PROVIDING CRISIS CARE IN A PANDEMIC – A VIRTUAL-BASED CRISIS STABILIZATION UNIT

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ABSTRACT

Introduction: The goal of this study was to describe the virtual Crisis Stabilization Unit (vCSU), present patient demographics and outcomes, comment on the feasibility and effectiveness of virtual models of care, and explore physician assistant (PA) roles in Psychiatry and their views on the provision of virtual crisis care.

Methods: Winnipeg operates a 16-bed stepped-care unit (the Crisis Stabilization Unit; CSU) for voluntary patients in crisis that do not require admission to hospital. The vCSU was developed in March 2020 as an adjunct to the in-person CSU for safety reasons in the COVID-19 pandemic. Individuals in the vCSU had access to all of the same resources as those admitted to the in-person CSU unit (coping skills-based classes, medication reminders, 24/7 access to crisis support). Patient demographics, presenting complaints, and outcome data were collected through discharge surveys for individuals admitted to the vCSU during a 6-month period. Additionally, anonymous online surveys were sent to practicing PAs at the CRC to explore their scope of practice and views on virtual care.

Results: From March to August 2020 a total of 95 patients were admitted to the vCSU. Of these, thirty-one individuals (32.6%) had their vCSU intake either by phone or videoconference, therefore remaining at home for the entirety of their care. Seventy-six (39.2%) individuals had suicidal/self-harm behaviour at presentation, twenty-one (22.7%) reported depression and anxiety, seven (3.6%) had symptoms of mania or psychosis. Six individuals (6.6%) required psychiatric involvement; no individuals were admitted to hospital. PAs have a wide scope of practice in Psychiatric care from conducting psychiatric consultation to facilitating discharge planning. PAs agree that the vCSU improves accessibility to crisis care and have identified connection issues as the main barrier to virtual psychiatric care.

Conclusion: A virtual crisis ward is a feasible and effective mechanism for providing access to care and connection to resources for patients experiencing crisis and PAs can play a key role in the provision of crisis care.

INTRODUCTION

The COVID-19 pandemic has given rise to a variety of challenges in the provision of mental health crisis care as public health restrictions have altered the way these services are able to be provided.[1] Not only have crisis care centres shut down for periods of time as a result of the pandemic, but ongoing public safety measures have changed the way crisis care is able to be safely administered. Physical distancing practices have diminished in-person visits and limitations to social gatherings and services may have disproportionately impacted the mental health of individuals living with mental illness.[2] Research has demonstrated that individuals with mental illness have a lower life expectancy and poorer health outcomes than the general population.[2] Therefore, individuals with pre-existing mental health and substance use disorders are simultaneously at increased risk of infection with COVID-19, but face greater accessibility issues when seeking testing and treatment.[2,3] These individuals are also at an increased risk of negative physical and psychological effects.[3] In turn, the needs of individuals living with mental illness may have also increased due to a rise in psychosocial stressors secondary to the pandemic.[2] These stressors arose from many factors including self-isolation and quarantine practices and involve feelings of isolation, fears of infection, media misinformation, financial struggles, and stigma.[2,4] In turn, it has been reported that individuals may be suffering from elevated anger, anxiety, posttraumatic symptoms, and confusion during this time. In extreme circumstances, these feelings may result in an increase in suicidal thoughts and attempts.[4]

In response to the decreased accessibility of in-person mental health care and the potential increase in mental health needs of patients secondary to the COVID-19 pandemic, the Crisis Response Centre (CRC) in Winnipeg, Manitoba, has rapidly virtualized the delivery of full-spectrum crisis care to individuals requiring urgent mental health services. In this changing

health care environment, one such service that has been virtualized is the Crisis Stabilization Unit (CSU). The CSU provides "short-term, community-based supportive care and treatment for individuals in psychiatric or psychosocial crisis who may be at risk of hospitalization."[5] These services are delivered virtually by phone or video-conferencing platforms in a stepped care model by an interdisciplinary team of mental health clinicians, nurses, physician assistants (PAs), psychiatrists, and psychiatric trainees. To our knowledge, the creation of a virtual CSU (vCSU) is a novel endeavour in Canada. "Virtual wards" were first introduced by Geraint Lewis in the United Kingdom and aim to provide short-term transitional care from the hospital to patients' homes for high-risk and complex patients in the community.[6] The intervention of "Virtual Wards" has been introduced in Canada to combat hospital readmissions and their associated costs. In Canada, costs related to hospital readmissions have been estimated to be over $1.8 billion CAD in 2010 with per individual hospitalization costs of over $10 404 CAD.[7] As such, the vCSU aims to reduce hospital readmission in addition to addressing accessibility concerns associated with the COVID-19 pandemic.

