CRISIS IN SERVICES

Self Care, Self-Directed Care, and the Use of Technology Supporting All

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Crisis in Services: Self-Care, Self-Directed Care, and the Use of Technology Supporting All

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Abstract:

People seeking behavioral health services, including crisis care, and providers delivering services are looking for options in new technologies to afford expanded access in a field acknowledging significant gaps in care. Technologies are emerging with little regulation to address some of the needs as a self-directed care approach. At the same time, the traditional behavioral health workforce, faced with immense shortages, problem solves local coverage issues and seeks more flexibility to balance work and personal needs. Options in care are essential to meet demands among providers and people seeking care. There was an unprecedented 27% increase in anxiety and depressive symptoms in the last two years, and expanding crisis services are being implemented nationwide. This paper reviews some of these challenges, describing national and state-level responses to meet supply and demand for services, means of relief and recovery via self-directed care and support, and how providers and people seeking care may navigate behavioral health issues in the future.

Key Points:

- Technology can increase options to support those seeking care and the providers of care.
- Software developers are encouraging the public to engage mental health related technology for self-directed care, and it is critical that this care is met with research to help determine quality and inform the public and providers of best use.
- Technology may address current problems in behavioral health, including the critical shortage of behavioral health professionals, increase demand for services, methods to support crisis care and 988 expansions, and reach into rural communities.

Recommendations for the Future:

1. Research evidence is needed to determine the effectiveness of behavioral health technologies in relation to populations, specific mental health conditions, and utilization for crisis response or follow-up.
2. Technology, particularly the increased capacity to capture and analyze large population data sets, will allow new examinations of behavioral health care and the potential design of new interventions.
3. Practitioners need guidance becoming comfortable incorporating technological supports for themselves and their clients, and they should take an active role in providing real-world application information for developers of technologies.
4. Policy must recognize, support, and standardize the use of alternative technological methods to keep the field, and those in need of care, receiving the benefit of these innovations.

Behavioral health services are facing unprecedented challenges, with unparalleled attention, creating new opportunities for enhancements. Before the pandemic, workforce numbers were low, and the need for services was high. Now, people seeking care are experiencing a desperate search for care and providers are experiencing heightened stress. How is the behavioral health workforce addressing its own state of crisis? This paper examines two populations that are more similar now than ever: the fragile behavioral health workforce that is caring for itself and the individuals seeking behavioral health services in new ways from a struggling field of professionals. In today's climate, providers have one foot in serving those in crisis and the other in managing their problems amidst the pandemic, national staffing shortages, and higher demand.

People seeking behavioral health services are looking for options in new technologies to afford expanded access in a field acknowledging significant gaps in care. The need is driven by the good news of lower stigma placed on mental health conditions and treatment, as high-profile people publicly recognize their behavioral health challenges and funding is directed toward improvements. In the 2022 *From Crisis to Care* series, technology advances are identified as a key element to help move the system and individuals in care towards greater stability.[1] Apps and technologies are rapidly emerging with little regulation to address some of the needs, while the traditional behavioral health workforce problem solves local coverage, gaps in care, and providers seeking more flexibility in their ability to juggle work and personal needs. According to experts,

> "*Digital and mobile technologies hold enormous potential for increasing access to services, facilitating self-help, monitoring and assessing variations in symptoms and wellness-promoting activities, and increasing health literacy. This potential will be fulfilled only if behavioral health service providers are willing to adopt effective new technologies, to develop the adequate skills to use them, and to fully support service users.*"[2]

Options in care are essential to meet the demands of providers and people seeking care. Technology is not the complete answer, but it offers advances. As noted by artificial intelligence (AI) developer Michael Tanana, "I've seen the inside of the systems and AI and chatbots aren't ready to take over the world just yet; however, scripted AI is still better than random comparison samples in training suicide responses."[3] This paper reviews some of these challenges, describing national and state-level responses to meet supply and demand for services, means of relief and recovery via self-directed care and support, and how providers and people seeking care may navigate behavioral health issues in the future.

