Patient attitudes toward telemental health care: A survey of psychiatric outpatients 10 months into the COVID-19 pandemic

Ankit Jain, Rebecca Kate Prettyman, Marko Mihailovic, Zoran Martinovich, Jeffrey Rado

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Abstract

Background: Beginning in March 2020, state-of-emergency policy changes at the state and federal level greatly expanded accessibility to telehealth, allowing patients to receive ongoing care while limiting in-person interactions to mitigate transmission of COVID-19.

Objective: The purpose of this study was to broadly understand patients' satisfaction with and attitudes towards receiving telemental health care 10 months into the COVID-19 pandemic.

Methods: A questionnaire was designed and administered to elicit comprehensive feedback about telehealth care, and to gauge participants' desire to use it in the future. Survey questions were rated on 5-point Likert scale. Participants were asked about their desire to continue telemental health care post-pandemic.

Results: Most of the 602 participants reported favorable experiences with telemental health care. 505 (84.4%) were satisfied or extremely satisfied, and 527 (88.6%) rated the use of telehealth extremely easy or easy, 531(89.1 %) rated overall comfort with telehealth as very comfortable or comfortable. A majority felt at ease using a private 491(82.5%) and quiet space 509(86.0%) to communicate using telehealth. Perceived benefits of telemental health care were varied and included improved ability to manage work and family obligations. Quality of care was comparable to in-person visits. A majority 523(86.88%) of participants would like to have telemental health offered as an option in the future, even after the pandemic resolves.

Conclusions: Nearly a year into the COVID-19 pandemic, patients rated telemental health care highly across measures of satisfaction, comfort, ease of use, and quality of care. Participants reported tangible benefits of telemental health care such as time and money savings, and also intangible benefits, like increased flexibility and decreased stress. Participants expressed their desire that telemental health care be a readily available option in the post-pandemic future. Maintaining accessibility to telehealth care for psychiatric patients in the future should be a priority. Clinical Trial: ClinicalTrials.gov NCT04693052; https://clinicaltrials.gov/ct2/show/NCT04693052

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Abstract

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Trial Registration: ClinicalTrials.gov NCT04693052;

https://clinicaltrials.gov/ct2/show/NCT04693052

Keywords: telehealth; telemental health; telemedicine; telepsychiatry; telepsychology; attitudes; COVID-19; survey; mental health; pandemic

1. Introduction

Telehealth is defined as the use of electronic information and telecommunication technologies to provide care when patients and health care providers aren't in the same place at the same time, and can be conducted synchronously over the phone or video chat [1]. Telemental health care refers to the provision of mental and behavioral health services via technology.

The use of telemental health care is not new, although historically it has been limited to specific populations, such as residents living in rural or underserved areas where mental health professionals are scarce. Existing telemental health care studies have focused on Native American, geriatric, parolee, and veteran populations [2-5]. At the same time, both insurance coverage and accessibility of telehealth services has typically been limited for most US residents. Previous studies indicate that satisfaction and quality of telemental health care is similar to in-person care [5-13].

As a result of the COVID-19 pandemic, stay-at-home orders were instituted across the nation. The resulting limitation of movement compelled us to reconsider how healthcare can be provided without interruption. Beginning in March 2020, state-of-emergency policy changes at the state and federal level greatly expanded accessibility to telehealth, allowing patients to receive ongoing care while limiting in-person interactions to mitigate transmission of COVID-19 [14]. As the pandemic continued, mental health providers rapidly adopted telehealth technology to deliver care, with usage rates exceeding 80% of providers [15, 16].

Despite its widespread use, little is known about patient preferences regarding telemental health during the COVID-19 pandemic. While several studies [17-25] have described provider attitudes, relatively few have focused on *patient* experiences using telemental health care during the

pandemic. Despite descriptive reports during the initial transition from in-person to telehealth appointments indicating positive acceptance of telehealth among patients [15, 16, 26-28], there remains a need for more quantitative measurement of patient attitudes.

