 2022). Similarly, technology literacy possibly deterred individuals from seeking or sustaining care (Ros-DeMarize et al., 2021). Additionally, Cunningham and colleagues (2021) found increased distress among children and families during the pandemic due to Internet access issues, lack of technological equipment (i.e., computers or phones), or lack of a private space to discuss healthcare information via telehealth. Patients likely face difficulty understanding new platforms, obtaining high-speed Internet, or completing the necessary steps to receive care (Ros-DeMarize et al., 2021).

At the provider and youth recipient levels, clinicians faced issues with attention and buy-in; children repeatedly did not have the attention span to focus and receive care online (Schriger et al., 2022). Children also reported screen fatigue, better known as "Computer Vision Syndrome," which happens when looking at computers for extended periods, resulting in eye strain and vision impairment (American Optometric Association, 2023). This fatigue deters children from participating fully in treatment and increases the likelihood of distraction (American Optometric Association, 2023). Providers recognized the lack of privacy as a barrier to delivering care (Hoffnung et al., 2021). Youths censored themselves during sessions because many did not want others to hear or know about their private thoughts and feelings (Hoffnung et al., 2021). Additionally, those who may have been in violent situations may have felt their safety was at risk if they disclosed their encounters (Hoffnung et al., 2021). Finally, long

waitlists and a dearth of behavioral health clinicians continued to prevent many children from getting care when needed (Ros-DeMarize et al., 2021).

The Center for Evidence to Practice, an independent university-based collaborator with the Louisiana Department of Health's Office of Behavioral Health, examined how Louisiana agencies adapted to the stay-at-home orders and transitioned to telehealth care. Researchers were interested in exploring how the transition to telehealth was received among behavioral health agencies across Louisiana, especially for children and their families. There was a specified interest in understanding barriers and facilitators to treatment, which was accomplished through two cross-sectional surveys of provider experiences. The first survey, conducted in 2020, found that Medicaid policy changes to regulations and reimbursement made adoption most feasible (Singh et al., 2022). Further, barriers to telehealth uptake included access to technology, technological use, costs, knowledge, and unwillingness to navigate the telemedical landscape (Singh et al., 2022).

A second survey was administered in 2022 to follow up on prior research outcomes. This second study, detailed in this manuscript, explored attitudes, barriers, and facilitators for sustaining telemedical behavioral health services for Medicaid-enrolled children and families living in Louisiana in the post-COVID-19 era and investigated congruence with previous study findings. Additionally, we explored differences between evidence-based practices (EBPs) and non-evidence-based practices to understand how EBP training impacts the ability to deliver telehealth services. EBP treatments and tools are based on the most up-to-date research. Providers trained to provide EBP services report valuing the preferences of the patient as well as the providers' own clinical experience (Abu-Baker et al., 2021; Degu et al., 2022). Additionally, EBP training emphasizes adaptability in providing care to patients in order to meet their needs (Abu-Baker et al., 2021; Degu et al., 2022).

This can result in enhanced future training with skills taught to adapt practices to remote versions more efficiently.

## Methods

### Study Design

Researchers used quantitative methods to examine longitudinal provider experiences regarding behavioral healthcare services adapted to telehealth 2 years following the first survey, which captured experiences amidst the "Stay-at-Home" order associated with the COVID-19 pandemic in 2020 (Singh et al., 2022). Unlike the original 2020 study, which employed a mixed-method data collection strategy, this study relied solely upon quantitative data collection

methods. However, the second survey data collection tool repeated and expanded the quantitative methodology of the initial study by including new questions related to the adoption and sustainability of telehealth post-COVID-19.

### Study Population

Study participants were recruited through a LISTSERV the Center maintains. The potential respondent population from the LISTSERV was 3505, which includes Medicaid-funded behavioral health providers throughout Louisiana. These providers were primarily child and family behavioral health clinicians; however, adult providers were also included. The providers were recruited using the same method as the original survey conducted in 2020 (Singh et al., 2022). However, the LISTSERV is updated routinely depending on the service provider's reported contact information and service provision. Therefore, the participants may have differed from the original study, which included 1554 potential respondents and yielded 305 respondents in total. The follow-up 2022 survey had 178 respondents. Respondents who did not offer services to Medicaid clients ( $n=38$ ), those who did not serve children or families ( $n=9$ ), and those who did not report satisfaction with their ability to currently serve clients ( $n=1$ ) were excluded.

### Data Collection

The Center's quantitative tool replicated the previous 26-item survey called the "Telemental Health Survey" created using REDCap (Research Electronic Data Capture) and is detailed in Singh (2022). Among the data collected were provider demographics, populations served, geographical settings (rural, urban, or regional—covering one of ten state health districts), treatment models offered (general psychotherapy models or evidence-based practice (EBP)-specific treatment models (e.g., Trauma Focused-Cognitive Behavioral Therapy), places where services were provided (i.e., at home, in the office, via telehealth, or a mixture of these), size of the agency (i.e., a single-clinician agency or a multi-clinician agency), and the type of telehealth approaches used.

Compared to the 2020 survey, the 2022 survey included additional questions and answer options to examine the post-pandemic features of telehealth services. These additional questions included whether EBP practices were sustained or ceased, practitioner satisfaction, client engagement changes during the pandemic, and resources that helped adapt practitioners' overall practice during the pandemic and post-pandemic. In the questions asking about facilitators and barriers, the option choices of "Number of clinicians/adequate workforce," "New COVID variants," and "Policy responses to the COVID Pandemic" were added. Additionally, certain survey questions, such as "ability to reach hard

**Table 1** Questions added to the 2022 Telehealth Survey

Questions
1. During the pandemic, have you started a new EBP or stopped providing an EBP?
2. How satisfied are you with your current ability to serve clients?
3. Which of the following have been most helpful in adapting your practice during the Pandemic?
4. Has your current method of client engagement changed due to the emergence of the Delta (or other) variants?

*EBP* evidence-based practice

to reach populations” and “client access to internet, data, and devices” were listed as barriers and facilitators to assess whether practitioners adapted to using telehealth services between 2020 and 2022. The complete 2022 survey is provided as supplemental material, and the added questions are included in Table 1. The survey was performed between February and April 2022.

