

Assessing the Effectiveness of Telemental Health Delivery Post-Pandemic: A Provider's
Perspective

Talia Chin

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Telfer School of Management
Faculty of Health Systems
University of Ottawa

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Abstract

The COVID-19 pandemic elicited an abrupt uptake of virtual mental health care delivery to attend to an increased demand for mental health services in an efficient way, amid pandemic restrictions. This research study explores the experience of telemental health care delivery among resident and practicing psychiatrists to examine how their care is impacted by virtual delivery and their approaches to assessing the effectiveness of their virtual care. This qualitative study used semi-structured interviewing and thematic analysis to identify significant concepts. It included eight post-graduate year four (PGY4) resident psychiatrists and two practicing psychiatrists. The research findings indicate that elements of mental health care relating to patient information, safety, privacy, and therapeutic alliance are impacted when delivered virtually, and that patient suitability is an important factor for the success of virtual care. Findings also suggest that there exists a gap in both practice and in theory for methods or tools used to assess the effectiveness of telemental health care. Future research will be necessary to 1) adapt existing mental health care assessment tools to account for the nuances of virtual delivery, and 2) to implement in practice policies that ensure virtual care is used only with patients for whom it is suitable.

Chapter one: Introduction

1.1 Context of the Issue

Overburdening in healthcare systems has been a serious issue across the world over the past decade, with an especially increased demand for mental health services (Lau et al., 2021). For Canadians, the social, economic, and health-related impacts of COVID-19 pandemic have compounded this challenge by increasing the risk of developing symptoms of anxiety, depression, substance abuse and posttraumatic stress (Lau et al., 2021). Although the Canadian healthcare system had already begun to undergo a transformation to switch to or include virtual options for health services in years prior to the pandemic (Barnett et al., 2021), mental health virtual treatment options, or ‘telemental health’ (Bashshur et al., 2016), became especially essential as a response to the pandemic’s impact on Canadian mental health (Barnett et al., 2021). Telemental health services had to quickly be adapted to address concerns of access to treatment, continuity of care, and serving high risk populations (Moreno et al., 2020) throughout stay-at-home orders and social distancing mandates (Barnett et al., 2021). The evolvement of this section of the Canadian healthcare system was much needed, anticipated and expected based on the available technologies and needs of Canadians.

Most Canadian mental health providers, such as psychiatrists, psychologists, social workers, therapists, and nurses (Bashshur et al., 2016), transitioned their services to include virtual options following Public Safety Canada listing mental health professionals as an essential service as of March 2020 (Jucik et al., 2020). This was followed with an almost immediate realization of benefits that came with telemental health care for patients and service providers

that would continue beyond the pandemic. Virtual access to care included increased convenience, reach to vulnerable populations, reduced environmental impact, and a potential for communication improvements between patient and provider (Barnett et al., 2021).

There were, however, several gaps in care that became apparent following the fast transition to virtual care, and mental health providers were faced with the challenge of ensuring the effectiveness of care was not impacted by the barriers that accompany virtualization (Fiejt et al., 2020). The approach to professionally assessing how a virtual mental health treatment positively impacts a patient's condition (Kim, 2013) varies across types of providers and practice styles (Kilbourne et al., 2018), but is a critical practice to understand whether telemental health should continue beyond the pandemic as an adequate alternative to in-person care (Appleton et al., 2021).

2.2 Rationale for this study

Identifying appropriate methods for assessing the effectiveness of telemental health care in consideration of the benefits and limitations of virtual care, and providers using the methods to understand how their virtual care should be improved, is needed to fully optimize telemental health care post-pandemic and to implement improvements that create a sustainable and effective telemental health system in Canada (Fiejt et al., 2020).

This study aimed to better understand how telemental health providers evaluate the effectiveness of their care delivery in consideration of the known limitations of virtual care by answering the following research questions:

- How do telemental health providers describe how mental health care is impacted by being delivered virtually?
- How do telemental health providers evaluate the outcomes of their care?
- How do telemental health providers plan to improve the effectiveness of their care delivered virtually?

1.3 Contributions

This research contributes to the existing body of literature on virtual mental health care by describing providers' views of positive impacts that virtualization has on mental health care, as well as barriers that should be used as key areas for improving virtual care. Additionally, this study highlights the need for future research to explore improving existing methods and tools, or developing new methods and tools, that providers can use to evaluate the effectiveness of virtual mental health care. Moreover, this study illustrates telemental health providers' desire to use discretion based on patient-dependent factors to determine the suitability of using virtual care for each patient.

This will contribute towards literature that allows telemental health care providers to standardize how they assess their services, implement improvements, and ensure consistency in the effectiveness of telemental health care. Reducing unnecessary variation in approaching this issue in telemental health care offers the opportunity for providers to improve the overall quality of care delivery and maintain a cross-provider standard of excellence (Lavelle et al., 2015).

Chapter two: Review of the Literature

2.1 Limitations of virtual care

In 2020, Feijt and colleagues investigated mental health practitioners' experiences of transitioning to online treatment due through the pandemic and explored their most prominent difficulties and problematic use cases. They reported that internet connection, stability of devices, and user-friendliness of video call tools was a reoccurring concern that impacted how providers delivered care. Additionally, practitioner-patient collaboration features that are often used as tools to deliver certain treatment methods are limited through virtual care platforms which may have had an impact on the treatment quality as the ability to successfully perform certain interventions and practices was inhibited. Siegel et al.'s systematic review found that issues regarding safety, privacy and confidentiality attributed to telemental health care were related to impacts on therapeutic delivery and quality of patient-provider relationship (Siegel et al., 2021), especially in developing rapport with patients which could impact the effectiveness of treatment and therapeutic interventions (Feijt et al., 2020). Additionally, the loss of patients' facial and body cues poses a challenge to providers in collecting critical data for diagnosis and limits the overall communication with their patients (Siegel et al., 2021).

2.2 Recommendations for overcoming limitations of virtual care

In parallel with identifying the barriers of virtual mental health care, recommendations were provided for overcoming some common concerns. Siegel et al.'s 2021 systemic review suggested offering virtual orientations for patients and dedicating staff for technological issues previously mentioned. Additionally, encouraging use of headphones or diverting to yes-no questions, suggesting the use of sound machines in patient or providers space were

recommendations for overcoming information exposure and privacy concerns. It was noted that with understanding what changes can be implemented to mitigate some telemental health limitations, better evidence is needed to understand the impact on quality of care and whether, even with the improvements, virtual care is effectively filling the role of in-person mental health care (Schaffer et al., 2020).