More recent studies conducted in the early months of the pandemic found high rates of patient satisfaction. [28-32]. Guinart et al. (2020) surveyed more than 3,000 psychiatric patients across 18 hospitals. Overall experience was *excellent* or *good* for most patients. A majority of those surveyed agreed that telehealth care was equally helpful as in-person care, and would consider using it in the future [29]. While satisfaction with telemental health care appears to have been high early in the pandemic, less is known about patient attitudes nearly a year into the pandemic. Furthermore, quality of care, ease of use, comfort, and perceived benefits are aspects of the telehealth patient experience in need of further study. The purpose of this study was to gain a comprehensive understanding of these dimensions of telemental health care 10 months into the pandemic, and to better understand how telehealth compares to in-person care for individuals receiving mental health treatment. Additionally, since many patients used telehealth for the first time during the pandemic, we sought to understand the extent to which they desired virtual care options to continue. This is particularly important as the health care leaders contemplate what care will look like in the post-COVID future.

2. Materials & Methods

2.1 Study design

We identified 2623 patients who had an outpatient mental health appointment at a large urban academic medical center between March 15, 2020, and September 30, 2020. All individuals had at least one prior in-person appointment within the prior one-year period ending March 15, 2020. From December 10, 2020, through January 27, 2021, we sent potential participants email invitations containing a link to the questionnaire, explaining that the questionnaire would take 5-10 minutes to

complete and that their answers would be anonymous. Informed consent was obtained prior to any study procedures.

Study data was collected and managed using REDCap (Research Electronic Data Capture) [33, 34]. This study was approved by the local Institutional Review Board (IRB) and determined to be IRB exempt. The study was registered on clinicaltrials.gov under NCT04693052.

2.2 Survey Design

Across prior telehealth studies there has been no single, widely utilized assessment tool. Nonetheless, our questionnaire was informed by several existing telehealth assessment instruments [3, 11, 35-41], and designed in collaboration with subject matter experts from Northwestern University. Furthermore, existing studies do not distinguish the circumstances in which a patient might prefer a telehealth appointment over an in-person appointment, and vice-versa.

Certain question sets (quality of care, perceived benefits, wait times and missed sessions) asked participants to directly compare their telehealth appointments to in-person appointments for mental health care, while others (satisfaction, comfort, and ease of use) asked participants to rate telemental health care in its own right.

2.3 Statistical Analysis

The data was analyzed using SPSS and Microsoft Excel. Inferential tests are 1 sample t-tests evaluating if scale means significantly deviate from the neutral “0”. Descriptive statistics include Cohen’s d and collapsed percentages in negative and positive ranges. 5-point Likert items were scored as -2 to +2 with positive numbers corresponding to telehealth better in the first 3 categories and much *positive* or *very positive* findings for telehealth in the final 3 categories.

3. RESULTS

3.1 Participant Demographics

A total of 602 telehealth participants completed the survey, who received outpatient mental health

services at a large, busy, urban medical center in downtown Chicago, IL. The demographics of the survey participants are described in Table 1. The sample was (418/597, 70%) female. The most represented age groups were the following: *65+* (141/600, 23.5%) and *35-44* (146/600, 24.3%). Most of the surveyed participants (457/599, 76.3%) identified as *White or Caucasian*, while *Black or African Americans* constituted (84/599, 14%) of the participants. In terms of ethnicity (55/571, 9.63%) identified themselves as *Hispanic*. Approximately (409/601, 68.0%) self-reported *anxiety and depression* as their diagnosis. (122/597, 20.4%) of the surveyed participants reported *household income between 100k – 200k* while (41/597, 7.9%) of them reported that household income of >200k.

Table 1. Participant demographics

Demographic	N	%
Age		
18-24	12	2.00%
25-34	110	18.33%
35-44	146	24.33%
45-54	90	15.00%
55-64	101	16.83%
65+	141	23.50%
Sex		
Male	179	30.0%
Female	418	70.0%
Ethnicity		
Hispanic	55	9.63%
Non-Hispanic	494	86.51%
Race		
American Indian or Alaska Native	13	2.2%
Asian	31	5.2%
Black or African American	84	14.0%
Native Hawaiian or Pacific Islander	0	0.0%
White or Caucasian	457	76.3%
Other	30	5.0%
Unknown	6	1.0%
Household income		
Prefer not to answer	80	13.40%
<10k	50	8.40%
10K - <15k	37	6.20%
15K - <30k	64	10.70%
30K - <50k	62	10.40%
50K - <75k	84	14.10%
75K - <100k	51	8.50%
100K - <200k	122	20.40%
>200k	47	7.90%
Diagnosis		
Prefer not to answer	31	5.16%
Depression	407	67.72%
Anxiety (includes social anxiety, panic attacks, phobia, or OCD)	409	68.05%
Bipolar Disorder (including mania or mood swings)	115	19.13%
Schizophrenia or Schizoaffective Disorder (hearing voices or feeling paranoid)	26	4.33%
Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder	64	10.65%
Relationship issues or couples counseling	54	8.99%
Drug use (e.g., alcohol, heroin, opiates, cocaine, marijuana)	14	2.33%
Personality traits or disorder (e.g., Borderline Personality Disorder)	21	3.49%
Post-traumatic Stress Disorder (PTSD)	82	13.64%
Uncertain or other	46	7.65%

