HHS Public Access

Author manuscript

J Telemed Telecare. Author manuscript; available in PMC 2023 July 28.

Published in final edited form as:

J Telemed Telecare. 2024 January ; 30(1): 72–78. doi:10.1177/1357633X211025943.

Exploring telemental health practice before, during, and after the COVID-19 pandemic

Demi Zhu[1], **Samantha R Paige**[2], **Henry Slone, BS**[1], **Arianna Gutierrez**[1], **Caroline Lutzky**[1], **Hannah Hedriana**[1], **Janelle F Barrera**[1,2], **Triton Ong**[2], **Brian E Bunnell**[1,2]

[1]Department of Psychiatry and Behavioral Neurosciences, Morsani College of Medicine, University of South Florida, USA

[2]Doxy.me Research, Doxy.me, LLC, USA

Abstract

Introduction: This study investigated how mental health providers' use of telemedicine has changed since the coronavirus disease (COVID) 2019 pandemic and their expectations for continuing to use it once the pandemic ends.

Methods: A 15-min online survey was completed by 175 practicing and licensed telemental health providers who use telemedicine. In addition to personal and professional demographic items, the survey included items about the frequency of telemedicine use, proportion of caseload served by telemedicine, comfort using telemedicine before and during the COVID-19 pandemic, and expectations to use telemedicine after the pandemic ends. A series of χ^2 analyses, an independent samples t-test, and analyses of variance were conducted.

Results: The pandemic resulted in a greater proportion of telemental health providers using telemedicine on a daily basis (17% before and 40% during the pandemic; $p < 0.01$) and serving more than half of their caseload remotely (9.1% before and 57.7% during the pandemic; $p < 0.05$). Also, there was a statistically significant increase in their comfort using telemedicine before and during the pandemic ($p < 0.001$). Providers reported expecting to use telemedicine more often after the pandemic ends ($M = 3.35$; $SD = 0.99$). Expectations to provide telemental health services after the pandemic were greater for mental health counselors, providers who practiced in rural regions, and providers who served patients through out-of-pocket payments.

Discussion: Telemental health providers use telemedicine daily as a result of the COVID-19 pandemic, with expectations of continuing to use telemedicine in practice after the pandemic. This expectation is more prominent in certain segments of providers and warrants further investigation.

Keywords

Mental health; telemedicine; telemental health care; COVID-19; rural health

Corresponding author: Samantha R Paige, Doxy.me Research, Doxy.me LLC, Rochester, NY 14623, USA. samantha.paige@doxy.me.

Declaration of Conflicting Interests

The authors declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: SRP, BEB, TO and JFB are employed by Doxy.me LLC. All the remaining authors declare that there is no conflict of interest.

Introduction

Coronavirus disease 2019 (COVID-19) was declared a global pandemic in March 2020, resulting in social distancing mandates and a rapid transition from in-person to remote health care delivery formats.[1] These same mandates also pose significant threats to the mental health and well-being of the public.[2-6] Similar to prior pandemics, long-term social distancing and self-quarantining behaviors have increased the incidence and severity of anxiety and depression in the general public.[7,8] As a result, there has been an increased demand for mental health providers who use telemedicine (i.e. telemental health providers),[8] an invaluable solution to reach and serve the mental health of the general population at a distance.[9] In the United States, the Federal Communications Commission's COVID-19 Telehealth Program has invested over $450 million dollars to provide connected care services to health care professionals and their patients.[10] Likewise, states have implemented reimbursement laws in response to the pandemic and health insurance companies have broadened coverage for telemedicine services.[11]

Mental health (i.e. psychiatry/psychology) is a leading medical specialty that uses telemedicine (i.e. video conference platforms) to conduct evaluations, therapeutic intervention, and patient education at a distance.[12,13] Despite evidence that delays in health insurance reimbursement hinder providers' enthusiasm for telemedicine,[14,15] telemental health uptake has traditionally been slow but steady, increasing from 15% in 2010 to 29% in 2017.[16] This increase is notable within private clinics[13] and facilities serving medically underserved populations, including rural communities.[16,17]