A recent study by Haque and colleagues (2021) suggested that the best approach for addressing the gaps of telemental health is for providers to ensure that decisions are made on how to measure the effectiveness of their services (Haque et al., 2021). According to Burches and colleagues (2021), effectiveness in a clinical or healthcare context, is defined as the extent to which planned outcomes are achieved as a result of an intervention intended to achieve the desired effect. In the context of virtual mental healthcare, effectiveness can be understood as the positive impact that the virtual care has on patient's mental health (e.g., improved symptom control or appropriate diagnosis) (Hui et al., 2022). Therefore, in order to understand the effectiveness of virtual mental health care, patient outcomes must be assessed. Haque and colleagues (2021) indicate that providers should plan how they will assess outcomes and how to use the results of these assessments to steer future directions of their telehealth programs and make targeted improvements (Haque et al., 2021).

2.3 Assessing outcomes of virtual care

Much research has been conducted to identify possible measurement tools for evaluating virtual health care in general, which could be leveraged to inform how a provider might assess virtual mental health care. Health outcomes measured by physical health indicators, and patient

and provider experience measured by The Telehealth Usability Questionnaire, Telemedicine Satisfaction and Usefulness Questionnaire, Patient Assessment of Communication during Telemedicine and Promotor Score are examples of tools available to assess general virtual health care (Chuo et al., 2021). These outcome measurement tools assess whether the care that a patient receives actually improves the patient's symptoms (Kilbourne et al., 2018). However, in order to address the complexity of mental disorders, mental health outcome measures should not only focus on symptoms and functioning, but also on issues such as quality of life, recovery, and community tenure. For mental health care, the Mental Status Examinations is the primary method by which mental health providers evaluate the progression interventions and assess the effectiveness of traditional mental health care (Cuijpers, 2019), however, this tool has not been adapted to account for the limitations of mental health care delivered virtually. The Mental Status Examination is "the psychiatrist's version of the physical examination" (Voss et al., page 1, 2022) that uses observation to identify, diagnose, and monitor symptoms of mental illness (Voss et al., 2022). Generally, the information a psychiatrist would be able to gain from a mental status examination provides insight into the patient's condition at the point in time that the examination is being conducted. Comparing a patient's mental status examinations over a period of time is how the provider would assess the effectiveness of their care based on symptom improvement or worsening (Voss et al., 2022). According to Voss and colleagues, factors such as patient-provider trust and therapeutic alliance can severely impact the accuracy of the assessment. Additionally, Patient Health Questionnaires are sometimes used alongside the mental status examination to assist in identifying certain mental health disorders based on the patient's self-report (Johnson et al., 2002).

2.4 Applications of assessing effectiveness

Moreno and colleagues (2020) recommended that sustainable adaptations to telemental health care delivery should be specifically designed to mitigate the limitations of virtualization through continuous assessment of patient outcomes in mental health clinical practice. Such evaluations should inform the action plans to address deficiencies and make recommendations for defining which practices should be further developed and which should be discontinued (Moreno et al., 2020). Effectiveness of telemental health treatment must also be examined to ensure that the treatments required for patients are possible to be successfully and appropriately delivered virtually (Lau et al., 2021). Recent research suggests that the nature of a patient's treatment may be altered by means of delivery, suggesting how providers might approach the assessment of their telemental health services to inform their decision-making on whether virtual care is sufficiently replacing in-person care (Lau et al., 2021). Similarly, in a study that assessed the state of scientific knowledge regarding the merit of telemedicine interventions in the treatment of mental disorders, it was found that telemental health has the potential to perform these functions more efficiently and as well as or more effectively than in-person care upon consideration that the appropriate adjustments are implemented for effective virtualization (Bashshur et al., 2016). Moreno and colleagues stated, "Low-quality mental health care based on affordability without assessment of quality or monitoring of needs and efficiency will only contribute to increasing inequalities and worsening mental health globally" (Moreno et al., p. 824, 2020).

Chapter three: Methodology

3.1 Aim of Research

The aim of this study is to answer the following research questions:

- How do telemental health providers describe how mental health care is impacted by being delivered virtually?
- How do telemental health providers evaluate the outcomes of their care?
- How do telemental health providers plan to improve the effectiveness of their care delivered virtually?

3.2 Qualitative Approach

Considering this, a qualitative approach to exploring this construct is required to build a preliminary body of knowledge (Lavelle et al., 2015) that can subsequently be used to inform best practices and guidelines for assessing the effectiveness of telemental health care and developing continuous improvement strategies. The context generated through this qualitative research enables a robust description of the issue of assessing the effectiveness of telemental health care, on which subsequent quantitative research would be able to test the relationships between telemental health care and in-person mental health care effectiveness (Trochim et al., 2004).

Although it is possible that valuable insight on the effectiveness of telemental care delivery could be acquired from the patient perspective, it would lack evidence on practice and process that is critical to inform how effectiveness is being assessed to determine routes for improving the quality of care. A patient may be able to identify the areas in which telemental health care delivery is insufficient, but they would not be able to easily offer practical recommendations for how a provider should go about the necessary improvements of telemental

health. At this point, the data required to fill the gap in the literature is from the view of the telemental health care provider.

3.3 Interviews

To explore how providers assess the effectiveness of their telemental health care delivery, views of virtual care (e.g., limitations, benefits, impacts) (Lau et al., 2021), descriptions of the management of telemental health care delivery (e.g., diagnosis processes, routines, therapeutic decision-making processes) (Lavelle et al., 2015), description of patient-provider interactions, strategies and current processes for evaluating effectiveness of care (Schaffer et al., 2020), and approaches to continuous improvement (Schaffer et al., 2020) is verbally collected through funnel-shaped, semi-structured interviewing (Appendix A). The semi-structured interviewing method allows for some guiding questions to be pre-determined for the interview, however, it also leaves the opportunity for the interviewer to apply the funnel-shaped methodology that supports redirecting a line of questioning depending on responses received to obtain more context (Roller et al., 2015). The funnel-shaped interview method enables the interviewer to efficiently incorporate all the themes of focus while maintaining the ability to achieve inductive comprehension (Roller et al., 2015).

3.2 Sampling Strategy

To attain a sample of telemental health providers, purposive expert sampling was done to assemble a group of psychiatrists with known virtual care delivery experience. Seeing as there is insufficient data on the topic of focus, the expert sampling approach (Trochim et al., 2004) ensures that individuals with relevant expertise are being interviewed and providing input.

As this non-probability purposive sampling method requires a relatively small sample size to achieve the appropriate amount of data, a sample size of 10 – 12 telemental health providers will be recruited for interviews. As data is collected, analysis proceeded simultaneously to inform whether further data was needed to produce any additional or novel contribution to the findings (Guest et al., 2006). Sample size did not need to be increased as ongoing data analysis indicated that an important group or type of person was not omitted from the original target sample and did not need to be added to enhance the reliability of the findings (Trochim et al., 2004). The inclusion criteria for this sample was English speaking; fourth-year or above Psychiatry resident doctors with virtual outpatient psychiatry experience or practicing psychiatrists with virtual care experience within the past three years. Targeting fourth-year or above Psychiatry resident doctors or practicing psychiatrists ensures that participants have been exposed to virtual care for a minimum of two years and would have direct experience on the training and practices in place to provide telemental health services.