### Statistical Analysis

Categorical variables were summarized using frequency and percentages. Responses for providers who used EBP vs those who did not were compared via chi-square tests. Satisfaction with current care provisions was summarized using mean and standard deviation. Additionally, current provider satisfaction was categorized into quartiles, and associations between current provider satisfaction and responses were assessed with Cochran-Armitage trend tests. For questions that allowed multiple responses, each response was analyzed as a binary variable. Test statistics and *p*-values are reported. This research study was conducted retrospectively using data obtained for project evaluation and quality assurance purposes. We consulted with the LSUHSC-NO Institutional Review Board (IRB), which determined that our effort was non-human subjects research and did not require IRB oversight.

### Results

The following results summarize the initial survey’s findings reported in more detail in Singh (2022). Abbreviated findings from the 2020 survey are offered to easily compare results at two different points in time. The findings of the 2020 survey are summarized as the findings of the more recent 2022 survey are presented. Table 2 includes descriptions of for-provider services in 2022. The 2022 survey found that 113 (79.7%) out of 140 respondents self-reported offering evidence-based practices (EBPs), and 27 (19.3%) provided general psychotherapy but not a specific EBP. Although minimal differences were found, the data analysis established three key distinctions between EBP and non-EBP providers in service delivery. EBP providers were more

likely to offer treatment within an office or dedicated facility setting than non-EBP providers (90.3 vs. 74.1%,  $p=0.048$ ). Conversely, EBP providers were significantly less likely than non-EBP providers to treat patients at their homes (40.7 vs. 70.4%,  $p=0.009$ ) and utilize non-HIPAA-compliant audiovisual teleconferencing methods, such as the free version of Zoom that does not ensure data privacy for client interactions (2.7 vs. 18.5%,  $p=0.007$ ).

In 2020, the top three barriers to care included client access to the Internet, data, and devices (78.3%), the client’s knowledge of technology (66%), and the ability to reach hard-to-reach populations (36.0%). In 2022, accessing the hard-to-reach populations was no longer reported as a top barrier (Table 3). Instead, the number of clinicians and an adequate workforce became one of the top three barriers (47.1%). The top three facilitators to care in 2020 included increased access to clients (57.1%), the ability to reach hard-to-reach populations (44.5%), and telehealth platform access (28.1%). The only change in facilitators in 2022 was client access to the Internet, data, and devices (34.3%) rather than telehealth platform access (Table 4). Sustained facilitators of telehealth services in the 2022 survey were increased access to clients (35.7%) and the ability to reach hard-to-reach populations (34.3%). The 2022 survey expanded on the 2020 survey to ask which factors were most helpful in adapting provider practice during the pandemic to deliver care more efficiently (Table 4). Providers acknowledged that the top three elements that positively impacted their adoption of telehealth included technology (62.9%), regulatory flexibility (49.3%), and policy changes (47.9%). Billing and regulatory requirements were paused during the telehealth transition during the onset of COVID-19 to allow providers to deliver online services to patients without restrictions. After that pause in billing and regulatory requirements, in-person visits increased; however, it also appears that many providers permanently integrated telehealth-related technology into practice to serve their clients.

Survey responses regarding barriers and facilitators to telehealth by EBP provision are provided in Table 5. EBP providers were more likely to report reaching treatment outcomes as a barrier (14.2 vs. 0%,  $p=0.042$ ) and peer support as a helpful factor in adapting their practice during the pandemic (38.1 vs. 11.1%,  $p=0.007$ ). When asked,

**Table 2** 2022 Telehealth Survey provider data, including reported evidence-based provider provision

	All	Any EBP		<i>p</i> -value
		No	Yes	
All, % ( <i>n</i> )	100.0 (140)	100.0 (27)	100.0 (113)	
Ages served <sup>a</sup> , % ( <i>n</i> )				
0–5 yrs	53.6 (75)	51.9 (14)	54.0 (61)	1.000
6–10 yrs	92.1 (129)	96.3 (26)	91.2 (103)	0.691
11–14 yrs	97.1 (136)	100.0 (27)	96.5 (109)	1.000
15–18 yrs	97.9 (137)	96.3 (26)	98.2 (111)	0.477
18–21 yrs	91.4 (128)	92.6 (25)	91.2 (103)	1.000
21 + yrs	84.3 (118)	88.9 (24)	83.2 (94)	0.569
Areas served, % ( <i>n</i> )				0.715
Mostly urban	33.6 (47)	40.7 (11)	31.9 (36)	
Mostly rural	30.7 (43)	25.9 (7)	31.9 (36)	
Both	35.7 (50)	33.3 (9)	36.3 (41)	
Treatment location <sup>a,b</sup> , % ( <i>n</i> )				
In office/at facility	87.1 (122)	74.1 (20)	90.3 (102)	0.048*
Clients Home	46.4 (65)	70.4 (19)	40.7 (46)	0.009**
Telehealth	85.0 (119)	88.9 (24)	84.1 (95)	0.765
Hybrid treatment locations, % ( <i>n</i> )				0.695
In office/facility or at home only	15.0 (21)	11.1 (3)	15.9 (18)	
Hybrid	80.0 (112)	81.5 (22)	79.7 (90)	
Telehealth only	5.0 (7)	7.4 (2)	4.4 (5)	
Treatment modality <sup>a,b</sup> , % ( <i>n</i> )				
Face-to-face	93.6 (131)	85.2 (23)	95.6 (108)	0.070
Audiovisual teleconference, HIPAA compliant	76.4 (107)	63.0 (17)	79.7 (90)	0.080
Audiovisual teleconference, non-HIPAA compliant	5.7 (8)	18.5 (5)	2.7 (3)	0.007**
Telehealth via call	60.7 (85)	66.7 (18)	59.3 (67)	0.519
Telehealth via text	7.1 (10)	11.1 (3)	6.2 (7)	0.406
Hybrid treatment modalities, % ( <i>n</i> )				0.093
Face-to-face only	9.3 (13)	3.7 (1)	10.6 (12)	
Hybrid	84.3 (118)	81.5 (22)	85.0 (96)	
Telehealth only	6.4 (9)	14.8 (4)	4.4 (5)	

