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Clinician Telehealth Attitudes in a Rural Community Mental Health Center Setting

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Telehealth-based services in community mental health settings are on the rise and growth is expected to continue. Negative clinician attitudes toward telehealth have been identified as a key barrier to overall telehealth acceptance and implementation. The present study examined rural clinical mental health staff members' attitudes toward telehealth. One hundred clinicians participated in a mixed-methods, Internet-based survey. Eighty-nine percent of respondents reported a favorable or neutral opinion of telehealth and 100% of participants reported their agency provided one or more clinical services via telehealth. Clinicians identified telehealth-related concerns about their ability to establish therapeutic alliance, software and equipment usability, associated costs, whether telehealth-delivered services were equivalent to face-to-face treatment, and HIPAA. These concerns were in line with previous research and all represent areas where additional training or knowledge could potentially address clinician apprehension. We found a strong positive correlation, $r = .66$, $p < .01$ between telehealth knowledge and telehealth experience. Telehealth knowledge predicted telehealth opinion ($\beta = .430$, $R^2 = .19$, $p < .01$) and an agency's technological capability to provide services via telehealth predicted clinicians' willingness to consider providing services via telehealth ($\beta = .390$, $R^2 = .15$, $p < .05$). Researchers and trainers should focus on increasing knowledge about the effectiveness of telehealth and providing clinicians with safe opportunities to gain comfort and competency with the technology needed to provide these types of specialized services.

Keywords: rural, telehealth, barriers, attitudes, acceptance

Telehealth has been promoted as a promising and cost-effective way to deliver health care services across geographic distances (Shulver, Killington, & Crotty, 2016). Many types of health care providers including physicians, psychiatrists, psychologists, counselors, nurses, occupational therapists, and so forth have provided clinical services via telehealth (Brewster, Mountain, Wessels, Kelly, & Hawley, 2014; Bruno & Abbott, 2015; Shulver et al., 2016) and this practice is rapidly expanding. For example, a literature search utilizing the PsycINFO database and the terms *telehealth, telemedicine, telemonitoring, telepractice, telenursing,* and *telecare* yielded 6,599 publications since 1983 with 5,386 of those publications appearing since 2007. The expansion of telehealth is also expected to continue to grow for years to come (Luxton, Pruitt, & Osenbach, 2014) as technology use in clinical practice becomes more widely accepted.

Benefits of Telehealth

There are a number of benefits to providing health care services through distance technologies (Luxton, Nelson, & Maheu, 2016). Those benefits include the ability to access remote or underserved populations, decrease stigma, improve patient outcomes, and reduce travel time and expenses for both the patient and the provider. The effectiveness of telehealth-related

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services has been demonstrated with a variety of clinical disorders, client populations, age groups, and treatment modalities (e.g., medication management, CBT), as well as in various treatment settings (Acierno et al., 2016; Myers & Turvey, 2013). For example, Acierno et al. (2016) compared home-based telehealth to in-person psychotherapy to treat combat veterans with PTSD using behavioral activation and therapeutic exposure. Home-based telehealth was equivalent to in-person therapy at posttreatment and at 3- and 12-month follow-ups (Acierno et al., 2016). Satisfaction studies have also generally found strong to adequate favorability ratings for services delivered via technology with both patients and clinicians (Luxton et al., 2014; Swinton, Robinson, & Bischoff, 2009). For example, Swinton et al. (2009) studied communication between primary care providers and patients with depression in rural areas using video-conferencing and found that patients viewed telehealth-related services as an adequate solution to care even as clinicians reported lower comparable levels of satisfaction. Furthermore, cost effectiveness studies have generally found synchronous, technology-delivered services to be equivalent to face-to-face treatment when travel expenses are considered (Ruskin et al., 2004; Schopp, Johnstone, & Merrell, 2000). For example, Ruskin et al. (2004) studied factors including travel costs, provider fees, and delivery-related expenses for telepsychiatry services compared to treatment delivered in person and found total costs to be equivalent when travel-related expenses (e.g., travel time, mileage) were added to the overall cost estimates when a psychiatrist had to travel 22 miles or more to a remote health care site.

