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Assessment #3

Using Technology to Improve the Delivery of Behavioral Health Crisis Services in the U.S.

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Using Technology to Improve the Delivery of Behavioral Health Crisis Services in the United States

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Introduction and Methodology

Behavioral health crisis services are critical components of the behavioral health service continuum. The Substance Abuse and Mental Health Services Administration (SAMHSA) recently released the *National Guidelines for Behavioral Health Crisis Care ("National Guidelines")*; a toolkit that details the essential components and best practices of a behavioral health crisis services delivery system. According to this toolkit, an effective crisis continuum includes centralized crisis hotlines that enable a provider to assess an individual's needs and dispatch support as needed; mobile crisis teams available to attend to individual needs in the community; and crisis receiving and stabilization facilities that are available to "anyone, anywhere, anytime".[1] State Behavioral Health Authorities (SBHAs) are responsible for establishing and supporting crisis service systems to ensure that anyone experiencing a crisis, regardless of background or ability to pay, can receive appropriate behavioral health care in a timely manner. The array of crisis service availability varies across the states, and even across regions within states. Crisis services of the same name offer differ in their definitions from state to state due to lack of consistent definitions (see the first paper in this series, *Crisis Services: Meeting Needs, Saving Lives for model definitions)*.[i] The vast majority of states (98%) offer at least one of the three of the services recommended in SAMHSA's *National Guidelines for Behavioral Health Crisis Care.* Of those, 82% offer 24-hour crisis hotlines, 86% provide mobile crisis response services, and 90% provide crisis stabilization beds (offering either less-than-24-hour or more than 24-hour stays).[2] It is important to note that although these services are provided in the majority of states, they may not align with the best practices prescribed in the *National Guidelines,* and they may not be available to "anyone, anywhere, anytime".[3]

Many technologies exist that can be used to facilitate and enhance the delivery of each of these three critical behavioral health crisis services, and others, including predictive technologies, are in development. The importance and promise of technology in the delivery of these services has never been more relevant than in 2020, when the world is adjusting to the effects of a global pandemic that limits face-to-face interventions, isolates individuals from their natural support systems, and heightens anxiety due to fear and uncertainty.

A review of the literature was conducted to understand the opportunities and challenges technology presents in the delivery of behavioral health crisis services. Ensuring that only relevant and timely information is included, the literature review focuses on journal and news articles, publications from government agencies, and blog posts from technology and marketing companies published between 2017 and 2020. To understand how SBHAs are leveraging technology in the delivery of crisis services, structured phone interviews were held with representatives from state, local, and non-profit organizations in Alaska, Colorado, Nebraska, New Mexico, Tennessee, and South Carolina. This report addresses how technology is being used

[i] See Pinals, D.A. (2020). *Crisis Services: Meeting Needs, Saving Lives.* Alexandria, VA: National Association of State Mental Health Program Directors.

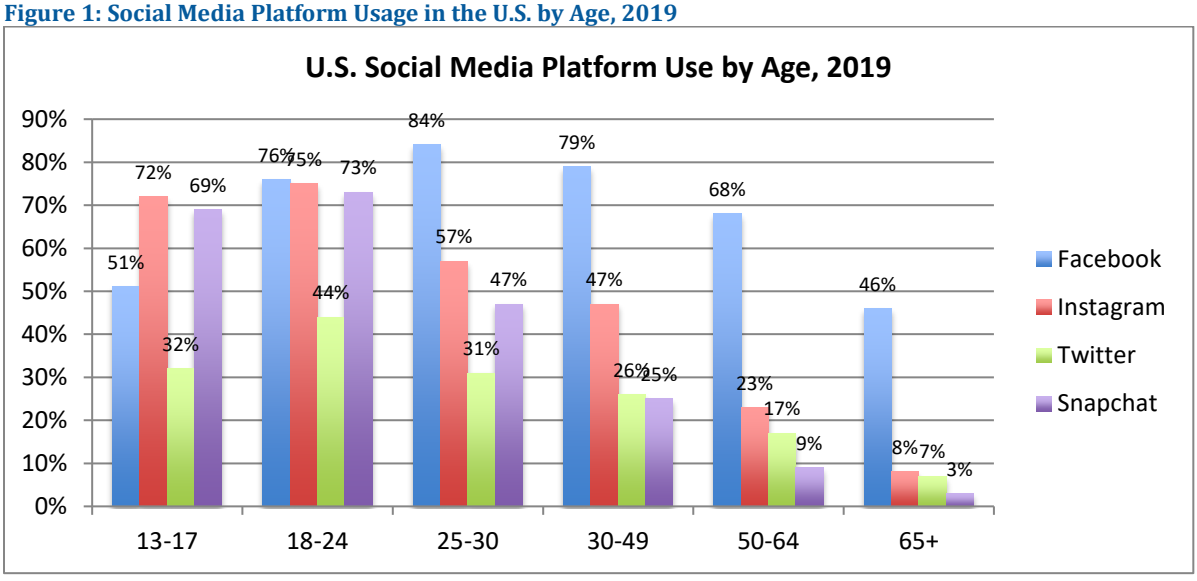
by the states, and the opportunities and challenges it presents, in the delivery of each of the three critical services identified in the *National Guidelines.*

Marketing Crisis Services through Digital Media

In order for people to seek out services during times of need, they must first be aware that services are available. While many traditional mediums exist to market the availability of behavioral health crisis services (e.g., television, radio, print publications, etc.), in the last decade, the use of social media has expanded rapidly and is an important tool to engage individuals of all backgrounds and ages, and can be especially effective in reaching youth and young adults. Engaging individuals at younger ages is important in providing prevention and early intervention services that may reduce the need for future crisis services, as "the onset of mental health problems peaks between adolescence and young adulthood".[4] States are investing in the use of social media to promote the availability of crisis services, and to help normalize the need for and use of behavioral health crisis services.

