Tele-mental Health Transitions for Pennsylvania Coordinated Specialty Care Programs for Early Psychosis During the COVID-19 Pandemic

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Abstract

This study examined provider and client perspectives of tele-mental health (TMH) in early psychosis care during the COVID-19 pandemic. To achieve this goal, thirty-three mental health providers and 31 clients from Pennsylvania Coordinated Specialty Care (CSC) programs completed web-based surveys assessing TMH usage, experiences, and perceptions between May and September 2020. Three additional TMH-related questions were asked two years later of PA CSC Program Directors between Feb and March 2022. Descriptive statistics characterized responses. Open-ended items were coded and grouped into themes for qualitative synthesis. As early as mid-2020, participants reported extensive use of TMH technologies, including telephone and video visits. Although most providers and clients preferred in-person care to TMH, most clients still found TMH to be comparable to or better than in-person care; 94% of clients indicated interest in future TMH services. Providers also noted more successes than challenges with TMH. Nine themes emerged regarding provider-perceived client characteristics that could benefit from TMH and were grouped into two categories: client-level (access to technology, comfort with technology, transportation, young age, symptom severity, functioning level, motivation for treatment adherence) and interpersonal-level (external support systems and engagement with program prior to the pandemic) characteristics. Two years later, program directors reported continued perceived advantages of TMH in CSCs, although some barriers persisted. Despite the unexpected shift to TMH in early psychosis programs during the COVID-19 pandemic, findings indicated a relatively positive transition to TMH and perceived promise of TMH as a sustained part of routine care.

Keywords Coordinated specialty care · Early psychosis · COVID-19 pandemic · Tele-mental health · Telehealth

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Introduction

The coronavirus (COVID-19) pandemic, which began March 2020 in the United States, continues to stress healthcare systems; however, it also served as a catalyst for the acceptance and implementation of tele-mental health (TMH) [1]. TMH was an essential addition to maintain treatment protocols for individuals experiencing First Episode Psychosis (FEP) being treated in the Coordinated Specialty Care (CSC) program setting. However, the limited literature on TMH in early psychosis treatment is mixed. Some studies support the feasibility of TMH for early psychosis treatment and report improved engagement and collaboration of multidisciplinary teams [2], [3]. Other studies report TMH interventions predicting participant loss-to-follow-up and treatment nonadherence in FEP programs [4]. More research is needed to better understand and clarify current literature findings. In particular, further knowledge on the experiences of TMH providers and clients can inform continued use of TMH-care services in early psychosis programs and identify gaps where additional research is needed.

Even as state-mandated restrictions loosened as the pandemic persisted, many mental health services reported continued COVID-19 precautions, limiting in-person appointments, and broad use of TMH across interventions. However, much remains unknown about how the unanticipated move to TMH in CSC programs impacted professionals and clients. Understanding provider and client perspectives of TMH is paramount to building and strengthening client-centered mental healthcare systems. As in-person treatments resumed gradually after the first year of the pandemic, it is also critical to collect new information as the field plans for a future based on hybrid delivery of services. We report on two studies that aim to (1) describe perceptions of the shift to TMH from both providers and clients and discuss programmatic and technological access barriers influencing care at the outset of the pandemic and shift to TMH; (2) describe provider perceptions of the successes and challenges of TMH use during the early stage of the COVID-19 pandemic; and (3) provide updated information about strengths and challenges of TMH services in subsequent pandemic stages from the perspective of CSC Program Directors in order to understand implementation struggles and advantages of TMH.

Methods

Study 1 (May to September 2020)

In collaboration with the University of Maryland, we developed online remote self-report surveys for both providers and clients of nine PA-FEP Coordinated Specialty Care (CSC) programs and two Clinical High Risk (CHR) for early psychosis. All program recruitment sites participate in statewide program evaluation provided by HeadsUp at the University of Pennsylvania funded by the Pennsylvania (PA) Department of Human Services Office of Mental Health and Substance Abuse Services [5]. Each PA-FEP and CHR program follows the CSC model(s) [6–12] that best suit agency needs. Programs vary from university hospitals to community-based agencies, with organization-defined inclusion/exclusion criteria. Essential CSC services include pharmacotherapy, recovery-oriented cognitive therapy, case management, supported employment and education (SEES), 24–7 crisis services, family/

caregiver involvement, outreach and psychoeducation, and treatment and discharge planning [5]. Between May and September 2020, CSC providers (including mental health providers, clinicians, and/or staff members) and clients were invited to participate in anonymous web-based surveys about their experiences early in the COVID-19 pandemic. Informed consent took place electronically prior to completion of the anonymous surveys.