PAs are highly trained medical professionals who work collaboratively with physicians to practice medicine and provide patient care. PAs have shown a number of benefits in relation to service delivery including: decreasing patient wait-times, decreasing length of stay, improving physician workload, increasing patient satisfaction, and optimizing patient communication.[8] With a national shortage of psychiatrists identified by the Ontario Psychiatric Association in 2018 which is set to worsen in the coming decade, PAs can help combat the perpetuation of continued lack of access to mental health services across Canada, especially in disproportionately impacted areas such as rural and remote settings.[9]

PAs play a key role in providing psychiatric services at the CRC and in the vCSU. The CRC has been an early adopter of the PA model, with PAs working closely in collaboration with psychiatrists since it opened in 2013 to provide mental health services to the population of Winnipeg and surrounding areas.[10] They serve as the predominant providers of psychiatric consultation to mental health clinicians and nurses who care for individuals admitted to the vCSU. PAs carry out a variety of duties in the vCSU, from conducting mental health assessments to the organization of hospital admissions for patients, if required. They play an integral role in providing psychiatric care in the novel vCSU and serve as a prime example of how PAs can be integrated into psychiatric crisis settings in Canada. Moreover, PAs help reduce costs associated with hospital admissions, improve patient outcomes, and increase access to crisis care.

OBJECTIVES

This study aimed to investigate how the COVID-19 pandemic has changed the provision of mental health services offered to individuals in crisis through the CRC in Winnipeg, Manitoba. Specifically, it provides a description of the vCSU, a comment on the logistics, feasibility, and effectiveness of a vCSU, and an exploration of demographic data and outcomes of patients admitted to the vCSU. Additionally, this study aimed to investigate the role PAs play in providing psychiatric services to a virtual ward such as the vCSU. Given the novelty of a virtual-based CSU, this study provides a description of this service and the benefits to its establishment in the form of accessibility and patient outcomes. This may serve as a practical resource for stakeholders in other regions interested in establishing a vCSU of their own to increase the accessibility of healthcare services during the pandemic and beyond. This study also aims to advocate for PAs in describing their role in providing mental health services through the vCSU and may aid in the optimization of PAs in psychiatric settings.

METHODS

A mixed-methods approach was employed to explore the aforementioned objectives and questions. Both qualitative and quantitative data were collected through vCSU staff and PA surveys, as well as a literature review of virtual-based crisis care and virtual ward information. The first means of data collection involved vCSU staff surveys. After obtaining consent to collect patient data, discharge surveys were completed by staff on patients during a 6-month period from March 2020-August 2020 (see Appendix I for full questionnaire).

Demographic data collected included: age, gender, and living situation. Additional information obtained included: method of referral (from the CRC, Urgent Care, or other), the main clinical problem at presentation (depression, anxiety, psychosis, mania, suicidal/self-harm, psychosocial event/stressor, personality disorder etc.), the presence of suicidal behaviour, substance use, the reason for referral (medication management, risk/symptom monitoring, problem-solving/recovery planning etc.), length of stay, presence of psychiatry assessment, cognitive behavioural therapy (CBT) participation, method of contact (phone or video), virtual family involvement while in CSU, and patient outcomes. Patient outcomes included: discharge to pre-existing follow-up (primary care, psychiatry, other mental health supports), referral to Rapid Assessment Clinic (RAC; a follow-up outpatient psychiatry-based clinic), admission to hospital, detox/addiction services, Urgent Follow-up Intensive Treatment Team (UFITT; a follow-up service at CRC that provides therapy), lost to follow-up, and transfer to physical CSU. Additionally, staff were asked if they felt the vCSU was a good fit for them and if they had any comments on successes, challenges, and unique aspects of each case.

Descriptive statistical analyses of collected vCSU discharge form data was conducted using Microsoft Excel. A secure password-protected database was created, and patient identifiers were removed for analysis purposes. All responses from the discharge forms were transcribed into numerical data (see Appendix II coding dictionary) to permit statistical assessment. For each question posed on the discharge form, responses for every choice were summed, totalled, and percentage distributions were created. Demographic data and length of stay were further assessed using minimum, maximum, and average calculations.

In addition to the vCSU discharge survey, an anonymous online survey was administered through the platform *Survey Monkey* and sent to practicing PAs (n=6) employed at the Crisis Response Centre to gather their perspectives and involvement in the vCSU. In this survey, PAs were asked to describe their role in both the virtual and physical CSU, to identify differences in providing virtual based crisis care compared to in-person crisis care through the CSU, how many psychiatric consultations for in-person/vCSU admissions they typically conducted per week, their views on the effectiveness of the vCSU in addressing potential accessibility issues arising from public health restrictions for the provision of psychiatric services, and to identify barriers of a virtual based crisis care ward (see Appendix III for full PA survey). A database was created from the aggregated online survey data on Microsoft excel. All written responses were analyzed thematically as per *Qualitative Data- An Introduction to Coding and Analysis*.[11] Relevant text, as defined by answering the proposed research question, were taken from the raw responses and coded according to common themes identified (Appendix IV coding dictionary). The frequency of code appearance by each respondent was summed, totalled, and percentage distributions were created. Additionally, in instances where impactful statements were made, direct excerpts from responses were reported. For the number of psychiatric consultations completed in the in-person

and vCSU, responses were summed, totalled and percentage distributions were created. REB approval for the collection of patient data was obtained from the Health Research Ethics Board.