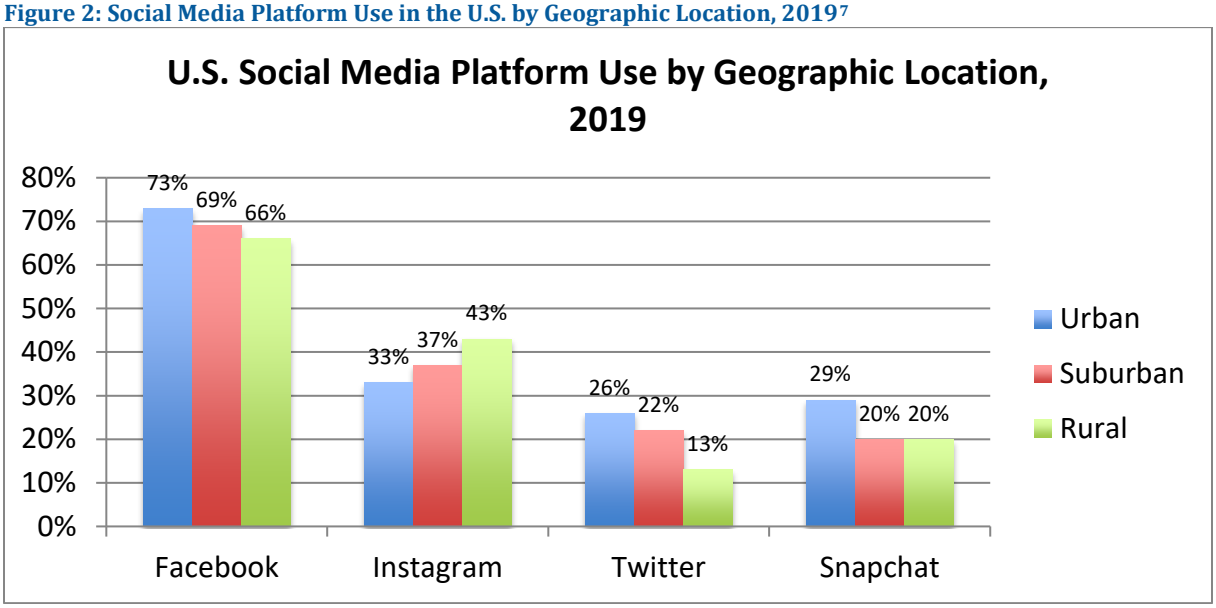
The social media platform a state uses should be determined by which age group and geographic location the SBHA is trying to reach. Facebook has the broadest reach among all age groups, with nearly 50% of all age groups using this platform. Snapchat and Instagram are more effective at engaging youth when compared to Facebook and Twitter.[5] See Figure 1.

Figure 1: Social Media Platform Usage in the U.S. by Age, 2019



Use of social media is greatest in urban areas, regardless of platform. However, Facebook and Instagram are widely used among individuals in all geographic areas.[6] See Figure 2 on the following page.

Figure 2: Social Media Platform Use in the U.S. by Geographic Location, 2019[7]



In addition to broader, yet more targeted reach, this strategy is also cost effective and allows SBHAs to make better use of their marketing budgets. In 2020, on average, social media influencers charge between $2.00 and $25.00 per post per 1,000 followers (Twitter: $2/post; Snapchat: $10/post; Instagram $10/post; and Facebook $25/post).[8]

Colorado's Crisis Services (CCS), operated out of the state's Office of Behavioral Health, relies on influencers as part of a larger marketing campaign to promote the state's crisis services and suicide-prevention hotlines and text lines (Lee, personal communication, July 1, 2020). Colorado finds this strategy effective at reaching all areas of the state, including rural and urban areas, and at engaging more youth and young adults when compared to traditional marketing methods. CCS has found that youth listen to each other and respond better when the message is coming from their peers (Lee, personal communication, July 1, 2020). Utilization data from the state's crisis text line support this theory, and show that each time the CCS promotes their services for youth and young adults, there is an increase in utilization of the state's crisis text line (Lee, personal communication, July 1, 2020). This strategy also allows CCS to maximize its tight marketing budget, which is a critical consideration as states consider how to reduce costs without reducing access or services as states face unprecedented budget cuts due to budget shortfalls related to COVID-19.

Using Technology to Improve Crisis Hotlines & Text Lines

The majority of SBHAs (82%) offer statewide or regional hotlines that are available 24 hours per day, seven days per week, 365 days per year.[9] However, the existence of a crisis hotline does not guarantee that people will use it, or that it is being used effectively. SAMHSA's *National Guidelines* recommends that, at minimum, states operate either regional or statewide crisis call centers that are fully staffed and

provide crisis intervention services and suicide risk assessments by trained professionals, coordinate callers with nearby mobile crisis teams, and conduct warm hand-offs to facility-based care when needed. Best practices for call centers create an "Air Traffic Control" model for hotlines, and include the incorporation of caller-ID technology, the use of GPS to efficiently coordinate care with mobile crisis teams, have access to a regional or statewide behavioral health bed registry to identify available and appropriate beds, and have the ability to schedule follow-up appointments to ensure ongoing care following a crisis episode.[10] Hotlines should also offer text and chat services to make the services more accessible.