Inclusion criteria for the surveys were (1) current clinician/staff or client of a PA FEP or CHR program, (2) aged 13 or older, (3) access to the internet, and (4) possessing a valid email account.

Template email scripts with the survey link were sent to 20 Program Directors and/or Coordinators, who then distributed the survey links to program clients ($N=444$) and providers. Reliance on Program Directors/Coordinators to distribute surveys to clients was to ensure anonymity of respondents, as well as minimize data collection of possibly identifiable Protected Health Information (PHI). Additional program providers ($N=76$) from the PA-FEP Program Evaluation (PE) directory were copied on emails for provider survey links, and Program Directors/Coordinators were asked to distribute survey links to any provider omitted from this list. Any individual with access to the link could respond to the surveys and participation was voluntary. Follow-up and reminder emails to Program Directors/Coordinators to distribute the links were sent by HeadsUp bi-weekly for the duration of the data collection period.

Besides sociodemographic information in both surveys, the client-survey captured details of access to technology and internet; access to TMH services and feelings about TMH services in comparison to in-person services. The provider-survey captured information about the program's transition to TMH and services offered through TMH, advantages and challenges of using TMH, and provider-perceptions of client characteristics who excel or struggle to engage in TMH services.

The survey protocol was reviewed and approved by the University of Pennsylvania and the University of Pittsburgh Institutional Review Boards (IRBs).

Study 2 (February to March 2022)

HeadsUp PA-FEP program evaluation evaluates fidelity and related outcomes of PA Coordinated Specialty Care (CSC) programs annually, and the number of PA-FEP CSC programs expanded from 9 to 14 by the end of 2021. Between February and March 2022, annual fidelity visit interviews were conducted among 14 PA-FEP CSC programs. To obtain updated information on perceived strengths and challenges of TMH and the changes of TMH services during the preceding year, program directors were also asked three open-ended TMH-related questions as an addendum to the standard fidelity assessments by a trained fidelity assessor: (1) What do you (or your colleagues) see as the current biggest struggles/difficulties when delivering TMH to your clients now; (2) What do you (or your colleagues) see as the current biggest advantages when delivering TMH to your clients now; (3) Have these difficulties and/or advantages changed since you first started using TMH in 2020? If yes, please describe how they have changed.

Study 2 was undertaken as a Quality Improvement Initiative; thus, it was not formally reviewed by the University of Pennsylvania's Institutional Review Board.

Data Analyses for Study 1 and Study 2

Quantitative data were analyzed in R programming and descriptive statistics summarized responses from both provider and client surveys. Results were expressed as counts and percentages for categorical variables. Written comments for two open-ended survey questions regarding staff perceptions of client characteristics who excel or struggle to engage in TMH services were summarized in an excel sheet. A qualitative descriptive content analysis approach [13] was used to derive from both the written comments survey data and the three open-ended interview questions by one researcher. Four researchers then met to make an agreement on the final themes or categories.

Results

Study 1

Surveys were completed by 33 providers (70% female; 24% age 18–29, 42% age 30–39, 30% age 40+; 12% Black, 79% White, 3% Other; 15% Physician, 3% Nurse, 30% Social Worker, 15% Peer Support Specialist, 24% Counselor, 6% Psychologist, 6% Other) and 31 clients (45% female; 2% ages 13–17, 74% ages 18–29, 19% ages 30+; 26% Black, 61% White, 10% Other).

At the time of data collection, provider and client respondents revealed that programs had shifted largely to telephone and video TMH appointments across interventions (range 33.3–84.8%), with a relatively lower proportion of in-person sessions compared to telephone and video TMH (almost 1:2) across all regions of PA. Most providers and clients reported access to necessary equipment and technology (such as mobile or cell, smartphone, computer with camera or internet access) for TMH appointments. Program providers reported using both personal and employer-provided equipment to meet the needs of providing TMH services (43.8%), with 22% of provider respondents using only personal equipment and 31% using only equipment provided by the employer.