Supply and Demand

People Seeking Care

In March 2022, the United States Senate Committee on Health, Education, Labor, and Pensions held a hearing to examine how Congress may respond to the impacts of the COVID-19 pandemic on the nation's collective mental health.[4,5] Recent data indicate a growing prevalence of mental health and substance use disorders nationally. According to the Centers for Disease Control and Prevention (CDC), household surveys administered in 2020 found that 38% of adults experienced anxiety or depressive symptoms, representing a 27% increase over the previous year.[6] Similarly, the Substance Abuse and Mental Health Services Administration (SAMHSA) estimated there were 52.9 million adults aged 18 or older living with mental illness in 2020.[4] However, over half (53.7% to 57%) did not receive mental health services they needed in the past year.[7,8]

In the United States, the disparity in access to behavioral health care services is not unique to the COVID-19 pandemic. Following the enactment of the Mental Health Parity and Addiction Equity Act of 2008, insurers were required to reimburse mental health and substance use services in a comparable manner to that of medical and surgical services.[9] Shortly thereafter, the Patient Protection and Affordable Care Act of 2010 expanded state Medicaid programs and designated mental health and substance use disorder services as an "Essential Health Benefit" (i.e., a category of services that health insurance plans must cover).[10] The result of these policies was a significant increase in the number of individuals with coverage seeking care without an analogous increase in the number of available providers.[11]

Without sufficient access to providers, many people are seeking crisis care through emergency departments. A study in Massachusetts reported patients with mental health complaints waited on average 16.6 to 21.5 hours for an admission or referral, as compared to 4-hours for those with physical health problems;[12] a wait time about 42% longer according to national studies.[13] A similar finding was noted in other research, where ED wait times went from 14.1 hours to 21.9 hours as a county decreased its inpatient and outpatient mental health services.[14]

Providers of Care

Simultaneous to the increases in demand for behavioral health care services, the behavioral health workforce was experiencing chronic staffing shortages owed to insufficient numbers and an uneven distribution of providers geographically.[15] The behavioral health workforce refers to a range of practitioners specializing in prevention, treatment, and rehabilitation care for mental health conditions. As early as 1999, national data showed an inadequate supply of behavioral health providers, particularly in rural regions of the country.[16]

As of 2021, data from the Health Resources and Services Administration (HRSA) suggested that only 28.1% of mental health needs are met in designated health professional shortages areas throughout the United States.[14] An additional 6,559 practitioners are necessary to address the gaps in these regions of the country.[17] A report published by SAMHSA in 2020 estimated that the United States needs a total of 4,486,865 new behavioral health practitioners to offer access to evidence-based models of care to those with serious mental illness and substance use disorders.[18] In 2015, the United States Department of Health and Human Services (DHHS) used simulated models to determine the national supply and demand for behavioral health providers by the year 2025. According to the models, the projected workforce shortages will range from approximately 50,000 to 250,000 behavioral health practitioners.[19] Combined with existing demand, the recent implementation of 988 services, and a growing call for behavioral health crisis responders, the pressure on the behavioral health workforce is rising and only expected to increase.

Relief and Recovery by Innovative Means

People Seeking Care

Recent innovations in behavioral health services offer alternative means of relief and recovery for people seeking care. In particular, self-directed care options improve the availability of services in the midst of the pandemic and long-standing workforce shortages. According to the Centers for Medicare and Medicaid Services (CMS), self-directed care gives the individual, or their representative if applicable, decision-making authority over the services they receive.[20] Like consumer-directed services, it is an approach that assumes people have the ability to assess and seek care to meet their needs, including

evaluating the quality of those services.[21] Many modern behavioral health approaches now reflect the principles of self-directed or self-guided care, including virtual methods, clinically assisted or self-guided tools, and technology aids.[22] Technology is increasingly recognized for its value as a means to self-directed care. The landscape of technology-based mental health encompasses a wide range of services and methods, such as telehealth or teleconferencing software, mobile health solutions like smartphone applications and text messaging platforms, smart devices and wearable technologies, and recent innovations in AI, including machine learning to detect and diagnose mental health conditions.

Nationally, the growth of mobile health, including smartphone or tablet applications and text-messaging platforms, is unparalleled. In Oklahoma, a recent technological innovation offers a form of self-directed care for individuals with behavioral health needs leaving the emergency department (ED). To reduce the likelihood of returning to the ED or admission to inpatient psychiatric hospitalization, individuals receive tablets directly connecting them to behavioral health providers. Specifically, there are nearly 6,000 iPads in circulation to offer people in crisis an immediate method to connect with crisis line providers in Oklahoma.[23] Reports show the tablet-based system is HIPAA compliant, allows patients and first responders (e.g., law enforcement, emergency medical services, and fire departments) to remotely communicate face-to-face with a mental health professional, and lets providers conduct immediate assessments and referrals.[24] The system saves responder time in transport and prevents unnecessary visits to the ED and/or inpatient hospitalizations that may disrupt patients' lives and work.[25] The evidence of the system's success is mounting, with a 36% decrease among inpatient stays since its inception and an estimated savings of $5 million.[26]