3.2 Telehealth Experiences

3.2.1 Satisfaction Items

When asked to rate their satisfaction with telehealth overall, (505/598, 84.4%) participants said that they were *satisfied* or *extremely satisfied* (*mean* 1.24, *SD* 0.90; t_{597}=33.57, $P < .001$). Additionally, (504/599, 84.1%) of participants said they were *satisfied* or *extremely satisfied* with mental health care received via telehealth (*mean* 1.25, *SD* 0.87; t_{598} =34.90, $P < .001$). Further, (502/599, 83.8%) of participants said they were *satisfied or extremely satisfied* with call quality using telehealth (*mean* 1.22, *SD* 0.91; t_{598}=32.71, $P < .001$). Finally, (479/597, 80.2%) of participants said they were *satisfied* or *extremely satisfied* with their ability to express themselves to their providers (*mean* 1.15, *SD* 0.99; t_{596}=28.42, $P < .001$)

3.2.2 Comfort with Telemental Healthcare

Participants' responses regarding comfort with telehealth is summarized in Figure 1. (531/596, 89.1%) of participants rated overall comfort with telehealth as *very comfortable* or *comfortable* (*mean* 1.33, *SD* 0.84; t_{595}=38.63, $P<.001$), while (531/597, 88.9%) participants rated comfort with privacy of personal health information as *very comfortable* or *comfortable* (*mean* 1.33, *SD* 0.85; t_{596}=38.40, $P<.001$), and (514/595, 86.4%) participants rated comfort with expressing oneself using telehealth as *very comfortable* or *comfortable* (*mean* 1.27, *SD* 0.90; t_{594}=34.57, $P<.001$). (539/594, 90.7%) of participants rated comfort with using technology as *very comfortable* or *comfortable* (*mean* 1.40, *SD* 0.80; t_{593}=42.99, $P<.001$), while (409/589, 69.4%) participants rated comfort with seeing their provider over video as *very comfortable* or *comfortable* (*mean* 1.04, *SD* 0.99; t_{588}=25.56, $P<.001$).