\**p* < 0.05; \*\**p* < 0.01

EBP evidence-based practice

<sup>a</sup>Treatment location refers to where the provider offered services, and treatment modality refers to how providers offered that service. For both, providers could check all that apply; thus, percentages add to over 100%

<sup>b</sup>Hybrid treatment locations combined providers who selected either office, facility, or home and telehealth to show providers who were offering both telehealth and in-person services vs. those who were only providing telehealth or only offering face-to-face services in a home, office, or clinic. Treatment modality followed this same recoding. First providers could select any modality they were using (e.g. face-to-face, audio-visual teleconference, etc.). The Hybrid treatment modalities combined providers selecting both face-to-face and any of the telehealth/teleconferencing options into a recoded category of “hybrid” (i.e., both providing face to face and any telehealth approaches) vs. providers who were only offering face-to-face services or only using telehealth/teleconferencing options

“How satisfied are you with your current ability to serve clients?” the mean satisfaction score was 74.8 out of 100. Scores ranged from 0 to 100, with a median of 79 and an interquartile range of (68.5–90.5). Barriers and facilitators to behavioral telehealth tabulated by provider satisfaction

(quartiles) are provided in Table 6. Providers with lower satisfaction were statistically more likely to report barriers to providing behavioral health, such as clients’ access to the Internet, data, and devices (*p* = 0.005), loss of referral network (*p* = 0.016), and too many clients (*p* = 0.033).

**Table 3** Barriers for clinicians delivering telehealth 2022 vs. 2020 survey findings

	2022		2020	
	Response (%)	Rank	Response (%)	Rank
Clients' access to Internet, data, devices	57.1	1	78.3	1
Number of clinicians/adequate workforce	47.1	2	–	
Clients' knowledge of technology	43.6	3	66.0	2
Issues with payment or billing	31.4	4	22.1	4
New COVID variants	27.1	5	–	
Ability to reach hard-to-reach populations	24.3	6	36.0	3
Too many clients	22.1	7	–	
Access to appropriate telehealth platform	12.9	8	17.8	6
Finding clients	12.9	9	15.8	7
Policy responses to the COVID pandemic	12.9	10	–	
Loss of referral network	11.4	11	21.7	5
Ability to reach treatment outcomes	11.4	12	10.7	9
Ability to create a therapeutic alliance	5	13	15.8	8
EBP type	2.9	14	2.8	10

*EBP* evidence-based practice

**Table 4** Facilitators for clinicians delivering telehealth 2022 vs. 2020

	2022		2020	
	Response (%)	Rank	Response (%)	Rank
Increased access to clients	35.7	1	57.1	1
Clients' access to Internet, data, devices	34.3	2	24.7	4
Ability to reach hard-to-reach populations	34.3	3	44.5	2
Access to appropriate telehealth platform	29.3	4	28.3	3
Clients' knowledge of technology	22.9	5	21.9	5
Ability to reach treatment outcomes	22.1	6	21.1	6
Ability to create a therapeutic alliance	21.4	7	16.6	7
Identifying new referral networks	18.6	8	10.1	9
Number of clinicians/adequate workforce	16.4	9	–	
Ease around payment or billing	12.1	10	6.9	10
EBP training for telehealth	11.4	11	13.0	8
EBP type	7.9	12	1.2	11

*EBP* evidence-based practice

New questions posed in the 2022 survey covered regulatory flexibility, policy changes, technology, and peer support. Regulatory flexibility ( $p=0.001$ ), technology ( $p=0.003$ ), and technical assistance ( $p=0.001$ ) were resources that providers with lower self-reported satisfaction reported needing the most to implement in their behavioral health practice.

## Discussion

The 2022 survey (Singh et al., 2022) aimed to understand the barriers and facilitators to delivering telehealth services to children and families, as well as provider perspectives. The 2022 results highlight how provider and patient needs changed during the pandemic in relation to

the 2020 survey. However, the 2020 findings cannot be directly compared to those from 2022 due to limited information regarding the providers responding to the surveys, who might have varying opinions. The following findings of the survey detail changes in barriers and facilitators, as well as differences in EBP vs. non-EBP providers delivering telehealth services.

## EBP vs. Non-EBP

The 2022 survey (Singh et al., 2022) found no statistical difference between EBP usage and telehealth service offerings (yes/no). However, the study found that EBP providers were more likely than non-EBP providers to provide services in the office or dedicated facility setting, while they were less