RESULTS

Virtual CSU Description

According to Shared Health Manitoba, a CSU virtual admission is described as a service whereby the individual is "virtually" receiving CSU's standard services while remaining in their own home.[12] Individuals who participate in virtual admissions receive the same or similar standard of care as a standard in-person CSU admission.[12] Services offered include (but are not limited to): medication reminders via phone/text as mutually agreed upon between the patient and vCSU staff, CBT with mindfulness skills based classes through the online platform ZOOM, and daily 1:1 assessment and access to clinical staff 24 hours per day.[12] The CRC employs a stepped care model in an effort to optimize the use of limited psychiatric care resources.[12] This involves employing the most effective yet least resource-intensive treatment first and only increasing the intensiveness provided as required depending on the level of patient need and acuity.[12] As such, staff include crisis workers, mental health clinicians, psychiatric nurses, clinical team leads, and access to CRC psychiatry team (PAs, psychiatrists, psychiatric residents) as needed. Staff present at the on-site CSU administer the aforementioned services to both on-site and vCSU patients alike.

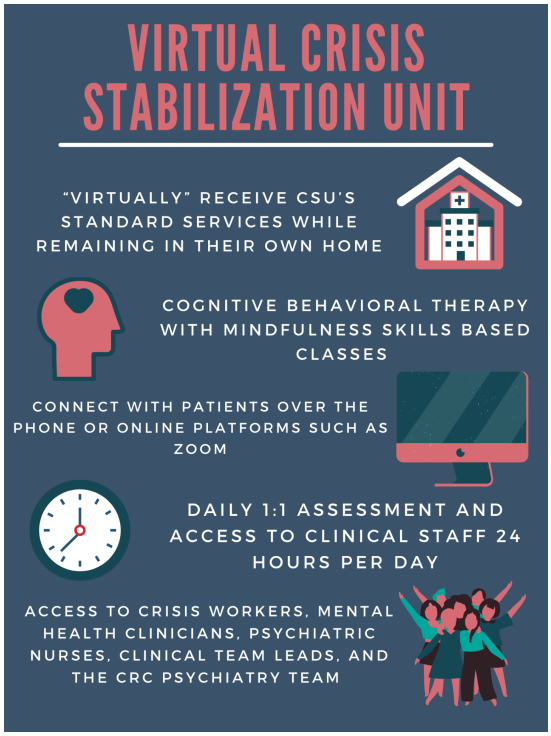

Figure 1. The virtual Crisis Stabilization Unit (vCSU), a novel virtual based ward based out of the Crisis Response Center in Winnipeg, Manitoba.

Virtual CSU Discharge Data

Patient data was collected from a total of (n=95) patients discharged from the vCSU between March 2020 and August 2020. The average age of patients admitted was 36.3 years old (range of 18-77 years old). Gender data revealed that (n= 66, 70.21%) identified themselves as female, (n= 27, 28.72%) identified themselves as males, and (n=1, 1.06%) did not identify as male or female. Regarding living arrangements, (n=54, 56.84%) reported that they lived with family, (n=27, 28.42%) lived alone, (n=12, 12.63%) lived with a friend or roommate, and (n=2, 2.10%) lived with their girlfriend/boyfriend.

The majority of patients admitted to the vCSU were referred from the CRC (n=70, 73.68%) with (n=18, 18.94%) being referred from the emergency department, (n=6, 6.32%)

from urgent care, or (n=1, 1.05%) from the virtual Reassessment and Observation Unit (ROU). Patients were either virtually assessed prior to admission to the vCSU (n=31, 32.63%), or were assessed in-person (n=64, 67.37%).

Reported presenting issues varied widely and included: depression (n=23), anxiety (n=21) (anxiety and depression accounting for 22.68% of presenting complaints), psychosis (n=6), mania (n=1) (with psychosis and mania accounting for 3.6% of presenting issues), suicidal/self-harm (n=76, 39.18%), psychosocial event/stressor (n=48, 24.74%), personality disorder (n=11, 5.67%), and (n=8, 4.12%) identifying other issues at presentation. Other issues at presentation identified included grief (n=1), negative response to cannabis use (n=2), post traumatic stress disorder (n=2), dissociative episode (n=1), panic attacks (n=1), and obsessive-compulsive disorder/homicidal ideation (n=1). Suicidal behaviour at presentation was also reported where (n=50, 53.19%) identified ideation, (n=18, 19.15%) were planning a suicide attempt, and (n=8, 8.51%) had attempted suicide prior to presentation to the referral service. The absence of any suicidal behaviour at presentation was (n=18, 19.15%). Active substance use was reported in (n=27, 28.72%) study participants while (n=67, 72.28%) reported no active use.