Clinician-Related Barriers to Telehealth Adoption

Barriers to the widespread adoption of telehealth, however, remain (Jang-Jaccard, Nepal, Alem, & Li, 2014; Scott Kruse et al., 2018; Wade, Eliott, & Hiller, 2014). Brewster et al. (2014) and Wade et al. (2014) identified clinician acceptance or attitudes toward telehealth as the most significant factor influencing the adoption of telehealth service delivery. Clinician-related attitudes appear to be related to perceived barriers to telehealth implementation including (a) financial concerns (e.g., cost effectiveness, cost of equipment, reimbursement rates), (b) regulatory concerns (e.g., uncertainty about laws governing telehealth or roadblocks to reimbursement), (c) cultural concerns (e.g., will clinicians be able to provide competent care across geographic distances), (d) technological concerns (e.g., Internet speed, fear of technical failures), and (e) workforce concerns (e.g., clinician resistance to change, technical limitations of staff, perception that telehealth is impersonal; Jang-Jaccard et al., 2014; Scott Kruse et al., 2018).

Telehealth Education and Experience

Importantly, these clinician-related attitudinal barriers (e.g., financial, regulatory, cultural, technological, and workforce concerns) might be addressed through additional telehealth-focused training or experience (Gray et al., 2015; Guise & Wiig, 2017; McKay et al., 2013; Perle & Nierenberg, 2013). Clinician-related financial concerns could be addressed through targeted educational opportunities. For example, equipment was expensive in the early days of telehealth. Those costs, however, have continued to decline as the availability of cheap, high quality computer equipment has continued to grow to the point where most modern computing equipment (e.g., laptops, cell phones, tablets) incorporates the necessary hardware for telehealth (Myers & Turvey, 2013). In addition, the Ruskin et al. (2004) and Schopp et al. (2000) studies (noted above) also provided evidence of overall cost effectiveness. Reimbursement-related concerns could be addressed by providing more information about current Medicaid, Medicare, and other major health care insurers who are currently covering telehealth-delivered services (Myers & Turvey, 2013). Additionally, clinician-related cultural, regulatory, technological, and other workforce concerns could also be addressed through additional training to help clinicians develop the enhanced knowledge, culture competency, equipment, and service delivery skills needed to help clinicians better dispel myths or misunderstandings related to providing technology-delivered services.

Telehealth research has generally demonstrated improved clinician knowledge, acceptance, and skills on this treatment modality following training (Bruno & Abbott, 2015; Chang, Sequeira, McCord, & Garney, 2016; McCord,

Saenz, Armstrong, & Elliott, 2015). Training has also led to enhancements in clinician competence in using telehealth-related technology (McCord et al., 2015; Wood, O'Quin, & Eftink, 2004), cultural competence (McCord et al., 2015), as well as, knowledge of telehealth and clinician telehealth usage satisfaction ratings (Gray et al., 2015). For example, Bruno and Abbott (2015) studied Australian health professionals' attitudes toward using telehealth for service provision and perceptions of telehealth utility. Clinicians with more positive telehealth attitudes reported higher perceptions of telehealth usefulness and were more likely to use telehealth when compared to clinicians with less experience.

When examining health care providers' telehealth experience, providers with more telehealth experience tend to view its usefulness more favorably and are more open to continuing to provide telehealth-related services (Ruiz Morilla, Sans, Casasa, & Giménez, 2017). In addition, those with experience tend to focus on the potential to achieve better outcomes and are more willing to rethink the way they practice mental health services. Those without telehealth experience are more prone to view telehealth as an adjunct to conventional care and are more likely to believe that services provided face-to-face are superior (Shulver et al., 2016).

