EVALUATION OF VIRTUAL CARE AND TELEPSYCHIATRY AT A COMMUNITY MENTAL HEALTH CLINIC

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Abstract

Background: The motivation for this practicum project was in response to the global COVID-19 pandemic and changes in healthcare delivery. For the first time, virtual care was approved as an appropriate modality of treatment at a Community Mental Health Clinic (CMHC). Both clinicians and consumers of service were faced with a significant transition of care from in-person appointments to exclusively virtual care. From that, a service evaluation survey was deemed important to gather feedback and gain understanding of the overall virtual care experience at a CMHC.

Objective: The main objectives of the practicum project were to develop advanced nursing competencies, and to contribute to the CMHC and overall mental health program, by providing meaningful feedback of virtual care.

Methods: The service evaluation project consisted of three key elements; the integrative literature review, consultations with key stakeholders, and the service evaluation survey.

Results: The literature was favorable of virtual care across a variety of settings and populations. The consultation process helped to target key areas of interest in the evaluation survey. The results from the evaluation survey were supportive of continuing with virtual care, as participants reported having strong connections and high comfort levels with telehealth treatment.

Conclusions: The practicum project was a timely and relevant project that provided insight into virtual care at a CMHC, and provided recommendations to improve overall mental health treatment and satisfaction levels for both clinicians and consumers of service.

Key words: Virtual care, telepsychiatry, mental health, COVID-19 pandemic

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To my family and friends, I would have never gotten through this degree without you. My husband and children specifically, who gave me the space I needed to invest in this degree. Lastly, to my parents, who always taught me the value of education, challenging myself, and forever growing personally and professionally.

Evaluation of Virtual Care and Telepsychiatry At a Community Mental Health Clinic

Telepsychiatry and virtual care are considered to be a common and effective practice in delivering mental health treatment. In my own time as a community psychiatric nurse however, my clinical experience has primarily been on-site patient care while working in the community clinic setting. With that stated, psychiatric care within the mental health program where I am employed changed drastically during the COVID-19 pandemic, which is the motivation for this evaluation project. Phone and ZOOM appointments replaced the traditional model of in-person clinic appointments. Given the potential that virtual care may be here to stay, an evaluation of the service and how clinicians and patients perceive this model of care is of utmost importance in delivering optimal mental health treatment. As such, I believe this is a tangible evaluation project that can have a direct impact on the delivery model within the Mental Health and Addictions Program of the Nova Scotia Health Authority.

The evaluation project surveyed both clinicians and consumers who had engaged in virtual care throughout the pandemic. The survey will inquire about the benefits, limitations, barriers and recommendations about how to expand and make this delivery model sustainable. The community mental health clinic at the Cobequid Community Health Center will be the setting, which consists of 20 staff (including nursing, psychology, social work, OT and psychiatry) that serves over hundreds of patients per month.

A survey was constructed based on consultations with senior clinicians and other key stakeholders (i.e., management), as well as recent literature and previous evaluation projects. Recruitment of survey participants was promoted through meetings and emails encouraging staff members to take part, and also by the primary clinicians reaching out to individuals on their own caseload to advise them of the survey and provide them with information about participating.

Practicum Objectives

The overall goal of the practicum was: to evaluate the effectiveness of virtual care in order to improve both client and staff satisfaction using telepsychiatry.

The key practicum objectives were:

1. To determine the effectiveness of virtual care based on current evidence identified through an integrative literature and feedback from both clinicians and clients
2. To identify barriers or improvements in order to optimize virtual care
3. To collaborate with the interdisciplinary team to further understand their needs and recommend appropriate supports and resources
4. To demonstrate advanced nursing practice competencies

Overview of Methods

To meet the practicum objectives, several methods were used. To initiate the evaluation process, an integrative literature review was completed to examine the current evidence on the goals and outcomes of virtual care and telepsychiatry. This provided important information and a strong foundation to develop a series of consultations to further advance the plan for the service evaluation. To that end, five key stakeholders were interviewed to explore their perspectives and experiences with virtual care and gather their advice on developing a meaningful evaluation project. With this information, a focused evaluation plan was developed that provided direction for every stage of the evaluation process. The evaluation was implemented in the second and final semester of the practicum experience. A brief survey was constructed using an online survey software, entitled “SelectSurvey”. Recruitment of both mental health clinicians and consumers was completed to promote the survey that went live for three weeks. Upon closure of the survey, data analysis was completed and findings were generated. In addition, based on the

survey results, recommendations were developed for the clinic with suggested strategies for service improvements.

Integrative Literature Review

The integrative literature review was completed on the effectiveness of virtual care and telepsychiatry. The review was conducted to provide both evidence on the value and outcomes of virtual care and initial direction on the development of the evaluation survey. Three primary themes were identified and synthesized, including technology effectiveness, patient satisfaction and nurse-led telehealth initiatives. The Infection Prevention Control Guidelines Critical Appraisal Toolkit (Public Health Agency of Canada, 2014) was used to appraise the strength of the studies. A summary of the integrative literature review follows and provides additional information related to the findings.

Consultations

Individual consultations were held with five key stakeholders via ZOOM between November and December 2021. The stakeholders were invited to discuss their experience with virtual care and provide input on how to effectively develop the survey in order to provide meaningful feedback to the mental health program. From these consultations, it was determined important themes to address in the survey included access to and training of technology, and comfort and connection within the therapeutic relationship. Lastly, in order to conduct the survey, it was decided to use an online program provided through the Nova Scotia Health Authority entitled “SelectSurvey” to develop and gather results of the project. A summary of the consultations follows.

Service Evaluation

Following the integrative literature view and the consultations, the development of the evaluation project was started. The evaluation survey was designed for both mental health

clinicians and consumers. Each group had their series of seven multiple choice questions, with one open-ended question at the end to provide written feedback. The multiple-choice questions were answered using a five-point Likert-scale. For example, one multiple choice question, "*How comfortable are you with having phone and/or virtual visits*", had the following responses: i) comfortable, ii) somewhat comfortable, iii) undecided, iv) somewhat uncomfortable, and v) uncomfortable. Another question asked if phone and/or virtual appointments were an effective means of delivering mental health/addictions care. This question had the following answers: i) very effective, ii) somewhat effective, iii) undecided, iv) ineffective, and v) very ineffective. Overall, survey questions addressed technology, accessibility to virtual care, comfort level, and connection with treatment. For the purpose of this survey, virtual care was defined as ZOOM meetings or telephone appointments.

Ethical Consideration

Although this project was assessed as being exempt from the need for Health Research Ethics Board approval based on it being a service evaluation, ethical standards were maintained throughout the evaluation process. No personal information or identifiers were collected as part of the survey. All participation was voluntary, which was outlined in a project information letter for participants. The letter also noted that participation or refusal to participate would have had no impact on treatment provided or received at the CMHC. Lastly, Select Survey is considered to be a secure software program to conduct surveys and collect anonymous data as it requires a username and password in order to access the results.

Survey Distribution

As this was an evaluation of the virtual services in one mental health clinic, survey distribution was internal to that clinic.

Setting

For this project, the setting of the study was the Bedford/Sackville Mental Health Clinic, which is part of the Mental Health Program within the Central Zone of the Nova Scotia Health Authority (NSHA). For the remainder of this paper, it will be identified as a Community Mental Health Clinic (CMHC). The clinic consists of 20 professional staff (including nursing, psychology, social work, OT and psychiatry) who serve approximately 1600 patients per month.

Sample and Recruitment

As noted above, the sample targeted both mental health clinicians and consumers. Incorporating the views and feedback from both parties would help to strengthen the evaluation project given they both participate in treatment, either provided or received. Clinicians were recruited at a clinic level through staff meetings and further questions clarified via email. Consumers were recruited through their primary clinician via an information letter provided to each of the staff members. The information letter describing the study helped to reduce collection bias during this process.

Data Collection and Analysis

The electronic survey ran live between January 15 and February 8, 2021. Fifty-nine responses were returned, with 18 being incomplete. Data was collected through SelectSurvey, a data collection platform where online surveys can be distributed, completed, and organized under one evaluation project. Using descriptive statistics, response frequencies (number and percentages) were compiled for each question. This data analysis feature was available in the SelectSurvey software. The responses to the qualitative question used a thematic analysis to group feedback into categories that addressed technology issues, satisfaction and recommendations to optimize care.

Highlights of the Three Practicum Components

The Integrative Review Process and Findings

An integrative literature review was completed based on the process developed by Whittemore and Knafl (2005). Virtual care and telepsychiatry were searched broadly. A keyword search using reputable databases, such as PubMed, CINAHL, PsychInfo and Google Scholar included the search words: telepsychiatry, virtual care, nursing, mental health, mental illness, community, and telehealth. The target populations for the search included patients accessing telehealth care or healthcare providers delivering virtual care. Strong attempts were made to target those studies that focused on telepsychiatry and virtual mental health care specifically. To optimize search results, other professions outside of nursing and relevant telehealth research were included.

After the final screening, the total number of studies selected from each database included PubMed (n=4), CINAHL (n=3), PyschInfo (n=5), and Google Scholar (n=1), for a total of 13 studies. The studies were both qualitative and/or quantitative, and were appraised by the CASP checklist (for qualitative studies) and the PHAC toolkit (for quantitative studies). There were 13 relevant articles found between the years of 2000 and 2018. They were predominantly English-based studies conducted in the United States. Three themes emerged from the findings of the 13 studies. and are described in some detail below. The themes were: technology effectiveness, satisfaction of the telehealth experience, and nurse-led telehealth. Please refer to Appendix A for full integrative literature review and literature summary tables.

Technology Effectiveness

Six studies explored the effectiveness of virtual technology. Four RCTs (Moreno et al. 2012; Myers et al., 2015; Fortney et al., 2007, & Day & Schneider, 2002) and two cross-

sectional investigations (Zaylor & Cook, 2001, & Thomas et al., 2018) examined technology when providing psychiatric care. In the RCTs, the primary technology used by the intervention group was video-conferencing, while the control group continued to receive the usual in-person care. The findings demonstrated the effectiveness of telehealth and virtual technology as a first-line treatment in psychiatric care. In addition, virtual care was identified as a way to increase the scope of mental health services to the population.

Virtual care was also more efficient in terms of frequency of visits. It raised the standard care for those requiring mental health follow up (Fortney et al., 2017). Further, the two cross sectional studies demonstrated the positive impact of virtual care across different mental health settings and populations and provide support for telepsychiatry as a mainstream service modality.

Satisfaction with the Telehealth Experience

Client satisfaction with virtual care was examined in four studies. Three were quantitative studies (Shore et al., 2008; Glaser et al., 2010; and Mucic, 2010) and one was qualitative (Gibson et al., 2011). Shore et al. (2008) conducted the only RCT, which compared the acceptability of virtual mental health care to in-person appointments in a population of American Indian Veterans. The remaining three studies used surveys and interviews to gather information. Overall, the main focus of the studies was to assess the usability of the technology, perceptions of the experience, cultural competence, and outcomes measures. The quantitative results were generated using appropriate statistical analysis, including descriptive statistics.

Within this theme, there was moderate evidence to demonstrate strong satisfaction ratings amongst a variety of populations that utilized telehealth technologies when in need of mental health care. Other feedback that impacted satisfaction levels regardless of the technology, was

the importance of culturally competent care and that shared thoughts and feelings were understood.

Nurse-led Telehealth

The last theme focused on the significant role that nursing can have on patient care using virtual treatment, with a primary emphasis on phone follow-up. There were three relevant studies exploring nurse-led telehealth initiatives; Hunkeler et al. (2000) and Young et al. (2014) both used a strong RCT study design, while Tietjen and Breitenstein (2017) used a weaker quality improvement program (QIP) approach. Hunkeler (2000) was the only study that examined those experiencing mental health difficulties, while the other two studies addressed physical health conditions. Overall, the results were favorable and found that nurses had positive outcomes when engaging in virtual care with patients.