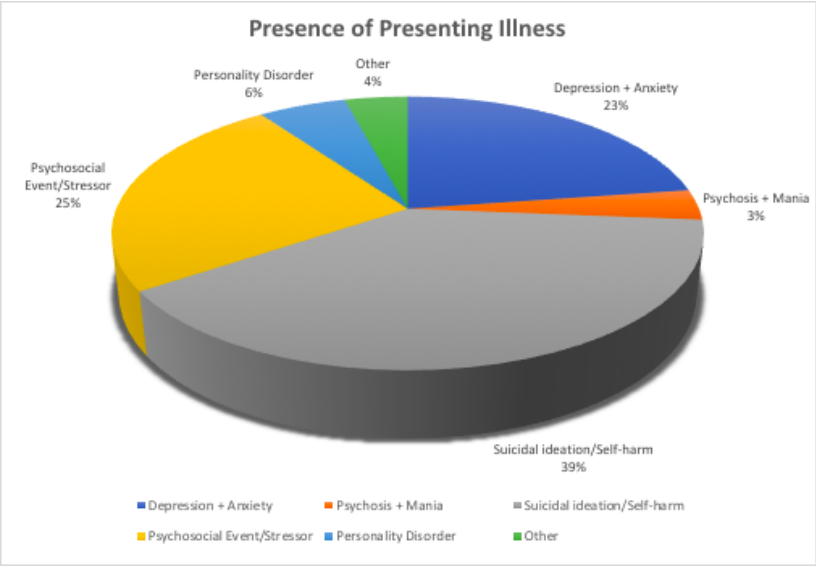

Figure 2. Presence of Presenting Illness upon Admission to vCSU as a percentage. Depression (n=23), anxiety (n=21), psychosis (n=6), mania (n=1), suicidal/self-harm (n=76, 39.18%), psychosocial event/stressor (n=48, 24.74%), personality disorder (n=11, 5.67%), and (n=8, 4.12%) identifying other issues at presentation. Other issues at presentation identified included grief (n=1), negative response to cannabis use (n=2), post traumatic stress disorder (n=2), dissociative episode (n=1), panic attacks (n=1), and obsessive-compulsive disorder/homicidal ideation (n=1).

Reasons for referral to the vCSU were predominately for either risk and symptom monitoring (n=68, 46.90%) or problem-solving and recovery planning (n=69, 47.59%). Medication management accounted for 2.06% of referrals (n=3), and referral to other resources accounted for (n=4, 2.76%). The average length of stay was approximately 4.89 days with the shortest stay being 1 day and the longest being 20 days. Psychiatric team assessment was conducted on 6 individuals (n=6, 6.59%) and the remainder (n=85, 89.47%) did not require direct psychiatric team intervention/assessment. Over one-third (n=36, 39.13%) of patients admitted to the vCSU attended at least 1 virtual CBT class whereas nearly two-thirds (n=56, 60.87%) did not attend any virtual CBT classes during their stay. The predominant means of contacting patients was through phone (n=89, 95.70%) over video services (n=4, 4.3%) Only a small percentage of patients (n= 3, 3.22%) had virtual family involvement whereas 96.77% (n=90) of patients did not have virtual family involvement during their stay.

Discharge outcomes varied and included: discharge to pre-existing primary care (n=19), discharge to pre-existing psychiatric care (n=21), discharge to pre-existing mental health supports (n=39), referral to RAC (n=3), admission to hospital (n=0), discharge to detox/addictions services (n=1), discharge to UFITT (Urgent Follow-up and Intensive Treatment

Team therapy services) (n=19), lost to follow-up (n=8), transfer to the physical CSU (n=10), and other outcomes (including n=3 to the Psychiatric Urgent Referral Clinic, n=1 to a shelter). 90.42% of CSU staff responded either positively or neutrally (n=3 strongly agree, n=55 agree, n=27 neutral) that the vCSU was a good fit for the individuals whereas (n=9) disagreed that the vCSU was a good fit. Staff did not identify any individuals that they strongly disagreed (n=0) with their placement in the vCSU.

Psychiatry PA Survey Data

A total of *(n=6)* practicing PAs employed at the Crisis Response Centre responded to the confidential online survey.

The first question asked the PAs to describe their role in providing psychiatric services to individuals admitted to the in-person and vCSU. The PAs identified several duties within their scope of practice. Reported duties fell into 4 main categories based on the themes identified through coding. These include Psychiatric Consultation/Assessment (n=6, 100%), Medication adjustments (n=5, 100%), Disposition Planning (n=3, 50%), and Case Review (n=2, 33.33%). Within psychiatric consultation/assessment, duties identified consisted of providing psychiatric guidance to patients, managing behaviour issues, and safety risk assessments. Disposition planning involved using problem-solving skills to facilitate the transfer of care to outpatient/inpatient services (UFITT, RAC, ROU, inpatient admission). Review of cases was identified to be direct (formal assessment) and indirect, such as in daily unit rounds.