The Present Study

The extant literature suggests that additional training and experience alters clinician attitudes in a way that is more favorable toward telehealth adoption. The present study sought to expand this body of research in three key ways. First, the research on telehealth-related training and attitudes is piecemeal, with studies collectively suggesting that more telehealth training and experience influences attitudes in a way that is more favorable to telehealth adoption. The present study examined the relationship between knowledge, exposure, and experience in a single study. Second, the present study utilized qualitative measures to assess these trends as few qualitative studies in this area are presented in the literature. Finally, although the existing research has focused on a number of clinical settings, previous research has not specifically characterized the telehealth attitudes of clinical staff members in the rural community mental health center (CMHC) setting. CMHCs play an important role in delivering mental health services to the general public and provide a range of mental health services including inpatient, outpatient, therapeutic rehabilitation, and emergency care (Kentucky Cabinet for Health and Family Services, 2018). Kentucky CMHCs are organized into 14 mental health/intellectual and developmental disabilities boards which are private, nonprofit organizations serving community members within assigned multicounty regions (Kentucky Cabinet for Health and Family Services, 2018). CMHCs are commonly staffed by a multidisciplinary teams that may include psychiatrists, general practitioners, nurse practitioners, nurses, psychologists, social workers, and counselors. The United States Census Bureau (2010) identified 96.4% of Kentucky as rural and most counties as mental health provider shortage areas. Telehealth has the potential to address the provider shortages occurring in Kentucky and across the country, but little is known about telehealth-related attitudes of rural CMHC clinical staff members. The present study seeks to address this gap in the literature and to help better understand rural CMHC clinical staff members' attitudes about telehealth.

Method

Participants

The sample consisted of 100 clinical staff members employed in Kentucky's rural CMHCs. CMHCs were classified as rural if at least 30% of the county in which the CMHC was located was identified as rural by the U.S. Census Bureau. In addition, all participating CMHCs were located in federally designated mental health provider shortage areas. Clinical staff members were defined as psychologists, clinical social workers, therapists, or other mental health treatment professionals who provide clinical services at a rural Kentucky CMHC and who were 18 years of age or older. The participants identified their actual job titles as therapist (N = 46; 46%), team leader/director (N = 20; 20%), case manager (N = 13; 13%), office administration (N = 6; 6%), APRN/psychiatrist/physician (N = 4; 4%), and other (N = 4; 4%) through their responses to item 1 of the survey (see Table 1). Seven respondents (7%) did not provide job title information but were included in the study because the recruitment e-mail

Table 1
List of Items Included in the Telehealth Survey

1. How would you best describe your position at the community mental health center where you work?
2. What is your definition of telehealth?
3. What is your opinion of telehealth?
4. What is your level of experience with telehealth?
5. What types of exposure have you had with telehealth?
6. How knowledgeable are you about the effectiveness of telehealth?
7. Would clinical staff at your agency be open to using telehealth
8. Are you considering providing telehealth services at this time or some point in the future?
9. What challenges/barriers do you see in implementing telehealth services within your organization?
10. Do you currently provide services through telehealth?
11. What technological capabilities do you currently have to provide telehealth at work?
12. What mental health services does your agency provide through telehealth?
13. Who would your ideal telehealth client be?

was specifically sent to clinical staff members within participating CMHCs. Informed consent was obtained electronically from all individual participants whose data was included in the study and who acknowledged that they were at least 18 years old and agreed to participate.

Procedure

This study was approved by the institutional review board at the authors' host institution. Initially, members of the research team met with the chief executive officers (CEOs) of the participating CMHC boards at a regularly scheduled state-wide meeting to discuss the project. The CEOs were asked to distribute the survey electronically through e-mail to the clinical staff members within their respective agencies. A participant recruitment e-mail was then distributed electronically through the state department of behavioral health to the CEOs who then forwarded the survey to the clinical staff members within their respective organizations [March 2016] if they approved.

The recruitment e-mail contained a brief introduction to the study, indicated that participation in the project was voluntary, and provided a link to the survey. Participants who clicked on the link in the recruitment e-mail were directed to the SurveyMonkey assessment that also contained an overview of the study, informed participants that participation was voluntary, noted that only individuals 18 years of age and older could participate, and included two buttons that participants could click on to either acknowledge that they were 18 years old or older and agreed to participate in the study or signify that they were not 18 years or older or did not agree to participate in the study. None of the individuals who logged in to complete the study failed to provide consent. A reminder e-mail was distributed through the same process (i.e., department of behavioral health, to the CEOs, and then to potential participants) 4 and then 6 weeks after the initial participant recruitment e-mail. The data collection process ended 8 weeks after the initial recruitment e-mail.