Program administrators of Canadian psychiatry residency programs were contacted to distribute a communication to their residents and faculty with inclusion criteria and request for participant recruitment. The communication requested that residents or faculty, to which the inclusion criteria apply, directly contact the researcher of this study to verify level of virtual care experience and schedule the interview.

3.4 Data Collection

Approximately 30-minutes interviews were conducted virtually through Zoom. At the beginning of the interviews with the telemental health providers, the researcher advised the

provider that the conversation was being recorded to facilitate subsequent transcription and analysis. Following the interview and transcription, the researcher screened the data for accuracy (i.e., are the responses legible, are the important questions answered, are the responses complete, is all contextual information included) prior to it moving the text into a previously established database, structured by the interview framework (Appendix A). The data screening step builds familiarity with the data set which is key for conducting the subsequent thematic analysis (Lochmiller et al., 2021)

3.5 Analytic Approach

An initial categorizing system was established in Microsoft Excel to capture the categories that could arise through interviewee responses to the interview questions. This initial system was used to triage any new arising categories to determine if it can be incorporated into a previously identified category or if it can be considered unique. Following Noble and colleagues (2014), all unique categories were assigned an identification code in the form of a word or short phrase that symbolically assigns a summative attribute (Saldana, 2015) and were recorded in the codebook that also included the description of each variable (category), and where it was to be entered in the database. The codes were applied to a single word, sentence, or paragraph. Developing categories is an essential step in the development of themes subsequently was used to communicate the findings of this study (Lochmiller et al., 2021). A minimum of two researchers independently coded the transcripts to ensure inter-rater reliability. Coding calibration was performed following the first two transcripts coded by both researchers. Cohen's kappa coefficient (κ) will be used to measure inter-rater reliability (Cohen, 1960). As the data

was being coded, the raw data (interview transcriptions) was retained and archived in case of any error arising later in the process. The final step of analysis was to review, define and name the themes that summarize the categories identified through coding (Braun et al., 2006). All final themes and overarching concepts were elaborated to describe the current approaches to and existence of telemental health care effectiveness assessments and implications for continuous improvement (Noble et al., 2014).

Chapter four: Results

4.1 Introduction

This chapter will present the findings of the interview process and subsequent data analysis. First a summary of the study's participants will be provided. The key themes that emerged following data analysis were; insights of effectiveness, barriers to effective virtual care, patient-dependent factors that impact effectiveness, assessing effectiveness, enhanced care due to virtualization provider preparedness to deliver virtual care, and future of virtual care. Finally, the results of the inter-rater reliability assessment are presented.

4.2 Interrater Reliability

In order to account for interrater reliability, a university of Ottawa undergraduate student, who was unfamiliar with the study, was recruited to be a second coder. Using the codebook developed for the analysis of this study, a second round of coding was conducted independently by the second coder. Interrater reliability was determined as an agreement between coders on the frequency that each category appeared across all participants' responses. To calculate this, the frequency that the first coder identified the appearance of each category within the participants' responses was compared to the frequency that the second coder identified the appearance of each category (Appendix C). Comparing the first and second round of coding resulted in a Cohen's kappa (k) value of 0.8651 indicating significant agreement between coders.

Table 1: Results of first and second round of coding

| ID | Code | Rater 1 Frequency | Rater 2 Frequency |
|-----------|---------------------------------------|--------------------------|--------------------------|
| 1 | Residency Training | 11 | 9 |
| 2 | Benefits of virtual care for patients | 12 | 11 |

| | | | |
|----|--|----|----|
| 3 | Increased patient information due to virtual | 4 | 6 |
| 4 | Technology issues/limitations | 21 | 20 |
| 5 | Body language/non-verbal cues | 12 | 12 |
| 6 | Privacy, safety, and consent | 18 | 16 |
| 7 | Appropriateness/patient suitability for virtual care | 13 | 11 |
| 8 | Patient comfort/therapeutic alliance/patient-provider connection | 15 | 15 |
| 9 | Loss of patient information due to virtual | 21 | 23 |
| 10 | Complicating diagnosis/assessment | 4 | 4 |
| 11 | Impact on therapy/treatment | 3 | 3 |
| 12 | Distinction between types/severities of mental health conditions | 12 | 12 |
| 13 | Distinction between patient age groups | 6 | 5 |
| 14 | Patient forms/patient self-reports | 10 | 8 |
| 15 | In-person care as a complement to virtual | 8 | 16 |

4.3 Participants

Eight of the ten participants were currently in the process of completing a psychiatry residency program at a Canadian medical school. The remaining two participants were practicing psychiatrists in association with one of the Canadian psychiatry residency programs. All participants had at least 2 consecutive years of virtual care experience. The location of the participants' residency or psychiatry practice varied. The sample consisted of 1 participant from British Columbia, 1 participant from Saskatchewan, 6 participants from Ontario and 2 participants from Newfoundland.

4.4 Insights of effectiveness

This theme describes the elements of virtual care that provide insight into the effectiveness of virtual care.

Complications in diagnosis and assessment process

Certain elements of assessing a patient are made more difficult when conducted virtually. One participant states that the mental status examination is impacted:

There is a bit of difference in that usually in person we can pick up on subtle queues in how people are behaving. So sometimes when the Internet connection is not as good and the image is a bit blurry, it can be a bit more difficult to do our mental status examination that will help us do a good diagnostic. (Participant 10)

The diagnosis process is complicated specifically for resident psychiatrists, as they are required to collaborate with their supervisors when diagnosing a patient:

When I'm on zoom, my supervisor is also on and a third face on a computer screen is the patient and we are in three separate locations. We'd have to kick the patient out into the waiting room to talk over the zoom link or will mute ourselves, so there's no risk of patient hearing as we discuss the diagnosis. It was a lot more complicated than just being like hey I will be right back, go out, walk downstairs to have a 5-minute chat with my supervisor about the diagnosis, then walk back. (Participant 2)

Impact on therapy and treatments

Participants noted that certain elements of therapy or their treatments can be negatively impacted when delivering care virtually:

Psychotherapy methods can be negatively impacted by virtual care. Side effect monitoring is also, as I can't do a physical exam, that was a big issue really. It especially complicates things when we need to get their vitals checked if they're on certain meds, like for your blood pressure, or the certain antidepressants that can increase your heart rate. (Participant 4)

Another thing with virtual is that there aren't any readily available tools to draw or to illustrate what's going on in someone's mind. I can draw it and then put it up to the camera, but that doesn't work so well. And like there's whiteboard, but it's harder and some people are very visual, and they need to see things, but that's not easy with virtual. (Participant 5)

4.5 Barriers to effective virtual care

This theme describes elements of virtual care that present as barriers to effectiveness or that impact the quality of care delivered virtually.