According to a study by the Pew Research Center, 81 percent of Americans own smartphones, which are equipped with GPS "that can transmit geographic coordinates in real-time".[11] [12] Integrating GPS technology and access to a behavioral health bed registry into a crisis hotline call center can help crisis counselors quickly identify an individual's location and either dispatch the nearest available mobile crisis team, or guide the caller to the nearest crisis receiving and stabilization facility if the crisis cannot be triaged over the phone. Georgia is one example of a state that has built a comprehensive "Air Traffic Control" model of technology into their crisis system that incorporates GPS technology and access to a behavioral health bed registry, as recommended by the *National Guidelines*.

The Georgia Crisis and Access Line (GCAL) provides callers with crisis intervention services, relies on GPS to efficiently dispatch mobile crisis teams, accesses the state's bed registry to identify available crisis or detox beds, and connects individuals with follow-up appointments to ensure a continuum of care following the immediate crisis.[13] GCAL uses proprietary dispatch software that provides Georgia's crisis providers "with the ability to immediately locate and communicate with mobile teams in the field" that enables providers to conduct secure, electronic assessments with or without an internet connection, which is crucial for areas of the state where broadband connectivity may be unavailable.[14]

While Tennessee does not operate their call center in the Air Traffic Control model prescribed by the *National Guidelines,* the state does use a caller-ID system to geo-route calls to a local provider based on area codes. Callers without a known location are routed to a centralized call center that can then transfer callers to a local provider. Other states are exploring adding either geo-routing incoming calls or incorporating GPS services into their hotlines, and developing crisis bed registries to enhance efficiencies; however, budgetary and resource limitations presented by COVID-19 have delayed these efforts (Lee, personal communication, July 1, 2020).

Several states interviewed for this report noted that their states' centralized crisis hotlines operate in tandem with emergency/after-hour call lines sponsored by local community providers. This duplicative arrangement prevents maximum utility of a centralized state crisis hotline, and can serve to overburden local providers, especially in smaller, rural communities, which can lead to high levels of employee burnout and turnover. For example, a former provider from a remote village in

Alaska described a time when he was the only clinician available to answer and respond to crisis calls in the community during a six-month period. During this time, he had to constantly be available and in reach of his phone, even while trying to spend time with his family. While the actual number of crisis calls he received was low, he did experience many misdials. A centralized call center that is promoted and utilized across the state could help absorb some of these misdials and alleviate some of the pressure on providers, especially in rural areas where workforce issues prevail (Owens, Chipp, personal communication, July 1, 2020).

SMHAs may face barriers when establishing statewide crisis hotlines. It was noted during the interview with Colorado's Office of Behavioral Health that there is reluctance among both individuals in need of care and law enforcement officers in smaller communities to call into an anonymous state crisis hotline. The reluctance is fueled by a sense of resentment that someone "in the big city would actually know about my life and my problems" (Lee, personal communication, July 1, 2020). This can lead to more after-hour emergency calls to local community providers, when the Colorado Crisis Services Hotline could just as easily direct the caller to appropriate care and dispatch appropriate crisis services (Lee, personal communication, July 1, 2020). To encourage use of its statewide hotline, New Mexico's SMHA waived the state's unfunded requirement for local providers to operate their own emergency call capability. The only thing the SMHA required of providers was a memorandum of understanding with the statewide call center (Lindstrom, Wynn, personal communication, June 9, 2020).

Crisis Text Lines

In addition to statewide hotlines, SMHAs are also trying to reach youth and young adults by operating crisis text lines, which are recommended as part of SAMHSA's *National Guidelines* to effectively "engage entire communities into care".[15] According to 2012 research from the Pew Internet Survey (the most recent data available), teenagers send an average of 100 texts per day, and 63 percent indicated they exchange text messages every day.[16] The rate of texting is significantly higher than other forms of daily communication. Thirty-nine percent of teens call on their cell phones every day, 35 percent socialize face-to-face outside of school, 29 percent rely on messaging through social media, and 22 percent use other instant messaging or chat platforms.[17]

Several states interviewed for this report, including Colorado and New Mexico, have recently implemented crisis text lines as a way to engage more people with crisis services, particularly youth and young adults. In Colorado, when someone engages with their text line, they will receive a response from a live person. Between July 2019 and June 2020, Colorado Crisis Services received 16,460 texts into its crisis text line. Of these, 29.4 percent were from adolescents between the ages of 13 and 17, 26 percent from adults age 18 to 25, 27.7 percent from adults between the ages of 26 and 39, and 12.8 percent from adults ages 40 to 59. Fewer texts were received from youth under age 12 (2.6 percent), likely due to a lack of access to cell phones, and only 1.6 percent of texts were from adults ages 60 and over.[18] Text messages

primarily originated from the state's more urban counties, including Denver, El Paso, Arapahoe, Adams, and Jefferson Counties.[19] The Office of Behavioral Health makes available monthly reports showing the utilization of their text services throughout the state.

While crisis text lines are effective at engaging youth and young adults, as evidenced by the data from Colorado, reports indicate that it can cost three times as much to implement a crisis text line when compared to the cost to implement a voice only crisis hotline due to the additional human resources required to respond to the texts (Lindstrom, Wynn, personal communication, June 9, 2020). To avoid this additional cost, yet still reach youth and young adults in need of crisis services, New Mexico recently launched an asynchronous crisis text line, meaning that instead of relying on humans to respond to texts, a bot[ii] responds and is able to connect individuals to appropriate levels of crisis care.