Each of the 13 items included in the survey (see Table 1 for a full list of the survey items) was presented one at a time so that no two survey items were visible to the research participant at the same time during the survey. The first items asked each participant to describe his or her position within the CMHC by providing a text-based response. They were then shown the second item (see Table 1) which asked participants to define telehealth in a text-based response box. On the next screen, participants were provided with a definition of telehealth that explained it was "a method that allows clinicians who are located in one location to provide mental health services to patients who are located in a second location using technology (e.g., videoconferencing, telephone) instead of through traditional, in-person meetings." Participants were not permitted to revisit or change previously submitted responses after the presentation of our definition of telehealth. After viewing this definition and advancing to the next screen, participants were presented with items 3 through 13 of the survey (see Table 1) with each item being presented one at a time. Participants

were not required to provide a response for any item.

Nine of the 13 items included in the survey were text-based, open-response, qualitative items (see Table 1). A data coding team consisting of three clinical psychology doctoral students coded all qualitative data. The team initially coded one item per week until they were familiar with the process and then coded a maximum of two items per week. The coding was completed utilizing the same seven-step process for each item. First, each coder reviewed an open-response item individually in order to brainstorm potential coding categories based on the observed raw data. In Step 2, the coding team met as a group to discuss their individual ideas for coding categories for the focal item with the goal of reaching a group consensus on the coding categories for each individual item. In Step 3, the coding team reviewed and coded all open-responses for each item individually using the categories agreed upon in Step 2. In the fourth step, the coding team met again as a group to review and compare their own individual proposed coding results for each focal item. Initial Kappa values were calculated at Step 4 based on reviewers initial coding decisions and the range of those Kappa values are described in the results section. In order to obtain a correctly coded item, each coder had to correctly code all responses provided by the participants for a given item (e.g., up to 100 responses per item). During that initial round of coding, the coding team did not accurately code each response for each item in all cases which led to a lower Kappa value at times. Coding discrepancies, however, were then discussed during the group meeting and a group consensus was reached on the meaning of each discrepantly coded response before the coding team could proceed. In each case, the coding team was able to reach a consensus during the hour they set aside for the coding meeting. In Step 5, the coding team coded each item individually one final time using the consensus coding strategies generated from the coding meetings noted in Step 4. Finally, in Step 6, the coding team met one last time to discuss their final coding decisions. All coding decisions in this sixth step were unanimous among the coding team with no disagreement among the team members on a single item and final Kappa values were recalculated during this step (see the results section). This process produced a single, coded response for each open-response item provided by a participant. In Step 7, the coding team presented the coding results for each item to the principal investigator for data analysis purposes. Finally, for item numbers 3, 5, and 6, the principal investigators recoded the data from Step 7 so that the data were further condensed into fewer categories for statistical analysis purposes (Step 8).

Measure

The survey consisted of 13 items designed to assess respondents' background, knowledge, experience, and attitudes toward telehealth. Items either provided preselected response categories for participants to choose from or provided text boxes that allowed participants to provide text-based, open-response, qualitative answers. Four of the items provided preselected response categories asking participants to (a) identify their level of experience with telehealth (item 4; coded from 1 "no experience" to 4 "a lot"), (b) report clinical staff's openness to using telehealth (item 7; coded 1 "yes," 2 "no," 3 "undecided"), (c) note whether they were considering providing services via telehealth (item 8; coded 1 "yes," 2 "no," 3 "undecided"), and (d) indicate whether they were currently providing services via telehealth (item 10; coded 1 "yes" or 2 "no").

Nine of the items provided text boxes that permitted text-based, open-response, qualitative answers. Those open-response items asked participants (a) to best describe their position at the CMHC where they work (item 1; coded based on the type of position reported), (b) to define telehealth (item 2; coded by whether a participant defined telehealth as "mental health services delivered by technology," "mental health services," "no response"), (c) state an opinion of telehealth (item 3; initially coded 1 "negative" to 5 "favorable"), (d) describe their types of exposure to telehealth (item 5; coded 1 "no exposure," 2 "indirect exposure," 3 "direct exposure"), (e) describe how knowledgeable they were about the effectiveness of telehealth (item 6; coded 1 "no knowledge," 2 "some knowledge," 3 "a lot of knowledge"), (f) identify challenges/barriers they see in implementing telehealth services within their organization (item 9; coded into categories that appeared similar across multiple participants such as fi-