Body language and non-verbal cues

Several participants described types of information that are lost when delivering care virtually. In some cases, this information could affect the diagnosis or treatment decision:

I think one part of it is like since we don't see them fully like in terms of their body, like we see their face only, sometimes it's very informative to see like the whole picture in terms of their body posture and movements. Especially if they have something like anxiety. For example, in person we'd see if they were very restless or fidgety, especially for ADHD or schizophrenia. Especially

if they're on antipsychotic medication, it would be good to see them in person in order to see if there are any movements or side effects that present physically, so that might affect the diagnosis in terms like the medication side effect perspective. (Participant 6)

There's a patient who I've seen for long term therapy as part of my academic requirements, and I've been doing that exclusively virtually for the first 20 - 25 or so sessions. And then due to a change in the OHIP codes, it switched to in person and I would say that kind of the impression I got was a little bit different. There were just certain signals that you sort of pick up on where, for example, for this patient with longstanding depression, I was able to pick up on more animation when I saw them in person as compared to when I explicitly assessing them exclusively through a screen. (Participant 3)

But when you're when you're doing therapy and meeting someone regularly, the emotional expression, the nonverbal expression, all that stuff is super important. I think the virtual limits a lot of nonverbal communication. So, it can limit specifically psychodynamic type therapy efficacy. (Participant 4)

One participant noted that there was a loss of information specifically as it relates to the dynamics between individuals participating in group therapy:

Psychotherapy was also interesting because you lose out on the dynamics that I found in my family therapy because trying to have a family sitting in front of computer, where if you were in office space and they would have chosen couches or chairs differently or something. You'll lose

those things in a virtual setting because people can behave differently in the comfort of their own home as opposed to if they were in a stranger's office. (Participant 2)

Loss of patient information

Participants described the impact of technological limitations that led to circumstances causing a loss of patient information that would have been otherwise collected if the care was provided in-person:

It can impact severely to the point of, not even having the interview in the first place or having it end early or when sometimes the connection is choppy, and you hear it like almost someone stuttering. Well, that's affecting the quality of the therapy. There's a lot of information that you can't gather because I'm asking them to repeat every second. (9)

I think again diagnostically there were some things that would be missing because if the patient is slow to respond it would be hard to tell if it was the connection or the patient speaking quietly or audio quality or a poor mic. (2)

There is something to be said just for seeing somebody sitting across from you directly and there's something I do believe that missed through the virtual healthcare delivery system where sometimes technological limitations like where a person doesn't have a camera, for example, or their microphone is not functioning properly, which adds a little bit of a layer of complexity. If you're not able to see the patients, that makes things a little bit challenging, and a lot of providers feel uncomfortable with assessing patient who they can't visualize. Also, with the

added convenience comes the possibility that you'll be assessing a patient who's doing something else and is distracted. (3)

Privacy, safety, and consent

Participants described privacy as a significant factor in the practice of telemental health care. In some cases, privacy concerns impacted the ability for patients to relay information to the provider:

For people doing a telemental health session from home, there may be distractions if they've got other people in the home, and it sometimes makes it more difficult for them to be able to talk privately and know that they have their own confidentiality in their space which is different than when they would come would have come into my office. (Participant 1)

I like to talk to the patient's one-on-one, but you can't assure privacy when it's virtual because you don't know that somebody else isn't listening. You're not sure if there's abuse going on or something and they could be too scared to tell you because somebody might be listening. (Participant 5)

Some processes must be adjusted to account for safety concerns when delivering virtual care:

If I'm worried about safety, for in-person I might just step outside and call security, but for virtual care there isn't that option. The consent process for us has to include making sure that I

know where they are and know how to reach them in an alternate method just in case we get cut off and if I need to send a crisis team or the police, if there was a safety concern. (Participant 7)

Patient comfort and patient-provider connection

Many participants noted that the development of a therapeutic alliance was impacted by providing care virtually:

When you speak to patients for more therapy reasons, there may be not as closeness or like therapeutic rapport, especially if we're talking like sensitive things. The rapport building is very much possible through repeated virtual care appointments, it just takes a bit more time.

(Participant 6)

You'll find that the quality of the conversations that you're having is affected by virtual care. It's so hard to say because like the majority of my residency has been done virtually, so I don't really have a ton to compare it to, but that being said, when I do see kids in the emergency room, I do find that if it's a patient that's difficult to open up or is really guarded, it's easier to break down those walls in person. It's fine for patients who are reasonably doing reasonably well psychologically, but if they're not, if they're guarded or like if they have autism, it's difficult virtually. (Participant 5)

In other cases, being able to connect with the patient virtually has allowed for the therapeutic relationship to develop in a uniquely positive way:

It might make it sometimes a bit harder to establish a good connection with the patient because we're not there in person. But in other cases, it also allowed me though to help some my patients. Giving them the opportunity to do it virtually at home was good for establishing the alliance with them in that sense. That I was maybe able to see them more often because they could do it from home. They would often kind of feel a sense of comfort and would show us their pets for example. And so, it offers a different face of the relationship that you don't usually see when you do it in the office. (Participant 10)

4.6 Patient-dependent factors that impact effectiveness

This theme describes how conditions specific to the patient would impact the effectiveness of virtual mental health care.

Distinction between types and severities of mental health conditions

For some mental health conditions, virtual care delivery is advantageous for the patient's well-being. One participant described the benefit of accessibility to care:

I think it's great for accessibility purposes and for patients who live far or who have difficulty leaving the house, which is a big component in psychiatry. For example, folks who have anxiety disorders and panic attacks or social anxiety, agoraphobia, these folks really have difficulty leaving the house, and usually they struggle a lot to come and see the psychiatrist or therapist. And I think having the option of doing things virtually was helpful. (Participant 8)

However, the treatments for certain mental health conditions are not best-delivered virtually. For mental health conditions that require more behavioural-based treatment, such as Obsessive Compulsive Disorder (OCD), virtual treatment is not necessarily suitable.