Nearly 70% of psychologists have used telemedicine since May 2020.[18] Moreover, ~78% of psychologists, social workers, and neuropsychologists have integrated telemental health services into their practices since early April 2020.[19] While the number of telemental health providers has increased since the onset of the COVID-19 pandemic, less is known about the degree to which these providers expect to continue using telemedicine in the future. A study conducted in March and May 2020 during the COVID-19 pandemic found that 75% of US telemental health providers treated only 25% or less of their caseload remotely.[15] Another study in May 2020 found that ~77% of US psychologists reported using telemedicine for 90%–100% of their caseload.[18] As such, it can be reasonably expected that the frequency of telemedicine use and the proportion of providers across all mental health specialties who treat their caseload remotely has increased, but confirmatory research is needed.

Mental health providers use telemedicine when it is considered useful and easy to use.[20,21] They report that simplicity and ease of use are among the most important features of adopting telemedicine, next to Health Insurance Portability and Accountability Act (HIPAA) compliance and low cost of service.[15] There are many benefits to using telemedicine as a supplement to clinical practice,[13,15] but little is known about mental health providers' comfort with telemedicine when remote care is necessary or mandatory. Mental health providers report the desire to use telemedicine more often if they have guidance on how to run a successful telemedicine practice.[15] Such success requires a proficient degree of comfort using the technology and overcoming challenges that hinder its use in regular practice.[22] However, it is unknown what this level of comfort is and how it has changed

since the onset of the pandemic, during which in-person care has been a less-viable method of care delivery.

Over the past decade, telemedicine uptake has varied by provider specialty and practice-type,[13] as well as the rurality of patients[17] and their health insurance coverage.[14] Telemedicine is expected to remain a crucial health care delivery solution after the COVID-19 pandemic ends,[1,23] and it must be appropriately integrated into health systems so providers can easily accommodate to shifts from in-person to remote care delivery.[24] To optimize this process, we must investigate the characteristics of telemental health providers who expect to use telemedicine after the pandemic ends. Such evidence will inform strategic efforts to prioritize marketing and training that supports providers to be effective telemental health professionals.

This study investigates how telemental health providers' use of telemedicine has changed since the onset of the COVID-19 pandemic and their expectation for using telemedicine once the pandemic has ended. We conducted a survey among practicing telemental health providers in Florida USA. We hypothesized that, since the onset of the COVID-19 pandemic, mental health providers would report using telemedicine more frequently, serving a greater proportion of their weekly caseload remotely, and having increased comfort using telemedicine. We also examined how intentions to use telemedicine after the COVID-19 pandemic varied by professional title, type of practice, rurality of practice, and predominant health insurance coverage of patients.

Methods

Sample and procedures

In July 2020, mental health providers were invited to participate in a 15-min web-based survey. The invitation and URL were shared with professional mental health societies via listservs and social media groups. Mental health providers were eligible if they were at least 18 years old, English speaking, and licensed to practice in the state of Florida. The following specialties were considered: psychiatrists (MD/DO), mental health counselors (e.g. LMHC, LPC, LCADAC), social workers (e.g. LICSW, LCSW, ACSW), psychologists (PhD, PsyD), and marriage and family therapists (LFMTs). A total of 688 eligible providers consented to participate in the study and 500 (72.67%) met inclusion criteria. Among eligible participants, 181 were identified as actively practicing during the COVID-19 pandemic and completed the entirety of the survey. Given the aims of this report, we examined responses from the 175 providers who reported using telemedicine in their active practice. Six actively practicing providers reported seeing patients only in-person and were excluded from the main analyses. The study was approved by the Institutional Review Board at the lead author's institution.