**Table 5** Responses from 2022 Telehealth Provider Survey, by reported evidence-based practice provision

	All	Any EBP		<i>p</i> -value
		No	Yes	
All	100.0 (140)	100.0 (27)	100.0 (113)	
Which of the following issues are the biggest current barriers to providing behavioral health treatment? <sup>a</sup> % ( <i>n</i> )				
Clients' access to Internet, data, devices	57.1 (80)	51.9 (14)	58.4 (66)	0.666
Number of clinicians/adequate workforce	47.1 (66)	51.9 (14)	46.0 (52)	0.670
Clients' knowledge of technology	43.6 (61)	25.9 (7)	47.8 (54)	0.052
Issues with payment or billing	31.4 (44)	22.2 (6)	33.6 (38)	0.356
New COVID variants	27.1 (38)	22.2 (6)	28.3 (32)	0.634
Ability to reach hard-to-reach populations	24.3 (34)	18.5 (5)	25.7 (29)	0.618
Too many clients	22.1 (31)	14.8 (4)	23.9 (27)	0.440
Access to appropriate telehealth platform	12.9 (18)	14.8 (4)	12.4 (14)	0.751
Finding clients	12.9 (18)	18.5 (5)	11.5 (13)	0.343
Policy responses to the COVID pandemic	12.9 (18)	11.1 (3)	13.3 (15)	1.000
Loss of referral network	11.4 (16)	22.2 (6)	8.9 (10)	0.085
Ability to reach treatment outcomes	11.4 (16)		14.2 (16)	0.042*
Ability to create a therapeutic alliance	5.0 (7)		6.2 (7)	0.346
EBP type	2.9 (4)		3.5 (4)	1.000
Which of the following issues are the greatest current facilitators to providing behavioral health treatment? <sup>a</sup> % ( <i>n</i> )				
Increased access to clients	35.7 (50)	33.3 (9)	36.3 (41)	0.827
Clients' access to Internet, data, devices	34.3 (48)	25.9 (7)	36.3 (41)	0.372
Ability to reach hard to reach populations	34.3 (48)	33.3 (9)	34.5 (39)	1.000
Access to appropriate telehealth platform	29.3 (41)	25.9 (7)	30.1 (34)	0.815
Clients' knowledge of technology	22.9 (32)	14.8 (4)	24.8 (28)	0.319
Ability to reach treatment outcomes	22.1 (31)	14.8 (4)	23.9 (27)	0.440
Ability to create a therapeutic alliance	21.4 (30)	29.6 (8)	19.5 (22)	0.297
Identifying new referral networks	18.6 (26)	22.2 (6)	17.7 (20)	0.588
Number of clinicians/adequate workforce	16.4 (23)	18.5 (5)	15.9 (18)	0.774
Ease around payment or billing	12.1 (17)	14.8 (4)	11.5 (13)	0.743
EBP training for telehealth	11.4 (16)	3.7 (1)	13.3 (15)	0.309
EBP type	7.9 (11)		9.7 (11)	0.123
What factors have been helpful in adapting your practice during the Pandemic? <sup>a</sup> % ( <i>n</i> )				
Technology	62.9 (88)	55.6 (15)	64.6 (73)	0.386
Regulatory flexibility	49.3 (69)	48.2 (13)	49.6 (56)	1.000
Policy changes	47.9 (67)	40.7 (11)	49.6 (56)	0.521
Peer support	32.9 (46)	11.1 (3)	38.1 (43)	0.007**
Technical assistance from the Center for Evidence to Practice	17.1 (24)	7.4 (2)	19.5 (22)	0.165
Technical assistance from EBP trainers and purveyors	10.0 (14)	3.7 (1)	11.5 (13)	0.305
Other	6.4 (9)	14.8 (4)	4.4 (5)	0.070
What factors do you feel you need help with to adapt your practice? <sup>a</sup> % ( <i>n</i> )				
Regulatory flexibility	30.0 (42)	37.0 (10)	28.3 (32)	0.483
Policy changes	27.1 (38)	18.5 (5)	29.2 (33)	0.339
Technology	20.7 (29)	11.1 (3)	23.0 (26)	0.198
Peer support	20.0 (28)	11.1 (3)	22.1 (25)	0.286
Technical assistance from the Center for Evidence to Practice	13.6 (19)	7.4 (2)	15.0 (17)	0.531
Technical assistance from EBP trainers and purveyors	13.6 (19)	7.4 (2)	15.0 (17)	0.531
Other	13.6 (19)	11.1 (3)	14.2 (16)	1.000

<sup>a</sup>This question allowed for multiple answers; thus, percentages add to over 100%

EBP evidence-based practice

\**p* < 0.05; \*\**p* < 0.01

**Table 6** Responses from 2022 Telehealth Provider Survey, by current satisfaction in serving clients

	All	Satisfaction in ability to serve clients (quartiles <sup>a</sup> )				<i>p</i> -value
		Q1	Q2	Q3	Q4	
All, % ( <i>n</i> )	100.0 (140)	100.0 (35)	100.0 (34)	100.0 (36)	100.0 (35)	
Which of the following issues are the biggest current barriers to providing behavioral health treatment? <sup>b</sup> % ( <i>n</i> )						
Clients' access to Internet, data, devices	57.1 (80)	68.6 (24)	64.7 (22)	61.1 (22)	34.3 (12)	0.005**
Number of clinicians/adequate workforce	47.1 (66)	51.4 (18)	61.8 (21)	33.3 (12)	42.9 (15)	0.152
Clients' knowledge of technology	43.6 (61)	45.7 (16)	50.0 (17)	36.1 (13)	42.9 (15)	0.549
Issues with payment or billing	31.4 (44)	37.1 (13)	41.2 (14)	25.0 (9)	22.9 (8)	0.093
New COVID variants	27.1 (38)	31.4 (11)	26.5 (9)	19.4 (7)	31.4 (11)	0.829
Ability to reach hard-to-reach populations	24.3 (34)	31.4 (11)	32.4 (11)	16.7 (6)	17.1 (6)	0.071
Too many clients	22.1 (31)	31.4 (11)	32.4 (11)	8.3 (3)	17.1 (6)	0.033*
Access to appropriate telehealth platform	12.9 (18)	17.1 (6)	11.8 (4)	13.9 (5)	8.6 (3)	0.351
Finding clients	12.9 (18)	20.0 (7)	5.9 (2)	11.1 (4)	14.3 (5)	0.631
Policy responses to the COVID pandemic	12.9 (18)	14.3 (5)	14.7 (5)	11.1 (4)	11.4 (4)	0.631
Loss of referral network	11.4 (16)	22.9 (8)	8.8 (3)	11.1 (4)	2.9 (1)	0.016*
Ability to reach treatment outcomes	11.4 (16)	17.1 (6)	8.8 (3)	8.3 (3)	11.4 (4)	0.459
Ability to create a therapeutic alliance	5.0 (7)	5.7 (2)	8.8 (3)	5.6 (2)		0.218
EBP type	2.9 (4)	5.7 (2)	5.9 (2)			0.068
Which of the following issues are the greatest current facilitators to providing behavioral health treatment? <sup>b</sup> % ( <i>n</i> )						
Increased access to clients	35.7 (50)	34.3 (12)	47.1 (16)	30.6 (11)	31.4 (11)	0.492
Clients' access to Internet, data, devices	34.3 (48)	40.0 (14)	23.5 (8)	30.6 (11)	42.9 (15)	0.672
Ability to reach hard-to-reach populations	34.3 (48)	40.0 (14)	38.2 (13)	33.3 (12)	25.7 (9)	0.184
Access to appropriate telehealth platform	29.3 (41)	25.7 (9)	38.2 (13)	22.2 (8)	31.4 (11)	0.973
Clients' knowledge of technology	22.9 (32)	22.9 (8)	14.7 (5)	22.2 (8)	31.4 (11)	0.299
Ability to reach treatment outcomes	22.1 (31)	11.4 (4)	32.4 (11)	13.9 (5)	31.4 (11)	0.185
Ability to create a therapeutic alliance	21.4 (30)	22.9 (8)	26.5 (9)	16.7 (6)	20.0 (7)	0.554
Identifying new referral networks	18.6 (26)	25.7 (9)	14.7 (5)	16.7 (6)	17.1 (6)	0.416
Number of clinicians/adequate workforce	16.4 (23)	22.9 (8)	8.8 (3)	13.9 (5)	20.0 (7)	0.892
Ease around payment or billing	12.1 (17)	17.1 (6)	11.8 (4)	11.1 (4)	8.6 (3)	0.285
EBP training for telehealth	11.4 (16)	14.3 (5)	11.8 (4)	11.1 (4)	8.6 (3)	0.459
EBP type	7.9 (11)	14.3 (5)		8.3 (3)	8.6 (3)	0.657
What factors have been helpful in adapting your practice during the Pandemic? <sup>b</sup> % ( <i>n</i> )						
Technology	62.9 (88)	62.9 (22)	67.7 (23)	69.4 (25)	51.4 (18)	0.379
Regulatory flexibility	49.3 (69)	60.0 (21)	38.2 (13)	47.2 (17)	51.4 (18)	0.651
Policy changes	47.9 (67)	37.1 (13)	47.1 (16)	55.6 (20)	51.4 (18)	0.172
Peer support	32.9 (46)	25.7 (9)	35.3 (12)	36.1 (13)	34.3 (12)	0.452
Technical assistance from the Center for Evidence to Practice	17.1 (24)	20.0 (7)	20.6 (7)	19.4 (7)	8.6 (3)	0.216
Technical assistance from EBP trainers and purveyors	10.0 (14)	11.4 (4)	14.7 (5)	8.3 (3)	5.7 (2)	0.302
What factors do you feel you need help with to adapt your practice? <sup>b</sup> % ( <i>n</i> )						
Regulatory flexibility	30.0 (42)	42.9 (15)	47.1 (16)	16.7 (6)	14.3 (5)	0.001**
Policy changes	27.1 (38)	34.3 (12)	26.5 (9)	16.7 (6)	31.4 (11)	0.578
Technology	20.7 (29)	31.4 (11)	32.4 (11)	11.1 (4)	8.6 (3)	0.003**
Peer support	20.0 (28)	28.6 (10)	20.6 (7)	16.7 (6)	14.3 (5)	0.121
Technical assistance from the Center for Evidence to Practice	13.6 (19)	20.0 (7)	17.7 (6)	11.1 (4)	5.7 (2)	0.057
Technical assistance from EBP trainers and purveyors	13.6 (19)	25.7 (9)	17.7 (6)	11.1 (4)		0.001**