Consultation Process and Findings

Following the integrative literature review, the consultation process was initiated by reaching out to various key stakeholders within the mental health program. These discussions helped to develop a reliable and applicable evaluation study. Moreover, the consultations helped the project to stay within appropriate limits and expectations of the community mental health mandate. There were five stakeholders contacted between November and December 2020 via email with a consultation invitation letter requesting their time to engage in a one-hour structured interview inquiring about their views and feedback of virtual care. Refer to Appendix B for full consultation report, including consultation invitation template and list of consultation questions. Feedback was gathered by both management and clinical perspectives. All five meetings were arranged via ZOOM and lasted approximately one hour.

Following the five consultations, all the notes were reviewed and organized into like-minded themes. This process took several readings to help secure appropriate and accurate

topics. From that, four main concepts surfaced: appropriate delivery method of the survey, formatting of survey questions, prior feedback of virtual care within the program, and recent COVID-19 research on virtual care with NSHA.

Evaluation Methods and Findings

The evaluation survey consisted of two sets of multiple-choice questions; one for mental health clinicians and another for the consumers. The survey ran live between January 15 and February 8, 2021. Data was collected and interpreted, with recommendations and implications for practice identified from the findings.

Setting

As noted above, the setting of this evaluation project was a CMHC that consists of 20 professional staff (including nursing, psychology, social work, OT and psychiatry) who serve approximately 1600 patients per month. The mandate of the clinic is to treat those diagnosed with moderate to severe mental illness. Historically, the expectation of care was for the patient to attend the clinic in-person. Appointments would have to be cancelled or rebooked if the patient could not come on-site. With the quick implementation of the virtual care during the COVID-19 pandemic, this was a drastic change in healthcare delivery at the CMHC.

The percentage of all attended appointments delivered via phone or virtual care from January 2020 to January 2021 is shown in Figure 1 (NSHA, 2021). It illustrates the shift to virtual care by the uptick noted in March 2020 following the first identified case in Nova Scotia, and continues to be the primary modality of care since that time. This demonstrates the value of conducting this study to truly understand the effectiveness of virtual treatment.

Sample and Recruitment

The project focused on two population samples; mental health/addictions clinicians and consumers. Incorporating the views and feedback from both parties would help to strengthen the evaluation project given they both participate in treatment, either provided or received. The target sample size for the project was n=50, with n=20 of clinicians and n=30 of patients. This number was deemed to be both realistic and strong enough to provide valuable feedback. Clinicians were approached via staff meetings and discussions. Consumers were recruited via standardized information letters provided by their clinician. Refer to Appendix E for information letter template.

Data Collection

In total, there were 59 responses, with 18 being incomplete. Data was collected through SelectSurvey, a data collection platform where online surveys can be distributed, completed, and organized under one evaluation project. In total there were 14 multiple choice questions and one open-ended question at the end requesting feedback. Survey questions addressed were on technology, accessibility to virtual care, comfort level, and connection with treatment. Data analysis was done through description statistics and thematic analysis.

Results

Forty-one participants provided usable surveys. Twenty-one participants (51%) identified as mental health/addictions consumers and 20 participants (49%) identified as mental health/addictions clinicians. From the findings, the majority of consumers and clinicians had a positive experience with phone and/or virtual care. More than 70% of participants found virtual care as an effective means of providing mental health treatment. Similar results were also noted in their connection and comfort levels. Consumers found they had access to appropriate

technology but clinicians identified they did not have adequate training and education. In terms of continuing with virtual care once restrictions lift; the bulk of clinicians were in favor, whereas consumers' responses were more neutral.

Recommendations

Based on the results, three main recommendations and implications for practice were identified: i) on-going support to continue using virtual care, ii) increased training and education with virtual care, and iii) on-going opportunities for feedback and continuing evaluation for service improvements.

Continuation of Virtual Care. As noted above, there remains a keen interest in using virtual care after the restrictions lift. Noteworthy, there remains a percentage of both clinicians and consumers who would prefer on-site but with the option to use virtual care as needed, or if there are barriers to direct person care. Overall, support was strong around the comfort and connection to treatment through phone and virtual treatment, and it is fair to assume that ongoing participation would continue.

Ongoing Training and Education. The most direct feedback received was related to training and education. This was evident from both the multiple-choice answer, as well as qualitative feedback from the open-ended question. Suggestions around ongoing education opportunities, as well as using more user-friendly software and better technology (i.e., webcams), were recommendations made to the mental health program.

Feedback and Evaluation Opportunities. This evaluation project provided an introduction to ongoing exploration about the virtual care experience and could be viewed more as a pilot study. There was strong interest and direct qualitative feedback despite limited recruitment strategies and a short recruitment period. Future surveys could target more specific

questions, such as diagnostics comparisons, demographics, and nursing-focused practice issues. Refer to Appendix C for the full evaluation report.

Advanced Nursing Competencies

As a result of the restraints captured within the pandemic, the nursing profession has proven to be an integral part of changes to healthcare delivery. With that comes a unique opportunity to demonstrate advanced nursing competences through direct-patient care. Moreover, being in a position to contribute to better health outcomes is the foundation of this practicum project and positive study findings have proven to impact those both providing and receiving telemental health services. Three primary core competencies have been developed and demonstrated throughout the project and proved instrumental to the success of the evaluation. These include: research utilization, clinical expertise and leadership (Canadian Nursing Association, 2019).

Research Utilization

This practicum project served as a pilot project to initiative discussion and gather feedback around the effectiveness of virtual care. It allowed for contribution of nursing knowledge to be distributed to proper outlets (i.e., patients, front-line staff and management) to ultimately improve patient care. The utilization of these findings has the potential to impact the whole mental health program, from front-line care to policy making. Another objective of this project is to foster further evaluation of virtual care, given the likelihood it will be an approved modality of treatment for the foreseeable future. The value of this project has the potential to be innovative and improve client care to help sustain virtual care as a new mandated model of care.

Clinical

The evaluation project was directly involved with those involved in the delivery and receipt of clinical care. The setting of the project also involves a multidisciplinary team, which emphasizes a comprehensive clinical approach. This project attempts to optimize clinical care by identifying barriers, limitations and other feedback from clients, with an ultimate goal of improving the overall delivery of virtual mental health care.

Leadership

This project is one of the first attempts to evaluate the effectiveness of virtual care. As such, this project aligns well with the leadership competency, as it is defined as the nursing profession being agents of change, always seeking new ways to deliver care and support the organization or program that they work in. The project will help to advocate for patients and develop a model of care that meets the needs of the patients.

Conclusion

This service evaluation project consisted of three main components; the integrative literature review, consultations with key stakeholders and the service evaluation survey. Each provided a valuable contribution to the overall understanding of virtual care as a meaningful modality of psychiatric treatment. The integrative literature presented quality research that was supportive of virtual care practice among a variety of mental health settings and populations. The consultation process allowed for relevant discussions and provided focus for the evaluation project to target key concepts at a community mental health level. Lastly, the completed service evaluation survey presented results in favor of virtual care, in categories of comfort, connection and access to technology. Recommendations from the project included continuation of virtual care, ongoing training and education of technology, and continuing feedback and evaluation opportunities.

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Appendix A

Integrative Literature Review:

Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health Clinic

Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health Clinic

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Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health Clinic

Given the recent events of the global COVID-19 pandemic, healthcare systems around the world responded in their delivery of medical care. The change was multi-factorial; to not only provide effective, continuity of care but also to respect all protective measures to reduce risk and spread of infection. With that stated, mental health care was no exception. In fact, Zhou et al. (2020) emphasized the importance of maintaining effective and accessible mental health care considering the psychological impact of the pandemic that extended beyond the physical symptoms of the illness.

As a result, virtual care quickly emerged as an alternative model of service delivery as in-person contact was largely discouraged due to the physical restrictions of COVID-19 (Wosik et al., 2020). Not only does virtual care overcome physical barriers of providing treatment but also serves to reduce other costs during the pandemic, such as preserving the short supply of personal protective equipment. Fortunately, this modality of care quickly met the needs of many mental health programs during unprecedented times of self-isolation, quarantine and physical distancing (Zhou et al., 2020). In fact, the need for accessible and effective mental health support is considered greater in times of stress and loss.

With that stated, virtual care was quickly implemented at a Community Mental Health Clinic (CMHC) in order to provide both safe and continuous care to those already engaged in services, as well as providing access to those requiring support in the midst of a global pandemic. Clinically, virtual care (or telepsychiatry) is an instrumental platform for healthcare providers to maintain care through assessments, consultations, therapy, treatment dispositions and medication management (Moreno et al., 2012), which is the primary focus of this particular clinic. It also

allows for collaboration amongst a multi-disciplinary team (Holmes et al., 2020), which is the pillar of the CMHC; including behavioral, social, and human sciences.

The value of telepsychiatry cannot be ignored during the current public health crisis. All steps must be taken to expand access to care to those in need (Whaibeh, Mahmoud, & Naal, 2020). This paper will present an integrative literature review to examine the effectiveness of virtual care in the outpatient setting as an appropriate form of treatment compared to on-site care. This information will inform the upcoming evaluation project on the delivery of telepsychiatry during the pandemic.

Background

The global healthcare system quickly examined how to deliver effective medical treatment since the start of the COVID-19 pandemic. Telehealth was strongly recognized as a critical platform to provide care while helping to flatten the curve and reduce the spread of the disease (Smith et al., 2020). The change to virtual care certainly included the field of psychiatry and those diagnosed with a variety of mental health conditions.

Historically, the mandate of the CMHC to be evaluated has been to offer on-site care only. If an individual is unable to come to the clinic, then the corresponding appointment is cancelled or rebooked. Service delivery through phone and video-conferencing has never been offered as an avenue for care in the outpatient setting at this particular CMHC. However, research supports the value of virtual care and has demonstrated the efficacy of this modality of service. Shigekawa, Fix, Corbett, Roby, and Coffman (2018) completed a systematic review of various telemental health services and found favorable results. Overall, it was found that telehealth treatment outcomes did not differ significantly from more traditional, on-site appointments. In fact, in many studies, the results were found to be advantageous towards

telemental health. These results covered appointments for assessments, diagnostic clarification, as well as psychotherapy and ongoing support. The majority of the diagnosis at hand included depression, anxiety, and PTSD. Antonacci et al. (2008) further supports this stance stating that telepsychiatry is becoming a valued treatment to those having difficulty accessing mental health care. It has been classified as evidence-based treatment for depression, and consistently produces similar outcomes as in-person care.

In brief, telepsychiatry falls on a spectrum of technology that ranges from basic video-conferencing to a sophisticated, collaborative team approach (Hilty, et al., 2008). It can be conducted through means of a "sophisticated teleconferencing equipment and specialized wiring infrastructure…or a more accessible medium that uses commercially available Webcams and standard Internet connectivity is needed" (Moreno et al., 2012, page 1214).

For this integrative literature review, the focus of telepsychiatry will remain on the lower intensity of telemental health care. Given the mandate of the CMHC, this implies that patient contact would be completed through the most cost-effective technology, such as the telephone or ZOOM (free online videoconferencing application). It allows for accessible and affordable care when there are barriers to face-to-face treatments, such as COVID-19 protective measures of quarantine and physical distancing. Similar to providing telepsychiatry to rural areas in order to address geographical barriers, it is fair to compare the limitations of the pandemic as a similar obstacle. With that stated, research supports the use of telemedicine to facilitate medical care when there is a separation between the healthcare provider and the patient (Hilty et al., 2008).

Moving towards telemental health as a viable option is an exciting opportunity at the CMHC. With that stated, it is essential for service providers and patients to have a voice and offer feedback of the treatment provided. During this pandemic, it is paramount that patient care

is not sacrificed and that healthcare providers feel effective with their care. Ensuring the quality of care aligns with the potential benefits of telehealth is of great importance given that virtual care may be here to stay.

Method

A systematic search strategy was conducted to find the most appropriate research to meet the objective of this paper. Results will be summarized into an integrative literature review, which helps to cover a broader range of studies and methodologies (Kennedy, Curtis & Waters, 2014).

A keyword search was conducted using the following databases; PubMed, CINAHL, PsychInfo and Google Scholar to search for relevant studies. Key search words included telepsychiatry, virtual care, nursing, mental health, mental illness, community, and telehealth. The target populations for the search included patients accessing telehealth care or healthcare providers delivering virtual care. Strong attempts were to target those studies that focused on telepsychiatry and virtual mental health care specifically. To optimize search results, other professions outside of nursing and relevant telehealth research were included.