For self-directed care with little to no human interaction, software developers increasingly promote the availability of consumer-available self-help applications.[27] Currently, there are over 10,000 digital apps focused on some form of mental health, representing almost one-third of all health-related apps.[28,29,30] With more than 2.2 billion people worldwide with a smartphone, emerging mental health technologies are more accessible than ever.[31] These apps are not intended to replace therapy, but they are a free or inexpensive option, relative to the cost of traditional mental health therapy.[32] Some applications offer provider responses within minutes, which is unique from the wait times in conventional therapeutic settings.[33,34] Others allow individuals to create digital self-representations, also known as avatars, to facilitate privacy as they participate online. Research suggests avatars encourage clients to engage with therapy, form therapeutic alliances, express and explore their identity, and reduce communication barriers.[35]

Deeper in the technological world is the absence of a "therapist" and the introduction of AI and algorithms to respond to crises and mental health concerns. As school mental health resources are stretched thin, Chatbots are now an option for youth to share feelings of stress, anxieties, isolation, and other hardships.[36] The systems use AI to engage in text-based conversations between an individual and a computer. A form of AI, machine learning, may improve the detection and diagnosis of mental health conditions such as depression, Alzheimer's, and schizophrenia. The evidence for machine learning in treatment and support settings remains limited.[37] As a burgeoning field of study, further research will determine the applicability and role of AI in behavioral health services broadly.

Another emerging alternative to direct care, local provider shortages, and access are online therapy companies with some of the largest ones being BetterHelp and Talkspace Online Therapy. Talkspace, for example, is arketed to consumers who "can't afford to visit a therapist but still needing someone to talk to," Talkspace starts at $65 per week and includes text messaging with a trained professional as often as the person needs for support through depression and more for couples and individuals.[38] However, there are currently no data available to show the effectiveness of this online texting therapy approach

that these services provide, including how well it might address barriers to care, crisis services, linkages to higher levels of care, and workforce shortages.

Providers Seeking Support and Information

In addition to the individuals seeking care, providers benefit from innovations in self-directed care as they navigate the stress of the profession and the pandemic/post-pandemic environment. There is recent evidence that shows providers support the use of self-help technologies professionally and personally.[39] Behavioral health practitioners can now find supportive communities and learning communities using technology. They may also vary how they deliver care, using virtual options to maintain their clinical presence in the complicated work environment brought by COVID-19 restrictions.

In 2021, Louisiana offered an innovative, fully online approach to support the clinicians providing frontline care in the midst of a disaster (i.e., the pandemic) while simultaneously managing their own survival, recovery, and resilience in the disaster. The approach was a self-paced, interactive course using Skills for Psychological Recovery, which included independent web-based content to complete and two 2-hour live online group meetings to participate in. In general, Skills for Psychological Recovery is designed to teach skills to manage distress and improve coping related to experiencing traumatic events.[40] The skills covered included information gathering, problem solving, managing reactions, helpful thinking, positive activities, and creating or protecting social connections and supports. Approximately 200 providers participated in the hybrid, distance-accommodating approach, and feedback from the participants indicated that the skills taught by the course were applicable and helpful in a time of heightened stress.[41]

Equally important to provider support is the experience of flexibility afforded by technology, for training and continuing education attainment through online and remote spaces. In Philadelphia, a behavioral health technology company is conducting a partnership study called AI-Based Fidelity Feedback to Enhance Cognitive Behavioral Therapy Treatment (AFFECT), which will examine an existing AI platform known as Lyssn. Currently, training for behavioral health practitioners involves direct observation and performance-based feedback, which is time and labor-intensive.[42] Machine learning and speech processing technologies, like Lyssn, automate the feedback process. In the AFFECT study, investigators will determine if Lyssn software system can estimate CBT fidelity by analyzing audio recordings of CBT sessions. Beyond CBT training, Lyssn is also showing uptake in training skills via ClientBot, an AI-based training tool, to teach Motivational Interviewing (MI), an approach commonly included in person-centered crisis interventions. Supported by the facts that traditional training is costly, with few experts, high staff turnover, time constraints, and most does not include continuous quality improvement. In early randomized control studies, the AI approach outperformed traditional training in skills teaching and retention. Two AI studies are underway. One includes 1250 substance use counselors at the Prevention Research Institute, and the other encompasses the entire workforce at Covenant House in New York City (with shelter, FQHC, education, housing & employment services).[43] Although further research is coming, AI and machine learning innovations hold promise as alternative approaches to workforce development.