Figure 3: New Mexico Healthcare Worker and First Responder Support Line Flyer

<u>Emotional Support Lines for Healthcare and Frontline Workers During COVID-19</u>

In addition to general behavioral health crisis hotlines and text lines, New Mexico established a dedicated support line for health and behavioral health providers, and other frontline workers who may be anxious and overwhelmed as a result of their positions in the context of COVID-19. New Mexico's Healthcare Worker and First Responder Support Line was established in response to the increased burden faced by frontline workers during COVID-19 pandemic (Lindstrom, Wynn, personal communication, June 9, 2020). New Mexico publishes detailed utilization reports monthly on its Crisis Line website.[iii] Utilization data are available for the Crisis Call Line, Support Line, Warm Line, and Core Service Agencies calls. Since its launch in May 2020, the support line has received 129 calls from healthcare workers and first responders.[20] Between May and June, 69.7 percent of these calls were related to COVID-19.[21] The support line is staffed by professional counselors with the New Mexico Crisis and Access Line. Figure 3 shows a flyer used to promote the New

[ii] A bot is a computer program designed to simulate a human interaction.
[iii] https://www.nmcrisisline.com/resources/public-awareness/

Mexico Healthcare Worker and First Responder Support Line. Tennessee also established a support line for healthcare workers working the frontlines of the pandemic; however, unlike New Mexico, Tennessee's support line is staffed by volunteers and does not provide clinical, medical, or therapeutic services.[22]

988: The Future of the National Suicide Prevention Hotline

The National Suicide Prevention Lifeline was established in 2005 through a SAMHSA grant.[23] The national Lifeline connects callers in need to one of 170 crisis centers nationwide.[24] Currently, people can access the national Lifeline by calling 1-800-273-TALK; however, in July 2020, the Federal Communications Commission (FCC) voted unanimously to adopt 988 as the new three-digit dialing code to "increase the effectiveness of suicide prevention efforts".[25] [26] The new three-digit number will go into effect in spring 2022, after an 18-month implementation period.[27]

While a short, easy-to-remember number will facilitate access to crisis services nationally; setting up the telephone network across the country will take some effort. In many parts of the country, telephone carriers and VoIP (voice-over internet providers) "should be able to implement the new code without major delay or expense;" however, there are some parts of the country that use 988 as part of their seven-digit dialing codes.[28] Transitioning these phone numbers in time for the implementation of 988 may take some time, and if not handled carefully may cause confusion for callers in the process.

National Crisis Text Line

Established in 2013, Crisis Text Line is a 501(c)(3) non-profit based in New York and is available for individuals across the U.S., Canada, the U.K., and Ireland to connect immediately with a crisis counselor.[29] The service is programmed with different code words used by different entities, allowing the entity to track data on text utilization. In the U.S., individuals can text HOME to 741741 during a crisis to receive help from volunteers at the Crisis Text Line in a crisis. The National Alliance on Mental Illness promotes texting the word NAMI to 741741. In the context of COVID-19, many states have used this number (e.g., in Michigan, texting the word RESTORE to the same number helps track data related to utilization). Crisis Text Line works in partnership with nearly 200 state and local agencies, "as well as universities and nonprofit services" to connect people to care.[30] Since August 2014, the Crisis Text Line has exchanged more than 142 million messages.[31]

Crisis Text Line relies on an algorithm that combines the power of technology and data to prioritize calls. An algorithm reviews incoming text messages for flag words to determine how quickly a text should be answered, and the likeliness that the counselor will need to call 911. The algorithm found that for texts that contain the word "military" the counselor is twice as likely to have to call 911 than when the word "suicide" is used; the sad face/crying emoji results in calls to 911 four times more likely than texts with "suicide".[32] Texts with the word "pills" result in calls to 911 16 times more often than texts that contain the words "suicide" or "overdose".[33] The algorithm is learning and improving with each new text, resulting in better

response times and care for individuals texting in a crisis. Reports on utilization are available at www.crisistrends.org.

Using Technology to Improve Mobile Crisis Response

Mobile crisis response teams consist of mental health professionals who respond to behavioral health crises in the community at the request of first responders or crisis call lines. The *National Guidelines* recommend that mobile crisis teams be "available to reach any person in the service area in his or her home, workplace, or any other community-based location of the individual in crisis in a timely manner".[34] Using GPS technology, as described above, can improve response times by identifying the nearest available mobile crisis response team. However, many states interviewed for this report require teams to respond within two hours or more for those in rural areas, which can seem lengthy for an individual experiencing the crisis and for other first responders who are taken away from their normal service when waiting for a mobile crisis team to respond. Technology can be used to expedite response times, and remotely meet the needs of the individual in crisis. South Carolina and Colorado are implementing and exploring strategies that use technology to improve mobile crisis response and meeting people in the community where the crises are occurring.