Survey and measures

The survey was designed by medical trainees, researchers, and clinicians who specialize in mental health care and digital health research. Item themes were identified by perusing the literature and the research team's prior work conducting similar surveys.[15,25] The survey

began with questions measuring personal (e.g. age and gender) and professional (e.g. type and rurality of practice) demographics. Subsequent items assessed the frequency of telemedicine use (e.g. daily, weekly, monthly), the proportion of caseload served remotely, and comfort using telemedicine (1 = *Uncomfortable*; 2 = *Neither Uncomfortable nor Comfortable*; 3 = *Comfortable*) before and during the pandemic. Items also assessed the reliability of public versus private insurances, the degree it has been difficult to obtain reimbursement for telemedicine services (1 = *Very Easy* to 5 = *Very Difficult*), and how much telemedicine services were being reimbursed versus in-person sessions (1 = *Much Less* to 5 = *Much More*). Items also measured the extent to which providers expected to use telemedicine following the resolution of the pandemic (1 = *Much Less* to 5 = *Much More*). Lastly, providers indicated the level of importance that health insurance reimbursements, incentives, client preferences, public policy, and reduced costs/overhead would have on their decision to use telemedicine after the pandemic (1 = *Not at All* to 5 = *Extremely*).

Data analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS) v27. Frequency statistics were used to describe providers' personal and professional characteristics χ^2 squared analyses were conducted to examine provider use and comfort with using telemedicine since the onset of the COVID-19 pandemic. Analysis of variance was used to examine how expectations to use telemedicine after the pandemic varied by provider specialty, type of practice, geographic region served, and primary health insurance reimbursement method. An independent samples t-test was conducted to examine how expectations to use telemedicine after the pandemic varied by providers' caseload served remotely. Frequency statistics described the health insurance reimbursement process, and descriptive analyses were conducted to report the average degree of importance that factors (i.e. reimbursements, incentives, client preferences, public policy, and reduced costs) have on the decision to use telemedicine after the pandemic.

Results

Sample characteristics

Table 1 shows the demographics of telemental health providers who were, on average, 39.25 years old (*SD* = 8.64; Range = 25–71). The majority of the providers were female (59.4%), White (79.4%), and non-Hispanic/Latino (83.4%).

Most providers were psychologists (30.9%), mental health counselors (27.4%), or psychiatrists (20.6%). About half (49.1%) practiced within a large healthcare organization, classified as a hospital or large network of providers. The other half worked in individual practices (23.4%), small clinics (13.7%), and educational settings (13.7%). Providers predominantly treated adults (18–64 years old; 53.1%) and adolescents (11–17 years old; 24.0%), following cognitive-behavioral (27.4%), family systems (20.0%), psychodynamic/analytic (16.0%), and interpersonal (13.1%) treatment paradigms. Approximately 75% of providers worked in outpatient settings and most (73.7%) practiced in urban/suburban areas.

The primary method of reimbursement was public insurance (Medicare or Medicaid; 58.3%), followed by private insurance (14.3%), self-pay (16.0%), and salary (11.4%). About 75% of providers believed that public insurance offered the most reliable reimbursement for telemedicine services, whereas only 25% felt that private insurance was the most reliable. Only 18.3% of providers reported experiencing difficulty obtaining reimbursement for telemedicine services. Lastly, while 51.4% of providers reported obtaining reimbursement amounts similar to in-person sessions, 22.3% reported obtaining less and 26.3% reported obtaining more.

COVID-19 change in frequency of use, caseload and comfort using telemedicine

Table 2 shows the frequency of telemedicine utilization before and after the onset of the COVID-19 pandemic. There was a statistically significant difference in providers' use of telemedicine before and after the onset of the pandemic, χ^2 (6, N = 175) = 18.51, p < 0.01. Providers' daily telemedicine use more than doubled from 17.1%−40.6% during the pandemic. Likewise, providers' telemedicine caseload significantly increased after the onset of the pandemic, χ^2 (1, N = 175) = 3.99, p < 0.05. About 9.1% (n = 16) of providers reported serving more than half of their caseload via telemedicine prior to the pandemic, whereas 57.7% (n = 101) of providers reported providing telemental health services to more than half of their caseload during the pandemic. There was a statistically significant difference in comfort using telemedicine before and during the pandemic, χ^2 (4, N = 175) = 27.59, p < 0.001. Among the 41 providers who were uncomfortable using telemedicine pre-COVID, 39% reported being comfortable using it during the pandemic. Of the 45 providers who felt neutral about using telemedicine before the pandemic, 35% felt comfortable using it during the pandemic. And, among the 89 providers who felt comfortable using telemedicine prior to the pandemic, 75% continued to feel comfortable.