The records identified from the database searches was significant (n>24,000), with majority of studies found from Google Scholar (n=24,000), PubMed (n=159), CINAHL (n=12), and PsychInfo (n=34). At the primary screen, many studies were excluded following a review of the title and abstract. Exclusion criteria included articles not being relevant to the objective of the evaluation survey, and results that were reviews, letters and editorials. Pilot projects or proposed studies were also excluded. After the screening, approximately 10-15 articles were pulled from each database for a full text review.

The most relevant articles required individuals seeking medical treatment through a virtual or telehealth platform or healthcare providers delivering this model of care. There was a focus on psychiatry as it will help to meet the objective of how to best evaluate the virtual service provided during the pandemic. After the final screening, the final results from each search included PubMed (n=4), CINAHL (n=3), PyschInfo (n=5), and Google Scholar (n=1), for a total of n=13 chosen for the integrative literature review. The studies were both qualitative and/or quantitative, and were appraised by the CASP checklist (for qualitative studies) and the PHAC toolkit (for quantitative studies).

Results

There were 13 relevant articles found between the years of 2000 and 2018. They were predominantly English-based studies out of the United States. Three themes emerged from the literature and will be appraised individually below; technology effectiveness, satisfaction of the telehealth experience, and nurse-led telehealth.

Technology Effectiveness

Reviewing the effectiveness of technology is paramount in fully understanding the value of virtual care. There were six studies deemed relevant for this theme; four RCT studies and two cross-sectional designs that examined technology when providing psychiatric care. Moreno et al. (2012); Myers et al. (2015); Fortney et al. (2007); and Day and Schneider (2002) conducted RCTs; while Zaylor and Cook (2001) and Thomas et al. (2018) conducted cross-sectional studies.

Moreno et al. (2012), Myers et al. (2015) and Fortney et al. (2007) explored the effectiveness of technology in treating depression, while Day and Schneider (2002) compared the outcomes of face-to-face, video and audio technology. They all used a strong study design

and appropriate ethical approval in order to evaluate the stated objectives. The sample sizes were adequate to produce statistically significant results while using appropriate analysis for each study.

Moreno et al. (2012) and Myers et al. (2015) used videoconferencing as the intervention compared to treatment as usual (i.e., on-site appointments) for the control group. Using standardized screeners, including the Montgomery–Åsberg Depression Rating Scale (MADRS) and Patient Health Questionnaire (PHQ-9), both studies found statistically significant results. In Moreno et al. (2012), the intervention and control groups differed in their levels of depression (MADRS: $p<.001$; PHQ-9: $p<.001$), quality of life ($p<.01$), and functional ability ($p<.01$) upon completion of the study. Myers et al. (2015) found that although participants improved in both groups, the intervention group had significantly higher improvement ($p<.001$). Comparatively, Fortney et al. (2017) used the Brief Symptom Inventory (BSI) and Global Assessment of Functioning (GAF) to measure outcomes and found an overall improvement in mental health status, quality of life, and high satisfaction rating in the intervention group.

Meanwhile, Day and Schneider (2002) found no statistical difference between the three forms of treatment. However, it is fair to assume then that not one psychiatric delivery model is superior to the other. In other words, face-to-face is not necessarily a more effective form of treatment to virtual care or telehealth, which supports the idea that patients can equally benefit from all forms of therapy. The limitations of the of the RCTs included a lack of diversity of the samples, as they primarily focused on those diagnosed with depression. This makes it difficult to generalize to other psychiatric diagnosis. Therefore, it cannot be assumed these findings would be similar with those experiencing more moderate to severe psychiatric conditions.

Zaylor and Cook (2001) and Thomas et al. (2018) conducted weaker studies using cross-sectional designs. They both identified a clear objective and gained appropriate ethical approval. Zaylor and Cook (2001) looked at clinic outcomes in a prison setting, while Thomas et al. (2018) examined the use of technology to deliver mental health care during pediatric mental health emergencies. Thomas et al. (2018) used a larger sample size of n=494 and collected data from five participating sites to provide more strength to the results.

Standardized screeners and assessments were used to gather data and sophisticated statistical analysis generated the results. Zaylor and Cook (2001) found statistically significant results in relation to positive clinical outcomes [SCL-90-R ($p<0.05$) and CGI ($p<0.01$)], with the most common diagnosis being affective disorders (44%) and adjustment reactions (22%). When compared to the treatment as usual group, Thomas et al. (2018) found those receiving telepsychiatry care had shorter ED lengths of stay ($p<.001$) and lower patient charges ($p<.001$), which are important considerations for both the patient and the healthcare system as a whole. When examined by a system lens, this study allowed for some generalizability of the results by the incorporating several differed ED sites with strong attempts to avoid collection bias.

One limitation was noted in the study was the short duration of care and that other mental health services, aside from the ED department, should be considered in future studies. Similarly, Zaylor and Cook (2001) identified their limitations to be small sample size, short duration of study, and lack of generalizability. Despite the weaker study design and reported limitations however, Zaylor and Cook (2001) and Thomas et al. (2018) were still able to demonstrate the effectiveness of virtual care across different mental health settings and populations. This helps to suggest that telepsychiatry can be a front-runner in delivering psychiatric treatment.

Overall, the studies demonstrate the effectiveness of telehealth and virtual technology to be first-line treatment in psychiatric care and to potentially improve a spectrum of mental health scenarios. Moreno et al. (2012) and Myers et al. (2015) showed moderate quality of evidence in supporting the use of telepsychiatry, with the results showing the positive impact that virtual care can influence psychiatric outcomes. Similar with Fortney et al. (2017) and the other RCT studies, virtual care was able to deliver a higher standard of care to those requiring mental health follow-up, in particular in terms of frequency.

Satisfaction of the telehealth experience

Gaining understanding of the virtual care experience from the perspectives of both patients and healthcare providers is of utmost importance to help evaluate this service. In order for telepsychiatry to be useful, it must be supported by those participating in the treatment. There were four studies deemed relevant for this theme. Three were three quantitative studies (Shore et al., 2008; Glaser et al., 2010; and Mucic, 2010) and one was qualitative (Gibson et al., 2011). Shore et al. (2008) conducted the only RCT to compare the acceptability of American Indian Veterans receiving virtual mental health care to in-person appointments, while the other quantitative studies used surveys, interviews and questionnaires to gather information. All the studies gained appropriate ethical approval.

The main focus of the studies was to assess the usability of the technology, perceptions of the experience, cultural competence, and outcomes measures. All the results from the quantitative studies used appropriate statistical analysis; including descriptive statistics. Shore et al. (2008) found that 96% had a positive response to virtual care and that overall, telepsychiatry was comparable to in-person interviews in terms of patient comfort, satisfaction, and cultural acceptance. Glaser et al. (2010) used a weaker quantitative design but still found moderate

evidence to support positive satisfaction. Results yielded the following approval findings: adequate technology (93.4%), established treatment plan (97%), telemedicine helped prognosis: completely agree/agree (88.2%), telemedicine makes successful clinical decision: completely agree/agree (89.4%), satisfied with telemedicine outcome: completely agree/agree (83.6%), and perceived patient satisfaction: completely agree/agree (83.0%).

Mucic (2010) assessed patient satisfaction with the cultural appropriateness demonstrated by healthcare provider, using a sample population of asylum seekers, refugees, and migrants. Overall, it was found that patient satisfaction was high with the quality of telepsychiatry (i.e., sound and picture quality) and the information was easy to understand. There was a more predominant theme of the value of having healthcare providers focused on cultural competence than technology. Other valued feedback was accessing care in the mother tongue and that their shared thoughts and feelings must be understood.

Gibson et al. (2011) examined the perspectives of telehealth within the Indigenous population through a qualitative approach. The interviews were analyzed using thematic analysis. The information revealed a variety in responses from the community members, with themes ranging from supportive and interested to apprehensive. Identified advantages of telemental health included usefulness, reduction in travel, and client comfort/facilitation of disclosure. Concerns included privacy and security issues, safety concerns (i.e., how to handle a situation if someone was in a crisis and expressing suicidal ideation), and problems with technology. Overall however, having a cultural understanding to underpin the service was highly valued by the patients when using this type of treatment model.

Overall, there was moderate evidence to demonstrate strong satisfaction ratings amongst a variety of populations that utilized telehealth technologies when in need of mental health care.

The study samples were large. For example, Glaser et al., 2010, recruited 737 participants, which gave strength to the results but one limitation noted was the subjective nature of the subject. Other feedback that impacted satisfaction levels regardless of the technology used, it was the importance of culturally competent care and that shared thoughts and feelings were be understood.

Nurse-led Telehealth

The last theme focused on the significant role that nursing can have on patient care using virtual treatment, with a primary emphasis on phone follow-up. There were three relevant studies exploring nurse-led telehealth initiatives; Hunkeler et al. (2000) and Young et al. (2014) both used a strong RCT study design, while Tietjen and Breitenstein (2017) used a weaker quality improvement program (QIP) approach. Hunkeler (2000) was the only study that examined those experiencing mental health difficulties, while the other two studies addressed physical health conditions.

Both RCT studies examined the impact that phone support had on health promotion and symptom improvement over a period of several months. Hunkeler et al. (2000) looked at treatment of depression at a primary care level and Young et al. (2014) looked at health behavior changes in individuals with diabetes. Nursing involvement was used as the intervention compared to treatment as usual for the control group. Larger sample sizes and standardized assessment scales added strength to the studies.

Overall, it was found that the involvement of nursing had a positive effect on engagement in treatment and patient outcomes. Both Hunkeler et al. (2000) and Young et al. (2014) produced statistically significant results from their study, which suggests that patients respond positively to nurse-led telehealth interventions. This was supported by Hunkeler et al. (2000) finding an

improvement in Hamilton Depression scale at 6 weeks (p=0.01) and 6 months (p=0.003), as well as overall patient satisfaction at 6 weeks (p=0.004) and 6 months (p=0.001). These results compared to Young et al. (2014) of higher self-efficacy scores found in the intervention group (<0.05).

Tietjen and Breitenstein (2017) conducted a quality improvement project (QIP) that looked at the feasibility and effectiveness of a nurse-led telehealth intervention at a community neurology clinic. Despite the weaker design and small sample size (n=10), the results still yielded positive patient outcomes, as well as strong satisfaction rating and support by clinic staff. The results found that 90% of patients met their primary target; 40% met or exceeded their goals; 62.5% of patients voiced appreciation of the accountability; and 82. % found the overall program was helpful.

Overall, these nurse-led studies suggest that nurse-led telehealth can support health promotion and eliminate many barriers to cost (including transportation, time, and finances) (Tietjen & Breitenstein, 2017). Moreover, utilizing the nursing scope of practice is a practical means of improving wellness given the position they already hold within the healthcare system.

Discussion

Overall, the integrative literature review supports virtual care as a viable form of mental health treatment to those in need. This was evidenced by the positive outcomes identified in each of the three themes: technology effectiveness, satisfaction with the telehealth experience, and nurse-led telehealth initiatives. Technology was found to be accessible and user-friendly, as well as producing similar clinical outcomes when compared to treatment as usual (i.e., in-person appointments). Patients consistently reported being satisfied with telemental health over a variety of settings, including prisons, outpatient clinics and the emergency department. The main form

of technology used throughout the literature review was phone and video-conferencing, which aligns well with similar technology used at the CMHC. Moreover, nurse-led telehealth was of significant value to demonstrate how their role can positively impact patient care at a telehealth level. Given the mixed professions that makes up the team at a CMHC, it would be fair to suggest this outcomes could translate to other disciplines at the clinic, thus making every profession an important part of the evaluation survey.

It is important to consider that the vast majority of the studies focused on depressive disorders rather than the more severe and persistent mental illness. This may limit generalizability to some presentations as other disorders, such as Schizophrenia and Bipolar Disorder, which typically require more direct care. This limitation is predominantly true for the psychiatric nurse, as these particular presentations commonly comprise the majority of their caseload. Keeping that mind, Hilty et al. (2013) recommend that future research remains on pursuing other areas of psychiatric treatment, such as anxiety, substance use, and psychotic disorders to further expand the virtual care platform.