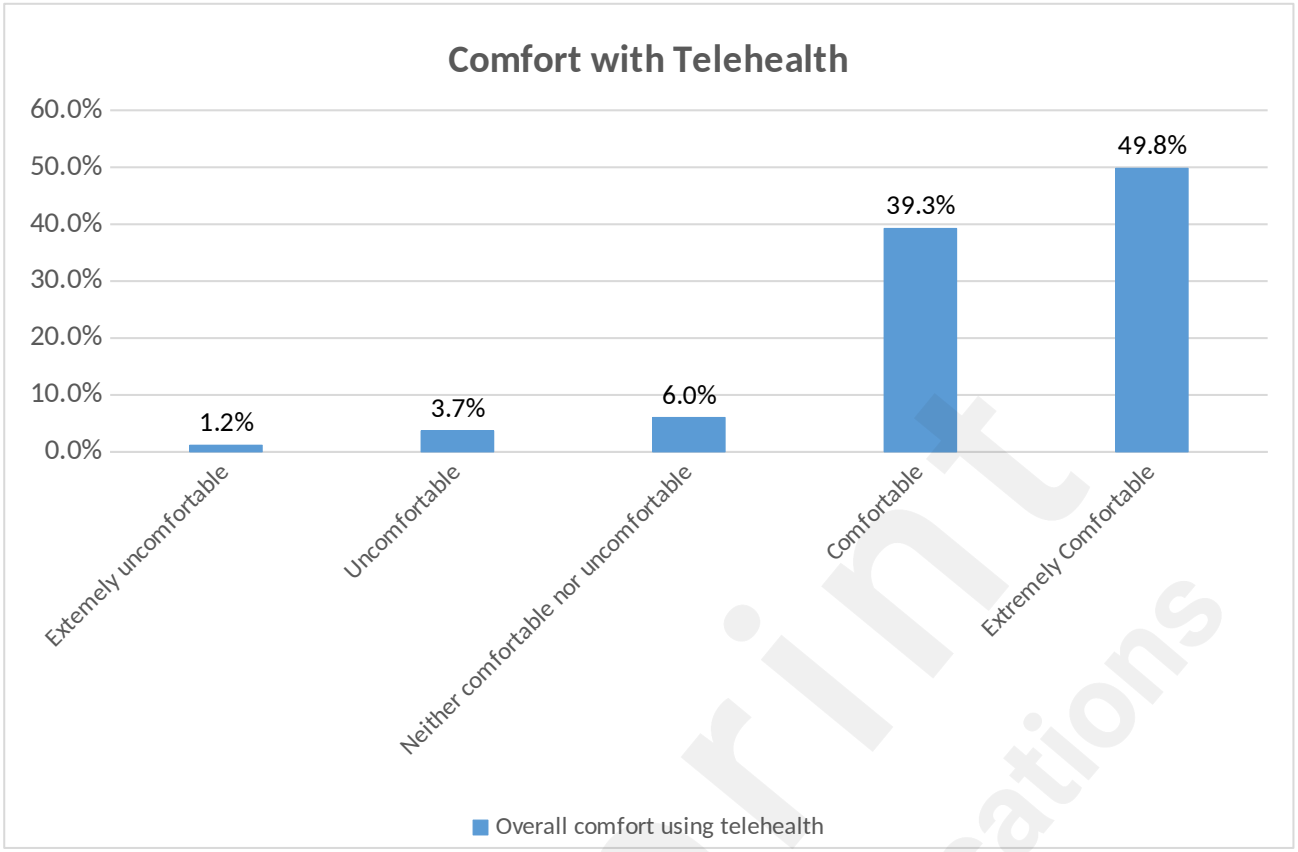

Figure 1. Overall comfort with telehealth (Labels =n, %), N=596

3.2.3 Ease of Use

Overall ease of using telehealth was rated *extremely easy* or *easy* by (527/595, 88.6%) participants (*mean* 1.38, *SD* 0.80; t_{594}=42.07, *P*<.001). Ease of starting telehealth appointments was rated as *extremely easy* or *easy* by (505/594, 85%) of the participants (*mean* 1.27, SD 0.86; t_{593}=36.18, *P*< .001). Furthermore, ability to use a private area to communicate using telehealth was rated as *extremely easy* or *easy* by (491/595, 82.5%) of the participants (*mean* 1.24, *SD* 0.94; t_{594}=32.19, *P*<.001) and ability to use a quiet area to communicate using telehealth was rated as *extremely easy* or *easy* by (509/592, 86%) participants (*mean* 1.30, *SD* 0.88; t_{591}=36.04, *P*< .001). (519/595, 87.3%) of the participants rated ability to receive mental health care using telehealth as *extremely easy* or *easy* (*mean* 1.36, *SD* 0.82; t_{594}=40.36, *P*<.001).

3.3 Comparison of Telemental Healthcare and In-Person Appointments

3.3.1 Quality of care

The quality of mental health care received in-person was rated *much better* or *better* by (167/598, 27.9%) of participants, whereas telehealth was rated *better* or *much better* by (96/598, 16.1%) of the participants (*mean* -0.12, *SD* 0.98; t_{597}=-2.93, *P*=.004; Cohen d=-0.12). A majority of individuals (335/598, 56%) reported the quality of care *about the same* between appointment types (Figure 2). For ability to express oneself to their provider, (168/600, 28%) participants rated in-person care *much better* or *better* compared to (108/600, 18%) of participants who rated telehealth care *much better* or *better* (*mean* -0.12, *SD* 0.98; t_{599}=-2.97, *P*=.003; Cohen *d* =-0.12). Most respondents (324/600, 54 %,) reported the ability to express oneself using in-person and telehealth services to be about the same (Figure 2). Although the higher ratings of in-person appointments on the dimensions of quality of care and ability to express oneself were statistically significant, the effect sizes were small.