Providers rated the components of providing TMH services in the preceding week. Results indicated that more than two-thirds of the providers perceived delivery of TMH services to clients worked well in the following components: clients' willingness to try TMH, using TMH technologies, keeping in touch with clients, and clients feeling supported. Almost half of the providers perceived two components as challenging: engaging clients in TMH services and clients having a private place to conduct TMH visits (Table 1).

Provider survey respondents characterized attributes of clients likely or unlikely to benefit from TMH services (Table 2). These characteristics were organized into nine common themes, and then categorized into two-level factors: client-level characteristics, including access to technology, comfort with technology, transportation, age, symptom severity, functioning level, motivation for treatment adherence; and interpersonal-level characteristics, including external support systems and engagement with program prior to the pandemic. Provider-identified characteristics of clients who are likely to engage in and benefit from TMH services included stable internet access, living far away, feeling comfort with technology, younger age, non-acute symptomology, adaptable to change, motivation to better

Table 1 Provider perceptions of Components to Tele-Mental Health Services (Study 1, May to September 2020)

Components to providing tele-mental health	Provider reported N (%)	
	Working well	Challenging
Clients' willingness to try TMH	23 (69.7%)	11 (33.3%)
Using TMH technologies	22 (66.7%)	5 (15.2%)
Keeping in touch with clients	22 (66.7%)	5 (15.2%)
Clients feeling supported	22 (66.7%)	5 (15.2%)
Engaging clients in TMH services	18 (54.5%)	15 (45.5%)
Documenting clinical care delivered	18 (54.5%)	6 (18.2%)
Adjusting to changes as TMH guidelines evolve	16 (48.5%)	13 (39.4%)
Scheduling	16 (48.5%)	7 (21.2%)
Helping clients make progress on their therapeutic goals	13 (39.4%)	9 (27.3%)
Managing confidentiality	13 (39.4%)	6 (18.2%)
Getting technical support for tele-MH when I need it	10 (30.3%)	8 (24.2%)
Clients having a private place to conduct TMH visits	8 (24.2%)	15 (45.5%)
Other	0 (0%)	2 (6.1%)[a]
Unknown	0 (0%)	1 (3.0%)

Note. Provider ratings of components to providing TMH services in the last week. Provider were able to select Working Well, Challenging, both or neither for each component. TMH=tele-mental health. [a]Other specified for Challenging were *No major issues this week* and *Getting clients to attend*

adherence, interpersonal client-family relationships (a close family support system), and interpersonal client-provider relationships (a good therapeutic relationship with the team).

Despite some reported benefits from TMH visits, 88% of provider respondents ranked in-person appointments as preferred over video or telephone appointments (Fig. 1). Slightly less than half of client respondents (48%) also generally agreed that in-person visits were preferred. A larger proportion (61–68%) of client respondents indicated indifference towards or even preference for video or telephone appointments when compared to providers (12–29%). Most clients (94%) reported interest in continuing TMH appointments in the future.

Study 2

During the year 2021, all 14 PA-FEP CSC programs retained TMH as an important component of hybrid care in order to maintain the health and safety of program participants and staff, though they all gradually resumed in-person visits as their primary form of clinical support. Per the 14-PA FEP CSC programs leadership's reports, in 2021, TMH was primarily used at all sites for positive or suspected COVID cases and to overcome transportation or external scheduling barriers by program participants, such as childcare, employment, educational obligations, etc. During the fidelity interview, the providers described the main implementation struggles and advantages of TMH (Table 3). All the providers reported that both therapists and clients are now more comfortable with connecting via TMH for therapy appointments. Four providers also mentioned some evaluation difficulties due to the TMH context (e.g., challenges in assessment of body language and crises; compromised trust with participants experiencing persecutory thoughts). Of only nine programs comparing TMH services between 2020 and 2021, four directly mentioned TMH services being comparable

Table 2 Provider-perceived characteristics of clients likely or unlikely to benefit from TMH services (Study 1, May to September 2020)