Expectations for use telemedicine after COVID-19

Mental health providers reported, on average, an expectation to provide telemedicine services about the same or more often once the COVID-19 pandemic has ended (M = 3.35; SD = 0.99). Table 3 shows that expectations to use telemedicine more often in the future did not statistically differ by the type of practice (e.g. large healthcare organization, individual or small clinic practice), F(3, 171) = 0.89, p = 0.45. Expectations to use telemedicine more after the COVID-19 pandemic did vary by provider specialty, F(4, 170) = 7.53, p < 0.001; geographic region of practice, F(2, 172) = 4.77, p < 0.01; and primary health insurance reimbursement method, F(3, 171) = 4.93, p < 0.01. Bonferroni-corrected post hoc analyses demonstrated that mental health counselors were more likely to expect to use telemedicine, as opposed to social workers (p < 0.001) and psychologists (p < 0.01). Providers serving rural geographic regions reported a greater expectation to use telemedicine than their counterparts serving urban/suburban regions (p < 0.05). Finally, providers whose primary form of reimbursement was self-pay were more likely to continue using telemedicine, compared to those providers who relied on public insurance (p < 0.05) and salary reimbursement (p < 0.05). There was not a statistically significant difference in expectations to use telemedicine after the pandemic among providers who served < 50% (M = 3.32; SD = .89) and 50% or more (M = 3.37; SD = 1.06) of their caseload via telemedicine, (t (173) = −0.28), p = .78. The following factors were moderate to very

important contributors to their decision to continue using telemedicine after the pandemic: incentives ($M = 3.15$; $SD = 1.13$); reduced costs/overhead ($M = 3.31$; $SD = 1.19$); public policy ($M = 3.35$; $SD = 1.06$); health insurance reimbursements ($M = 3.43$; $SD = 1.17$); and client preferences ($M = 3.46$; $SD = 0.99$).

Discussion

This study investigated how the COVID-19 pandemic has changed telemental health providers' use of telemedicine and their expectations for its continued use after the pandemic. Since the occurrence of COVID-19, more telemental health providers have used telemedicine daily and the majority have served a significant proportion of their caseload remotely. Providers also reported greater comfort using telemedicine during the pandemic compared to before it began. Despite the widespread use of telemedicine, expectations to continue using it after the pandemic ends varied by provider specialty, the geographic region served, and the primary type of health insurance used by patients. This expectation is based upon several factors, including client preferences, insurance reimbursement policies, and incentives and reduced costs/overhead.

Consistent with recent studies,[18,19] the daily use of mental health providers and the proportion of their caseload treated remotely increased during the pandemic. The proportion of providers who used telemedicine on a daily basis nearly doubled from 17% to 41%. Further, our study conducted between March and May 2019 found that only 14.7% of telemental health providers served more than half of their caseload via telemedicine.[15] The current study was conducted shortly after social distancing mandates were enforced and we found that 57.7% of providers used telemedicine for more than half of their caseload. As such, telemental health providers who continued to practice during the pandemic were resilient to the social distancing mandates. They adopted telemedicine into their daily practice and embraced the capabilities of remotely connecting with patients in their caseload.

We also confirmed that telemental health providers have more comfort using telemedicine during the COVID-19 pandemic than before it began. Unlike our prior research where about 30% of mental health providers reported telemedicine as being easy to use,[15] results of this study demonstrate that about 50% felt comfortable using the technology prior to the COVID-19 pandemic. Our operationalization of comfort is considerably broad and captures general satisfaction with the ability of providers to use telemedicine. Researchers argue that more frequently using a technology hones an individual's skillset to navigate it and complete task demands,[26] which in turn would increase comfort with the technology. Further, research has demonstrated that satisfaction with a technology is associated with greater engagement, loyalty, and word of mouth by its users.[27] Assessing comfort using technology contributes to our understanding of one's eHealth literacy,[28,29] but it does not define the skills of an individual to effectively use health technology to coordinate care, connect with patients, monitor their progress over time remotely. Greater attention must be paid to telemental health providers' and patients' eHealth literacy and satisfaction with telemedicine.[23] Such evidence would identify precise solutions to overcome challenges of the telemedicine experience and optimize care.