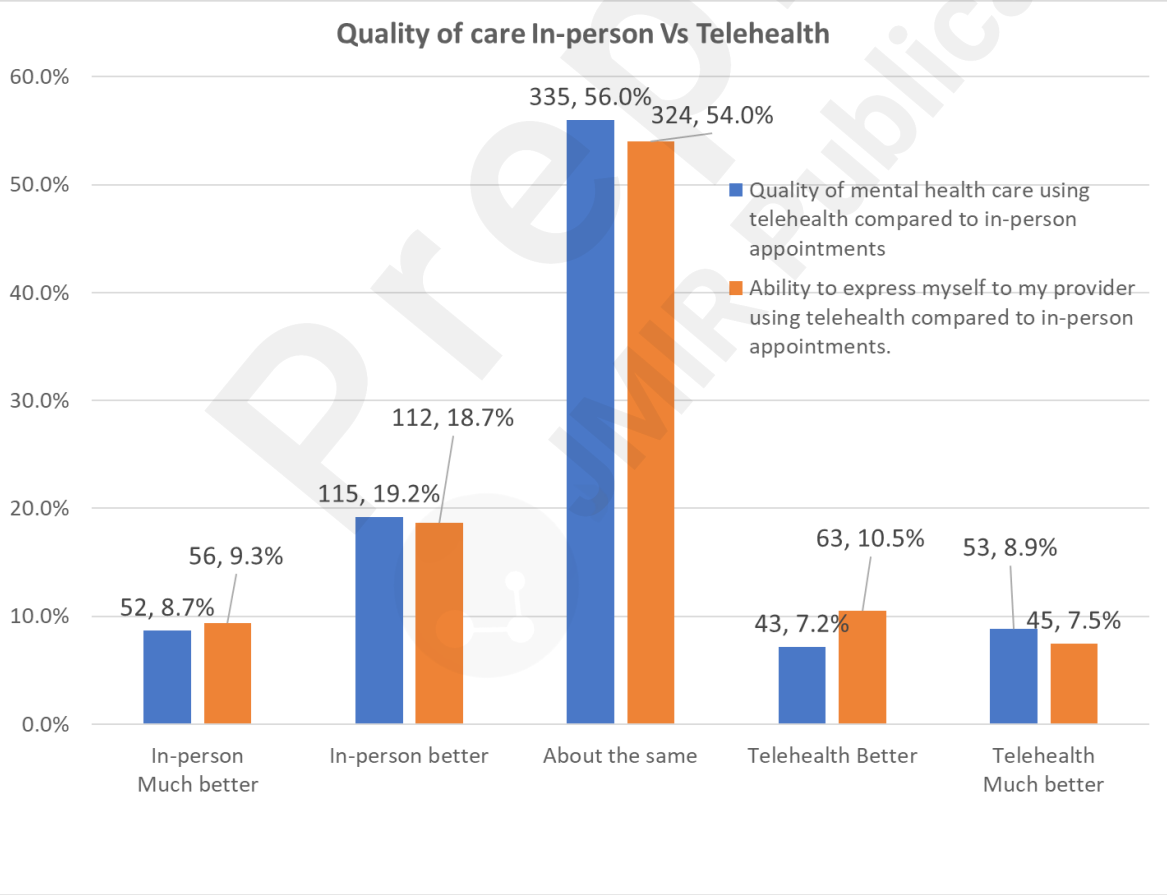

Figure 2. Comparison of quality of care and ability to express myself in-person vs telehealth, (Labels =n, %), N=598 and N=600 respectively.

3.3.2 Perceived Benefits

Questions about perceived benefits inquired about advantages that are not directly related to the mental health care provided, but rather indirect benefits related to the type of appointment (i.e., in-person or telehealth). These questions assess the degree to which participants experienced impacts on managing their finances, time, and work and personal lives while using telehealth compared to in-person appointments (prior to the pandemic). (525/601, 87.4%) of participants saved *more* or *much more* time with telehealth compared to in-person appointments (*mean* 1.45, *SD* 0.91; t_{600}=39.02, *P*<.001). (399/601, 66.4%) reported *more* or *much more* money saved with telehealth (*mean* 0.95, *SD* 0.95; t_{598}= 24.60, *P*<.001). (409/596, 68.6%) of participants reported *more* or *much more* ease of managing family or work responsibilities while using telehealth appointments compared to in-person (*mean* 1.06, *SD* 1.00; t_{595}=26.02, *P*<.001).