Theme	Likely to benefit from TMH	Unlikely to benefit from TMH
Access to technology and technical resources	o Access to technology and WiFi o Those with video capability o Those who can afford smart phones/tablets o Higher education level or mid-higher socioeconomic status (better access to resources)	o Poor access to technology, equipment, or internet o Low income or impoverished o No capability to do video
Access to Program Office	o Clients without transportation o Clients who live far away and require travel to come in-person o Clients with conflicting school/work schedules	o Availability and transportation to come to office o Clients who prefer in-person appointments
Comfort with technology	o "Tech-savvy" clients o Clients who are comfortable using technology or have used technology before	o Clients with fixed delusions involving spyware o Suspicious or guarded about using technology o Do not trust technology
External support systems	o Clients with family available to help navigate o Stable, close support system	o No privacy in home o Clients concerned for judgement and/or safety at home o Unstable housing o No family supports o Those that typically rely on community support
Age	o Younger age clients o Clients in college	o Older clients o Age>30 years with less experience with technology
Symptom severity and management	o Clients with anxiety about leaving their home o Absence of severe positive symptoms o Moderate to high attention span with logical/linear thought patterns o Advanced in recovery o Advanced symptoms management skills	o Acutely ill o Active positive symptoms o Severe negative symptoms o Ongoing psychotic episode o Clients responding to internal stimuli o Poor to little symptom management
Adaptability and functioning	o Adaptable and open to change o Easy going and talkative o High cognition o Independent	o Low ability to focus o Less independent functioning o Disorganized o Difficulty keeping a regular schedule; poor attendance o Low cognition

Table 2 (continued)

| Theme	Likely to benefit from TMH	Unlikely to benefit from TMH
Motivation and adherence to treatment	o Goal-oriented, motivated for treatment o Prompt and treats TMH appointment like in-person o Taking medication as prescribed o Using the program for support consistently o High insight/awareness	o Indifferent to treatment o Lack of motivation - phone is not charged at time of appointment or sleeping through attempts to contact. o Those who need in-person conversations to engage o Those who are activated by action-oriented tasks o Not taking their medication as prescribed o Low insight
Engagement/ commitment to program	o Already engaged prior to pandemic o Interested/involved in activities o Talkative and willing to share o Established therapeutic relationship with team with relational collateral	o Clients with poor rapport; previously struggled with engagement with in-person visits and still have not engaged o Not consistent even with in-person treatment o Clients difficult to reach or maintain contact with

Note. Characteristics of clients to engage and benefit from telehealth services as reported by provider survey respondents. Responses were organized post-hoc into themes. TMH = tele-mental health. $N=25$

to 2020 in terms of struggles and advantages and stated that they would like to continue to make TMH available in the future. Two programs stated that TMH is better than no care. In general, the providers described that TMH became easier over time, especially as it related to technological challenges.

Discussion

Both client and provider perceptions are essential to the successful adoption and acceptance of tele-mental health services. Our findings indicated that clients viewed TMH more positively than providers did during the COVID-19 pandemic. Consistent with previous reviews, which indicated that TMH can be an effective alternative to in-person care, most clients surveyed early in the pandemic found TMH care to be the same as or better than in-person care [14], [15]. Another study suggested the COVID-19 pandemic increased positive perceptions on TMH from a provider perspective. The high uptake of TMH and subsequent interest in continued use builds upon the results found by Doran and Lawson (2021) [16] which reported increased positive perceptions of the delivery method from a clinician perspective. Clients with certain individual and interpersonal characteristics appeared to best benefit from TMH from the perspective of treating providers. Notably, although most providers and clients preferred in-person meetings to TMH visits, a large majority of clients were interested in incorporating TMH in their future treatment.