nancial concerns), (g) describe any current technological capabilities they have to provide telehealth at work (item 11; coded 1 "no equipment," 2 "some but not all of the equipment," and 3 "all necessary equipment"), (h) provide data on the mental health services that would be most helpful to provide via telehealth (item 12; coded into categories that appeared similar across multiple participants such as individual therapy or medication management), and (i) provide a description of the ideal telehealth client (item 13; coded into categories that appeared similar across multiple participants such as any client willing to participate).

Results

Kappa Values

Cohen's Kappa averages of rater pairs were calculated to examine interrater reliability for nominal scale questions and intraclass correlations were computed to examine interrater reliability for ordinal scale items at Step 4 and then again at Step 6. At Step 4, Kappas ranged from .47 to .95 with an average of .75. Intraclass correlations ranged from .79 to .97, with an average of .90. At Step 6, the final coding decisions among the team were unanimous, so all Kappa values were calculated at 1.00.

Survey Items

Define telehealth (item 2; valid *n* = 97). This item asked participants to define telehealth (see Table 1). Eighty-two percent described content that the coding team categorized as "providing clinical services via technology" (e.g., video, TV, etc.; the correct response) and 10% described it as a "method of providing clinical services" (omitting the technology component). Eight percent of respondents provided content that "only referenced technology" (e.g., "videoconferencing"), but did not reference clinical services.

Opinion of telehealth (item 3; valid *n* = 89). The coding team initially rated each response on a scale of 1 to 5, with 1 being "negative," 3 being "neutral," and 5 being "favorable." The principal investigator then grouped ratings of 1 and 2 as "negative," 3 as "neutral," and 4 and 5 as "favorable." Fifty-four percent of participants reported a favorable opinion of telehealth, 35% reported a neutral opinion, and 11% reported negative attitudes toward telehealth. Overall, 89% of participants reported a neutral or positive attitude of telehealth.

Level of experience (item 4; valid *n* = 96). This item asked participants to rate their level of experience with telehealth. Twenty-two percent reported "no experience with telehealth," 30 (31%) reported a little experience, 35 (37%) reported moderate experience, and 10 (10%) of the participants reported a lot of experience with telehealth.

Exposure to telehealth (item 5; valid *n* = 96). Five percent of respondents reported "no exposure" to telehealth, 41% reported "indirect exposure" to telehealth (e.g., "telehealth services are offered at my agency"), and 54% reported "direct exposure" to telehealth (e.g., "I have provided telehealth services for 5 years").

Knowledgeable (item 6; valid *n* = 90). This item asked participants to rate how knowledgeable they were about the effectiveness of telehealth. Thirty percent indicated they have "no knowledge" about the effectiveness of telehealth (e.g., "none," "not at all"), 53% described having "some knowledge" (e.g., "somewhat," "moderate"), and 17% indicated having "a lot of knowledge" about the effectiveness of telehealth (e.g., "very knowledgeable," "I have been reading research articles about the effectiveness of telehealth").

Openness (item 7; valid *n* = 97). Participants rated how open they believe the clinical staff at their agency is to using telehealth. Fifty-nine percent replied "yes" suggesting the clinical staff at their agency would be open to using telehealth, 2% replied "no," and 39% indicated they were "undecided." Thus, 98% of participants believed that clinical staff at their agency would either be open to or are undecided about using telehealth.

Considering (item 8; valid 97). Participants were asked whether they were considering providing telehealth services. Forty-nine percent replied "yes" suggesting they were considering providing telehealth services, 24% replied "no," and 27% indicated they were "undecided."

Challenges/barriers to telehealth (item 9; valid *n* = 78). Thirty-nine percent of respondents identified establishing therapeutic alliance as a barrier, 22% believed the software involved would be too challenging, 15% mentioned

equipment-related concerns, 10% cited cost-related concerns, 10% believed that telehealth was not as effective an in-person services, and 4% mentioned HIPAA-related concerns.