Consistent with previous research conducted during the initial phases of the COVID-19 pandemic,[19] telemental health providers in this study expected to use telemedicine services about the same amount once the pandemic ends regardless of their practice type (i.e. small clinic and large healthcare organization). The acceptance and expectation to use telemedicine more in the future despite eased social distancing mandates suggest that telemental health providers see it as the future of health care delivery. We also found there are specific professional attributes of telemental health providers and their patients that are more predictive of this expectation. For example, licensed mental health counselors reported expecting to use telemedicine more often than psychologists and social workers after the pandemic ends. Other researchers have found that telemental health providers see the future of health care as a combination of in-person and video-based, in recognition that not all patients equally benefit from treatment delivered via telemedicine.[30]

Providers who exclusively serve rural communities expect to continue using telemedicine more often after the pandemic, as compared to providers who serve urban/suburban or both urban/suburban and rural communities. A benefit of using telemental health services is reaching patients who otherwise would not have access to care.[15] Rural communities are severely underserved in regard to health care and mental health services,[31] but rural providers' willingness to use telemedicine to reach their patient caseload is a testament to the power of telemedicine in rural America. A report published by the Rural Policy Research Institute[32] outlined a need for research to understand the acceptability for long-term telemental health service use among rural adults, especially those who are older or racially/ethnically diverse. This also includes studying how to adapt evidence-based treatments to a cultural context and video-based platform.

Another concern that exacerbates rural telemental health care is health insurance coverage and reimbursement. Over half of the providers in this survey served patients who receive public insurance (i.e. Medicare or Medicaid). However, providers who reported greater expectations to use telemedicine after the pandemic ends were more likely to report serving patients who use out-of-pocket payment methods. This is likely because payment is immediate and there is less concern about managing invoicing processes with health insurance companies. Confusion regarding health insurance coverage and delays in health insurance reimbursement remains points of contention among telemental health providers.[15] In fact, telemental health providers report a willingness to use telemedicine more frequently in practice if they had assistance coordinating health insurance reimbursements in their practice.[15]

Regulations to protect patient privacy and policies from health insurance companies to provide telemedicine services have been waived during the current crisis, but these exemptions are not expected to extend beyond the pandemic.[11,33] Health insurance reimbursement and public policies surrounding telemedicine services were ranked as important factors that will influence providers' decisions about whether or not to use telemedicine after the pandemic. In this study, only 18% of providers reported difficulties getting reimbursed and 50% reported being reimbursed at the same rate as in-person sessions. This is not surprising, as half of the providers primarily received reimbursements from public insurance companies, which they considered more reliable than private

companies. Despite this focus on health insurance reimbursements, client preference to receive care via telemedicine was the most highly ranked factor predicting its future use. Advocating for more reliable and easy reimbursement processes while improving the patient experience will be integral to optimize the chances that mental health providers will continue to use telemedicine after the pandemic ends. More importantly, this may help patients who would benefit from telemental health services but cannot afford them out of pocket.

This study was conducted in July 2020 during the heart of the COVID-19 pandemic, but data were collected with a cross-sectional survey. This prevents us from inferring causal relationships between variables. Although recruitment was robust from professional organizations, our sample includes only providers within the state of Florida. Generalizing the results of this study to the mental health profession should be used with caution and future research should determine the replicability of these findings. However, the demographics of this sample are consistent with prior research with telemental health providers and the US workforce.[9,34,35] Finally, the results of this study may not generalize to other countries and should be replicated in different contexts.

Conclusion

Telemental health providers have nearly doubled their daily use of telemedicine to reach their patient caseload since the COVID-19 pandemic. With its rise in uptake, providers have become more comfortable using telemedicine and expect to continue using it after the pandemic. This study brings attention to the value of telemental health services within rural communities, especially during a time of crisis in the COVID-19 pandemic. Further, it brings attention to greater transparency and efficiency in health insurance reimbursement processes so that inequities in telemental health care access do not persist.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the National Institute of Mental Health (grant number K23 MH118482).