Furthermore, the findings of this integrative literature review are supported with previous research. Hilty at al. (2013) and O'Reilly et al. (2007) both report comparable findings; stating that virtual care can effectively provide assessments, diagnostic clarification and treatment across many populations and settings, when compared to face-to-face treatment. This suggest that telepsychiatry may be a viable option given that current state of healthcare and the unpredictable nature of the pandemic. Therefore, it is important to successfully evaluate how virtual care has been implemented. Fatehi et al. (2016) suggest a five-stage model in the evaluation of telehealth. The framework includes the following five steps; concept development, service design, pre-implementation, implementation, and post-implementation. Guiding by the principles of the

post-implementation stage, the evaluation survey will attempt to address the utilization of virtual care, the sustainability of the treatment and the overall social impact. The cost-utility analysis is beyond the scope for this particular review but will be kept in view throughout the evaluation process. Not all mental care care can be delivered virtually; some treatment, such as assessments for side effects and long-acting antipsychotic injections, must still be done in person. However, the benefits of maintaining care while adhering to COVID-19 restrictions and recommendations, is a route of treatment that needs to be explored (Smith et al., 2020).

Conclusion

In conclusion, the evidence supports the use of telehealth as an appropriate and advantageous delivery of psychiatric treatment, as noted by both healthcare providers and patients. Three predominant themes emerged from the research technology effectiveness, satisfaction by the telehealth experience, and nurse-led telehealth initiatives. Based on these findings, the evaluation project will be guided on these particular themes when implementing the evaluation survey of telepsychiatry during the pandemic at a CMHC.

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Appendix A: Literature Tables

Study/Design	Methods	Key Results	Critical Analysis
Authors: Tietjen et al. (2017) Title: A Nurse-Led Telehealth Program to Improve Emotional Health in Individuals with Multiple Sclerosis Design: Quality Improvement Project	Sample: n=10 patients diagnosed with MS Recruitment: Patients were recruited from a physician-based assessment on previous treatment, failed interventions and current functioning. Setting: Community Neurology Clinic Program Intervention: comprised of initial face-to-face meeting with a MS-certified nurse, then followed by 5 telephone calls over 12-week period. Motivation interviewing techniques were used. Data collection: Measures included Global Attainment Scale (GAS), Evaluation post-survey, outcomes targets (health promotion behaviors). Descriptive statistics were used in the statistic analysis of the results.	Results: ● GAS on n-10 was (-0.3), which indicates progress towards goals but on average, did not complete them) ● 90% of participants have a GAS of >-1, which indicates primary target was met ● 40% of participants have a GAS of >0, which indicates meeting or exceeding goals ● 62.5% liked the accountability ● 87.5% felt a closer connection to the clinic ● 22.5% found it was somewhat helpful ● 87.5% found the program was very helpful	Strength of Design: Weak Quality: Moderate Comments: Brief telehealth support can result in health promotion, eliminates barriers to care, increases patient satisfaction, keeping costs to the clinic low, comparable results to previous RCT studies addressing telehealth promotional programs Limitations: Small sample size; limited time resources

Study/Design	Methods	Key Results	Critical Analysis
Authors: Glaser et al. (2010) Title: Provider Satisfaction and Patient Outcomes Associated with a Statewide Prison Telemedicine Program in Louisiana Design: Cross-section evaluation Survey	Sample: n=737 patient visits Setting: Louisiana, USA (December 2007 and May 2008) Intervention: Healthcare providers provided survey containing 5 Likert questions (regarding satisfaction) and 6 questions regarding outcome and disposition. Data collection: Surveys were completed following patient interactions in real-time; statistical methods used were uni/bi/multivariable regression methods	Results: ● Adequate technology (93.4%) ● Established treatment plan (97%) ● Telemedicine helped prognosis: Completely agree/agree (88.2%) ● Telemedicine makes successful clinical decision: Completely agree/agree (89.4%) ● Satisfied with telemedicine outcome: Completely agree/agree (83.6%) ● Perceived patient satisfaction: Completely agree/agree (83.0%)	Strength of Design: Medium Quality: Medium Strengths: Used multi-disciplinary team, accessible survey (online), large sample size, variety of age and race of patient encounters Comments: Findings suggest that telehealth is an effective method for healthcare delivery and supported by healthcare providers Limitations: Length of survey was long, few characteristics known about healthcare providers, answers may be subjective given the nature of the survey

Study/Design	Methods	Key Results	Critical Analysis
Authors: Moreno et al. (2012) Title: Use of Standard Webcam and Internet Equipment for Telepsychiatry Treatment of Depression Among Underserved Hispanics Design: RCT	Sample: n=167 adults diagnosed with depression Recruitment: volunteer from community health center who met inclusion criteria for a major depression episode Setting: Community health clinic, USA (July 2008 to June 2010) Intervention group: n=80 (webcam condition) Control group: n=87 (treatment was usual) Data collection: Measures were collected via scales (MADRS and PHQ-9), and analyzed using ANOVA, t-tests	Depression: ● MADRS at 3 and 6 months: ($p<0.001$) ● PHQ-9 at 3 and 6 months: ($p<0.001$) ● Symptom remission ($p=0.06$) ● Treatment response (65% treatment group vs. 55% control group) Quality of Life: ● Q-LES-Q scores at 3 and 5 months : ($p<0.01$) ● Time by intervention favoring webcam group ($p<0.05$) Functional Ability: ● SDS scores ($p<0.01$)	Strength of Design: Strong Quality: Medium Analysis: Sophisticated statistical analysis; baseline characteristics of intervention and control group were accounted for Comments: Findings support a positive impact on the role of telepsychiatry Limitations: Webcam group were seen more frequently which would have affected outcomes

Study/Design	Methods	Key Results	Critical Analysis
Authors: Fortney et al. (2007) Title: A randomized Trial of Telemedicine-based Collaborative Care for Depression Design: RCT	Sample: n=395 primary care patients with depression scores of PHQ9>12 Recruitment: Screened for depression, exclusion criteria identified, participants volunteered from community health center who met inclusion criteria Setting: VA community health clinics, USA (2003-2004) Intervention group: n=177 (telemedicine conditions) Control group: n=218 (treatment was usual) Data collection: Measures were medication adherence, treatment response, remission, health status, quality of life, and treatment satisfaction; used multivariate analysis	Results: ● Treatment adherence at 6 months (p=0.04) and 12 months (p=0.01) ● Treatment response at 6 months (p=0.02) and 12 months (p=0.02) ● Saw overall improvement in mental health status, quality of life, and higher satisfaction in the intervention group	Strength of Design: Strong Quality: Medium Analysis: Sophisticated statistical analysis; baseline characteristics of intervention and control group were accounted for; large sample size Comments: Collaborative care can be established for psychiatric treatment through telemedicine technologies Limitations: Cannot be generalized to private care systems or those experiencing concurrent conditions, such as substance use, anxiety or pain

Study/Design	Methods	Key Results	Critical Analysis
Authors: Day & Schneider, 2002 Title: Psychotherapy Using Distance Technology: A Comparison of Face-to-Face, Video, and Audio Treatment Design: RCT Objective: Does outcome differ depending on mode of delivery and in comparison to the no treatment group	Sample: n=107 clients Recruitment: Clients volunteered following an informed-consent process, inclusion criteria was those receiving psychotherapy Setting: Large mid-western university, USA Intervention: randomly assigned to one of three treatment group: Face-to-Face (n=27), Video (n=26), and Audio Treatment (n=27), they received 5 free sessions of CBT delivered by doctoral students Control group: n=27, no treatment/wait-list group Data collection: Measures were standardized screening forms, including BSI, GAF, Target Complaints method and measures of satisfaction; used MANOVA for statistical analysis	Results: ● Treatment to no treatment ($p<.01$) ● No significant differences were found between treatment groups ($p>.15$) ● Working alliance was significantly and positively correlated with overall outcome ($p=.05$)	Strength of Design: Strong Quality: Medium Analysis: Sophisticated statistical analysis; baseline characteristics of intervention were accounted for Comments: Supports benefits of telepsychiatry and virtual care, as it was found equally beneficial as face-to-face Limitations: Small sample size, short duration of study, lack of generalizability, unsure of lasting benefits of CBT as it did not follow-up after the study

Study/Design	Methods	Key Results	Critical Analysis
Authors: Zaylor & Cook, 2001 Title: Clinical outcomes in a prison telepsychiatry clinic Design: Cross-sectional (descriptive)	Sample: n=44 inmates meeting criteria for depression Recruitment: volunteered clients were screened for psychiatric consultation and then evaluated telepsychiatry service from a user perspective Setting: November 1999 to May 2000, Kansas Medical Center, USA Treatment: Inmates completed SCL-90-R once before consultation and twice during treatment; psychiatry completed CGI after each teleconsultation Data collection: Standardized forms (SCL-90-R completed inmates, CGI completed by psychiatrist), analyzed by ANOVA measures	Results: • SCL-90-R: $p<0.05$ • CGI: $p<0.01$ • Most common diagnoses were affective disorders (44%) and adjustment reactions (22%)	Strength of Design: Weak Quality: Weak Analysis: Sophisticated statistical analysis; standardized scales were used Comments: Supports value of telepsychiatry and that it can be an effective way of providing mental health care in prison Limitations: Small sample size, short duration of study, lack of generalizability

Appendix B

Consultation Report:

Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health Clinic

Consultation Report:

Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health Clinic

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Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health Clinic

This project consists of a process evaluation of the virtual care delivered at a Community Mental Health Clinic (CHMC) during the COVID-19 pandemic. This is inclusive of the treatment provided from March 2020 to present. The evaluation will be done through a survey approach of both clinicians and patients who have engaged in telepsychiatry, with the primary focus being on the effectiveness of the delivery of care and not outcome measures. This project is especially timely given the recent second wave of COVID-19 that has impacted care at the CMHC once again.

The setting of the evaluation project is the CMHC at the Cobequid Community Health Center, located in Nova Scotia. The clinic consists of 20 professional staff (including nursing, psychology, social work, OT and psychiatry) who serve approximately 1600 patients per month. The initial planning stages of the evaluation identified valuable concepts to include in the survey, such as benefits, limitations, and barriers. Additionally, offering space for each participant to share ideas about how to make this delivery model sustainable was also considered.

To ensure the development of a reliable and applicable evaluation study, connecting with key stakeholders within the mental health program was completed. With that stated, the following will discuss the consultation process with five individuals who were chosen based on the value they could potentially add to the project. The value of completing these consultations helped the project to stay within appropriate limits and expectations of the community mental health mandate.

Consultation Objectives

The overall objective of the consultations to identify the key information to be collected,

and the best approach to conducting an evaluation of Telepsychiatry in the CMH Clinic. With that stated, the following specific objectives aided in the development of the questions:

1. Gather appropriate information and resources to develop an effective evaluation survey;
2. Identify any specific populations that are a priority for the evaluation;
3. Identify the primary indicators to be evaluated, i.e., satisfaction, effectiveness etc. and the questions that will elicit the needed data.
4. Discuss outstanding concerns/questions that are present at the MH program level, and incorporate as appropriate into the evaluation.
5. Gather additional feedback from other experienced clinicians who used virtual care previously to the COVID-19 pandemic.

Sample and Setting

The following five stakeholders were contacted via email requesting their time to engage in a one-hour structured interview inquiring about their views and feedback of virtual care. An explanation of the project, along with the purpose of consultation was attached (see please Appendix A). Four of the stakeholders worked for the mental health program within NSHA and one worked privately as a psychotherapist. Of the four stakeholders working for the health authority, two were at management level, one was clinical and another worked for the MH quality team.

Two of the consultants were contacted to gain the management perspective of virtual care and offer access to resources to support this project from the health authority. Their ability to gather statistics to compare differences between pre-pandemic and pandemic numbers, as well as connect with other stakeholders (if deemed necessary) were of further benefit. Both had previous research experience and offered a critical lens of planning for this process evaluation survey.

Lastly, having the opportunity to suggest other outstanding questions from a systems standpoint was of added value to gain insight.