Among providers, TMH meetings were largely perceived as inferior to in-person visits with common challenges being engaging clients in TMH, reduced client privacy, and adjusting to evolving TMH guidelines. We should interpret these results by taking into consideration the context, that is, the pandemic caused a rapid increase in the uptake of TMH [16]. This means that many providers were likely in the process of urgently expanding their repertoire to include TMH when this research was undertaken and many providers may not have
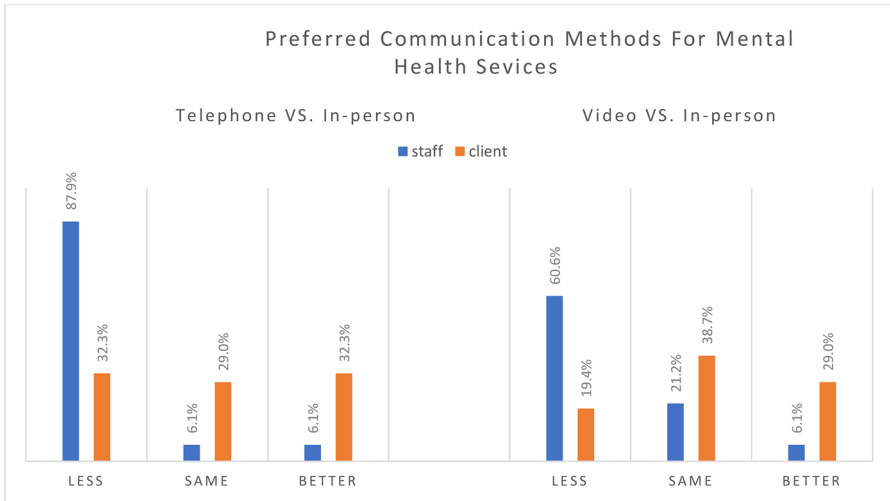
Preferred Communication Methods For Mental Health Sevices

Fig. 1 *Comparisons of Provider and Client preferred communication methods for mental health services.* Respondents were asked to choose if they like telephone and video better, the same, or less than in-person visits. Respondents were also asked to rank most preferred communication methods. Clients were asked to only rank their first choice; provider were asked to rank all 3 options into 1st, 2nd, and 3rd. Provider Respondents N=33. Client Respondents N=31

Table 3 TMH implementation struggles and advantages in 2021 (Study 2, Feb to March 2022)

Theme	Implementation Struggles	Implementation advantages
Access	o Technology issues due to no or unstable internet, or different TMH platforms	o Access friendly, especially for clients living in rural area or having transportation difficulties or conflicting with work time
Evaluation difficulties due to TMH setting	o Not ideal for evaluating body language o Not good to assess crises o Clients with persecutory thinking experienced distrust in TMH settings	o none
Engagement	o Engagement through phone is hard o Relationship building up is hard o Engagement is distracted by camera	o Clients are no longer suspicious of TMH o Increase show rates due to flexible appointments

had time to expand their expertise to include TMH. Furthermore, despite the unplanned shift to TMH, providers reported more successes with TMH than struggles. In line with Connolly and colleagues' (2020)[17] review of provider attitudes, it appears that providers generally perceive TMH positively but do not see TMH as a replacement for in-person care.

As survey responses represented early experiences with TMH in the context of minimally available in-person care, it is unclear whether client interest and provider reception to TMH will persist. However, given the widespread expansions in TMH infrastructure, some researchers have suggested that TMH may remain an integral component in the mental healthcare delivery landscape [18], [19], and have good client adherence and satisfaction [20]. TMH, for instance, may be used to increase the accessibility of mental healthcare, such as by overcoming transportation barriers and in brief follow-up appointments [17]. After analyzing three TMH-related questions during fidelity interviews, we found most of our providers expressed preference to continue using telehealth as part of their clinical encounters in the future. It may help solve the larger problem of lack of access to mental health care in many rural areas of our state since TMH offers convenience and decreases time and stress related to travel. Although there appear to be some evaluation difficulties, provider responses also suggest important areas for future research, for example, appropriate training protocols to optimally conduct evaluations via telehealth for CSC settings. Previous studies also support the notion that provider training and supervision can enhance telehealth skills, including improved evaluation of body language by coaching the client to move the screen to see the full body [21], [22]. Thus, it is promising that incorporation of TMH will be part of routine care in the future.