References

1. Bashshur R, Doarn CR, Frenk JM, et al. Telemedicine and the COVID-19 pandemic, lessons for the future. Telemed J E Health 2020; 26: 571–573. [PubMed: 32275485]
2. Centers for Disease Control and Prevention. COVID-19 cases, deaths, and trends in the US, https://covid.cdc.gov/covid-data-tracker (2020, accessed 17 December 2020).
3. US Bureau of Labor Statistics Unemployment rate rises to record high 14.7 percent in April 2020, https://www.bls.gov/opub/ted/2020/unemployment-rate-rises-to-record-high-14-point-7-percent-in-april-2020.htm (2020, accessed 17 December 2020).
4. Pfefferbaum B and North CS. Mental health and the COVID-19 pandemic. N Engl J Med 2020; 383: 510–512. [PubMed: 32283003]
5. Lyons D, Frampton M, Naqvi S, et al. Fallout from the COVID-19 pandemic - should we prepare for a tsunami of post viral depression? Ir J Psychol Med 2020; 37: 295–300. [PubMed: 32408926]
6. Vatansever D, Wang S and Sahakian BJ. COVID-19 and promising solutions to combat symptoms of stress, anxiety and depression. Neuropsychopharmacology 2021; 46: 217–218. [PubMed: 32792683]
7. Gao J, Zheng P, Jia Y, et al. Mental health problems and social media exposure during COVID-19 outbreak. PLoS One 2020; 15: e0231924. [PubMed: 32298385]

8. Marroquín B, Vine V and Morgan R. Mental health during the COVID-19 pandemic: effects of stay-at-home policies, social distancing behavior, and social resources. Psychiatry Res 2020; 293: 113419. [PubMed: 32861098]
9. Zhou X, Snoswell CL, Harding LE, et al. The role of telehealth in reducing the mental health burden from COVID-19. Telemed J E Health 2020; 26: 377–379. doi:10.1089/tmj.2020.0068 [PubMed: 32202977]
10. Federal Communications Commission. COVID-19 telehealth program, https://www.fcc.gov/covid-19-telehealth-program-invoices-reimbursements (2021, accessed 7 May 2021).
11. Health Resources and Services Administration. Billing for telehealth during COVID-19, https://telehealth.hhs.gov/providers/billing-and-reimbursement/?gclid=Cj0KCQjwytOEBhD5ARIsANnRjVj2mhPw_eUNB1X31tSJAMUwrRlsYm9onZJP660fFlFNqlpGzM_Y6U0aAtwIEALw_wcB (2021, accessed 7 May 2021)
12. Robeznieks A. Which medical specialties use telemedicine the most? https://www.ama-assn.org/practice-management/digital/which-medical-specialties-use-telemedicine-most (2019, accessed 4 December 2020).
13. Gershkovich M, Herbert JD, Glassman LH, et al. Clinicians' attitudes and experiences regarding telemental health services. Behav Ther 2016. Published online https://psycnet.apa.org/record/2016-35100-003
14. Wilson FA, Rampa S, Trout KE, et al. Telehealth delivery of mental health services: an analysis of private insurance claims data in the United States. Psychiatr Serv 2017; 68: 1303–1306. [PubMed: 28859581]
15. Bunnell BE, Barrera JF, Paige SR, et al. Acceptability of telemedicine features to promote its uptake in practice: a survey of community telemental health providers. Int J Environ Res Public Health 2020; 17: 8525 doi:10.3390/ijerph17228525 [PubMed: 33212979]
16. Spivak S, Spivak A, Cullen B, et al. Telepsychiatry use in US mental health facilities, 2010-2017. Psychiatr Serv 2020; 71: 121–127. [PubMed: 31615370]
17. Patel SY, Huskamp HA, Busch AB, et al. Telemental health and US rural-urban differences in specialty mental health use, 2010–2017. Am J Public Health 2020; 110: 1308–1314. [PubMed: 32673109]
18. Pierce BS, Perrin PB, Tyler CM, et al. The COVID-19 telepsychology revolution: a national study of pandemic-based changes in U.S. Mental health care delivery. Am Psychol 2020; 76: 14–25. [PubMed: 32816503]
19. Reilly SE, Zane KL, McCuddy WT, et al. Mental health practitioners' immediate practical response during the COVID-19 pandemic: observational questionnaire study. JMIR Ment Health 2020; 7: e21237. doi:10.2196/21237 [PubMed: 32931440]
20. Harst L, Lantzsch H and Scheibe M. Theories predicting end-user acceptance of telemedicine use: systematic review. J Med Internet Res 2019; 21: e13117. [PubMed: 31115340]
21. Simms DC, Gibson K and O'Donnell S. To use or not to use: clinicians' perceptions of telemental health. Can Psychol 2011; 52: 41–51.
22. Gray DM, Joseph JJ and Nwando Olayiwola J. Strategies for digital care of vulnerable patients in a COVID-19 world—keeping in touch. JAMA Health Forum 2020; 1: e200734–e200734. [PubMed: 36218529]
23. Thomas EE, Haydon HM, Mehrotra A, et al. Building on the momentum: sustaining telehealth beyond COVID-19. Telemed J E Health 2020: 1–8. doi:10.1177/1357633X20960638 [PubMed: 31922944]
24. Smith A, Thomas E, Snoswell CL, et al. Telehealth for global emergencies: implications for coronavirus disease 2019 (COVID-19). J Telemed Telecare 2020; 26: 309–313. doi:10.1177/1357633X20916567 [PubMed: 32196391]
25. Perle JG, Langsam LC, Randel A, et al. Attitudes toward psychological telehealth: current and future clinical psychologists' opinions of internet-based interventions. J Clin Psychol 2013; 69: 100–113. [PubMed: 22975897]
26. Chan CV and Kaufman DR. A framework for characterizing eHealth literacy demands and barriers. J Med Internet Res 2011; 13: e94. [PubMed: 22094891]