I have a patient right now who I'm doing cognitive behavioral therapy on and he's a teenage boy, not super talkative, and it's very behavioral based as opposed to cognitive. If it were more cognitive-based and he was just telling me about all his worries, I think that virtual would be fine, but because it's so behavioral based, if I were there with him we could practice some of the exposure things he needs to do. But to do all of this on the computer is harder. (Participant 5)

I guess the other element is the behavioral activation part of it. One of the first lines of treatments for depression is behavioral activation, which is almost pre-psychotherapy. And essentially, it's being out and about doing things which helps with depression. So, some of my patients right now, I want them to come see me as that is therapeutic in itself. And then even for anxiety, its exposure, if they're a patient that was so socially anxious, was very severely shy, she was on one of the telemedicine apps and texting me through the app, I couldn't see her and I could only hear her voice. But that's almost like the treatment is colluding with the illness by providing a way for some avoidance. (Participant 9)

Distinction between patient age groups

Overall, participants observed that virtual care was better suited for younger populations due to the likelihood of increased comfort with technology:

It was challenging with the geriatric population that doesn't necessarily understand how technology works and to try and connect with them. So, I do know that it decreased the number of assessments I was able to do because there was an outbreak and we couldn't go onto the units or in the personal care homes, they couldn't send patients out to us for the assessments and getting stuff set up virtually was problematic. (Participant 2)

And I think today where a lot more people are comfortable with virtual care and video platforms, especially the younger population, it's been very helpful for accessibility. (Participant 6)

Patient suitability for virtual care

Some participants specifically mentioned that suitability for virtual care should be considered for each individual patient:

At this point, we're supposed to offer in person and virtual. Actually, we're expected to say 'would you prefer your appointment to be done in person or virtually?' But it shouldn't really necessarily be up to the patients. There should be like a checklist to see if virtual is appropriate for each person. It's not always fine to do virtual. There is no process to help us decide whether virtual is appropriate or not. (Participant 5)

I remember once trying to do a consult and I could see in the little information that I had that the person was in a situation of homelessness without a fixed address. 99% of people without a fixed address are not candidates for telemedicine, right? So that is a big limitation that some very identifiable people that are not candidates still end up being booked as a telemedicine consult,

and that while in general, telemedicine might decrease the rates of no shows for those identifiable people, there will almost invariably either be no shows or an inability to convey the information. (Participant 9)

4.7 Assessing effectiveness

This theme is about how participants describe how they assess the effectiveness of their virtual care.

Overall, no participant reported a standard method or suite of tools used to assess the effectiveness of their virtual care. Most participants described their method for assessing outcomes of their virtually treated patients as identical to how they would assess in-person patients.

Patient forms and self-reports

Participants all noted that patient self-report forms are the one tool used to help providers understand how their treatments impacting the patient:

We do mood forms that patients fill out in addition to mental status exams to understand how treatments are improving a patient's condition, but that's really the only thing we have that gives us insight into how effective our treatments are, other than just observing the patient.

(Participant 5)

4.8 Enhanced care due to virtualization

This theme describes the benefits of virtualization that have a positive impact on the effectiveness or quality of care.

Benefits of virtual care for patients

Most participants mentioned increased accessibility to care as a notable benefit of virtualized mental health care:

I am working more and I'm much more accessible working from home than I was before the pandemic. I probably ended up seeing some people more frequently unlike if we were in the office where they might need to wait a little bit longer to see me. With me doing the booking and being at home, I usually see people at really short notice if they contact me. I always tried to be accessible in the office but because I'm now the person that they're contacting and I don't need to get my office to book, people will e-mail me or some people even have my fax number so I can usually get them in at very short notice if it's something urgent or just to refill prescriptions and things like that. (Participant 1)

Communities and marginalized populations that live in homelessness and things like that, are people that we can't traditionally reach. We might still have difficulties reaching some of those groups because the homeless populations might not have access to the virtual, but by expanding our reach to those that do, we're still hitting way more people and we're enabling those other folks to walk to the hospital and many people see them. (Participant 4)

Increased patient information due to virtualization

Participants described how virtual delivery provided an opportunity to access information about the patient that improved their understanding of the patient's circumstances or condition:

It gave me great information on the home dynamics because if you see three children screaming and running background during an assessment, you really can get a glimpse into how chaotic or supportive environment. (Participant 2)

You get a little bit of a window into the patient's life. When you're seeing them in their own environment, there's certain things that you can add to the mental status exam. For example, you can see the room around them to see if there's a mess. I had a patient, for example, who lived in a very loud home where every time I saw them there were like there were tons of family members walking past and walking around, plenty of background noise. So, you sort of learn a little bit about the life circumstances of the patients. (Participant 3)

4.9 Provider preparedness to deliver virtual care

This theme captures how participants describe how they were equipped with the skills and tools to provide virtual care.

Residency Training

All of the participants that were currently in residency had spent key years of their training providing care completely virtual, meaning that for some of their clinical rotations, they would

not have had any experience providing in-person care. One participant describes their experience:

Pre-pandemic, we were seeing everyone in the office and post-pandemic, there was just a 100% shift to virtual and I did outpatients that entire next six months for my whole child-adolescent rotation. Basically, since the pandemic for the next full year and three or four months, I was full time virtual. (Participant 4)

Many of the participants that were in residency had not given previous thought to how they should implement or approach implementing continuous improvement into their virtual care. One of the residents noted that it is not part of their training nor are there any external pressures to consider this:

I would have to take initiative to do that, so I guess when you're in your residency, that's still part of your training to become that practicing psychiatrist, but implementing improvements is not embedded in your training at all. (Participant 5)

Personally, I don't have a strategy for implementing improvements to my care. (Participant 2)

I've never, for example, gotten any communication inquiring about the success of our virtual deliveries, other than for IT where they ask about any technological issues that might have risen during the video call. (Participant 3).

Technology limitations

Participants described shortfalls in the technical side of telemental health care that they had to navigate themselves, without any standard or training to guide them:

The other major thing that I noticed with virtual care is that especially when you're doing exercises where you need to write things down or look at sheets together, there's been little modifications to that. For example, in something called CBT, when you need to have the patient write down their thoughts, behaviors and emotions, ideally when you have them in the clinic with you, you can do that together and have paper and pen like right there. Obviously, it's challenging to do that virtually. (Participant 6)

Technical issues sometimes ended up delaying appointments by 30 minutes to an hour, and then during the appointment, it freezes, or you can't hear the patient anymore. A lot of times I end up having to call them at the same time. And both of us would mute ourselves on the on the app, just so we could have some flow and then the image as well. (Participant 10)

4.10 Future of virtual care

This theme describes the participants' considerations for how virtual mental health care should evolve.