The two clinical perspectives were helpful to gain understanding in conducting and analyzing the data using the most appropriate/accessible technology based on their past research experience. Moreover, having the clinical perspective of virtual care outside NSHA was important given the experience that many private mental health clinics have with telehealth. Although this is a new modality of treatment for CMHC, it has been adopted by other services for many years. This helps to ensure that the level of care is comparable to that which is already working.

Lastly, a quality control team member was chosen based on prior experience of conducting several patient satisfaction surveys and would be able to provide insight in how to make it an efficient/meaningful project. They also have knowledge of online survey software and are a possible contact person to connect with during the winter semester.

Data Collection

Each stakeholder was informed that their participation was voluntary. With that, they all agreed to volunteer their time to meet for the consultation. All five meetings were arranged via ZOOM and lasted approximately one hour. Each conversation was guided by a series of questions that were deemed most appropriate for the stakeholder (see Appendix B). Information was recorded via note taking and key themes were organized into like-minded themes.

Ethical Considerations

Each meeting with the stakeholder was on a voluntary basis and the meeting took place in the master student's office, which is considered to be a private setting. Participants were made aware that no personal identifiers would be used in the final report of the project. Agreement for

notes to be taken was arranged prior to the interviews being conducted. For the evaluation project itself, no ethical approval will be required for the purpose of the survey [please refer to Appendix C for Health Research Ethics Authority (HREA) Screening Tool].

Results

Following the five consultations, all the notes were reviewed and organized into like-minded themes. This process took several readings to help secure appropriate and accurate topics. From that, four main concepts surfaced: appropriate delivery method of the survey, formatting of survey questions, prior feedback of virtual care within the program, and recent COVID-19 research on virtual care with NSHA.

Delivery Method of the Survey

The prominent point of discussion throughout each consultation was the delivery method of the survey. Three of the stakeholders had previous survey experience and recommended an online program through NSHA, entitled SelectSurvey. It is a free and user-friendly program available for any health authority employee. Once the questions are finalized, there is a step-by-step process to upload them into the program, which generates the online survey. There is a data analysis component to the software as well; it will populate the data once the survey is complete through descriptive statistical analysis. Completing the evaluation survey is also easy for the participants. They can be emailed a link and complete the survey anonymously.

With the support of the CMHC's Health Service Manager, the evaluation project will be discussed throughout the program, including staff meetings and team emails encouraging participation. Efforts will be made to reach out to all professionals in the mental health program to seek their involvement and, if possible, survey the patients from their caseloads to get a comprehensive range of feedback from clinicians and clients alike. Two concerns noted across

the consultations involved the presentation of the evaluation study to clients. The first was the consistent and accurate description of the purpose of the project, as well as patients feeling obligated or potentially worried that their feedback would somehow affect their treatment. In response, it was decided to create a standardized script in order to assure the patients their participation was voluntary and their feedback would be anonymous, which would have no impact on their treatment at the CMHC

Formatting of Survey Questions

The second theme from the consultation was the formatting of the survey questions. This conversation was held amongst all five stakeholders, who supported the survey being direct and concise. Based on the success of previous evaluation surveys, it was recommended that the survey have no more than 10 questions and that they be close-ended. Participants could answer the questions either via yes/no or using a rating scale. Another suggestion was having a one open-ended question asking participants to provide other feedback that the survey may not have addressed for their needs.

Another point related to the population that the survey wanted to target. Feedback from both healthcare providers and patients were deemed equally important but there was concern around the wording to address both samples. It was suggested that the structure of the survey be adjusted depending on which participant would be completing it. It was decided that the evaluation survey be divided into two sub-surveys. This would be organized at the beginning of the evaluation, where the participant would choose either “healthcare provider” or “patient” and would be taken to the appropriate questions. This suggestion was based on a previous survey on pandemic-related concerns by the quality team in early spring 2020. The response rate was not favorable, which ultimately bolsters the value and importance to optimize this evaluation project.

Virtual Care Feedback

The third theme is prior feedback of virtual care from both clients and staff. This is important as the pandemic has impacted the delivery of mental health care for the last six months. For healthcare providers, the main concerns have been centered on appropriate training and education around the use of virtual care, including documentation and legalities of ZOOM technology. For patients, the main feedback was around access to phones or other pieces of technology, including computers for ZOOM.

This has been taken to management level and strong attempts have been made to address this. Weekly online modules have been offered to healthcare providers to address treatment delivery through a virtual care model. Moreover, a designated IT person was provided to help clinicians with any troubleshooting when confronted with IT problems. For patients, the MH program funded access to library computers and cell phones to use for appointments. Although there has been a timely response in an attempt to address these concerns, there has been no follow-up to assess whether it has been helpful. As such, including these in the evaluation survey would most certainly be applicable.

COVID-19 Research

The last theme was reviewing any research previously done on virtual care and various telehealth initiatives since the start of the COVID-19 pandemic. Discussions were held solely on studies completed within Nova Scotia Health Authority. It was discovered that two specialty programs within the mental health program looked at virtual care; Early Psychosis Program (EPP) and the Operational Stress Injury Clinic (OSI). Favorable results of virtual care were found in both studies; including Daigle & Rudnick (2020) stating that virtual care should be considered as an effective form of treatment even after the pandemic. It was noted however that

no CMHC had evaluated the effectiveness of telepsychiatry and this project may be a valuable starting point in the sustainability of telepsychiatry within the mental health program. All stakeholders showed an invested interest is this project and suggested a presentation to the mental health program once completed.

Summary

The consultations with key stakeholders held valuable and tangible discussions to aid in the development of this process evaluation. This was especially timely given the second wave of COVID-19 impacting mental health services once again. The key themes derived from the meetings (appropriate delivery method, formatting of survey questions, prior feedback of virtual care, and COVID-19 research within NSHA) all helped to move the project along substantially. Meaningful topics, such as technology, training and accessibility, will be considered during the development of the survey questions. Recommendations moving forward include completing the LSM orientation module on SelectSurvey and getting familiar with the software to ensure successful implementation of the project. Remaining connected with the stakeholders throughout the project for support was also suggested.

This project has strong potential for clinical and systemic feedback to help the mental health program in their virtual care endeavors. This was evidenced by the overall supportive stance and encouragement by the stakeholders to reinforce the value of this process evaluation. Reconnecting with stakeholders after the completion of the project to share the information, as well as to present it to other players within NSHA, will also be considered in the future.

References

Daigle, P., & Rudnick, A. (2020). Shifting to Remotely Delivered Mental Health Care: Quality Improvement in the COVID-19 Pandemic. *Psychiatry International, 1*(1), 31-35; doi:10.3390/psychiatryint101000

Appendix A

Consultation Invitation Letter via Email

Dear Potential Consultee,

I am currently enrolled in the Masters of Nursing program at Memorial University. My final course is to complete a practicum project, which is entitled: *Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health Clinic.* With that stated, I am requesting to meet with you, by phone or in person, to consult with you about the development and implementation of the evaluation. Your guidance and expertise will help ensure the project is strong and useful to the clinic. Any involvement is at your discretion and confidentiality will be upheld. Please respond to this email if you are willing to meet with me at a time that is convenient for you. I thank you in advance for considering this request.

Regards,

Sally Carvery

Appendix B: Consultation Example Questions

Was the objective of delivering quality mental health care using Telepsychiatry and virtual care met during the pandemic? Please explain.

What barriers or other factors were encountered while implementing virtual care?

Did your clients express any concerns about virtual care?

What did you like / dislike about this mode of service delivery?

Did the technology work effectively? Was it user friendly?

Was there any difference in the number of missed appointments?

What are the most important characteristics of virtual care that you would like to see addressed in the evaluation?

What feedback have you received from front-line staff about virtual care?

Has there been any feedback from the public that has been helpful or concerning?

What program measures are currently being collected in the clinic that could inform the evaluation?

What technology does NSHA have to collect data (i.e., online surveys)?

How many questions are sufficient to include in an evaluation survey?

Which form of questioning is better to gather information: open or closed-ended questions?

Appendix C: Health Research Ethics Authority (HREA) Screening Tool

Student Name: Sally Carvery

Title of Practicum Project: Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health Clinic

Date Checklist Completed:

This project is exempt from Health Research Ethics Board approval because it matches item number _**3**_ from the list below.

1. Research that relies exclusively on publicly available information when the information is legally accessible to the public and appropriately protected by law; or the information is publicly accessible and there is no reasonable expectation of privacy.
2. Research involving naturalistic observation in public places (where it does not involve any intervention staged by the researcher, or direct interaction with the individual or groups; individuals or groups targeted for observation have no reasonable expectation of privacy; and any dissemination of research results does not allow identification of specific individuals).
3. Quality assurance and quality improvement studies, program evaluation activities, performance reviews, and testing within normal educational requirements if there is no research question involved (used exclusively for assessment, management or improvement purposes).
4. Research based on review of published/publicly reported literature.
5. Research exclusively involving secondary use of anonymous information or anonymous human biological materials, so long as the process of data linkage or recording or dissemination of results does not generate identifiable information.
6. Research based solely on the researcher's personal reflections and self-observation (e.g. auto-ethnography).
7. Case reports.
8. Creative practice activities (where an artist makes or interprets a work or works of art).

For more information please visit the Health Research Ethics Authority (HREA) at

https://rpresources.mun.ca/triage/is-your-project-exempt-from-review/

Appendix C

Evaluation Report:

Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health and Addictions Clinic

Evaluation Report:

Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health and Addictions Clinic

Sally Carvery, 20118007

Memorial University

N6661

Professor: Dr. J. Maddigan

February 27, 2021

Abstract

Background: The global COVID-19 pandemic drastically changed how health care was delivered. Mental health treatment was no exception. Virtual care was quickly implemented at a Community Mental Health Clinic (CMHC) for the first time as an acceptable form of treatment. Using this platform of care allowed the clinic to maintain care while adhering to pandemic restrictions and social distancing.

Objective: This evaluation was designed to examine the effectiveness of virtual care from both clinician and patient perspectives. The goal was to ultimately improve both client and staff satisfaction using telepsychiatry.

Methods: An online survey was created to collect data exploring technology, comfort level and connectedness to treatment using phone and/or virtual care. Descriptive statistics and thematic analysis were used to summarize the data from the survey. The survey was open to recruitment between January 15 and February 8, 2021.

Results: In total, 59 responses were received over the three-week period but 18 were unusable. Twenty-one patients and 20 clinicians completed the survey. For both groups, phone and/or virtual care were the primary modes of contact during the pandemic. Both groups indicated that in general, they were satisfied and connected to the treatment. Qualitative feedback from the participants included the need for more training with online technology but overall felt virtual care was a strong fit with their treatment.

Conclusions: The survey provided insight into the virtual care experience and provides knowledge to inform the improvement and optimization of virtual care at a CMHC. Recommendations were made for improvement.

Key words: Virtual care, telepsychiatry, mental health, COVID-19 pandemic

Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health and Addictions Clinic

The recent events of the global COVID-19 pandemic impacted healthcare systems around the world, with mental health care being no exception. The pandemic created a notable shift in how mental health treatment was being delivered. In addition to providing effective and continuous care to consumers, respecting protective measures to reduce risk and spread of infection was also of great importance. Zhou et al. (2020) recognized mental health as an essential service and emphasized the importance of maintaining effective and accessible mental health care considering the psychological impact of the pandemic that extended beyond the physical symptoms of the COVID-19 illness.