In terms of statewide reach and responder composition, South Carolina provides mobile crisis response teams in each of its 46 counties, where master's-trained clinicians are available to respond to crises 24 hours a day, seven days a week. In Charleston County, a highly populated and large county, the mobile crisis response team initially only received an average of five calls per month from local law enforcement or emergency medical services (EMS). After discussions between the county and the EMS teams, it was revealed that EMS did not utilize the services of the mobile crisis response teams because it often took too long for the mobile crisis teams to respond. EMS teams found it was easier and faster to transport an individual in crisis to an emergency room at a nearby hospital; however, ERs are more costly and are more likely to result in an inpatient admission that are crisis interventions, and are usually not the most appropriate setting unless the individual in crisis was also experiencing a medical emergency or needed more comprehensive assessment. The EMS team and the county discussed using technology to improve response times, and a partnership between the state and the EMS program in Charleston County was formed. The result of these discussions is a formalized process that begins when EMS is called to respond to a psychiatric emergency, they first evaluate whether the crisis is medical or psychiatric in nature. If medical, the ambulance will transport the individual to the appropriate level of care; if psychiatric, the EMS crew calls their supervisor to respond in an SUV. Once the supervisor responds, the ambulance is sent back out into service, and the supervisor connects the individual in crisis through the VIDYO telehealth app on their tablet to the mobile crisis response team. The mobile crisis response team is then able to evaluate and triage the crisis virtually, and can make recommendations on next steps. Service is immediate and allows for more appropriate use of EMS time and resources and reduces the number of referrals to emergency departments in the

county. This approach also reduces the need for mobile crisis teams to travel long distances to reach individuals experiencing a crisis, and allows individuals in crisis to receive services quickly. Since this program has been implemented, the county has experienced an increase in calls from EMS to mobile crisis from five to nearly 85 per month, and the county has seen a 58 percent decrease in ED use for individuals in psychiatric emergencies (Bank, Blalock, personal communication, July 7, 2020).

Colorado's Office of Behavioral Health (OBH) is considering a model similar to South Carolina's, but instead of deploying masters-level clinicians to respond to individuals in the community in crisis, it would rely on volunteer, trained citizens (often bachelor's-level clinicians or peer specialists) who carry tablets to virtually connect people in crisis to care. Colorado requires there be at least one mobile crisis response team that can respond to crises within two hours in each of the five regions of the state. While each region has met the minimum obligation for the number of teams, there are multiple mobile crisis response teams in urban areas, and only one serving the more rural and remote areas of the state, making it difficult for mobile crisis teams to adhere to the two-hour guideline. OBH has heard from communities in the more rural areas that they have concerned citizens wanting to help respond to crises, but do not know the most appropriate way to provide help. The state is exploring training these citizens, who are bachelor's-level providers or peers, to carry a tablet to an individual in crisis that can be used to connect the individual to a masters-level clinician via telehealth services. Unfortunately, the COVID-19 pandemic has delayed progress in these programs, and future budgetary decisions at the state level may determine the fate of these programs.

Reaching people in crisis in the community means meeting them where the crisis is occurring. Often times, people will seek out care in emergency departments at local hospitals. This can serve to overwhelm EDs, result in costly services, and prevent timely treatment for the individual in crisis. Recognizing this as an issue, and not the most appropriate use of the mobile crisis response teams, South Carolina's Department of Mental Health has supported the use of telepsychiatry in EDs since 2009. The state has contracts with 25 EDs across the state to provide telepsychiatry services to individuals experiencing psychiatric emergencies. These services are available from 7:00 am to midnight, 365 days per year. Rather than take resources away from the ED to serve individuals experiencing a medical emergency, or have the individual in crisis end up lingering in the ED, the ER doctors put psychiatric patients in a virtual line to receive telepsychiatry services from one of a group of 25 psychiatrists. Since its implementation, nearly 70,000 patients have received this service. Research on the program shows that patients who have participated in this program are twice as likely to attend their follow-up appointments at community mental health centers, and approximately half as likely to return to the ED or require psychiatric hospitalization when compared to those who receive traditional psychiatric services through the ED (Bank, Blalock, personal communication, July 7, 2020).

SMHAs and clinicians have increased their use of telehealth and voice-only telehealth services to deliver mobile crisis response to adjust to the social-distancing requirements of COVID-19. After years of reluctance to incorporating telehealth services into their practices because of fears relationships between client and provider will be hindered, many SMHAs have actually found that providers and clients alike enjoy using telehealth services. SMHAs have heard that the no-show rates are zero, as people no longer have to overcome barriers (including transportation) to receive services. The increased use of telehealth has also led to more engagement with an individual's familial supports, since everyone is home to participate in telehealth appointments. One state expressed that, "if there is a silver lining to this whole pandemic, it has been to force the hand of telehealth and move us into the next century." (Tennessee call)

Using Technology to Improve Access to Crisis Receiving and Stabilization Facilities

As part of an effective crisis continuum of care, the *National Guidelines* recommend that states provide short-term (23-hour) crisis stabilization facilities. According to 2015 and 2020 State Profiles data, 90 percent of states provide crisis stabilization services, offering either less-than-24-hour stays, or more-than-24-hour stays (note, the distinction between 23-hour and 24-hour stays was not made in the 2020 State Profiles).[35] In order for these services to be effective, individuals in crisis and first responders need to be aware of the availability of mobile crisis lines, mobile crisis response, and crisis receiving and stabilization facilities. As discussed above, crisis hotlines can combine the use GPS technology to identify the location of an individual in crisis, with the use of a behavioral health bed registry to identify the nearest available crisis stabilization bed to meet the caller's needs and improve care coordination.