In-person care as a compliment to virtual care

Most participants described in-person care as a complement to virtual care, without indicating that one should exist without the other:

My strategy for improving my virtual care would be to complement more with in-person care when possible. I think that that's very valuable for the actual virtual care itself. Some docs will demand they see the person at least the first assessment in person and then they can do virtual. That's kind of similar, right? But that's my strategy is to bring in more in person care when possible because I think that would negate a lot of the downsides of the virtual. (Participant 4)

There may be a reason to look at where it is appropriate to do virtual care because I think that's where the biggest evaluation needs to be: is it being used appropriately, if a situation is suitable for use of Telehealth, why aren't we using it, or why are we using it? (Participant 2)

Chapter five: Discussion

5.1 Summary of results

In order to contribute towards literature that supports the development of best practices for assessing the effectiveness of telemental health care, this study collected insights from resident and practicing psychiatrists to understand 1) how they perceive their care is impacted by being delivered virtually, 2) how they evaluate the outcomes of their care delivered virtually, and 3) how they plan to improve the effectiveness of their virtual care.

Having emerged as evident throughout the interviews, the results indicate that elements of mental health care relating to patient information, safety and privacy, and therapeutic alliance are impacted when delivered virtually. However, it is apparent that although the participants were able to identify the limitations and barriers to their care due to virtualization, few were able to describe any methods or tools used to assess the effectiveness of the care their patients received when treated virtually, which implies a gap in both practice and in theory.

5.2 Discussion of the results

How providers perceive their care is impacted by being delivered virtually

Participants described several instances where their care was positively impacted by virtual delivery. Most prominently, participants all mentioned the increase in accessibility to care due to virtualization. Whether due to increased provider availability or the ability to reach rural communities and marginalized populations, participants described their ability to reach patients that would not have otherwise been able to be reached without a virtual option, was an indisputable positive impact on the care they were able to provide. Additionally, participants

noted that in some cases, virtual delivery enabled them to gain access to information about a patient's circumstances. Participants described being able to have insights on home dynamics and state of surroundings through video appointments with patients. Any additional context or personal information about a patient was reported by participants to be helpful for building a patient-provider relationship and supporting the psychiatric assessment.

The most prominent barrier participants described as having a notable impact on the quality of care when delivered virtually is regarding the loss of patient information. Primarily, all participants mentioned how the loss of body language had prevented them from gathering a full perception of the patient they were evaluating. Non-verbal cues such as fidgeting, tremors or restlessness were noted as being likely to miss in a virtual setting, while essential for assessing for certain mental health conditions such as Attention Deficit Hyperactive Disorder (ADHD) or Schizophrenia, as well as identifying medication side effects. Additionally, it was mentioned that certain affects and dispositions are not as apparent when the patient is not seen in-person, due to the inability to see the patient's body language and overall animation. The loss of these types of patient information were described to have a possibility to affect the diagnosis or treatment decisions, therefore posing an issue to the effectiveness of care. This is aligned to what was discovered by Siegel and colleagues in 2021 where they discussed that facial and body cues pose a challenge for providers in collecting the required information for diagnosis and communication with patients (Siegal et al., 2021).

Another avenue for the loss of patient information was described to be due to the lack of patient comfort or patient-provider connection. Participants noted that in some cases, patients are more

comfortable doing virtual appointments, while in other cases, providing care virtually proved detrimental to the patient. Many participants experienced a difficulty in building rapport with their patients through virtual appointments, as well as the quality of their conversations with patients being negatively impacted in a virtual setting as patients had a harder time opening up to their providers when not in-person. In this sense, the therapeutic alliance is affected and limits the information that the provider receives from the patient. As the provider can only treat the patient based on the information accessible to them, this can have an impact on the quality and type of care the patient receives. This provides additional context to Feijt and colleagues' 2020 findings that suggest developing rapport with patients could impact the effectiveness of therapeutic interventions (Feijt et al., 2020).

Thirdly, participants explained how privacy concerns sometimes impacted their patients' willingness or ability to disclose information in a virtual setting. Unfortunately for virtual appointments, it is much more difficult to ensure patients are equipped with a private space where they can speak with the mental health provider without unauthorized individuals hearing private information either intentionally or unintentionally. This was described as especially apparent with individuals that had a history of domestic violence or unstable living conditions. In such circumstances, it is possible that a patient would omit information that the provider requires to provide effective care. This is supported by Siegel et al.'s systematic review that identified issues of privacy and confidentiality to were related to impacts on the quality of patient-provider relationship, as well as the quality of therapeutic delivery (Siegel et al., 2021).

These issues are compounded with the technological limitations of virtual care that can also lead to a loss of patient information. Similarly to how Feijt and colleagues reported that technology-related issues were a repeated concern that impacted how providers delivered care, participants described circumstances in which issues with technology such as internet connection, and quality of video or audio, has impeded a successful virtual appointment. Naturally, when a provider is unable to see or hear their patient, they miss the information required to make an accurate diagnosis or determine a correct course of treatment. Technological limitations can also have an impact on care in the sense that some treatment methods and tools such as visualization tools and behaviour correction exercises, cannot be used virtually, as noted by some participants.

How providers evaluate the outcomes of their virtual care

Participants described the usage of mental status examinations and patient self-reports as the only tools available to assess their care. Patient self-reports, or other versions of Patient Health Questionnaires, are used to understand a patient's perception of their mood, disposition, and symptoms (Johnson et al., 2002), but do not traditionally capture patient perceptions on effectiveness of care, unless inferred based on a series of patient self-reports over time. Mental status examinations rely on a provider's observation and interpretation of information gathered through the patient assessment (Voss et al., 2022). Per the previously discussed results, therapeutic alliance is one of the elements that can be negatively affected for patients receiving care virtually, due to rapport taking longer to develop, or the quality of conversation diminishing in a virtual setting, and this can cause a loss of patient information. Additionally, loss of information caused by technological issues, inability to see body language and other non-verbal cues, and patient hesitancy to share due to privacy concerns, as reported by participants of this

study, are factors that can limit the insights gained through a mental status examination. Similarly to patient self-reports, the purpose of mental status examinations is to assess the patient's condition and not necessarily to evaluate the effectiveness of care. Both tools are designed for standard in-person mental health care, and therefore don't necessarily account for the nuances of virtual delivery. Considering that Moreno and colleagues (2020) recommended that continuous assessment of patient outcomes in mental health clinical practice be conducted to mitigate the limitation of virtual delivery, the results of this study suggest a two-fold issue – firstly, that the accuracy of existing tools (i.e., mental status examination) is impacted by the complexity of virtual care, and secondly, that there is an overall lack of tools or methods that telemental health providers can use to assess the effectiveness of their care.

How providers plan to improve the effectiveness of their care

Generally, participants did not have a strategy or plan for implementing improvements to their virtual care. For psychiatry resident participants, it was noted that there is a lack of external pressure to make improvements or to consider how to make improvements.