3.3.3 Wait Times and Missed Appointments

(340/596, 57%) of participants (*mean* 0.87, *SD* 0.89; t_{595}=23.86, *P*<.001) reported *shorter* or *much shorter* time waiting to be seen by their provider via telehealth than at in-person appointments. (243/591, 41.1%) of participants reported missing *fewer* or *many fewer* appointments with telehealth compared to in-person (*mean* 0.59, *SD* 0.90; t_{590}=15.95, *P*<.001).

3.4 Future Telehealth Use

In our sample, (523/602, 86.88%) participants would like to have telemental health care offered in the future, even after the pandemic resolves (*mean* 0.81, *SD* 0.52; t_{601}=37.88, *P*< .001). These participants were asked to anticipate the reasons they might choose telehealth in the future (see Table 2). Top reasons include saving time, not needing to travel to a medical office, feeling safer at home due to the pandemic, freedom to take the appointment from any location, and saving money. Easier management of work and family responsibilities were also cited by a smaller number of respondents; these were perhaps not as popular as other choices due to the age and employment demographics of

this survey's respondents.

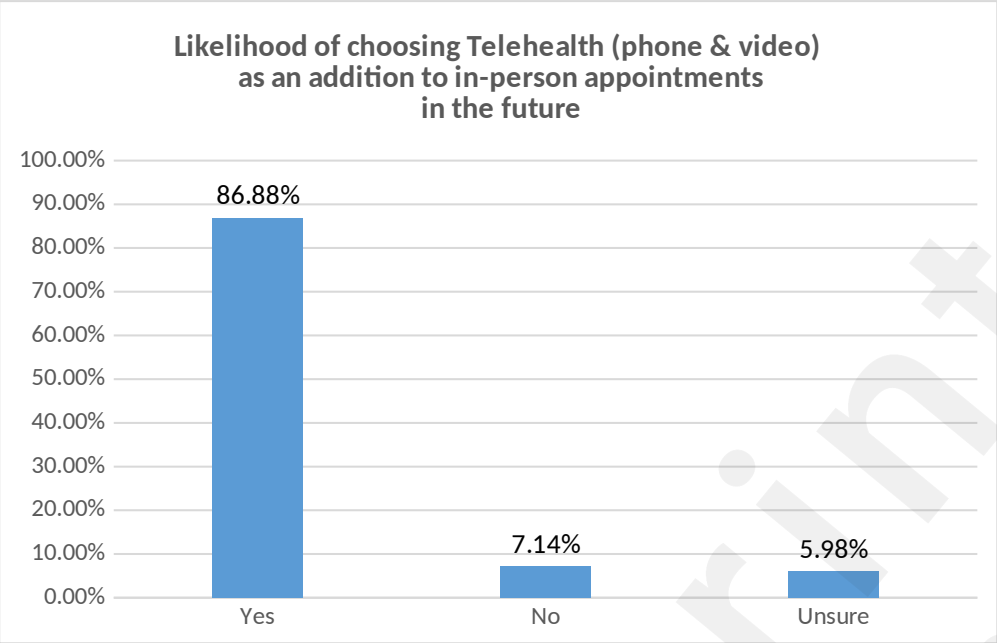

Figure 3 Plot of likelihood of choosing Telehealth (phone & video) as an addition to in-person appointments in the future. Data labels =n, % (Total N=602).

Table 2. Reasons for choosing telehealth in the future. Items are sorted in descending order by valid percent. Counts only include cases that either endorsed at least 1 of the items above or a 12th item indicating they would not consider using telehealth for any of the above reasons.

#	%	N	Reasons for choosing telehealth as an option
1	81.7%	456	Saving time (e.g., travel time, office wait time)
2	77.6%	433	Not needing to travel to a medical office
3	65.1%	363	Feel safer at home during the COVID-19 pandemic
4	57.0%	318	Freedom to take appointment from anywhere I want (e.g., home or any other place)
5	52.2%	291	Saving money (e.g., not needing to take time off work, travel costs ..., meals, childcare, ...)
6	45.3%	253	Easier to manage work responsibilities (e.g., not needing to take time off work)
7	43.0%	240	Lower stress to not have to plan to leave home
8	22.9%	128	Easier to manage family responsibilities (e.g., child care, helping family)
9	12.7%	71	Physical disability (e.g., wheelchair use, pain, injury)
10	12.7%	71	General fear of leaving home other than COVID-19 fear (e.g., scared of crowds, … people)
11	2.9%	16	Other reason not listed above (please specify)

3.5 Location of Appointments

Home was the most popular location for taking a telehealth appointment, cited by (389/598, 65.1%) of participants. (90/598, 15.0%) of participants took at least one telehealth appointment from a *personal vehicle (e.g., car, bike)*, (72/598, 12.0%) from their *workplace*, (66/598, 11.0%) in a *public area (e.g., outdoor park, parking lot, sidewalk, building lobby)*, and (57/598, 9.5%) at a *family member's or friend's home*.