<sup>a</sup>Providers' satisfaction in their ability to serve their clients was categorized into quartiles, where Q1 included scores from 0 to 68.4, Q2 included scores of 68.5 to 78.9, Q3 included scores from 79 to 90.4, and Q4 included scores from 90.5 to 100

<sup>b</sup>This question allowed for multiple answers; thus, percentages add to over 100%

EBP evidence-based practice

\* $p < 0.05$ ; \*\* $p < 0.01$



likely to provide services at home compared to non-EBP providers. In the 2 years following the start of the COVID-19 pandemic, providers had the opportunity to adapt and offer in-person services to meet patients' needs safely. During the pandemic, HIPAA regulations were relaxed to permit the use of telehealth tools, such as the free version of Zoom, that did not fully comply with HIPAA standards (U.S. Department of Health and Human Services, 2021). A previous study on patients' perspectives and preferences toward telehealth versus in-person visits found that a majority of individuals (53%) preferred in-person services over telehealth-delivered encounters (Predmore et al., 2021). EBP training emphasizes focusing on patients' needs, which could explain our 2022 survey finding more EBP providers conducting in-person visits. Further research is needed to determine why EBP providers had significantly higher in-person visits than non-EBP as providers were able to adapt to changes made in delivering healthcare during the COVID-19 pandemic.

### Barriers to Telehealth Services

Although telehealth services remain a viable alternative in delivering behavioral healthcare, the shortage of providers to meet the demand for services poses a significant barrier to delivering care (Singh et al., 2022). Emerging second in the top barriers to telehealth among 2022 survey respondents, the inadequate workforce persists as a challenge to behavioral healthcare nationwide (Singh et al., 2022). At the provider level, the pandemic exacerbated an already excessive workload for clinicians and healthcare workers; therefore, some healthcare workers were against incorporating telehealth if it increased the overall workload (Khoshrounejad et al., 2021; Whaibeh et al., 2020). Even with telehealth reported as favorable by providers when integrated well into the clinical setting, there is still concern about overwhelming the strained systems (Khoshrounejad et al., 2021; Whaibeh et al., 2020).

At the patient level, studies show a struggle to adapt to technology during the transition to telehealth services. This is emphasized by our 2020 and 2022 surveys, which report that access to the Internet, data, and devices were sustained barriers to individuals' use of telehealth services. Respondents in 2020 and 2022 reported that a client's poor knowledge of technology limited their ability to receive services. This impeded the clinicians' ability to deliver quality behavioral health care. A study by Khoshrounejad and colleagues (2021) also found that patients reported having difficulties with technology, lower Internet use, and lower confidence in technology as common barriers. Similar to our findings, individual knowledge of technology can impede receiving the best care possible during the pandemic (Khoshrounejad et al., 2021). Moreover, the current study illustrated how limited access of technology because of a lack of knowledge

or understanding of technology can hinder patients from accessing telehealth. The study by Khoshrounejad and colleagues consistently reported access to the Internet, data, and devices as top barriers.