Behavioral health bed registries are "regularly updated web-based electronic databases of available beds in behavioral health settings".[36] As of 2019, 19 states had active behavioral health bed registries.[37] To expand the availability of bed registries in the U.S., SAMHSA's Technology Transfer Initiative (TTI) 2017 grant funded 23 states to establish new or enhance existing behavioral health bed registries. A review of TTI state efforts shows that the most common type of beds included in a behavioral health bed registry are beds in crisis stabilization units (18 of 23 states). Bed availability data are most often updated twice per day (9 states), and are available primarily to authorized users (13 states), including participating hospitals, mobile crisis teams, emergency departments, local provider agencies, and call centers.[38] Bed registries implemented by the TTI states follow one of three models: search engines, referral systems, or referral networks (taken from the 2020 *TTI Crisis Bed Registry Report*, currently under review):

Web-based search engines: Most TTI states (15 of the 23) implement or are expanding web-based search engines, where users are able to visit a website to access information on crisis bed facilities, including their locations, available services, and contact information. In these platforms, users call or contact the facility through means other than the website.[39]

Referral Systems: Two states are implementing or expanding bed registry referral systems. These systems provide users with regularly updated information about bed availability. In addition, they also allow authorized users to submit HIPAA-compliant electronic referrals to a secure bed using pre-set forms and protocols. The entire referral process can be timed, documented, and monitored.[40]

Referral Networks: Six states are implementing bed registry referral networks. In these platforms, bed registry websites provide regularly updated information on bed availability, support users to submit HIPAA-compliant electronic referrals to secure a bed, and support referrals for behavioral health crisis and outpatient services to-and-from service providers who are members of the referral network. As with referral systems, the process of referrals can be tracked.[41]

Bed registries have been especially helpful to identify bed demand and availability during the COVID-19 pandemic. A review of data from the TTI states show that psychiatric bed capacity in some states was significantly decreased to accommodate for social distancing guidelines to reduce the spread of the virus; fortunately, demand for these services decreased during the pandemic as people sought to limit their exposure and avoided treatment in inpatient settings.[42] However, the COVID-19 pandemic has also delayed the development of bed registries in at least seven states.

The Future of Technology in the Delivery of Behavioral Health Crisis Services

Beyond telehealth and telepsychiatry services, opportunities for the use of technology in crisis services are continuing to grow. Mobile and wearable devices, such as smart phones, tablets, and activity trackers (e.g., FitBit, Garmin, and Apple Watches), as well as advances in artificial intelligence offer new ways for individuals, clinicians, and researchers to access services, monitor symptoms, and research changes in both physical health indicators and social behaviors that may predict impending behavioral health crises.

With 81 percent of the population owning smartphones, crisis services applications ("apps") offer a convenient way for individuals to immediately access care. According to the National Institute of Mental Health (NIMH), apps offer a good entry into mental health care, and may engage clients at a younger age into treatment. Many apps are also free or cost less than traditional care, eliminating the barrier and fear of being unable to pay for treatment. Apps will also allow for objective data collection, including information about location, movement, and phone use, which can be added to an algorithm to predict immediate need and overall demand.[43]

Researchers at the University of Colorado Boulder are studying how to apply machine learning to psychiatry through the development of a speech-based mobile app to help providers monitor their clients and identify changes in mood and wellbeing before they experience a crisis.[44]

Considerations

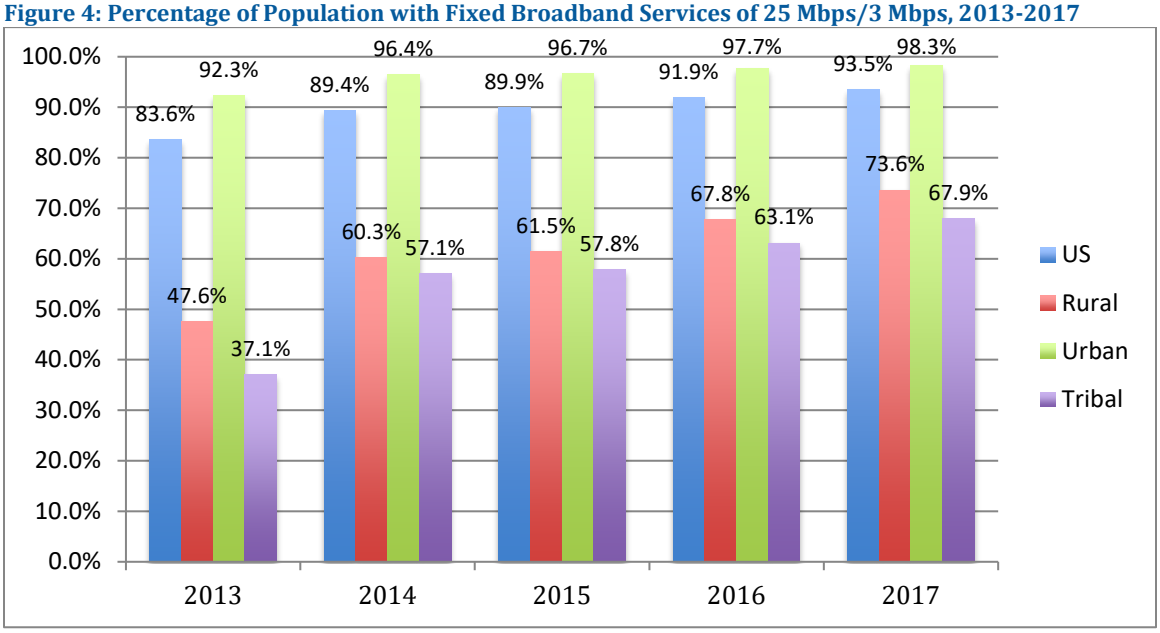
Technology offers much promise in improving access to behavioral health crisis care. However, when considering which technologies to implement, a variety of considerations exist that can influence the effectiveness, safety, and security of the technology in use.