Currently provide (item 10; valid *n* = 96). This item asked if participants currently provide services via telehealth. Fifty-six percent reported they "currently provide services through telehealth" and 44% indicated they do not.

Technological capabilities (item 11; valid *n* = 41). Participants were asked to report their current technological capabilities to provide services via telehealth. Two percent provided content the coding team labeled as having "no equipment" (e.g., "I personally have none"), 27% had "some, but not all of the equipment" (e.g., "I have a secure network service," "internet connection, computers"), and 70% had "all necessary equipment" to provide telehealth at work (e.g., "all equipment needed is here").

Services provided (item 12; valid *n* = 50). One hundred percent reported that their respective agency provided at least one service, 20% indicated they provided two services, and 26% reported providing three or more services via telehealth. Those telehealth-based services included medication management, individual and group psychotherapy, case management, check in sessions for addiction treatment services, crisis management sessions, clinical supervision, evaluations, and assessments. The most frequent service delivered by telehealth was medication management with 38% of respondents signifying their agency utilized telehealth for medication management services provided by a psychiatrist or other prescriber. Six percent indicated their agency only provided talk therapy via telehealth.

Ideal client (item 13; valid *n* = 48). Thirty-one percent of participants described the ideal telehealth client as "anyone willing and comfortable with the technology," 31% described "other client characteristics" (e.g., "not under the age of 18;" "older generation of adults in our clinic," "someone who is good at communication"), 21% described "clients who were stable and had no thought disturbances" (e.g., "long-term stable adults," "stable patients . . .," "a client who does not display paranoia and delusions since may think they are being observed"), 13% suggested "clients with transportation issues" (e.g., "rural consumers with limited transportation options . . ."), and 4% identified "clients who need medication management" (e.g., "a med management client only") as ideal clients.

Correlational Analysis

Table 2 presents the study's items and correlations among them. Knowledge of (item 6), opinion of (item 3), experience with (item 4), technological capabilities to provide services via (item 11), and clinical staff's openness to using telehealth (item 7) all correlated with whether respondents were considering using telehealth and vice versa. There was a strong positive correlation, $r = .66$, $p < .01$ between telehealth knowledge and telehealth experience which suggests that individuals with more tele-

Table 2
Correlation Table for Study Variables

Item	1	2	3	4	5	6	7	8
1. Opinion	—							
2. Experience	.25*	—						
3. Exposure	.06	.47**	—					
4. Knowledge	.30**	.66**	.27**	—				
5. Currently provide	.13	.40**	.13	.30**	—			
6. Open	.40**	.12	.00	.12	.40**	—		
7. Considering	.28**	.35**	.03	.31**	.55**	.30**	—	
8. Capabilities	.29*	.39*	.17	.23	—	.18	.39*	—

Note. 1 = opinion of telehealth, item 3; 2 = experience with telehealth, item 4; 3 = exposure to telehealth, item 5; 4 = knowledgeable about the effectiveness of telehealth, item 6; 5 = currently provide services via telehealth, item 10; 6 = clinical staff open to providing services via telehealth, item 7; 7 = considering provide services via telehealth, item 8; 8 = technological capabilities to provide telehealth, item 11.
* $p < .05$. ** $p < .01$.

health experience tended to report more knowledge of telehealth and vice versa (see Table 2).

Regression Analysis

To further investigate factors that contribute to positive opinions toward telehealth and whether clinicians were considering providing services via telehealth, we conducted regression analyses using experience with (item 4), exposure to (item 5), knowledge of (item 6), and technological capabilities to provide services via telehealth (item 11) to predict opinions of telehealth (item 3) and whether they were considering using telehealth (item 8). We hypothesized that experience, exposure, knowledge, and technological capabilities would all positively predict opinions of telehealth as well as whether clinicians were considering using telehealth. We used a stepwise regression model (see Table 3 for the results of these analyses[1]) and found knowledge of telehealth to positively predict opinions ($\beta = .430$, $p < .01$) and to account for significant amounts of variance in opinions of telehealth ($R^2 = .19$, $p < .01$). Experience, exposure, and technological capabilities were nonsignificant ($p > .05$). We also used stepwise regression for consideration of using telehealth and found technological capabilities to significantly predict ($\beta = .390$, $p < .05$) and to account for a significant amount of variance ($R^2 = .15$, $p < .05$) of consideration of using telehealth (see Table 3).