However, we saw a decrease in clinicians endorsing these barriers between 2020 and 2022. For example, "ability to reach hard-to-reach populations" declined as a barrier from 2020 and became a facilitator in 2022. A lack of survey respondents reporting this variable as a barrier in 2022 may be connected to improved adaptation to telehealth services over time, from physicians and patients alike (Shaver, 2022). Additionally, we hypothesize that this decrease may be associated with the implementation of the Affordable Connectivity Program (ACP), which subsidized Internet costs and provided discounted or free technology to those who qualified (Negaro et al., 2023).

### Facilitators to Telehealth Services

Although telehealth maintenance has its challenges, there were also facilitators to the delivery of telehealth services. At the provider level, a facilitator from the 2020 survey in maintaining telehealth services was the ability to engage hard-to-reach populations. Sustained facilitators of telehealth services in the 2022 survey were "increased access to clients" and "ability to reach hard-to-reach populations." Therefore, the providers maintained contact and delivered services to patients through telehealth platforms as the pandemic progressed. A systematic review of the state of telehealth services after COVID-19 indicated that specific portions of the population, including those who may be older, people of color who live in a rural area, or are impoverished, may continue using telehealth at a lower rate (Shaver, 2022). Our results highlight the importance of ongoing investments in hard-to-reach populations to ensure increased access to telehealth services. As the ACP ends, there is a concern about providing telehealth services to hard-to-access populations (Negaro et al., 2023).

Interestingly, we saw decreases in "increased access to clients" and "ability to reach hard-to-reach populations" as facilitators to delivering telehealth services from 2020 to 2022. Further study is needed to understand why these remained top facilitators but dropped in frequency. The 2022 survey was not exclusionary to those who completed the 2020 survey, which makes it difficult to interpret why these facilitators decreased in frequency. Other research has found that the use of telehealth decreased in the later pandemic years, which could explain our decreased endorsement of facilitators (Lee et al., 2023). Despite reported drops in frequency, our survey found that while in-person visits are increasing, several behavioral healthcare providers continued to integrate telehealth services, which can improve client access. Additionally, our survey expanded on the 2020

survey to ask respondents which were the most important or helpful factors in adapting provider practice during the pandemic. Our survey found that the top adapting factors included regulatory flexibility, technology, policy changes, and peer support.

## Conclusions

Based on our 2022 survey findings, the first recommendation related to barriers to telehealth services is the need for a streamlined billing and payment system related to telehealth to maintain future services. A streamlined billing and payment system can allow for providers to avoid confusion and inaccuracies in billing. A common barrier found in the literature revolved around billing and reimbursement rates (Almathami et al., 2020; Khoshrounejad et al., 2021). Issues with service codes due to changing regulations can result in billing errors. Therefore, a streamlined system can help ensure consistent telehealth regulations and reduce obstacles to providing telehealth services. This is consistent with Khoshrounejad et al. (2021) which suggested that future telehealth visits should be implemented with payment accurately reflecting the delivered care. This could be achieved by approaching telehealth in a hybridize fashion. Behavioral healthcare could utilize telehealth services as an alternative to meeting in person but also offer follow-up face-to-face meetings to avoid technology-related issues, communication barriers, and payment concerns (Almathami et al., 2020). Additionally, changes to the implementation of telehealth services can be conducted in the case of future variants.

Necessary policy changes can also reduce the risk of barriers to telehealth among marginalized patient populations. For instance, by prioritizing telehealth access for Medicaid beneficiaries and those in remote areas, policymakers can ensure that quality care remains accessible and cost-effective, especially when telehealth is the only option available. A study by Chang and colleagues found that more vulnerable populations tend to receive telehealth through phone calls instead of video calls, resulting in lower patient satisfaction (Chang et al., 2021). A facilitator to future telehealth implementation strategies would include prioritizing video conferencing over phone calls to improve satisfaction, engagement, and communication between the patient and the provider (Chang et al., 2021). Also, peer support can potentially be neglected in telehealth services, but proper training and acquired competencies can ensure the delivery of peer support through telehealth (Spagnolo et al., 2022). Each of these factors can improve patient experience and satisfaction with telehealth services.

There are limitations in this current study that resemble the limitations observed in the previous research. As with the former study by Singh and colleagues (2022),

the survey sampling methods prevent generalizing the study results to state-wide providers not associated with the Center and its affiliates. This led to another notable limitation: the low survey response rate compared to the population sample size. Although the LISTSERV yielded a far greater number of potential respondents compared to the study conducted in 2020 (i.e., 3505 vs. 1554), it is unknown why the response rate was significantly lower (i.e., 178 vs. 305). Another limitation was the lack of statistical comparison between the 2020 and 2022 survey results because of our inability to assess the degree of overlap in the surveys' respondents, leading to a more descriptive discussion and comparison of survey percentages. Additionally, more EBP providers responded than non-EBP providers, which could be attributed to higher investment in the survey's findings due to participation in previous training services. This could decrease the generalizability of the findings, especially to non-EBP providers.

Moreover, the center primarily serves as an organization designed to conduct EBP training and education with providers who often change their available Medicaid services. The LISTSERV also includes non-providers who utilize the center for training and education services, who were not the intended population for this survey. This resulted in an overly broad sampling frame. The survey was specifically for providers who serve children and families and accept Medicaid. As noted in the methods, some respondents were excluded from this study because while they completed the survey, they did not currently serve Medicaid clients or children and families. Thus, the true sampling rate is underestimated. Current literature supports similar limitations in using convenience sampling like a LISTSERV, especially regarding surveying healthcare providers across multiple disciplines and settings (Hutchinson & Sutherland, 2019).

Despite the limitations listed above, the present study provides insights into the sustainability of telemental health services as a valuable tool for improving the accessibility of services to those who may have otherwise been neglected during COVID-19 and its aftermath. Telehealth has aided in reducing overall healthcare costs and improving general patient satisfaction (Snoswell et al., 2020). Further and ongoing research is needed to assess the long-term feasibility of the services, as this appears to be one of the few follow-up studies comparing the COVID era of rapid growth in telehealth utilization to the post-COVID (i.e., return to practice as usual) period.