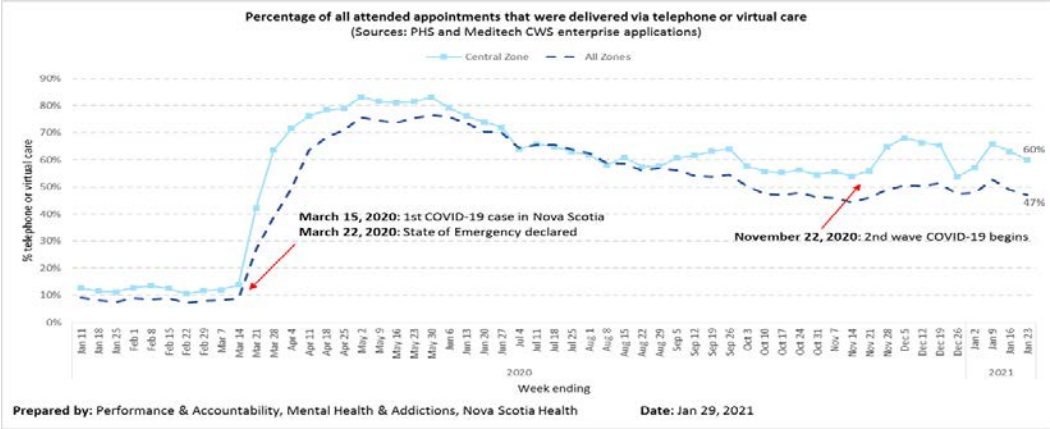
As a result of the pandemic, virtual care quickly emerged as an alternative model of service delivery as in-person contact was largely discouraged due to the physical restrictions of COVID-19 (Wosik et al., 2020). Clinically, virtual care (or telepsychiatry) is an instrumental platform for healthcare providers to maintain care through assessments, consultations, therapy, treatment dispositions and medication management (Moreno et al., 2012). It also allows for collaboration amongst a multi-disciplinary team (Holmes et al., 2020), which is the pillar of the CMHC; including psychology, psychiatry, behavioral and social sciences. For this particular clinic, there were two main types of virtual care implemented; telephone and ZOOM.

Not only does virtual care overcome physical barriers of providing treatment but also serves to reduce other costs during the pandemic, such as preserving the short supply of personal protective equipment. Fortunately, this modality of care quickly met the needs of many mental health programs during unprecedented times of self-isolation, quarantine and physical distancing (Zhou et al., 2020). With that stated, virtual care was rapidly implemented at a Community Mental Health Clinic (CMHC) in order to provide both safe and continuous care to those already engaged in services, as well as providing access to those requiring support in the midst of a global pandemic. This involved a steep learning curve for all those involved. This led to a curiosity about the effectiveness and future impact this change had on the clinic. Is this clinic still delivering mental health treatment that supports clients in the manner in which they need?

As noted in Figure 1, the graph depicts the use of telephone and virtual care at the beginning of the pandemic at the CMHC. The graph shows the percentage of mental health and addictions appointments delivered via telephone or virtual care over a one year period between January 2020 and January 2021. The CMHC is located within the Central Zone of the Nova Scotia Health Authority (NSHA), which is considered the largest and most urban zone out of the four zones in the province. The second line shows the use of telephone and virtual care throughout the rest of the province. The changes in care are comparable between Central and the rest of the zones, with Central having slightly higher percentages of virtual care over the past year.

Figure 1

Percentage of all Attended Appointments Delivered Via Telephone or Virtual Care



As depicted in Figure 1, there was a notable jump in virtual care in March 2020 during the first wave, shortly after the first COVID-19 case was identified in Nova Scotia and a state of emergency was declared. There was a gradual taper over the course of the summer, as on-site appointments were slowly introduced back into care. However, a second jump in virtual treatment happened again in November 2020 during the second wave of the pandemic. During the height of the restrictions, clinicians were encouraged to only have up to 25% of their caseload on-site, with rest being done virtually. This leaves approximately 1200 appointments being completed monthly via technology, which is a significant amount of virtual patient contact.

The significant shift in telephone and other virtual services over the past year highlights the value of evaluating its effectiveness. With that, feedback and evaluating its effectiveness is essential for the mental health program. This was a strong motivator to conduct the evaluation project, with the focus on both mental health clinicians and consumers who had participated in virtual care throughout the COVID-19 pandemic. This timely project is particularly relevant to the mental health program given the ongoing pandemic restrictions are still in place since March 2020.

Moreover, the toll the pandemic has placed on the general population is of note as it bolsters the need to provide accessible and continuous mental health care. Hence the importance of understanding the effectiveness and impact of telehealth on treatment locally is necessary as the shift to virtual care, like the pandemic, is anticipated to continue indefinitely.

Literature Review

Historically, the mandate of the CMHC has been to offer on-site care only. If an individual is unable to come to the clinic, then the corresponding appointment is cancelled or rebooked. Service delivery through phone and video-conferencing has never been offered as an avenue for care in the outpatient setting at this particular CMHC. Since the start of the pandemic however, there was a significant uptick in both phone and virtual appointments (as noted in Appendix A). The Nova Scotia Health Authority (NSHA) recognized telehealth as a critical platform to provide care while helping to flatten the curve and reduce the spread of the COVID-19 virus, an approach that is well supported by evidence of treatment during the pandemic (Smith et al., 2020).

The term telehealth, or virtual care, is a form of treatment delivered at a distance. Or in other words, the practitioner and the consumer do not have physical contact. However, it still allows for contact and is an effective means of communication and assessment (Wosik et al, 2020). Examples of virtual care platforms include telephone-delivered therapy, videoconferencing, mental health apps and internet-delivered programs (Reay et al., 2020). Moreover, it is safe to assume that most individuals or families have access to at least one digital product in order to engage in treatment, and does not place additional stress on many of those who are in need of care.

Despite virtual care being a newly approved modality of treatment at the CMHC, the practice itself has been used for some time. Monaghesh and Hajizadeh (2020) describe telehealth and virtual care as a twenty-first century approach that is particularly helpful in delivering routine care where direct patient-provider interactions are not always necessary, such as mental health services. It is considered patient-centered and in the recent events of the COVID-19 pandemic, it protects both the clinician and patient by adhering to social distancing rules (Monaghesh & Hajizadeh, 2020).

Virtual care is further supported by Reay et al. (2020) who state that virtual care is not only feasible and acceptable but also considered just as effective in some cases as in-person care. Comparatively, Shigekawa, Fix, Corbett, Roby, and Coffman (2018) completed a systematic review of various telemental health services and found similar results. The evidence suggests that telehealth treatment outcomes did not differ significantly from more traditional, on-site appointments. In fact, many studies found mental health outcomes to be advantageous towards telemental health. These results covered appointments for assessments, diagnostic clarification, as well as psychotherapy and ongoing support. The majority of the diagnosis reviewed included depression, anxiety, and PTSD. Antonacci et al. (2008) further supports this stance stating that telepsychiatry is becoming a valued treatment to those having difficulty accessing mental health care. It has been classified as evidence-based treatment for depression, and consistently produces similar outcomes as in-person care.

Hilty at al. (2013) and O'Reilly et al. (2007) both report comparable findings; stating that virtual care can effectively provide assessments, diagnostic clarification and treatment across many populations and settings, when compared to face-to-face treatment. Supporting the value of this evaluation project, more relevant research of virtual care encourages those to keep

evaluating the service and gain feedback from those actively involved in providing and researching virtual care during the COVID-10 pandemic. Bojdani et al. (2020) encourages those to share their experience to help bolster dialogue, foster knowledge and facilitate policy makers to develop virtual care in the years to come.

Although there is strong evidence that supports telehealth, there are noteworthy considerations for patients and clinicians, including those who still require on-site care and who are not comfortable or have the skills to use appropriate technology (Reay et al., 2020). Therefore, having an understanding of what diagnosis would benefit most from virtual care needs to be considered when implementing this platform of treatment.

One study found that a nurse-led telehealth system was effective in treating depressive disorders through medication monitoring, behavioral activation, education, brief counselling, emotionally support, and monitoring suicide risk. All which were done without having the client on site (Hunkeler et al., 2001). Other notable diagnosis receptive to virtual care include ADHD, PTSD, anxiety disorders and eating disorders (Shigekawa et al., 208). This is not an option however for those with more severe and persistent mental illness, as some need to come on site for monthly, long-acting injections. Therefore, keeping in mind the appropriateness of treatment for the diagnosis is important.

Nonetheless, policy makers and any healthcare provider need to consider the value of telehealth, even after the COVID-19 restrictions ease. Are there cost-savings? Are consumers satisfied? Is it providing adequate mental health treatment? Are clinicians adequately trained to engage in telehealth? Virtual care could forever change the delivery of mental health care at the CMHC, and starting to understand the views and effectiveness of virtual care is absolutely necessary moving forward.

Evaluation Project

As noted above, virtual care continues to be offered as first line treatment at the CMHC to reduce daily patient flow at the clinic during the COVID-19 pandemic. For those using virtual care, patients are primarily being contacted either via ZOOM or phone. Group therapy also shifted to virtual care, to support those suffering from depression, anxiety, and borderline personality disorder. According to NSHA, virtual care has yet to be evaluated from either the patient or clinician's perspective. Therefore, this project has the potential to provide insight and valuable feedback to the mental health program to optimize patient care and support for clinicians.

The evaluation survey was constructed based on the information gathered from consultations of key stakeholders and from an integrative literature review. The consultations included meetings via ZOOM and/or phone with five individuals who were chosen based on the value they could potentially add to the project. Four of the stakeholders worked for the mental health program within NSHA and one worked privately as a psychotherapist. Of the four stakeholders working for the health authority, two were at management level, one was clinical and another worked for the MH quality team. The value of completing these consultations helped the project to stay within appropriate limits and expectations of the community mental health mandate.

Three main themes emerged from the consultations: i) Assessment of the accessibility of technology, ii) The education and training needed to use the technology effectively, and iii) Satisfaction and comfort levels with virtual modes of care. Survey questions followed the themes and are included as Appendix C. To make the evaluation project attractive for those to participate, the survey was deliberately short, concise, and easy to complete. The clinical

potential of this project was to provide some initial, meaningful feedback to the clinic and mental health program in order to optimize virtual patient care.

Setting

For this evaluation project, the setting of the study was the Bedford/Sackville Mental Health Clinic, which is part of the Mental Health Program within the Central Zone of the Nova Scotia Health Authority (NSHA). For the remainder of this paper, it will be identified as a Community Mental Health Clinic (CMHC). The clinic consists of 20 professional staff (including nursing, psychology, social work, OT and psychiatry) who serve approximately 1600 patients per month.

In brief, NSHA (2020) states “Community Mental Health and Addictions includes a team of mental health and addictions professionals who provide services on an outpatient basis. The team provides assessment, diagnosis and treatment, and outreach services that can help people to manage mental illness, addictions and concurrent disorders. The team works with individuals, families, community organizations, family physicians and others. Treatment may include individual or group therapy”. The target population at the clinic are adults (19 years and older) who are diagnosed with moderate to severe mental health issues. Diagnostically, this includes those with depression, anxiety, mood disorders, psychotic disorders, PTSD, and substance use.

Sample and Recruitment

The project focused on two population samples; mental health/addictions clinicians and consumers. Incorporating the views and feedback from both parties would help to strengthen the evaluation project given they both participate in treatment, either provided or received. It would also help control for selection bias to have multiple participants. The clinicians worked at the

CMHC and comprised a multidisciplinary team; including nursing, occupational therapy, clinical social workers, psychology and psychiatry. The consumer is defined as a patient who engaged in any form of mental health/addictions treatment at the clinic since the start of the COVID-19 pandemic.

The target sample size for the project was n=50, with n=20 of clinicians and n=30 of patients. This number was deemed to be both realistic and strong enough to provide valuable feedback. This initial step targeted the mental health/addictions clinician. The recruitment process started with presenting the evaluation project at the weekly staff meeting. The purpose and rationale was described, along with providing the link to the project. An explanation of consent and confidentiality of the survey was also completed.

The clinicians were then asked for their participation in recruiting their own consumers of service to complete the study. An information letter describing the study was provided to each clinician to help in their presentation and explanation of the project (please refer to Appendix B for details of the information letter). It also provided the survey link, along with student's contact information if any questions arose. Having each clinician recruit from their own caseload was designed to provide a greater diversity of responses, rather than having one discipline only complete the study. The multidisciplinary nature of the clinic team also facilitated the ability to reach a diverse group of service users with a range of mental health conditions, such as, depression, anxiety, trauma, bipolar disorder, schizophrenia, and other severe and persistent mental health conditions. Each clinician was asked to track the number of clients who received the evaluation information sheet to help monitor for any recruitment issues.

Data Collection

The survey ran live between January 15 and February 8, 2021. During that time, there 59 responses, with 18 being incomplete. Data was collected through SelectSurvey, a data collection platform where online surveys can be distributed, completed, and organized under one evaluation project. It is a free software program offered by Nova Scotia Health Authority (NSHA) to their employees. To help ensure the survey was created correctly, a three-hour course entitled "Select Survey - Beyond the Basics" was attended by the student evaluator.