Discussion

This study characterized the telehealth knowledge, experience, and attitudes of clinical staff members in rural CMHCs in Kentucky. In general, most clinical staff members were able to accurately define telehealth as a method of providing clinical services through technology. In our study, clinicians identified concerns such as the ability to establish or maintain the therapeutic alliance, the usability of telehealth-related equipment and software, associated costs, and HIPAA. While many efficacy RCTs are yielding promising telehealth interventions, the uptake (or implementation) of these interventions will depend in large part, on the willingness of staff in community-based organizations to disseminate them. The fact that 100% of study respondents identified one or more concerns as barriers to more widespread adoption of telehealth suggests that additional efforts are needed to address these concerns else a significant proportion of clinicians will remain opposed to its use.

Clinicians also identified concerns related to telehealth uptake, such as the ability to establish or maintain therapeutic alliance. Brewster et al. (2014) and Wade et al. (2014) both discussed the importance of clinician acceptance of telehealth as an important hurdle in more widespread adoption of telehealth. Wade et al. (2014) specifically discussed the importance of *champions* of telehealth, or clinicians within agencies who are strong advocates for expanding telehealth services, in convincing other staff members of the value and utility of this service delivery method. According to the authors, these champions often bring legitimacy and credibility to telehealth, and these champions are often personally known to the other clinicians. The fact that about half of the clinical staff members in our study had a favorable view of telehealth suggests that we have more work to do within CMHCs; however, this finding suggests there may already be a number of champions within these organizations who could be influential in efforts to expand telehealth services. These champions are encouraged to both utilize their influence to impact the attitudes of other clinicians within the organization as well as organizational leaders who can grant access to valuable resources and institutional decision-making that would be essential to more widespread telehealth adoption.

Two important observations were made related to the importance of telehealth education and clinician attitudes. First, we found a strong positive relationship between knowledge of telehealth and experience with telehealth. This correlation could mean that individuals who are more knowledge about telehealth also tended to have more experience with telehealth, but it could also conversely mean that individuals with more telehealth experience tended to be more knowledgeable. This relationship does not imply causality. Ruiz Morilla et al. (2017) also

[1] The regression analyses were re-conducted and excluded items with a significant amount of missing data and the results from these sensitivity analyses were essentially identical to those presented in Table 3.

Table 3
Results of the Stepwise Regression Analyses

Dependent	Predictors	β	*t*
Opinion of telehealth $F(1, 37 = 8.37)$, $R^2 = .19$	**Knowledge of telehealth	.430	2.89
	Exposure to telehealth	−.231	−1.58
	Experience with telehealth	.131	.765
	Technological capabilities	.175	1.14
Considering telehealth $F(1, 38 = 6.8)$, $R^2 = .15$	*Technological capabilities	.390	2.61
	Exposure to telehealth	−.255	−1.73
	Experience with telehealth	.089	.544
	Knowledge of telehealth	.134	.869

* $p < .05$. ** $p < .01$.

reported that providers who had prior experience with telehealth tended to be more open to providing services via telehealth. Second, the strongest predictor of whether clinical staff would have favorable attitudes toward telehealth was knowledge about the effectiveness of telehealth. Generally, those who reported lower levels of knowledge were more likely to have negative opinions of telehealth and those who described themselves as more knowledgeable tended to express more favorable attitudes about the modality. This finding related to the relationship between telehealth knowledge and telehealth attitudes extends Ruiz Morilla et al.'s (2017) conclusions by providing more information about the factors that are related to clinicians' telehealth attitudes. Collectively, these findings also extend Ruiz Morilla et al.'s (2017) study by expanding the generalizability of their work from physicians to rural CMHC clinicians. Our findings are especially promising for Kentucky CMHCs and other similar organizations located in rural areas that are interested in increasing or adding telehealth service options.