Before COVID-19, telemedicine, although not widely used, effectively reached populations worldwide and provided treatment to individuals struggling with mental health, diabetes management, and chronic disease (Scott Kruse et al., 2018). Telehealth services allowed patients and

providers to continue safely receiving and giving care during the COVID-19 pandemic. Children and their families could maintain care with their providers with limited barriers noted. The Center determined the top barriers and facilitators to care to improve the future dissemination of healthcare services to patients across Louisiana, as well as differences in EBP vs. non-EBP delivery of telemental healthcare in 2022. Prospective telehealth service providers can enhance remote billing systems, equitable workload distribution, and an adequate workforce to meet demand.

Additionally, it is clear that patient populations still struggle to adapt to technology, access services, and grasp billing systems. The literature emphasizes that children and families struggle to adapt to technology, which is an area of improvement for future telehealth practices. However, telehealth services improve providers' ability to engage hard-to-reach populations, avoid spreading the virus, and provide convenient access to service. Looking forward, the implementation of telehealth services should find unique solutions to limit the technology barrier to accessing remote services, incorporate peer support, and build payment systems specific to remote services to ensure children and their families can continuously access necessary healthcare services when in-person care is inaccessible or recommended.

**Author Contribution** All authors contributed to the study conceptualization. Survey design was done by Sonita Singh, Denise Danos, and Stephen Phillippi. Data collection and primary analyses were performed by Denise Danos and Sonita Singh. The literature review, reporting of findings, and discussion sections were drafted by Gabrielle Gonzalez, Willandra Whiting, and Kelsey Witmeier, and all authors contributed to the review and approval of the final draft of the manuscript written by Gabrielle Gonzalez, Willandra Whiting, Kelsey Witmeier, and Stephen Phillippi.

**Funding** The evaluation leading to these results received funding from SAMHSA Emergency Grants to Address Mental Health and Substance Use Disorders During COVID-19 under Grant Agreement No: LaGov 2000490323.

**Data Availability** Data generated by this survey are not publicly available. The data can be made available by the authors upon reasonable request.

## Declarations

**Ethical Approval** This is an observational study that was conducted retrospectively using data obtained for project evaluation and quality assurance purposes. We consulted with the LSUHSC-NO Institutional Review Board (IRB) who determined that our effort was non-human subjects research and did not require IRB oversight. All work was completed in compliance with confidentiality standards, and no PHI was collected.

**Conflict of Interest** The authors declare no competing interests.

## References

- Abu-Baker, N. N., AbuAlrub, S., Obeidat, R. F., & Assmairan, K. (2021). Evidence-based practice beliefs and implementations: A cross-sectional study among undergraduate nursing students. *BMC Nursing*, 20(1), 1–8. <https://doi.org/10.1186/S12912-020-00522-X/TABLES/4>
- Almathami, H. K. Y., Than Win, K., & Vlahu-Gjorgievska, E. (2020). Barriers and facilitators influencing telemedicine-based, real-time, online consultation at patients' homes: Systematic literature review. *Journal of Medical Internet Research*, 22(2), e16407. <https://doi.org/10.2196/16407>
- American Optometric Association. (2023). Computer vision syndrome. <https://www.aoa.org/healthy-eyes/eye-and-vision-conditions/computer-vision-syndrome?ss=y>
- Barney, A., Buckelew, S., Mesheriakova, V., & Raymond-Flesch, M. (2020). The COVID-19 pandemic and rapid implementation of adolescent and young adult telemedicine: Challenges and opportunities for innovation. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, 67(2), 164–171. <https://doi.org/10.1016/j.jadohealth.2020.05.006>
- Callison, K., Anderson, A., Shao, Y., Laveist, T. A., & Walker, B. (2023). Disparities in telemedicine use among Louisiana Medicaid beneficiaries during the COVID-19 Pandemic. *Medical Care*, 61(4), S70–S76. <https://doi.org/10.1097/MLR.0000000000001795>
- Chang, J. E., Lai, A. Y., Gupta, A., Nguyen, A. M., Berry, C. A., & Shelley, D. R. (2021). Rapid transition to telehealth and the digital divide: Implications for primary care access and equity in a post-COVID era. *Milbank Quarterly*, 99(2), 340–368. <https://doi.org/10.1111/1468-0009.12509>
- Cunningham, N. R., Ely, S. L., Barber Garcia, B. N., & Bowden, J. (2021). Addressing pediatric mental health using telehealth during Coronavirus Disease-2019 and beyond: A narrative review. *Academic Pediatrics*, 21(7), 1108–1117. <https://doi.org/10.1016/j.acap.2021.06.002>
- Damian, A. J., Stinchfield, K., & Kearney, R. T. (2022). Telehealth and beyond: Promoting the mental well-being of children and adolescents during COVID. *Frontiers in Pediatrics*, 10, 793167. <https://doi.org/10.3389/fped.2022.793167>
- Degu, A. B., Yilma, T. M., Beshir, M. A., & Inthiran, A. (2022). Evidence-based practice and its associated factors among point-of-care nurses working at the teaching and specialized hospitals of Northwest Ethiopia: A concurrent study. *PLoS ONE*, 17(5), e0267347. <https://doi.org/10.1371/JOURNAL.PONE.0267347>
- Demeke, H. B., Merali, S., Marks, S., Pao, L. Z., Romero, L., Sandhu, P., Clark, H., Clara, A., McDow, K. B., Tindall, E., Campbell, S., Bolton, J., Le, X., Skapik, J. L., Nwaise, I., Rose, M. A., Strona, F. V., Nelson, C., & Siza, C. (2021). Trends in use of telehealth among health centers during the covid-19 pandemic - United States, June 26–November 6, 2020. *MMWR. Morbidity and Mortality Weekly Report*, 70(7), 240–244. <https://doi.org/10.15585/mmwr.mm7007a3>
- Gajarawala, S. N., & Pelkowski, J. N. (2021). Telehealth benefits and barriers. *The Journal for Nurse Practitioners*, 17(2), 218–221. <https://doi.org/10.1016/j.nurpra.2020.09.013>
- Hoffnung, G., Feigenbaum, E., Schechter, A., Guttman, D., Zemon, V., & Schechter, I. (2021). Children and telehealth in mental healthcare: What we have learned from covid-19 and 40,000+ sessions. *Psychiatric research and clinical practice*, 3(3), 106–114. <https://doi.org/10.1176/appi.prcp.20200035>
- Hutchinson, M. K., & Sutherland, M. A. (2019). Conducting surveys with multidisciplinary health care providers: Current challenges and creative approaches to sampling, recruitment, and data