As Schaffer and colleagues (2020) noted that better evidence is needed to understand whether virtual care is effectively filling the role of in-person mental health care (Schaffer et al., 2020), it is worth noting that most participants of this study reported that they would ideally supplement their virtual care with in-person care, to improve the overall effectiveness and quality of their care. A key finding of this study is participants' interest in using patient-dependent factors to determine when virtual care would be appropriate to use. Participants identified that patients with mental health conditions that require behavioral-based treatment, such as Obsessive Compulsive Disorder (OCD) and General Anxiety Disorder (GAD), are not necessarily suitable for virtual

care due to the types of treatments required being incompatible with virtual appointments. Additionally, participants each mentioned that virtual care is in most cases more suitable for younger populations due to adaptability and increased comfort with technology, compared to older populations.

5.3 Limitations

This study has potential limitations pertaining to the method of participant sampling and reliability of the findings. Firstly, the small number of participants must be taken into account as sample size larger than 10 participants would usually prove beneficial for any study to allow for a more comprehensive analysis. Additionally, all participants are affiliated with a Canadian psychiatric residency program which is not representative of all mental health care providers that would have experience delivering services virtually and possibly valuable information to contribute to this research.

Although the nature and size of the sample used for this study should be considered when generalizing the findings, the use of semi-structured interviews proved effective in gaining in-depth and meaningful data from the participants that provided valuable insight. Also, according to Trochim and colleagues (2004), a sample size of 10 to 12 is sufficient for expert sampling as the data collected from the sample will ideally be more concentrated and relevant to the research topic (Trochim et al., 2004). With this, the sampling limitations do not impact the results of the study.

5.4 Recommendations for practice and future research

Per the results of this study that suggested virtual care being appropriate for some patients and not others, psychiatrists, and other mental health providers, should implement in practice a triage approach or diagnostic instrument to determine the appropriateness of virtual care for each patient, rather than leaving it to the patient's preference. Following an initial assessment, providers should be able to make an informed decision on whether the patient is eligible for virtual care based on, according to the findings of this study, the nature of the presenting mental health condition, symptoms, accessibility to technology and the patient's age. This would ensure that patients for whom virtual care would be ineffective, can be prioritized for in-person treatment and receive the most effective care available for them. Future research should be conducted to identify the specific variables to consider for a tool to determine appropriateness for virtual care, and subsequent research to evaluate the improvement of the effectiveness of telemental health care following the implementation of practices to ensure only suitable patients are being treated virtually. There should also be consideration to develop new policies or enhance existing policies to ensure that virtual mental health care is used only when most appropriate for patients. Mental health providers should be provided guidelines to ensure that future-developed diagnostic tools or approaches for determining patient suitability are properly and consistently used in practice.

As the findings of this study suggest, there is a significant gap in existing methods and tools for assessing the effectiveness of mental health care delivered virtually, future research should explore how mental health assessment tools should be adapted or created to account for limitations of virtual delivery such as loss of patient information and impact on patient-provider interaction. Future studies should also explore the development of key performance indicators

that could be used to assist virtual mental health providers in measuring the effectiveness of their care. Ideally, telemental health providers would have a standardized approach for understanding the effectiveness of their care that can then be used to make targeted improvements to overcome the barriers and maintain a standard of excellence for all mental health care.

It will be crucial for psychiatry resident programs, as well as other mental health provider training programs, to incorporate considerations of virtual care effectiveness and limitations of virtual care in their curriculum and training modules to ensure future practicing mental health providers are aware and prepared to make improvements to their care as future research provides better direction for this field.

Every year, one in five Canadians experiences a mental health illness (Smetanin et al., 2011), causing mental health to be a perpetuating concern that weighs heavily on our health care resources. Virtual mental health care is an extremely valuable tool, and with future research and continuous improvement, it can be a sustainable feature of the Canadian health care system that contributes to ensuring individuals facing mental health concerns are consistently treated as effectively as possible.

5.5 Contributions

This study advances academia's and practitioners' overall understanding of virtualized mental health care by further describing providers' views of positive impacts that virtualization has on mental health care, as well as barriers that should be used as key areas for improving virtual care such as loss of patient information, privacy concerns and technology limitations.

Importantly, the results of this study highlight the overall lack of tools available to telemental health providers to assess patient outcomes, therefore impeding the assessment of virtual mental health care effectiveness which urges the need for future research in this area.

Moreover, this study illustrates an opportunity for the future of virtual mental healthcare to be improved through research that explores policy intervention to deter virtual care usage when inappropriate or counterproductive for patients.

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Appendices

Appendix A - Interview Protocol

- I. Introduction/Purpose of Interview
- II. Consent
- III. Telemental health care experience
 - a. Describe the extent of your experience in providing telemental health care.
 - b. In your opinion, what are the limitations and benefits of telemental health care?
 - i. *Funnel question example* What about X makes it a limitation for telemental health care?
- IV. Delivery of telemental health care
 - a. Describe how the diagnosis process differs for telemental health care in comparison with in-person care.
 - b. Are there certain protocols or procedures in place for telemental health care that do not exist for in-person care?
 - c. How are your treatment or care methods affected by virtual delivery?
 - d. How do your interactions with patients differ between telemental health care and in-person care?
- V. Evaluating effectiveness
 - a. In your experience, how effective is telemental health care in comparison to in-person care?
 - b. How do you evaluate the effectiveness of your virtually delivered care compared to in-person care?
 - c. Are there processes you currently have in place (e.g. assessments) that you use to understand the effectiveness of your virtual care?
 - d. How do you assess the outcomes of your patients that are treated virtually?
- VI. Continuous improvement
 - a. What is your strategy for implementing improvements to your care?
- VII. Thank-you and closing

Appendix B - Codebook

| Code ID | Code Name | Code Description | Example |
|----------------|--|--|---|
| 1 | Residency training | Statements about being a resident or being in residency. | "I would have to take initiative to do that, so I guess when you're in your residency, that's still part of your training to become that practicing psychiatrist, but implementing improvements is not embedded in your training at all." |
| 2 | Benefits of virtual care for patients | Statements about any benefits or positive aspects of virtual care for patients. | "I think it's great for accessibility purposes and for patients who live far or who have difficulty leaving the House, which is a big component in psychiatry, for example, folks who have anxiety disorders and panic attacks or social anxiety, agoraphobia." |
| 3 | Increased patient information due to virtual | Statements about virtual care resulting in increased information about patients or increased access to information about patients. | "It gave me great information on the home dynamics because if you see three children screaming and running background move on straight assessment you really can get a glimpse into how chaotic or supportive environment" |
| 4 | Technology issues/limitations | Statements about technology issues or limitations of virtual care due to technology. | "Technical issues sometimes ended up delaying appointments by 30 minutes to an hour, and then during the appointment, it freezes, or you can't hear the patient anymore." |
| 5 | Body language/non-verbal cues | Statements about patient's body language or information that is transferred by visually seeing the patient. | "I am only able to see the patient shaking if I can see their body" |