Surveys of behavioral health practitioners continue to suggest there is support for technological approaches in the delivery of mental health and substance use treatment services. Specifically, data suggests providers value technology-based options equally or prefer them in the domains of quality of care, convenience and efficiency of the format, and the benefits to the patient.[44,45,46,47,48] These data may indicate an expanded role of technology in helping navigate behavioral health workforce shortages by integrating technology to support clinical practice such as recommending app use to clients for both

homework and self-management, supplementing conventional care, and even providing alternative direct care.

A group focused on technological approaches, primarily operating as electronic learning community focused on mental health and substance use, is the eMental Health International Collaborative (eMHIC). According to their webpage, eMHIC "brings together global leaders, subject matter experts, enthusiastic professionals and our future leaders, to share knowledge and improve mental health outcomes for all by harnessing digital technologies.[49] With mental health and addictions as critical areas to address in crisis work, eMHIC states that they aim to share knowledge on all topics related to eMental health and addiction, in efforts to support and improve outcomes for populations needing care. Their vision is a future "where everyone has access to digitally enabled promotion, screening, treatment, and social support to promote mental wellbeing and recovery at time and place of their choice…and prevent mental distress."[50] As eMHIC enters its 8th global conference, this is a group worth paying attention to for discussions of growth, policy, and ethics surrounding technological approaches to behavioral health.

Navigating the Growing Behavioral Health Shortages Ahead

People Seeking Care

Although innovations in behavioral health services offer promising alternatives, the availability of technology-based behavioral health services should not be conflated with accessibility, particularly in navigating mental health crises. The potential for technology to expand the reach of behavioral health services–and supplement the providers in short supply in the behavioral health workforce–is limited by national disparities in affordable access, skills, and support to engage with the technology.

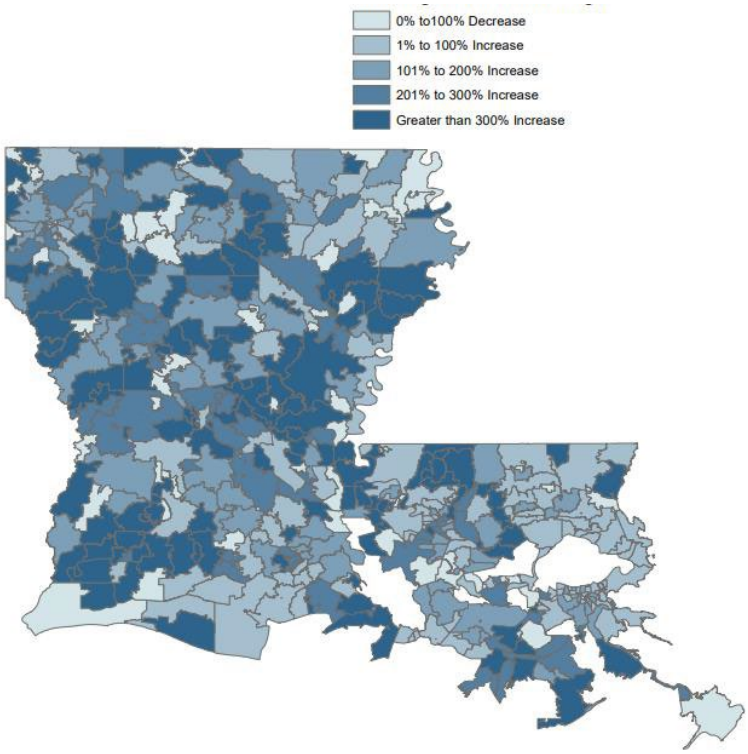
According to the National Digital Inclusion Alliance, there are five elements that are necessary for digital inclusion: (1) internet-enabled devices that meet the needs of the individual user, (2) affordable, robust broadband services, (3) access to digital literacy training, (4) technical support, and (5) applications and online content designed to enable self-sufficiency, collaboration, and participation.[51] Data collected by the Pew Research Center in 2021 shows that more than 90% of the 253.8 million adults in the United States use the internet. Among this population, 85% own a smartphone, three-quarters own a desktop or laptop computer, and half own a tablet computer.[52] However, there is evidence that at least 42 million Americans (13%) do not have access to broadband (i.e., high-speed internet), which is essential to using any technology-based behavioral health service meaningfully.[53,54] Moreover, a survey conducted by the Pew Research Center in 2019 estimates that only 40% of American adults are knowledgeable on a range of digital topics, including those in cybersecurity, such as phishing scams, data privacy, and website cookies.[55] These data are particularly troubling in the context of the largely unregulated and untested environment of technology-based behavioral health services.[56,57,58,59,60]