Figure 3. Duties/Roles identified by practicing PAs in an Emergency Psychiatry setting in Winnipeg, Manitoba.

When asked to identify differences in the services provided to individuals admitted to the in-person CSU compared to the vCSU, a common theme that was identified by most practicing PAs (n=5, 83.33%) was that they are less involved with virtual clients in comparison to in-person CSU patients (n=1 identified that there were no differences between the virtual and in-person care administration). One PA identified that there was a decrease in the frequency of medication recommendations or adjustments for individuals admitted to the vCSU. They suggested that this difference was because patients admitted to the vCSU cannot be observed in the community as closely and as such monitoring of medication would be an issue, especially in the case of PRN medications for sleep and anxiety, and if suicidal ideation or safety is a concern. One PA also proposed that consultations from the vCSU more frequently involve referrals to the RAC which

require a psychiatric consult. On the other hand, in-person CSU patients require a higher level of monitoring and involve a more frequent degree of medication adjustment, verbal support from on-site CSU staff, psychiatric assessment, and safety and disposition planning (with possible admission to hospital). Overall, regarding the decreased involvement in vCSU patients, PAs suggested that this is likely due to a lower acuity level of patients admitted to the vCSU as they were deemed safe to be in the community, and therefore can be managed independently by other non-psychiatry CSU staff.

In response to the question, "In an average week, how many patients admitted to the in-person CSU do you provide psychiatric consultations? (Excluding management in CSU Rounds)" (n=4, 66.7% of total respondents) identified 0-2 admissions, and (n=2, 33.33% of total respondents identified 3-5 admissions. In response to the question, "In an average week, to how many patients admitted to the vCSU do you provide psychiatric consultations? (Excluding management in CSU Rounds)" all (n=6, 100% of total respondents) identified that they provide 0-2 psychiatric consultations.

When asked to comment on how the vCSU addresses potential accessibility issues arising from public health restrictions and is an effective manner to provide psychiatric services, (n=6, 100% of respondents) responded positively that the vCSU increases accessibility. One PA said that "[the vCSU] is a prime example of using technology to extend our psychiatric services to patients who would otherwise be unable to attend the in-person CSU due to COVID restrictions." One response identified that it increases accessibility to populations such as mothers with young children where an online virtual psych assessment is much easier instead of having to arrange childcare. However, PAs (n=2, 33.33%) suggested that due to the low acuity of patients admitted to the vCSU, little to no psychiatric intervention is required, and other services

offered through the CRC, such as the virtual ROU or in-person CSU, were more likely to involve the provision of psychiatric services as needed while addressing accessibility issues arising from public health measures.

Several barriers/difficulties were identified by practicing PAs in the provision of psychiatric care to individuals admitted to the vCSU. The main issue identified by PAs (n=5, 83.33%) was in relation to connectivity and a lack of ability to reach individuals in the community. Often, patients do not answer phone calls or have limited access to technology, do not engage with services during certain hours due to prior obligations such as work or child-care, or have ongoing substance use during their admission. As such, it was identified that it is commonplace that CSU staff are unable to reach a patient for an entire day, and even multiple days. This eventually leads to discharge without follow-up from the CSU or CRC staff. Another issue identified was a general decrease in involvement with vCSU patients (n=2, 33.33%). For instance, one PA identified that they are hesitant to order PRN medication for individuals struggling with sleep/anxiety due to the lack of monitoring as patients are in the community.

DISCUSSION

The use of telemedicine in psychiatric emergency care is a viable option for providing services, however remains relatively uncommon in Canada.[13] This is due in part to the lack of information to advise the implementation of telepsychiatry in Canadian health systems.[13] Despite this lack of guidance, the complete spectrum of mental health services offered through the CRC went virtual within weeks of the first documented COVID-19 case in Manitoba (March 12, 2020).[1] This rapid shift to virtual care speaks greatly to the adaptability and dedication of the mental health workers and support staff employed at the CRC, and the leadership of psychiatric staff to be at the forefront of innovation in the provision of mental health care.[1] Based on the data

collected in this study, the vCSU has played an important role in avoiding hospital admissions and readmissions, reducing the potential spread of COVID-19, and facilitating the provision of vital mental health care during the pandemic. Overall, there are a variety of advantages that a vCSU admission can enable including: accommodating COVID-19 positive screens, confirmed cases, close contacts, or those in mandatory self-isolation, facilitating the management of social distancing practices, and allowing for a smoother transition to the home and community environment while still having access to mental health services.