Broadband Access

The availability of broadband and cellular technology, especially in rural and frontier areas of the U.S., will help determine the success of any crisis services aided by technology. Inconsistent broadband connectivity in rural and frontier areas was identified as an area of need during each of the phone interviews conducted for this report.

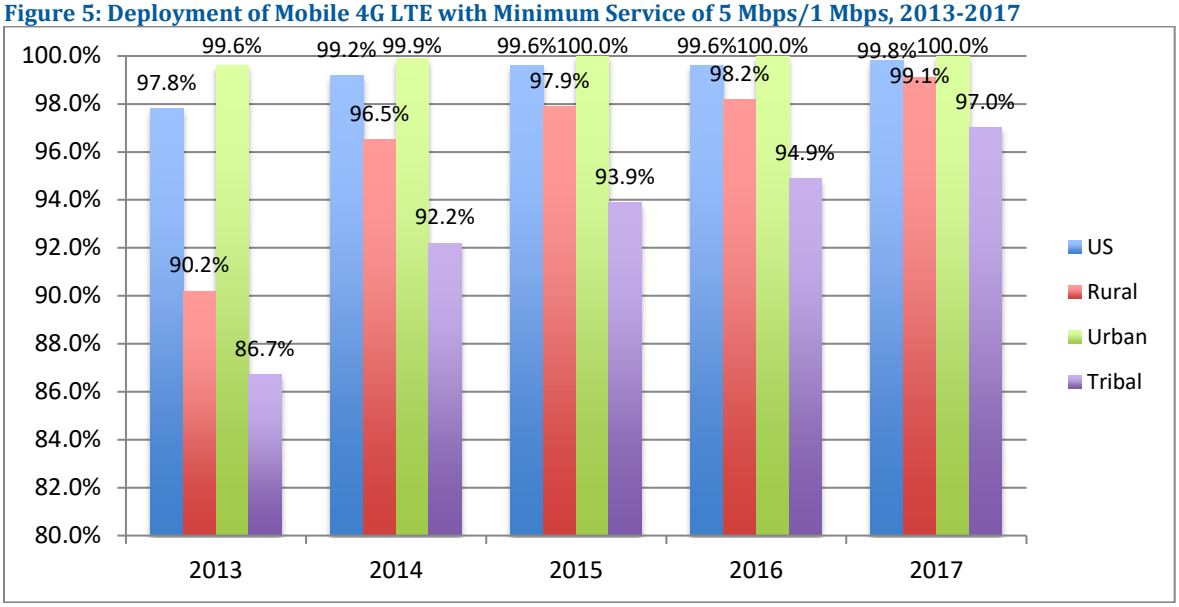
According to the Federal Communications Commission (FCC), the minimum fixed-broadband requirement is 25 Mbps download speed and 3 Mbps upload speed.[45] Data from the FCC show that this minimum level of broadband access has significantly expanded across all areas of the U.S., including rural and tribal areas, since 2013, although access in rural and tribal areas still lags behind urban connectivity. See figure 4.[46]

Figure 4: Percentage of Population with Fixed Broadband Services of 25 Mbps/3 Mbps, 2013-2017



In addition to calculating rates of fixed broadband availability across the U.S., the FCC also monitors the availability of cellular technology. The minimum performance benchmark for mobile services is 4G LTE, within minimum speeds of 5 Mbps download, and 1 Mbps upload.[47] This level of mobile access is more widely available across all areas of the U.S., including rural and tribal areas, than fixed broadband services. See figure 5.

Figure 5: Deployment of Mobile 4G LTE with Minimum Service of 5 Mbps/1 Mbps, 2013-2017



While broadband connectivity, both fixed and mobile, is improving, and appears to be available throughout both rural and urban areas of the U.S., the experiences of individuals living in these areas may not align with the information available from the FCC. According to a 2018 Bloomberg report, the FCC's connectivity map

(available online[iv]), which maps the availability of broadband access by address, is inaccurate because it relies on Census blocks to calculate connectivity at a given address. Within Census blocks, which tend to cover small areas in urban communities and large tracts of land in rural areas, the availability of broadband can vary quite a bit. According to the report, "just because your closest neighbors have broadband doesn't guarantee you'll have any".[48] While the FCC purports that 21.3 million Americans lack access to broadband connectivity, research from BroadbandNow estimates that the number of Americans without broadband access is closer to 42 million, when taking into account the disparities within Census blocks.[49] The FCC data also do not consider limitations accessing broadband services due to the associated costs, and inability of some individuals to afford these services.

Staff from South Carolina's SMHA pointed out that COVID-19 is highlighting the need for expanded broadband connectivity across all areas of the state, and SMHAs across the U.S. can partner with other agencies, including departments of education, to lobby their legislatures for expanded broadband connectivity.