For this project, a SelectSurvey questionnaire with 14 multiple-choice questions was developed. One qualitative question was included at the end of the survey to capture further feedback that the participant deemed important to the survey. Survey questions addressed were on technology, accessibility to virtual care, comfort level, and connection with treatment. Once the survey was created and no further changes were required, it was closed and an online link was generated for survey participants. The survey link was included with the information sheet for participants. The link brought the participant directly to the evaluation survey. Once completed, the information was stored until the survey was closed to recruitment and then it was compiled for analysis. The survey was distributed to 20 clinicians but the number of information sheets that was provided to the patients is unknown.

Data Management and Analysis

The 14 multiple choice questions had 5 response choices for each question, which were tailored to each question. For example, “How comfortable are you with having phone and/or virtual visits”; corresponded with the following answers; comfortable, somewhat comfortable, undecided, somewhat uncomfortable, and uncomfortable. Another question asked if phone and/or virtual appointments are an effective means of delivering mental health/addictions care.

The answers to choose from were very effective, somewhat effective, undecided, ineffective and very ineffective.

Using descriptive statistics, response frequencies (number and percentages) were compiled for each question. This data analysis feature was available in the SelectSurvey software. The data were examined from a number of perspectives. First, the responses for the total sample were compiled. Then the responses of the two participant groups (consumers & clinicians) were tallied and examined separately. A brief comparison of the two data sets was made. The responses to the qualitative question used a thematic analysis to group feedback into categories that address technology issues, satisfaction and recommendations to optimize care.

Following close examination of the survey data from both participant groups, a set of recommendations were provided to the clinic administration. These recommendations focused on ways to enhance CMHC virtual care based on the evaluation findings.

Ethical Considerations

This evaluation project is exempt from Health Research Ethics Board approval as it is deemed a program evaluation activity and no research question is involved [please refer to Appendix A for Health Research Ethics Authority (HREA) Screening Tool]. However, ethical standards were maintained throughout the evaluation process. No personal information or identifiers were required in order to complete the survey. All participation was voluntary, which was outlined in the information letter. The letter also noted that any participation had no impact on treatment provided or received at the CMHC. Lastly, Select Survey is considered to be a secure software program to conduct surveys and collect anonymous data as it requires a username and password in order to access the results.

Results

Participants

Forty-one participants provided usable surveys. Not all participants answered all questions. Twenty-one participants (51%) identified as mental health/addictions consumers and 20 participants (49%) identified as mental health/addictions clinicians. The following graphs depicts primary modalities of care for clinicians and consumers.

Figure 2

Primary Form of Care for Mental Health Clinicians

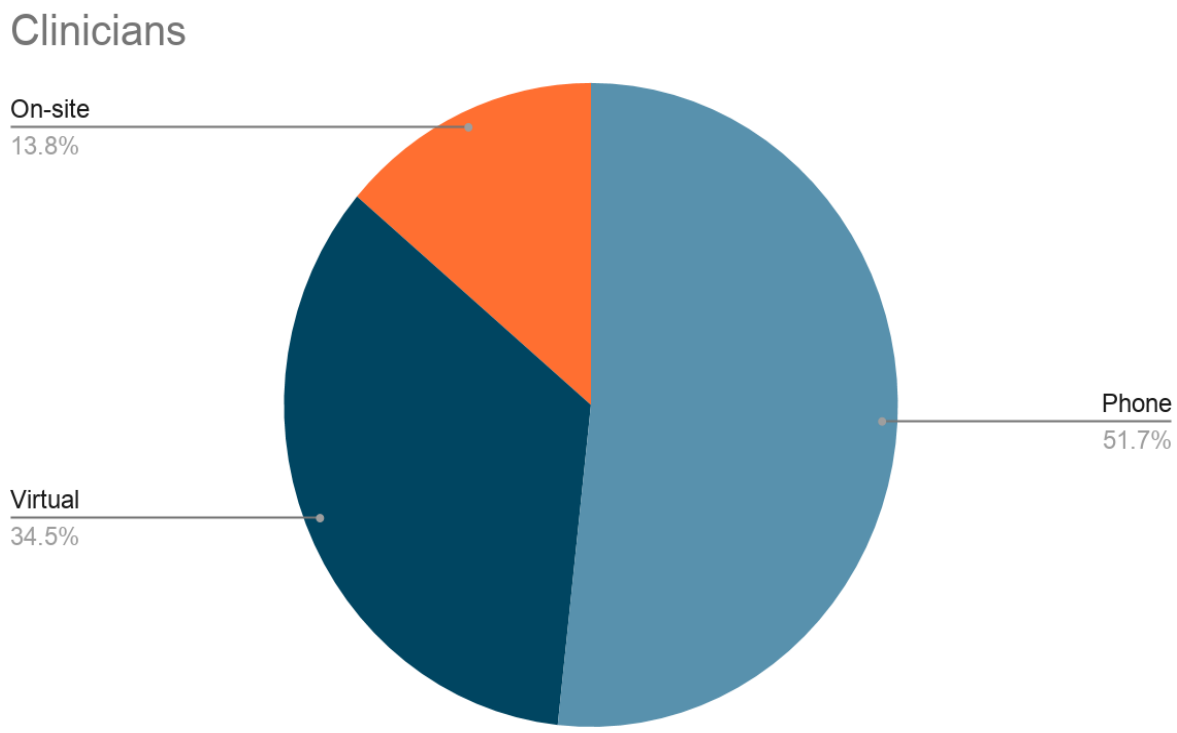
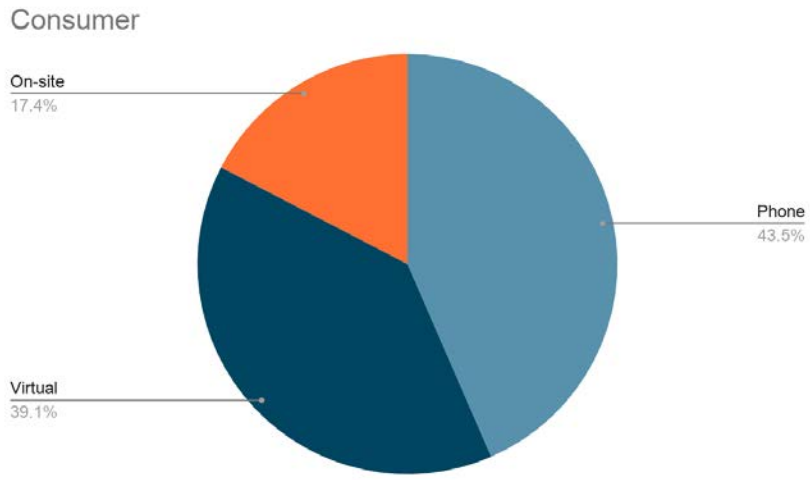


Figure 3

Primary Form of Care for Mental Health Consumers



Survey Results

The results are organized into three tables; consumer responses, clinician responses and qualitative feedback.

Mental Health/addictions consumer

Questions 2-8 applied to those who identified as a consumer of service. As noted in Table 1, phone (50%) and virtual (45%) were the primary methods of contact. There were 2 participants that chose two primary methods of care as the total number of responses exceeded the amount of consumer participants by two. Overall, consumers found that phone and/or virtual appointments were positive, with responses ranging from “somewhat effective” (50%) to “very effective” (30%), Only 10% identified it as “very ineffective”. The majority of consumers also felt comfortable with having a phone and/or virtual visit. There were 50% who felt “comfortable” and 35% who felt “somewhat comfortable”. There was 45% who felt “somewhat

connected" to their clinician during phone and/or virtual visits, 30% who felt "very connected" and 15% who felt "often not connected". The majority of participants felt they had access to appropriate technology, with 55% who "agreed" and 35% who strongly agreed. When asked whether phone and/or virtual visits are as good as in-person appointments, 56% answered yes and 44% answered no. Lastly, consumers remained mostly neutral with virtual care continuing after restrictions lift, with 35% being "neutral", and 30% who "agree".

Table 1

Consumer Survey Responses

Consumer Evaluation Questions	Responses # (%)
1. What has been the primary method for staying in contact with your clinician during the COVID-19 pandemic?	a. phone: n=10 (50%) b. virtual: n=9 (45%) c. on-site: n=4 (20%)
2. Based on your experience, are phone and/or virtual appointments an effective means of delivering mental health/addictions care?	a. somewhat effective: n=10 (50%) b. very effective: n=6 (30%)
3. How comfortable are you with having phone and/or virtual visits?	a. comfortable: n=10 (50%) b. somewhat comfortable: n=7 (35%)
4. Are phone and/or virtual visits as good as in-person appointments?	a. yes: n=10 (56%) b. no: n=8 (44%)
5. How connected do you feel to your mental health/addictions clinician during a phone and/or virtual visit?	a. somewhat connected: n=9 (45%) b. very connected: n=6 (30%)
6. I was able to access and use the technology needed to engage in phone and/or virtual care appointments with my clinician.	a. agree: n=11 (55%) b. strongly agree: n=7 (35%)
7. I would like to continue with phone and/or virtual visits after the COVID-19 pandemic restrictions have lifted.	a. neutral: n=7 (35%) b. agree: n=6 (30%) c. strongly agree: n=3 (15%)

Mental health/addictions clinician

Questions 9-15 applied to those who identified as a mental health and addictions clinician. Although there was n=20 in question 1 who identified as a clinician, questions 9-15 only had 19 responses for each set of questions. As noted in Table 2, the primary method of contact was phone (79%), virtual (53%) and on-site (20%). There were 10 out of the 20 who chose two primary methods of contact, which accounts for the responses outweighing the number of participants. Similar to consumers, clinicians found that phone and/or virtual appointments were positive, with responses ranging from "somewhat effective" (74%) to "very effective" (42%). Again, there appears to be 3 participants who answered this question twice, which may be related to the previous questions of modalities of treatment.

The majority of clinicians also felt comfortable with having a phone and/or virtual visit, with 74% who felt "comfortable" and 21% who felt "somewhat comfortable". However, 58% don't believe that phone and/or virtual visits are as good as in-person appointments, whereas 42% do. There was 63% who felt "somewhat connected" to their consumer during phone and/or virtual visits, 16% both those who felt "very connected" and "undecided". The majority of clinicians felt neutral (53%) about their training and access to technology, with 26% feeling satisfied and 11% feeling very dissatisfied. Lastly, clinicians remained supportive of continuing with virtual care after restrictions lift, with 47% who "strongly agree" and 42% who "agree".

Table 2

Clinician Survey Responses

Clinician Evaluation Questions	Responses # (%)
8. What has been the primary method for delivering mental health/addictions treatment during the COVID-19 pandemic?	a. phone: n=15 (79%) b. virtual: n=10 (53%) c. on-site: n=4 (21%)
9. Based on your experience, are phone and/or virtual appointments an effective means of delivering mental health/addictions care?	a. somewhat effective: n=14 (74%) b. very effective: n=8 (42%)
10. How comfortable are you with conducting phone and/or virtual visits to deliver mental health/addictions care?	a. comfortable: n=14 (74%) b. somewhat comfortable: n=4 (21%)
11. Are phone and/or virtual visits as good as in-person appointments?	a. no: n=11 (58%) b. yes: n=8 (42%)
12. How connected do you feel to your mental health/addictions consumer during a phone and/or virtual visit?	a. connected: n=12 (63%) b. very connected: n=3 (16%) c. undecided: n=3 (16%)
13. I was provided training and access to technology in order to conduct virtual care appointments.	a. a. neutral: n=10 (53%) b. b. satisfied: n=5 (26%)
14. I would like to continue with phone and/or virtual visits after the COVID-19 pandemic restrictions have lifted.	a. a. strongly agree: n=9 (47%) b. b. agree: n=8 (42%)

Table 3 compares responses for both clinicians and consumers, and provides an overview of key results for the multiple-choice questions.