Accessibility of Crisis Mental Health Services

There was agreement from all practicing PAs that the vCSU increases accessibility to mental health services. Over 95 individuals (age 18-77) with a wide range of mental health issues at presentation, from depression and anxiety to suicidal ideation and self-harm, were able to access the mental health support they required over the 6-month study period. This speaks to the breadth of virtual care and the ability of the vCSU to manage a variety of patients. Additionally, 32.63% of patients admitted during this period were entirely assessed through virtual means from the onset of their presentation and throughout their stay in the vCSU. This means that one-third of patients received their initial mental health assessment while remaining in the community and were referred to the vCSU without setting foot in the CRC or an emergency/urgent care department. This directly reduced possible COVID transmission as the vCSU replaced in-person assessments, and helped individuals comply with public health restrictions. Not only did the vCSU reduce potential COVID-19 transmission, but this virtual ward also helped optimize the use of strained healthcare resources. Given that patients can be assessed from home, it directly reduces the need for an in-person assessment and in-person stays. Patients can be followed in the vCSU for variable lengths, with the longest being up to 20 days during the observation period.

Therefore, it can help relieve some of the burden on the healthcare system by limiting the use of beds in the physical CSU, emergency departments, or psychiatric wards, for an individual who is otherwise deemed stable enough to be followed in the community. Moreover, it helps decrease wait times of the emergency department and/or urgent care settings by providing services to individuals in their homes. Patients often have prior commitments that hinder their ability to present in-person, such as work, child-care etc., and as such the vCSU provided a convenient means of accessing mental health support while remaining in the community.

While the data shows overwhelming support that the vCSU increases access to mental health services during the COVID-19 pandemic, it is important to note that a lack of access to a phone or video conferencing technology serves as a potential barrier to individuals who do not have, or cannot use, these communication platforms. Given that lower socioeconomic status is associated with higher rates of mental health problems, it is evident that these disadvantaged individuals face accessibility issues, as they may not have the resources or live in an area with the technological infrastructure (e.g. poor internet connections/decreased phone service outside of urban centres) to access these mental health services.[14] Another barrier identified by practicing PAs was the ability to connect with individuals through virtual means in the community. There are many possible reasons that could explain why patients were not accessible during their stay (including work, childcare, etc). This is evident through the 8 individuals who were lost to follow-up during their stay. This serves as a potential safety concern, especially with patients who presented with active suicidal ideation or drug use. Therefore, individuals who are deemed safe in the community must be assessed for reliability and access to appropriate communication means for them to be eligible for admission to a virtual ward.

Patient Population and Outcomes

The predominant population admitted to the vCSU were adults who identified as female (n=66, 70.21%, average age=36 years old) and lived at home with family or with a friend/roommate (n=66, 69.47%). The vast majority were referred to the vCSU for either risk and symptom monitoring or problem-solving and recovery planning reasons with the most common presenting issues upon admission being depression and anxiety, suicidal behaviour/self-harm, and the presence of a psychosocial event/stressor.

From 2014-2019, approximately 321 575 Manitoba residents aged 10 or older were treated for at least one mental illness.[15] The annual statistics report from the government of Manitoba defines cumulative mental illness as "receiving medical care for at least one of: mood and anxiety disorders, substance abuse, schizophrenia or a personality disorder."[15] Furthermore, during this time, the rate of cumulative mental illness for females was higher than for males for all age groups.[15] The most common mental health presentation that was treated during this time was mood and anxiety disorders, where similarly the rate for females was higher than males for all age groups across the 2014/2015 to 2018/2019 period.[15] A total of 293, 417 Manitoba residents were treated for mood and anxiety disorders representing approximately 23.7 percent of Manitoba residents age 10 and older.[15] As such, the vCSU effectively captures the general Manitoba population who struggle with mental illness, being females with anxiety/mood disorders and possible suicidal ideation. In speaking with the psychiatry team, anecdotal evidence suggests that younger women are the predominant population admitted to the CSU, and as such the vCSU patients are representative of the broader population receiving crisis stabilization and support services through the CSU.

Both patient data and PA survey responses corroborate that patients admitted to the vCSU are generally of lower acuity in regard to medical stability, psychiatric wellbeing, and suicide