| | | | |
|----|--|--|---|
| 6 | Privacy, safety, and consent | Statements about how/if virtual care impacts patient privacy, safety or consent. | "I like to talk to the patient's one-on-one, but you can't assure privacy when it's virtual because you don't know that somebody else isn't listening. The patient doesn't know that nobody else is listening." |
| 7 | Appropriateness/patient suitability for virtual care | Statements about virtual care being appropriate/not appropriate or suitable/not suitable for patients. | "It is equally effective for patients that are suitable for telemedicine but can be considered sub-par for patients that are not right for telemedicine as I mentioned above. Telemedicine, in some cases, can be counterproductive for certain patients." |
| 8 | Patient comfort/therapeutic alliance/patient-provider connection | Statements about patient's comfort with virtual care, and therapeutic relationship between patient and provider. | "It might make it sometimes a bit harder to establish a good connection with the patient because we're not there in person." |
| 9 | Loss of patient information due to virtual | Statements about a loss of information or decrease in information due to virtual care. | "So I think there's information that's missed because they don't want to disclose everything necessarily or like at the house is small or if they have roommates or like, there's some patients who just don't want to be on camera because if they're paranoid, if they have any or something like, they're worried that their computers bugged, so it doesn't work for everybody. " |
| 10 | Complicating diagnosis/assessment process | Statements about virtual care causing complications to diagnosis process or assessment of patient. | "There's a difference in the mental status evaluation, which is an important part of the psychiatric assessment. But you can take a mental status and see an obvious diagnosis, but the history of the patient would be more important to determine between, for example, schizophrenia and drug |

| | | | |
|----|--|---|--|
| | | | addiction, as they could present the same on a mental status exam." |
| 11 | Impact on therapy/treatment | Statements about how/if virtual care impacts a therapy or treatment. | "Psychotherapy methods can be negatively impacted by virtual care." |
| 12 | Distinction between types/severities of mental health conditions | Statements about how virtual care impacts a mental health condition or the impact of virtual care depending on the type of mental health condition. | "I think there is an advantage of some folks you know, for example, people with depression and mood component, there is a benefit actually of behavioral activation, getting dressed, getting out of the house out of the bench and leaving the environment." |
| 13 | Distinction between patient age groups | Statements about virtual care impacting age groups differently or how age groups responded to virtual care differently. | "It was challenging with the geriatric population that doesn't necessarily understand how technology works and to try and connect with them." |
| 14 | Patient forms/patient self-reports | Statements about forms, self-assessments, or self-reports that patients fill out to provide information about themselves and their mental health condition. | "We do mood forms that patients fill out and mental status to understand how treatments are improving a patient's condition, but that's really the only thing we have to give us insight into how effective our treatments are, other than just observing the patient. " |
| 15 | In-person care as a complement to virtual | Statements about virtual care being done in complement to or in addition to in-person care. | "Strategies for improving my virtual care would be the complement more within person care when possible." |

Appendix C – Interrater Reliability Calculation Table

| | | Rater 1 | | | | | | | | | | | | | | | |
|---------|-----|---------|----|---|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Code ID | N/A | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| N/A | 21 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 31 |
| 1 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| 2 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 3 | 1 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 4 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| 5 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| 9 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 23 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 12 |
| 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 8 |
| 15 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 16 | 202 |
| | 32 | 11 | 12 | 4 | 21 | 12 | 18 | 13 | 15 | 21 | 4 | 3 | 12 | 6 | 10 | 8 | 202 |

Appendix D – Consent Form

Title of the study: Assessing the Effectiveness of Telemental Health Delivery Post Pandemic

Talia Chin, Telfer School of Management
François Durand, Telfer School of Management

Invitation to Participate: I am invited to participate in the abovementioned research study conducted by Talia Chin and François Durand.

Purpose of the Study: The purpose of the study is to investigate how telemental health providers are assessing the effectiveness of their virtual care, post-pandemic.

Participation: My participation will consist essentially of attending a 30-minute virtual interview during which I will be orally responding to various questions. The interview has been scheduled for _____ via Zoom.

Benefits: My participation in this study will contribute to building a body of knowledge that will benefit future telemental health care patients and improve overall telemental health care quality.

Confidentiality and anonymity: I have received assurance from the researcher that the information I will share will remain strictly confidential. I understand that the contents will be used only for this study and that my confidentiality will be protected by anonymizing my identification.

Anonymity will be protected in the following manner: a random identification code will be assigned to my file and responses, and the use of my name/email will not be used beyond the initiation of the interview.

Conservation of data: The data collected (interview responses in electronic and hard copy) will be kept in a secure manner in on online secure folder or a locked cabinet.

Voluntary Participation: I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. If I choose to withdraw, all data gathered until the time of withdrawal will be virtually shredded (Shred-it) or physically shredded.

Compensation: I will receive a \$50 Amazon gift card as compensation for my participation.

Acceptance: I, _____, agree to participate in the above research study conducted by Talia Chin of the Telfer School of Management, University of Ottawa, which research is under the supervision of François Durand.

If I have any questions about the study, I may contact the researcher or her supervisor. If I have any questions regarding the ethical conduct of this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5. Tel.: (613) 562-538. Email: ethics@uottawa.ca

There are two copies of the consent form, one of which is mine to keep.

Participant's signature:

Date:

Researcher's signature:

Date:

Université d'Ottawa

Bureau d'éthique et d'intégrité de la recherche

University of Ottawa

Office of Research Ethics and Integrity

CERTIFICAT D'APPROBATION ÉTHIQUE | CERTIFICATE OF ETHICS APPROVAL

| | |
|---|---|
| Numéro du dossier / Ethics File Number | S-06-22-8145 |
| Titre du projet / Project Title | Assessing the Effectiveness of Telemental Health Delivery Post-Pandemic |
| Type de projet / Project Type | Thèse de maîtrise / Master's thesis |
| Statut du projet / Project Status | Approuvé / Approved |
| Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy) | 12/07/2022 |
| Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy) | 11/07/2023 |

Équipe de recherche / Research Team

| Chercheur / Researcher | Affiliation | Role |
|-----------------------------------|--|---|
| Talia CHIN | École de gestion Telfer / Telfer School of Management | Chercheur Principal / Principal Investigator |
| François DURAND | École de gestion Telfer / Telfer School of Management | Superviseur / Supervisor |

Conditions spéciales ou commentaires / Special conditions or comments

550, rue Cumberland, pièce 154 550 Cumberland Street, Room 154
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada

613-562-5387 • 613-562-5338 • ethique@uOttawa.ca / ethics@uOttawa.ca
www.recherche.uottawa.ca/deontologie | www.recherche.uottawa.ca/ethics