Table 3

Comparison of Clinician and Consumer Responses

	Clinicians (n=20)	**Consumers (n=21)**
Comfort	Comfortable (74%) Somewhat comfortable (21%)	Comfortable (50%) Somewhat comfortable (35%)
Connection	Somewhat connected (63%) Connected (16%)	Somewhat connected (45%) Connected (30%)
Technology (Compared to on-site) (Training/access)	Somewhat effective (64%) Very effective (35%) Neutral (53%) Satisfied (26%)	Somewhat effective (50%) Very effective (30%) Agree (55%) Strongly agree (35%)

Written Feedback

The last question was open-ended asking for other feedback in how virtual care can be further improved to better meet your needs. The feedback is a collective response from both clinicians and patients. In total, there were n=34 written responses. The themes fell into categories of technology (n=11), training (n=7), and satisfaction (n=16). In terms of technology, feedback included “better software”, “fewer glitches”, “possibly use Facetime”, “all forms we use to be made available on OpNote” (which is the online medical documentation software used by NSHA). Training feedback included “more education for clients re: Zoom”, “more training and resources for patients”, and “more training for clinicians”. Lastly, there was positive feedback about using virtual care that included “I am pleased about virtual appointments”, “please keep phone appointments, it worked so well for my schedule”, and “virtual is the best way”.

Table 4

Thematic Analysis of Qualitative Feedback

Themes	Examples
Technology (n=11)	● Better software ● Facetime ● Need better cameras ● More laptops purchased and provided to staff, so we don't need to take home office computers ● Provide more fillable online document formats for Opnote (online documentation software) ● Simpler processes, fewer glitches
Training (n=7)	● More training for clinicians ● More education for clients re: ZOOM ● Training for running online groups ● ongoing education opportunities to ensure all clinicians are comfortable with virtual care
Satisfaction (n=16)	● I am pleased with virtual care ● Virtual is the best way ● Works best for busy schedules ● Would like to continue to have the option for phone and/or virtual appointments in the future

Discussion

As the COVID-19 pandemic continues to impact healthcare, gaining a strong understanding of the subsequent treatment changes are of utmost importance. For the purpose of this survey, the important indicators of effectiveness of virtual care are technology, comfort level and being connected within the therapeutic relationship. The survey provided valuable insight into the experience from both mental health clinicians and consumers. The results were

promising that adjustments to treatment delivery has proven to be favourable. Both clinicians and patients were found to be quite comfortable and connected during treatment, and felt that it was just as effective as on-site care. Being comfortable and building rapport within a therapeutic relationship is particularly important to mental health treatment given the vulnerability of some situations. Rapport is also important in those experiencing issues with compliance with treatment and trusting the treatment being offered. Interestingly, continuing with telephone and/or virtual care once the restrictions were lifted was found to be more supported by clinicians than consumers. This answer still is favorable to off-site care, as there wasn't resounding data that is asking for appointments to be back in person.

The qualitative feedback was also found valuable. The comments around accessibility and being a strong fit into a patient's schedule was of particular interest. It seems that being able to connect while still at home or at work helps to overcome many barriers or struggles that some have while attending on-site care. This may include taking time off work, getting babysitters for children, and even getting transportation to the appointment. These variables are important to consider in the engagement and retention of patients for mental health care.

As per other feedback, training and technology were pertinent themes pulled from the results. The overall consensus was that more training and better technology was of top priority, for both clinicians and consumers, as well for individual and group therapy settings. These responses are helpful in the further development of virtual care that pairs nicely with the positive response that participants are actually benefiting from this service.

Without offering virtual care as an option throughout the COVID-19 restrictions, mental health patients would never have been able to receive treatment. The study was able to document the initial impressions of virtual care from both a delivery point of view, as well as those

engaged in treatment. Although the feedback was supportive of the effectiveness, there were not strong findings for those who want to continue once the restrictions are lifted. Patient satisfaction was not enough to completely shift their preference for treatment. Understanding what benefits of on-site over virtual care may be important to explore, to possibly optimize the way virtual care works if it could better meet the needs of the patients. This may help to bolster the retention rates for further surveys if that was done.

The setting of the CMHC was appropriate for the data collection and purpose of this evaluation project. Given the level of participation received at the clinic level, it would be appropriate to inform the clinicians and patients about the results of the study. A scheduled presentation during staff meeting has been scheduled to discuss the results, as well as developing an infograph to display the pertinent results.

Recommendations

Based on the results, there were three main recommendations and implications for practice that surfaced; support to continue using virtual care, offering more training and education with virtual care, and providing ongoing feedback and evaluation opportunities.

Continuation of Virtual Care

As noted above, there remains a keen interest in using virtual care after the restrictions lift. Noteworthy, there remains a percentage of both clinicians and consumers who would prefer on-site but with the option to use virtual care as needed, or if there are barriers to direct person care. Overall, support was strong around the comfort and connection to treatment through phone and virtual treatment, and it is fair to assume that ongoing participation would be utilized.

Ongoing Training and Education

The most direct feedback provided was around providing more training and education. This was a pattern from both the multiple choice answers from clinicians, as well as qualitative feedback from the open-ended question. Suggestions around ongoing education opportunities, as well as using more user-friendly software and better technology (i.e., webcams), were recommendations made to the mental health program.

Feedback and Evaluation opportunities

Given the moderate sample size and responses for this pilot study potential demonstrates the interests that clinicians and consumers have providing feedback about their experience. This evaluation project provided an introduction to ongoing exploration about the virtual care experience and could be viewed more as a pilot study. There was strong interest and direct qualitative feedback despite weaker recruitment strategies and shorter time frame. Future surveys could target more specific questions, such as diagnostics comparisons, demographics, and nursing-focused caseload.

Limitations

There were 59 completed surveys but 18 were deemed to be incomplete and were not included in the results. The incomplete surveys may have been due to participants visiting the site and not actually starting the survey. The survey also lacked control over the recruitment process, as there are no statistics around how many participants were provided the link and how many were completed. Although the CMHC was asked to track this, it may have been considered beyond the scope of the clinician given their daily work responsibilities. Moreover, some participants still received on-site care, and therefore, they could not complete the survey as some questions were not applicable to them. The survey did not allocate enough answers to identify on-site feedback. Lastly, the results may demonstrate a biased support of virtual care as

consumers have a tendency to respond favorably to their treatment, even though the information letter indicated it would be anonymous and have no impact on their treatment at the clinic. Noteworthy, this survey lacks generalizability as the survey did not break down answers into diagnostic criteria and it remains unclear what mental health conditions responded best to virtual care.

Conclusion

Overall, the results were favorable in the effectiveness of virtual mental health care. Findings will be shared to both clinicians and consumers through staff meetings and creating an infograph of data to display at the CMHC. Limitations of the study including having more clear and consistent recruitment strategies and developing stronger questions that could gather more valuable information (i.e., mental health diagnosis that is being treated). However, this initiative provided meaningful feedback to understand the sentiments of clinicians and clients who shifted quickly to phone and/or virtual appointments. Moving forward, the needs around technology and ensuring everyone is provided adequate training and knowledge of how to effectively engage in telehealth. As well, providing a larger platform to share personal experiences to gain more insight into the effectiveness of virtual care should be considered.

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Appendix A: Health Research Ethics Authority (HREA) Screening Tool

Student Name: Sally Carvery

Title of Practicum Project: Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health Clinic

Date Checklist Completed:

This project is exempt from Health Research Ethics Board approval because it matches item number _**3**_ from the list below.

9. Research that relies exclusively on publicly available information when the information is legally accessible to the public and appropriately protected by law; or the information is publicly accessible and there is no reasonable expectation of privacy.
10. Research involving naturalistic observation in public places (where it does not involve any intervention staged by the researcher, or direct interaction with the individual or groups; individuals or groups targeted for observation have no reasonable expectation of privacy; and any dissemination of research results does not allow identification of specific individuals).
11. Quality assurance and quality improvement studies, program evaluation activities, performance reviews, and testing within normal educational requirements if there is no research question involved (used exclusively for assessment, management or improvement purposes).
12. Research based on review of published/publicly reported literature.
13. Research exclusively involving secondary use of anonymous information or anonymous human biological materials, so long as the process of data linkage or recording or dissemination of results does not generate identifiable information.
14. Research based solely on the researcher's personal reflections and self-observation (e.g. auto-ethnography).
15. Case reports.
16. Creative practice activities (where an artist makes or interprets a work or works of art).

For more information please visit the Health Research Ethics Authority (HREA) at

https://rpresources.mun.ca/triage/is-your-project-exempt-from-review/

Appendix B: Information Letter

Dear Potential Participant,

I am currently enrolled in the Masters of Nursing Program at Memorial University of Newfoundland. My final course is to complete a practicum project, which is entitled: Evaluation of Virtual Care and Telepsychiatry at a Community Mental Health Clinic. The purpose of the project is to explore how mental health/addictions consumers and clinicians felt about using telephone and virtual meetings in the delivery of mental health care during the pandemic. The experiences of both groups are important to understand and will help improve the quality of services provided by the clinic.

You are invited to participate in the evaluation by completing this short, online evaluation survey. Any feedback about virtual care you received will help ensure the project is strong and the information gathered is useful. The information you provide is anonymous. It is your choice to participate or not. The survey is independent from the clinic and will have no impact on your treatment here. If you have any questions about the evaluation, please contact Sally Carvery at sally.carvery@nshealth.ca.

By clicking on the link below, you are providing your voluntary consent to complete the survey.

http://surveys.novascotia.ca/TakeSurvey.aspx?SurveyID=82437n4K

Thank you in advance for considering this request.

Regards,

Sally Carvery, BSc(Psych), BScN, RN

Appendix C: Evaluation Survey Questions

1. For the purpose of this survey, how do you identify yourself?

- Mental Health/Addictions Consumer
- Mental Health/Addictions Clinician

If answered Mental Health/Addictions Consumer, questions 2-8 apply.

2. What has been the primary method for staying in contact with your clinician during the COVID-19 pandemic?

- On-site clinic visit
- Phone
- Virtual

3. Based on your experience, are phone and/or virtual appointments an effective means of delivering mental health/addictions care?

- Very effective
- Somewhat effective
- Undecided
- Ineffective
- Very ineffective

4. How comfortable are you with having phone and/or virtual visits?

- ☐ Comfortable
- ☐ Somewhat comfortable
- ☐ Undecided
- ☐ Somewhat uncomfortable
- ☐ Uncomfortable

5. Are phone and/or virtual visits as good as in-person appointments?

6. How connected do you feel to your mental health/addictions clinician during a phone and/or virtual visit?

- ☐ Very connected
- ☐ Somewhat connected
- ☐ Undecided
- ☐ Often not connected
- ☐ Never connected

7. I was able to access and use the technology needed to engage in phone and/or virtual care appointments with my clinician.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

8. I would like to continue with phone and/or virtual visits after the COVID-19 pandemic restrictions have lifted.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

If answered Mental Health/Addictions Clinician, questions 9-15 apply.

9. What has been the primary method for delivering mental health/addictions treatment during the COVID-19 pandemic?

- ☐ On-site clinic visit
- ☐ Phone
- ☐ Virtual

10. Based on your experience, are phone and/or virtual appointments an effective means of delivering mental health/addictions care?

- ☐ Very effective
- ☐ Somewhat effective
- ☐ Undecided
- ☐ Ineffective
- ☐ Very ineffective

11. How comfortable are you with conducting phone and/or virtual visits to deliver mental health/addictions care?

- ☐ Comfortable
- ☐ Somewhat comfortable
- ☐ Undecided
- ☐ Somewhat uncomfortable
- ☐ Uncomfortable

12. Are phone and/or virtual visits as good as in-person appointments?

13. How connected do you feel to your mental health/addictions consumer during a phone and/or virtual visit?

- ☐ Very connected
- ☐ Connected
- ☐ Undecided
- ☐ Often not connected
- ☐ Never connected

14. I was provided training and access to technology in order to conduct virtual care appointments.

- ☐ Very Satisfied
- ☐ Satisfied
- ☐ Neutral

- [ ] Dissatisfied
- [ ] Very Dissatisfied

15. I would like to continue with phone and/or virtual visits after the COVID-19 pandemic restrictions have lifted.

- [ ] Strongly Agree
- [ ] Agree
- [ ] Neutral
- [ ] Disagree
- [ ] Strongly Disagree

Question 16 – open to all participants

16. How can virtual care be further improved to better meet your needs?
Your feedback is appreciated.

At least 1 row is required in this question type.