Financing

State and local government general funds remain the major funder of the behavioral health crisis continuum in most states and thus availability of state funds limits the ability of many states to expand their use of new technologies. While face-to-face and telehealth crisis services provided by mobile crisis response teams and at crisis receiving and stabilization facilities are generally reimbursable through Medicaid and private insurance, crisis systems have had limited success in getting reimbursed by insurers, because often crisis services are not considered emergency services by insurance companies. Many states rely on state general and local funds to support these two encounter-based services to ensure sustainability. However, for services provided through state-operated crisis hotlines and text lines, the responsibility for funding these services often falls solely to the SBHA, as many calls are anonymous, and Medicaid and private insurance are resistant to reimburse for non-encounter services, even though many users of these services may participate in private insurance or Medicaid. Therefore, these hotlines often become a "free good" for insurance companies to rely on. States interested in establishing an "Air Traffic Control" type crisis hotline and referral systems may benefit from working with their State Medicaid Agency and State Insurance Commissioner to explore opportunities to get insurers to contribute to the costs of implementing this essential crisis technology.

New Mexico's Behavioral Health Services Division was able to work with the state's Medicaid division to secure reimbursement for calls to the state's crisis line. However, callers must provide identifiable information, including their Medicaid enrollment status. Most call centers avoid this practice, as they want to ensure the anonymity of their callers. However, half of the callers to New Mexico's crisis line

[iv] FCC Connectivity Map available at https://broadbandmap.fcc.gov/#/

self-identified as being enrolled in Medicaid; therefore, the state was able to secure the 50 percent match on half of the callers, resulting in 25 percent of the call center's costs were subsidized by Medicaid. (Lindstrom)

Another challenge related to the implementation of telehealth services is that, prior to COVID-19, CMS stipulated that only specific providers were eligible to bill for telehealth services. In normal times, clinical psychologists and clinical social workers are not eligible to bill for psychotherapy services that include medical evaluations or management services. However, in response to the current pandemic, CMS has waived some of the requirements for billing. As of March 1, 2020, under the CARES Act, CMS now allows all Medicaid-eligible providers to bill for the provision of telehealth services, including masters-level clinical psychologists and social workers.[50] This flexibility allows states to better serve individuals and increases access to crisis care. Each state interviewed for this report expressed appreciation for the changes, and advocated making the changes permanent, beyond the public health crisis. Long-term strategies on the use of telehealth and who can deliver these services is an important consideration.

Privacy Concerns

Mental health providers must abide by the Department of Health and Human Services' Privacy Rule, which "defines and governs the use and disclosure of protected health information (PHI)".[51] Providers must also adhere to the Security Rule, which "sets the standards for securing patient data that is stored or transferred by electronic methods".[52] These rules apply to providers whether they are delivering services face-to-face or through virtual means. For telehealth services, providers must ensure that data are fully encrypted, and that video recordings of the sessions are not stored.

While empowering "providers to serve patients wherever they are during" the COVID-19 pandemic, HHS's Office of Civil Rights (OCR) has reinforced the requirement that these security regulations be followed during the public health crisis.[53] OCR guidelines state that "a covered health provider that wants to use audio or video communication technology to provide telehealth to patients during the COVID-19 nationwide public health emergency can use any non-public-facing remote communication product that is available to communicate with patients".[54] Apps approved by the OCR, so long as they agree to enter into a business associate agreement with the provider, include: Skype for Business/Microsoft Teams, Updox, VSee, Zoom for Healthcare, Doxy.me, Google G Suite Hangouts Meet, Cisco Webex Meetings/Webex Teams, Amazon Chime, GoToMeeting, and Spruce Health Care Messenger.[55] Additionally, many providers are delivering crisis services from their homes during the pandemic, it is important that they are able to provide telehealth services in a quiet area away from members of their household to ensure confidentiality and the privacy of the individual receiving services. (Chipp)

Although they do not specifically offer crisis services, other technologies that promote mental health and wellness can serve as cautionary tales that underscore the need for strict security guidelines that adhere to "the core values of professional therapy [that include] strict confidentiality and patient welfare".[56] There is concern among researchers that some behavioral health and wellness apps "are corporate platforms first [and] offer therapy second".[57] Talkspace, launched in 2014, is an app that connects individuals through text and chat with a licensed therapist. is being scrutinized for "questionable marketing practices" and for treating client transcripts as data resources that can be mined to promote the services without concern for client confidentiality.[58] In addition, there is concern that private, for-profit companies such as Talkspace are driven by revenue, rather than concern for the wellbeing of their clients. A report by the New York Times found that Talkspace had employees write false reviews of the company to improve its ratings and encourage more sales, and "gave employees burner phones to help evade the app stores' techniques for detecting false reviews".[59] Of similar concern, a 2019 study released by Privacy International found that 76 percent of mental health websites in Europe, including those with depression screeners, would pass "answers and results of mental health check tests direct[ly] to third parties for ad-targeting purposes".[60] This indicates that these sites "treat the personal data of their visitors as a commodity," and do not "take the privacy of their visitors as seriously as they should".[61] Such deceitful practices can contribute to a feeling of uncertainty and a lack of trust in technologies that can effectively help people in crisis, inhibiting their use.

Efficacy and Safety of Technological Applications

While there is a lot of hope and opportunity surrounding the future of technology for the delivery and enhancement of crisis services, there is very little regulation on app design, and the safety and effectiveness of these new technologies.[62] More research needs to be done to determine which apps are safe, effective, and reliable. This is an opportunity for state and federal policy makers and advocates to research the efficacy of apps and establish regulations that promote confidence in their use. Apps also need to be studied to ensure they are culturally competent and do no harm. If certain apps are determined to be effective at predicting and mitigating behavioral health crises, and connecting individuals to care, states may decide to invest in these apps as a way to offset some of the challenges associated with the delivery of crisis care and behavioral health workforce shortages experienced by communities across the U.S.

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