- collection. *Research in Nursing & Health*, 42(6), 458–466. <https://doi.org/10.1002/nur.21976>
- Khoshrounejad, F., Hamednia, M., Mehrjerd, A., Pichaghsaz, S., Jamalirad, H., Sargolzaei, M., Hoseini, B., & Aalaei, S. (2021). Telehealth-based services during the COVID-19 pandemic: A systematic review of features and challenges. *Frontiers in Public Health*, 9, 1–14. <https://doi.org/10.3389/fpubh.2021.711762>
- Johns Hopkins Medicine, & Hasselfeld, B. W. (2023). Benefits of telemedicine. *Johns Hopkins Medicine*. Retrieved from: <https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/benefits-of-telemedicine>
- Lee, E., Grgigorescu, V., Enogieru, I., Smith, S., Samson, L. W., Conmy, A., & Lew, N. De. (2023). Updated national survey trends in telehealth utilization and modality (2021-2022). <https://aspe.hhs.gov/sites/default/files/documents/7d6b4989431f4c70144f209622975116/household-pulse-survey-telehealth-covid-ib.pdf>
- Negoro, S. N. D., Hantman, R. M., Probst, J. C., Crouch, E. L., Odahowski, C. L., Andrews, C. M., & Hung, P. (2023). Geographic variations in driving time to US mental health care, digital access to technology, and household crowdedness. *Health Affairs Scholar*, 1(6), qxad070. <https://doi.org/10.1093/haschl/qxad070>
- Norman, S., Atabaki, S., Atmore, K., Biddle, C., DiFazio, M., Felten, D., ... & Sable, C. (2022). Home direct-to-consumer telehealth solutions for children with mental health disorders and the impact of COVID-19. *Clinical Child Psychology and Psychiatry*, 27(1), pp. 244–258.
- Perry, K., Gold, S., & Shearer, E. M. (2020). Identifying and addressing mental health providers' perceived barriers to clinical video telehealth utilization. *Journal of Clinical Psychology*, 76(6), 1125–1134. <https://doi.org/10.1002/jclp.22770>
- Predmore, Z. S., Roth, E., Breslau, J., Fischer, S. H., & Uscher-Pines, L. (2021). Assessment of patient preferences for telehealth in post-COVID-19 pandemic health care. *JAMA Network Open*, 4(12), e2136405–e2136405.
- Riley, E. N., Cordell, K. D., Shimshock, S. M., Perez Figueroa, R. E., Lyons, J. S., & Vsevolozhkaya, O. A. (2023). Evaluation of telehealth in child behavioral health services delivery during the COVID-19 pandemic. *Psychiatric Services*, 74(3), 237–243.
- Ros-DeMarize, R., Chung, P., & Stewart, R. (2021). Pediatric behavioral telehealth in the age of COVID-19: Brief evidence review and practice considerations. *Current Problems in Pediatric and Adolescent Health Care*, 51(1), 100949.
- Rutledge, C. M., Kott, K., Schweickert, P. A., Poston, R., Fowler, C., & Haney, T. S. (2017). Telehealth and eHealth in nurse practitioner training: Current perspectives. *Advances in Medical Education and Practice*, 8, 399–409. <https://doi.org/10.2147/AMEP.S116071>
- Schriger, S. H., Klein, M. R., Last, B. S., Fernandez-Marcote, S., Dillard, N., Jones, B., & Beidas, R. S. (2022). Community mental health clinicians' perspectives on telehealth during the COVID-19 pandemic: Mixed methods study. *JMIR Pediatrics and Parenting*, 5(1), e29250.
- Scott Kruse, C., Karem, P., Shifflett, K., Vegi, L., Ravi, K., & Brooks, M. (2018). Evaluating barriers to adopting telemedicine worldwide: A systematic review. *Journal of Telemedicine and Telemcare*, 24(1), 4–12. <https://doi.org/10.1177/1357633X16674087>
- Shaver, J. (2022). The state of telehealth before and after the COVID-19 Pandemic. *Primary Care*, 49(4), 517–530. <https://doi.org/10.1016/j.pop.2022.04.002>
- Singh, S. K., Fenton, A., Bumbarger, B., Beiter, K., Simpson, L., Thornton, M., & Phillippi, S. (2022). Transitioning behavioral healthcare in Louisiana through the covid-19 pandemic: Policy and practice innovations to sustain telehealth expansion. *Journal of Technology in Behavioral Science*, 7(3), 296–306. <https://doi.org/10.1007/s41347-022-00248-4>
- Sisk, B., Alexander, J., Bodnar, C., Curfman, A., Garber, K., McSwain, S. D., & Perrin, J. M. (2020). Pediatrician attitudes toward and experiences with telehealth use: Results from a national survey. *Academic Pediatrics*, 20(5), 628–635. <https://doi.org/10.1016/j.acap.2020.05.004>
- Snoswell, C. L., Taylor, M. L., Comans, T. A., Smith, A. C., Gray, L. C., & Caffery, L. J. (2020). Determining if telehealth can reduce health system costs: Scoping review. *Journal of Medical Internet Research*, 22(10), e17298. <https://doi.org/10.2196/17298>
- Spagnolo, A., Pratt, C., Jia, Y., DeMasi, M., Cronise, R., & Gill, K. (2022). The competencies of telehealth peer support: Perceptions of peer support specialists and supervisors during the COVID-19 Pandemic. *Community Mental Health Journal*, 58, 1386–1392. <https://doi.org/10.1007/s10597-022-00950-w>
- U.S. Department of Health and Human Services. (2021). *Notification of Enforcement Discretion for Telehealth* | HHS.gov. <https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html>
- Whaibeh, E., Mahmoud, H., & Naal, H. (2020). Telemental health in the context of a pandemic: The COVID-19 experience. *Current Treatment Options in Psychiatry*, 7, 198–202. <https://doi.org/10.1007/s40501-020-00210-2>

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.