risk assessment. This enables them to remain in the community without 24/7 supervision and monitoring, but with 24/7 access to support by phone if required. With only 6.5% of patients requiring a mental health assessment by the psychiatric team and only 28.72% of patients having active substance use, it is evident that the acuity of patients admitted to the vCSU is lower in comparison to in-person CSU or patients requiring admission. Typically, patients who require psychiatric consultation are deemed higher acuity as they may present with violent or aggressive behaviours, are acutely psychotic and/or suicidal, are medically unstable, or have ongoing substance use which puts them at a higher risk for overdose and psychosis.[16,17] Additionally, of the 95 patients admitted during the 6-month observation period, none were admitted to hospital. As such, the vCSU is an ideal service for lower acuity individuals who are safe to be followed in the community but still require, and would benefit from, ongoing mental health support. PA responses agreed with this notion, as they generally reported that they are less involved with vCSU patients due to their lower acuity and ability to be managed by non-psychiatric members of the CSU mental health team. Despite their lower acuity and virtual setting for follow-up, they receive the same or similar standard of care as a standard in-person CSU admission patient and are connected to a variety of resources, from dialectical behavioural therapy to improve mindfulness and coping strategies, to detox/addictions services as required. Not only are patients provided with these resources during their stay, but the vCSU also serves as a strong method of facilitating appropriate disposition planning and resource provision. This is evident through the variety of discharge outcomes including discharge to pre-existing primary care and psychiatry practitioners, referred to rapid access to psychiatry consultations, referred to detox services, transferred to the physical CSU, and connected to group classes/therapy through UFITT.

Therefore, the vCSU can be a viable option in areas where individuals need access to mental health resources, especially for disseminating resources in lower acuity settings.

Optimizing the use of PAs in Emergency Psychiatric Care

The PAs employed at the CRC are key players in the provision of emergency psychiatric care and serve as a prime example of how PAs can be integrated into interprofessional healthcare teams. They show adaptability in being able to provide care to both in-person and vCSU patients and have a wide scope of practice. They can provide psychiatric consultation, conduct safety risk assessments, adjust medication, manage behavioural issues, and use their problem-solving skills to facilitate appropriate disposition planning for patients in crisis. These duties would have otherwise had to be completed by psychiatric residents or psychiatrists, and therefore PAs directly improve physician workload. They show a high degree of autonomy and often conduct psychiatric assessments and determine management plans independently prior to presenting the case to the psychiatric team lead. Although not formally assessed, there was positive sentiment towards the PA role at the CRC from attending Psychiatrists, mental health workers, and clinicians alike. As such, the PAs employed at the CRC serve as an example of how they can decrease wait times, improve physician workload, and help combat the lack of access to mental health services across Canada.

Conclusion, Limitations, and Next steps

In conclusion, a virtual crisis ward is a feasible and effective mechanism for providing access to care and connection to resources for patients experiencing crisis and PAs can play a key role in the provision of crisis care. A vCSU admission helps accommodate for COVID positive screens/confirmed cases, captures the general Manitoban population who require treatment for

mental health issues, decreases wait-times of the emergency department and/or urgent care settings, and allows for lower-acuity individuals to be followed in their own homes. PAs have a wide range of duties that fall under their scope of practice, help improve physician workload, and help address barriers to accessing mental health resources.

Virtual services were rapidly adopted at the CRC, a transition that may not be feasible in other health systems across Canada. The presence of established virtual care infrastructure, such as MB health links, helped facilitate this transition to virtual care in Winnipeg, MB. As such, the adoption of virtual care would vary depending on local logistical and financial constraints. Moreover, MB is one of the few provinces in Canada that formally regulates PAs, and therefore the optimization of the PA role in different provinces may be more difficult and more work needs to be done to advocate for nationwide adoption and regulation. Over 90% of staff responded either positively or neutrally to the vCSU being a good fit for the referred patients, over 70% of which came from the CRC. The CRC and CSU staff are often trained concurrently and work collaboratively which would explain that most referrals would come from the CRC as both staff understand each other's roles. This shows that more advocacy and information provision needs to be conducted so that local healthcare facilities outside of the CRC and providers across Winnipeg and the surrounding areas are aware of the vCSU as a potential option to refer lower acuity patients in crisis. Future studies on the cost-effectiveness of virtual mental health wards and the use of PAs in emergency psychiatry would benefit further adoption of these services.

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APPENDIX I- Virtual CSU Discharge Form

DATE of Discharge: (Day Month Year) **PHIN:**
Age: Gender: ☐ Female ☐ Male ☐ Other
Living situation: ☐ With family ☐ Alone ☐ With friend/roommate ☐ Other: specify below

_____
Referred from: ☐ Crisis Response Centre ☐ Emergency Department ☐ Urgent Care Centre ☐ Other, specify: _____
Referral assessment completed virtually: ☐ Yes ☐ No
Main Problem at presentation: (pick most applicable, may choose multiple)
☐ Depression ☐ Anxiety ☐ Psychosis ☐ Mania ☐ Suicidal/Self-harm ☐ Psychosocial event/Stressor ☐ Personality Disorder ☐ Other, specify:

_____
Suicidal behaviour at presentation (choose highest level): ☐Ideation ☐ Planning ☐ Attempt ☐ n/a
Active substance use: ☐Yes ☐ No If yes, what substance(s):