The extent and significance of the digital divide in the United States was laid bare by the pandemic. In response, the federal government accelerated legislation to address digital inequity. In 2021, the United States Congress appropriated tens of billions of dollars toward the goal of universal broadband access through the Consolidated Appropriations Act of 2021 and the American Rescue Plan Act.[61] The Infrastructure Investment and Jobs Act was also recently signed into law, guaranteeing $65 billion in new spending for broadband improvements nationwide.[62] The bill represents the most significant investment in broadband to date, and the provisions will target unserved and underserved areas throughout the country. The recent federal activity to address the digital divide is an encouraging development. However, it does not represent an immediate solution to national disparities in digital

access, skills, and support. As innovations in behavioral health services continue to emerge, evidence shows that individuals seeking care may not experience the innovations equally.

In a preliminary examination of the possible digital divide in Louisiana, results are currently mixed. Researchers from the Center for Evidence to Practice, examining Medicaid claims associated with behavioral healthcare for youth and their families, found some of the greatest growth of telehealth technology utilization, over the course of 1.5 years, in rural and often impoverished areas of the state, as compared to urban/suburban communities. Still, in other areas the data showed there were decreases in Telehealth Use that warrant further examination. This study is still underway and continues looking for clarity regarding broadband access and quality of this technology-enabled care (Figure 1).[63]

Figure 1: Changes in Use of Telehealth, based on Medicaid Behavioral Health Claims July 2020 through December 2021



Doing More with Less: Implications for Research, Practice, Policy

The emergence of technology and its growing ubiquity in behavioral health services will come as no surprise to any provider practicing in the last two decades. What may be surprising is the sheer volume of the various technologies, each with promises to fix, replace, enhance, or answer problems that have always been there—timely access to quality care. Regardless of how a service is delivered, it requires a workforce that is trained and supported to deliver the best care when needed. What is new is that the support for both providers and people seeking services may be more reliant than ever on technologies to supplement traditional practice, particularly mental health crisis response and/or follow-up supportive care. These evolutions in our field requires research, practice, and policy attention.

Noted in many of the descriptions above is the need for research. Knowing what is effective is important to reduce harm to those in need of critical support—providers and consumers. Funding to support

research on the effectiveness of these types of strategies to help populations with diverse needs, could help determine the utility of approaches. Interestingly, technology can also help with these studies. Researchers have noted that internet-based and mobile device-based data collection for studies is aided by tools for sample population recruitment, retention, and information collection.[64]

As identified above, practice limitations are profound with severe workforce shortages and increasing demand for care. Helping practitioners become more comfortable incorporating technological supports for themselves and their clients offers practical solutions. In addition to this, asking practitioners to engage in the study of these tools and their real-world applications could offer objective insights for developers and marketers of these technologies. However, questions remain in practice. For example, how will providers respond when individuals just stop coming to virtual spaces? What happens when crises emerge, like suicidality, and the provider is only available via text or the client disconnects from a smartphone telehealth session? Some apps use a members IP address to determine location to send first responders, but there is more to learn about the determination of the client's level of risk in text messages. Thus, it is unclear whether initiating a crisis response will be over utilized or underutilized from ambiguous information.[65]

Finally, policy must accommodate these needs. The American Psychological Association points out critical issues practitioners must attend to regarding technology. These include HIPAA compliance and patient privacy protections of technology based communications, state licensing laws for practitioners treating patients when location may be beyond their legal or ethical treatment allowance, as well as the ethics and practice parameters associated with the use of many apps and platforms that allow users to remain anonymous.[66] The American Psychiatric Association also has promulgated trainings and guidelines for practitioners with a complete telepsychiatry toolkit that attempts to address a number of issues relevant to practitioners and patients.[67]

Attention should be paid as tele practices role out to the potential disparities in care between large health systems and small providers/individual mental health practitioners. There is a significant investment to join in these technology advances. The fees associated with training, maintenance, and necessary cybersecurity may be financially out of reach for small organizations and sole proprietors.

Policy that fails to recognize, reimburse, and regulate alternative technological methods will keep our field from the innovation it needs now, particularly is demand grows. Continuing to advance quality technology-based options that showed effectiveness during the height of the COVID pandemic may be viewed as a silver lining. Although there is much at stake as the unwind from the public health emergency takes place, there have been invaluable lessons learned and policymakers appear ripe for taking advantage of important advances and continuing them forward beyond the emergency allowances. Applying the lessons learned from practice to inform research will be another step in a positive direction. With these advances, technology can be utilized with protections for both provider and consumer, so that technology continues to grow in a safe way and at an efficient pace to meet demand.

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