TMH implementation struggles, and advantages identified in Study 2 aligned with information about provider-perception of clients unlikely or likely to benefit from TMH from Study 1. Our findings on the perceived characteristics of benefiting from TMH have practical implications for improving clinical engagement and tailoring personalized care for people with psychosis. It is essential to carefully assess whether the client's current characteristics, with particular attention to psychotic symptoms, are appropriate for TMH use [23]. For example, TMH would be beneficial to those with scheduling and transportation difficulties. TMH may also have potential benefits for clients with anxiety or panic disorder, as they may be more comfortable in a space they can predict and control, and the physical separation that is provided by TMH can fulfill a sense of security, thus decreasing anxiety levels [24]. Although the literature states that many clients who are experiencing psychosis symptoms prefer being seen on video, which was consistent with data in this study, the "virtual distance" of the consults is easier for them and they often feel less threatened [25]. It is important to carefully consider the suitability of TMH use to avoid symptom exacerbation among clients with delusion or paranoia symptoms. Besides considering client individual-level characteristics, our findings are also informative for future efforts to adopt appropriate strategies to improve the client-family and client-provider relationships to better serve the early psychosis population. For example, providers can discuss family support barriers with the client and work together to address the problem. We acknowledge that building good therapeutic relationships is challenging due to differences between in-person and virtual visits; however, some strategies, like starting with small talk, may be helpful in establishing provider-client relationships via TMH.

This study has several limitations. First, socioeconomic factors may affect clients' access to TMH. Due to the online nature of Study 1, we could not capture the experiences and

perceptions of individuals without Internet access. Second, the sample size is small, and the surveys may be subject to non-response bias due to being voluntary. It is possible that respondents were only individuals with strong opinions about the pandemic and TMH, while individuals with neutral or little interest in these topics may not have felt motivated to complete the surveys. Similarly, providers experiencing the most stress related to TMH may have been least likely to complete the surveys. In addition, as the response rate is low, we could not determine whether the clients or providers were demographically similar to the overall group of clients or providers. This may limit the generalizability of our results. Third, this study did not distinguish TMH services via phone and video. Future studies should evaluate experiences for phone and video separately. Fourth, the interviewees in our Study 2 were representatives from each site, who may be subject to bias due to their varying knowledge/experiences of what was happening during participant treatment/sessions, and their various obligations to agency mandated/legal verbiage, etc.

The surveys for Study 1 were administered a few months after TMH was implemented widely during the initial stage of the pandemic. Future research should consider the long-term implications of using telehealth and identify clients of focus and their unique challenges, assets, technology access and ways that TMH can be used to overcome client challenges. Our small-scale study provides preliminary data on the need for further research on the parameters of TMH utilization for the early psychosis population. For example, future work should explore the optimal model of face-to-face versus telephone and video-based services vs. a hybrid approach, as well as viable billing models for these services. It will be of additional interest to examine the relationship between TMH services and ongoing statewide program evaluation and fidelity outcomes as we move forward in improving sustained use and acceptance of TMH care.

Conclusion

Our preliminary findings suggest that both clients and providers find TMH, including telephone-based and video-based services, to be an acceptable, sustainable, and at times even preferred mode of service delivery. Identifying good client candidates to expanding TMH programming and recalibrating administrative systems have the potential to improve clinical engagement and tailor personalized TMH services based on clients' characteristics. This information provides insights into the perceived efficiency of TMH in client-centered mental healthcare systems. Future work building on these findings can inform strategies to directly improve the organization and discover the most conducive conditions to deliver TMH care in CSC programs.

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Lucille (Lucy) Miao received her bachelor's degree in psychology from the University of Pennsylvania. Subsequently, Lucille was a clinical research coordinator at the Pennsylvania Early Intervention Center (HeadsUp). She is interested in mental health, public health, and telemedicine. She is currently a medical student at the University of Virginia School of Medicine.

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Dr. Bennett is a Professor of Psychiatry at the University of Maryland School of Medicine. She conducts practice-based research to test and implement services that support recovery for individuals living with mental illness. Areas of interest are helping individuals living with mental illness reduce substance use, improve health, and increase engagement in meaningful community activities. She also trains mental health treatment providers to deliver skills-based and motivational enhancement interventions as part of their regular practice. Dr. Bennett is part of a learning health system in the area of first episode psychosis, a role which involves training community programs in evidence-based practice and supporting data collection and analysis to better understand and improve community services for young adults and families.

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