27. Calvo-Porral C, Faíña-Medín A and Nieto-Mengotti M. Exploring technology satisfaction: an approach through the flow experience. Comput Human Behav 2017; 66: 400–408.

28. Paige SR, Stellefson M, Krieger JL, et al. Proposing a transactional model of eHealth literacy: concept analysis. J Med Internet Res 2018; 20: e10175. [PubMed: 30279155]

29. Norman CD and Skinner HA. eHealth literacy: essential skills for consumer health in a networked world. J Med Internet Res 2006; 8: e9. [PubMed: 16867972]

30. Joyce JP, van Haaren M, IJsselsteijn WA, et al. Integration of online treatment into the "new normal" in mental health care in post-COVID-19 times: exploratory qualitative study. JMIR Formative Research 2020; 4: e21344. [PubMed: 33001835]

31. Kirby JB, Zuvekas SH, Borsky AE, et al. Rural residents with mental health needs have fewer care visits than urban counterparts. Health Aff 2019; 38: 2057–2060.

32. Janis J, Coburn A, Rochford H, et al. Behavioral health in rural America: challenges and opportunities. https://rupri.public-health.uiowa.edu/publications/policypapers/Behavioral%20Health%20in%20Rural%20America.pdf (2019, 9 March 2021).

33. Shachar C, Engel J and Elwyn G. Implications for telehealth in a postpandemic future: regulatory and privacy issues. JAMA 2020; 323: 2375–2376. [PubMed: 32421170]

34. Salzburg E, Quigley L, Mehfoud N, et al. Profile of the social work workforce. Report, The George Washington University Health Workforce Institute, October 2017.

35. Lin L, Stamm K and Christidis P. Demographics of the US psychology workforce: Findings from the 2007-16 American Community Survey. Report, Washington, DC, 2018.

Table 1.

Mental health provider characteristics, $N = 175$.