Knowledge and experience both represent teachable variables that can be addressed through targeted staff training. CMHCs or other organizations interested in initiating a telehealth program should consider conducting needs-based assessments of clinical staff attitudes toward telehealth, utilize the resulting data to identify staff training needs, and then tailor trainings to the specific needs of their staff. These organizations should also consider: creating opportunities for clinical staff members to observe other clinicians who are providing telehealth services, developing mentorship programs where new providers are paired with a more senior telehealth clinician, or developing opportunities for clinicians to practice utilizing telehealth technology in safe settings (e.g., mock therapy scenarios, peer to peer meetings) until clinicians express comfort toward and demonstrate competency in utilizing telehealth software and equipment. Future studies should focus on implementing training or experiential events to more closely assess whether additional clinical staff training will lead to improved attitudes toward telehealth.

In this study, rural clinical staff members identified challenges to the uptake of telehealth, including the user-friendliness of software, client comfort and rapport, confidentiality concerns, and concerns regarding telehealth's efficacy. All of those concerns were in line with the perceived barriers reported by clinicians in previous studies (see Jang-Jaccard et al., 2014; Scott Kruse et al., 2018; Wade et al., 2014) and all appear to represent constructs that could be addressed through targeted training experiences. For example, the telehealth-focused software market is competitive and there is a clear competitive advantage for telehealth-related software interfaces to be user-friendly. In our own experience, many of these programs offer similar options and are intuitive to operate. These programs also commonly provide encrypted connections that meet HIPAA standards. There are a number of studies that suggest therapeutic alliance can be established via telehealth (Cook & Doyle, 2002; Germain, Marchand, Bouchard, Guay, & Drouin, 2010; Manning, Goetz, & Street, 2000) and studies generally conclude that telehealth-delivered care is equivalent to in person treatment (Acierno et al., 2016; Kasckow et al., 2015). The other barriers noted by the clinicians in our study focused on cost-related concerns and, as

noted above, telehealth has been found to be a cost-effective form of service delivery (see Ruskin et al., 2004; Schopp et al., 2000; Shulver et al., 2016). Future studies should evaluate clinician training opportunities that target these perceived barriers to determine whether additional training reduces or eliminates clinician endorsement of these perceived barriers.

Finally, this study found that access to telehealth capabilities may be important. Organizations need software and equipment to provide telehealth services. In the present study, having the technological capabilities to provide services via telehealth was the strongest predictor of whether respondents were considering providing services via telehealth. This finding is also promising. Telehealth-related costs continue to decline (Myers & Turvey, 2013) and many organizations likely already have at least the basic infrastructure (e.g., computer hardware, Internet connections) needed to proceed. The procurement of software needed to conduct telehealth is generally an added expense, however, this finding suggests that providing clinical staff with the technological capabilities to provide telehealth-related services may increase the likelihood that staff members will consider using this modality. Future studies should continue to explore this relationship to determine whether clinicians' willingness to consider providing services via telehealth increases when organizations add the necessary infrastructure to provide those services.

Limitations

The study had several limitations. First, the sample size was relatively small ($N = 100$) and included only clinical staff members from a single state. Second, this study's survey was developed specifically for this research; the psychometric properties of the measure are unknown. Future research should utilize evaluation tools with established psychometric properties. Third, data for each content area (e.g., level of experience with telehealth) was based on responses for a single item and may lack the ability to cover the full range or depth of each content area that may have been possible using multiple items. Fourth, because of this study's cross-sectional design, the role of bidirectionality must be considered. Fifth, we collected limited demographic data from participants which limited our ability to consider covariates such as age and numbers of years the clinician has worked in the field in the regression analysis. Future studies should collect additional demographic data in order to provide a more robust regression analysis. Finally, there was a large amount of missing data for Items 9, 11, 12, and 13 and this might have threatened the validity of the study's correlational and regression analyses.

Implications

The present study has implications for both researchers and trainers who are interested in evaluating clinician attitudes toward telehealth. Our findings suggest that clinicians with more telehealth knowledge and experience tend to also have more favorable opinions of telehealth and vice versa. If clinician attitudes toward telehealth are truly the key to more widespread telehealth adoption, researchers and trainers must focus on increasing clinician knowledge about the effectiveness of telehealth and providing clinicians with more opportunities to explore and gain comfort and competency with the technology needed to provide these types of specialized services.

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