_____
Reason for Referral (check all that apply):
☐Medication management ☐ Risk/symptom monitoring ☐ Problem solving /recovery planning ☐ Referral to other resources ☐ Other, specify:_____
Length of Virtual CSU stay: _____days **Psychiatry assessment occurred:** ☐ Yes ☐ No
Attended CBTm at least once: ☐ Yes ☐ No **Contact primarily by:** ☐ Video ☐ Phone
Virtual family involvement while in CSU: ☐ Yes ☐ No
Outcome:
☐ Discharge to pre-existing follow-up, check: ☐ primary care ☐ psychiatrist ☐ mental health supports
☐ Referral to RAC ☐ Admission to hospital ☐Detox/Addiction services ☐ UFITT ☐ Lost to follow-up ☐ Transfer to physical CSU ☐ Other: _____
Virtual CSU was a good fit for this individual:
☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
Comments on successes/challenges/unique aspects of case:
Client agreeable to future contact regarding their experience:
☐ Yes ☐ No ☐ Not asked
Form completed by: _____ Updated June 24, 2020

APPENDIX II- vCSU Coding Dictionary

Gender:
1 Female
2 Male
3 Other

Living Situation:
1 With family
2 Alone
3 With friend/roommate
4 Other

Referred From:
1 Crisis Response Centre
2 Emergency Department
3 Urgent Care Centre
4 Other

Referral assessment completed virtually?
0 No
1 Yes

Main problem at presentation (pick most responsible, may choose multiple):
Depression
0 Absent
1 Present
Anxiety
0 Absent
1 Present
Psychosis
0 Absent
1 Present
Mania
0 Absent
1 Present
Suicidal/Self-Harm
0 Absent
1 Present
Psychosocial event/Stressor
0 No

1 Yes
Personality Disorder
0 Absent
1 Present
Other
0 Absent
1 Present

Suicidal behaviour at presentation (highest level):
1 Ideation
2 Planning
3 Attempt
4 N/A

Active Substance Use:
0 No
1 Yes

Reason for referral (check all that apply):
Medication Management
0 Absent
1 Present
Risk/Symptom Monitoring
0 Absent
1 Present
Problem solving /recovery planning
0 Absent
1 Present
Referral to other resources
0 Absent
1 Present
Other
0 Absent
1 Present

Psychiatry assessment occurred?
0 No
1 Yes

Attended CBTm at least once?

0 No
1 Yes

Contact primarily by:
1 Video
2 Phone

Virtual family involvement while in CSU:
0 No
1 Yes

Outcome:
Discharge to pre-existing follow-up, primary care
0 Absent
1 Present
Discharge to pre-existing follow-up, psychiatrist
0 Absent
1 Present
Discharge to pre-existing follow-up, mental health supports
0 Absent
1 Present
Referral to RAC
0 Absent
1 Present
Admission to hospital
0 Absent
1 Present
Detox/Addiction Services
0 Absent
1 Present
UFITT
0 Absent
1 Present
Lost to follow-up
0 Absent
1 Present
Admission to physical CSU
0 Absent
1 Present
Other

0 Absent
1 Present

Virtual CSU was a good fit for this patient:
1 Strongly Agree
2 Agree
3 Neutral
4 Disagree
5 Strongly Disagree

Patient agreeable to future contact regarding their experience:
1 No
2 Yes
3 Not asked

APPENDIX III- Online PA Survey

1. Describe your role in providing psychiatric services to individuals admitted to the in-person and virtual Crisis Stabilization Unit (CSU) (Short Answer Response)

2. What differences arise in the services you provide to individuals admitted to the in-person CSU compared to the virtual CSU?
(Short Answer Response)

3. In an average week, to how many patients admitted to the in-person CSU do you provide psychiatric consultations? (Excluding management in CSU Rounds) (Choose one of the following options)
0-2
3-5
6-8
9+

4. In an average week, to how many patients admitted to the Virtual CSU do you provide psychiatric consultations? (Excluding management in CSU Rounds) (Choose one of the following options)
0-2
3-5
6-8
9+

5. Do you feel like the virtual CSU addresses potential accessibility issues arising from public health restrictions and is an effective manner to provide psychiatric services? (Short Answer Response)

6. Please identify any difficulties or barriers to providing psychiatric care to individuals admitted to the virtual CSU. (Short Answer Response)

APPENDIX IV - vCSU PA Survey Coding

Describe your role in providing psychiatric services to individuals admitted to the in-person and virtual Crisis Stabilization Unit (CSU)

Case Review n=2
Psychiatric Consultation/Assessment n=6
Medication Adjustments n=5
Disposition Planning n=3

What differences arise in the services you provide to individuals admitted to the in-person CSU compared to the virtual CSU?

Decreased Involvement n=5
In-Person CSU services n=3
Virtual CSU services n=4
No Difference n=1

Do you feel like the virtual CSU addresses potential accessibility issues arising from public health restrictions and is an effective manner to provide psychiatric services?

Yes n=6
Decreased Involvement n=2

Please identify any difficulties or barriers to providing psychiatric care to individuals admitted to the virtual CSU.

Connectivity Issues n=5
Decreased Involvement n=2