4. DISCUSSION

Prior telehealth studies measured patient opinions about telemental health at the very beginning of the pandemic; to the best of our knowledge, this is the first survey to be conducted after an extended period (10 months) after the start of the COVID-19 pandemic in the US. As such, it provides insight into the patient experience after both providers and patients became familiar with and practiced in the telemental health care modality.

A central motivation for fielding this survey was to understand if telemental health care was not only a "just as good" care option until in-person care was again possible, or if it conferred unique incremental benefits. Overall, telemental health care appeared to be comparable in several

fundamental ways to in-person appointments. Consistent with early-pandemic studies, a majority of participants rated *quality of care* and *ability to express oneself* as comparable. These findings corroborate recently published findings that more experienced telehealth users are less likely to believe telehealth appointments are inferior to in-person appointments [29]. After having telehealth appointments for ten months, our findings show that patients believed telemental health visits area a highly acceptable alternative to in-person appointments.

Patients also enjoyed benefits unique to telemental health care, including flexibility, reduced stress, and time and money savings. The portability of their computers and phones enabled participants to take appointments from a variety of locations, including personal vehicles, workplaces, public areas, and family/friends' homes. The freedom to take appointments from anywhere was also a top anticipated reason for *future* use of telemental health care. The telehealth option affords flexibility in scheduling, a benefit that might continue to be relevant after the pandemic, as people begin returning to workplaces and other places outside their homes. Continuity of care can also be a compelling reason to keep the telehealth appointment option, especially if an in-person appointment would otherwise be postponed, missed, or canceled. Prior research has shown that number of missed appointments, particularly among individuals with mental health conditions, is positively correlated with mortality; those missing just three or more appointments per year had an eight-fold increased risk of death, commonly by suicide. Offering telemental health care as an option helps patients keep appointments that might otherwise be missed or canceled; continuing to offer this option may reduce health care costs, lost time, and enhance patient health outcomes and continuity of mental health care in the future.

Another notable benefit to telemental health care is the capacity to reduce the stress of leaving home for an in-office visit. The importance of stress reduction is consequential, especially for respondents in our sample, a majority of whom had diagnoses of anxiety and depression. Continuing to offer telehealth as an appointment option could help alleviate stressors associated with

last-minute changes in schedules, management of family and work responsibilities and improve overall sense of wellbeing in this patient population.

When it comes to comfort using telehealth, technology does not appear to be a significant barrier. Most participants felt comfortable using the telehealth technology interface. Whereas a previous study [28] found that not having a private room at home in which to take a telehealth appointment was a barrier to the conversion to telehealth appointments early in the pandemic, more than 80% of our survey's participants said finding a private or quiet area was *easy* or *extremely easy*. Our study period covered a wider time range, nearly a year into the pandemic; perhaps as the pandemic continued, individuals were able to modify their personal environments for quiet and privacy. Overall, respondents see telemental health care as an adequate substitute for in-person care when needed, and users enjoy benefits unique to the modality. While at present it is unclear that the current increased access to telehealth will extend beyond the pandemic, it is evident that patients desire to have the option of telemental health care in the post-pandemic future.

Limitations

Respondents to this survey are patients of an urban, academic outpatient mental health clinic in a large US city. Clinic patients were invited to the survey via email, and responses were collected using the REDCap website. Our results might not be generalizable to the wider population beyond of our respondents' demographic profile, and with less experience using internet technology.

5. ACKNOWLEDGMENTS

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6. CONFLICTS OF INTEREST

Dr. Jeffrey Rado engaged in activities such as speaking, advising, consulting, or providing

educational programs for the following companies or other entities: Alkermes, PLC, Intra-Cellular Therapies, Inc. (ITI), Johns Hopkins University Press, Pri-Med Midwest, University of Chicago. In addition, Dr. Rado received compensation for medical record consultation and/or expert witness testimony. Dr. Rado received payments or may receive future financial benefits for inventions or discoveries related to Johns Hopkins University Press. The other authors declare no conflicts.

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