Characteristic variables	***n***	**(%)**
Age, *M (SD)*	39.25	8.64
Sex		
Female	104	59.4
Male	71	40.6
Race		
White	139	79.4
Black or African American	16	9.1
American Indian/Alaska Native	10	5.7
Asian	6	3.4
Native Hawaiian or other Pacific Islander	2	1.1
More than one race	2	1.1
Ethnicity		
Hispanic or Latino	29	16.6
Not Hispanic/Latino	146	83.4
Professional demographics	***n***	***(%)***
Professional title		
Psychologist (PhD, PsyD)	54	30.9
Mental Health Counselor (e.g. LMHC, LPC, LCADAC)	48	27.4
Psychiatrist (MD/DO)	36	20.6
Social Worker (e.g. LICSW, LCSW, ACSW)	23	13.1
Marriage and Family Therapist (LMFTs)	14	8.0
Type of mental health practice		
Large healthcare organization	86	49.1
Individual practice	41	23.4
Small clinic	24	13.7
Educational setting	24	13.7
Inpatient versus outpatient		
Outpatient	130	74.3
Inpatient	45	25.7
Primary age group		
Children (0–10 years old)	22	12.6
Adolescents (11–17 years old)	42	24.0
Adults (18–64 years old)	93	53.1
Older adults (65+ years old)	18	10.3
Primary treatment paradigm		
Behavioral	19	10.9
Cognitive behavioral	48	27.4
Existential/humanistic	15	8.6
Family systems	35	20.0

Interpersonal	23	13.1
Psychodynamic/analytic	28	16.0
Social learning	7	4.0
Geographical region of practice		
Rural	22	12.6
Urban/suburban	129	73.7
Both	24	13.7
Primary health insurance reimbursement		
Public insurance (Medicare, Medicaid)	102	58.3
Private insurance	25	14.3
Self-pay	28	16.0
Salary (i.e. paid by a school)	20	11.4
Most reliable health insurance reimbursement for telemedicine services		
Public insurance (Medicare, Medicaid)	131	74.9
Private insurance	44	25.1
Difficulty obtaining reimbursement for telemedicine services		
Very easy	20	11.4
Easy	61	34.9
Neither easy nor difficult	62	35.4
Difficult	26	14.9
Very difficult	6	3.4
Amount reimbursed for telemedicine services compared to in-person		
Much less	11	6.3
Less	28	16.0
The same	90	51.4
More	32	18.3
Much more	14	8.0

Table 2.

Telemedicine utilization before and during COVID-19, $N = 175$.

Telemedicine use variables	Pre-COVID-19 *n* (%)	During COVID-19 *n* (%)
Frequency of telemedicine use		
Never	25 (14.3)	N/A
Monthly	73 (41.7)	28 (16)
Weekly	47 (26.9)	76 (43.4)
Daily	30 (17.1)	71 (40.6)
Caseload served via telemedicine		
<50%	159 (90.9)	74 (42.3)
50% or more	16 (9.1)	101 (57.7)
Level of comfort using telemedicine		
Uncomfortable	41 (23.4)	37 (21.1)
Neutral	45 (25.7)	39 (22.3)
Comfortable	89 (50.9)	99 (56.6)

Table 3.

Expectations to use telemedicine after the resolution of the COVID-19 pandemic.

Variable	*N*	*M*(*SD*)	95% CI	
			Lower bound	Upper bound
Provider specialty				
Mental health counselor	48	3.81 (0.76)	3.59	4.03
Social worker	23	2.65 (0.94)	2.25	3.06
Psychologist	54	3.15 (1.14)	2.84	3.46
Psychiatrist	36	3.33 (0.83)	3.05	3.61
Marriage and family therapist	14	3.71 (0.61)	3.36	4.07
Type of practice				
Individual	41	3.51 (0.93)	3.22	3.80
Small clinic	24	3.50 (1.06)	3.05	3.95
Large healthcare organization	86	3.26 (0.98)	3.04	3.47
Educational setting	24	3.25 (1.03)	2.81	3.69
Geographic region served				
Rural	22	3.82 (0.59)	3.56	4.08
Suburban/urban	129	3.22 (1.00)	3.04	3.39
Both	24	3.63 (1.06)	3.18	4.07
Health insurance reimbursement				
Public insurance	102	3.21 (0.93)	3.02	3.39
Private Iisurance	25	3.68 (0.99)	3.27	4.09
Self-payment	28	3.82 (0.98)	3.44	4.20
Salary	20	3.00 (1.03)	2.52	3.48

COVID-19 = novel coronavirus disease; CI = confidence interval.