




Management of the COVID-19-Infected Psychiatric Inpatients: Unique Infection Prevention Considerations and Evolving Strategies

Heather Albert, MSN, RN^{1,2,*} 

Diane Heipel, BS, RN¹

Tushar P. Thakre, MD, PhD³

Olivia Hess, BA¹

Kaila Cooper, MSN, RN¹

Rachel Pryor, RN, MPH¹

Mark Smallacombe, BSN, RN¹

Charlene Moore, MS, RN¹

Emily Godbout, DO, MPH^{1,3}

Robert Findling, MD^{1,3}

Gonzalo Bearman, MD, MPH^{1,3}

Address

^{*,1}Hospital Infection Prevention Program, Virginia Commonwealth University Health System, Richmond, VA, USA

Email: Heather.albert@vcuhealth.org

²North Hospital, 1300 E. Main St., 2nd Floor, Room 100, Box 980019, Richmond, VA 23298, USA

³Virginia Commonwealth University School of Medicine, Richmond, VA, USA

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Abstract

Reason for Review The COVID-19 pandemic has affected the way healthcare services are provided and created challenges to the delivery of behavioral health in the inpatient setting. Here, we present our front-line experience of infection prevention for the psychiatric patient in the COVID era.

Recent Findings There are unique challenges surrounding COVID-19 precautions within inpatient psychiatric settings. The challenges presented to psychiatric care by COVID-19 begin in the emergency department and follow the patient through the continuum of care once admitted to the facility. Unit infrastructure, patient population, treatment modalities, staffing considerations, and discharge planning are distinct instances where COVID-19 protocols that are well-suited for other hospital settings necessitate revision for psychiatric settings.

Summary The purpose of this communication is to add to the current body of shared experience of infection prevention for the psychiatric patient in the COVID-19 era.

Introduction

The COVID-19 pandemic has altered the delivery of healthcare across the continuum and highlighted unique challenges in care of psychiatric patients. This patient population is particularly vulnerable to exposure and infection [1]. Management within the healthcare continuum can be challenged by the nature of psychiatric syndromes which may impair patients' ability to adhere with interventions to prevent

transmission [2]. Furthermore, inpatient psychiatric units are designed to facilitate a therapeutic milieu in the form of shared spaces and group therapy, making infection control strategies more difficult [2]. The purpose of this communication is to add to the current body of shared experience of infection prevention for the psychiatric patient in the COVID era.

Background

The Virginia Commonwealth University Health System (VCUHS) is an 865-bed academic medical center in Richmond, Virginia. VCUHS tested its first person under investigation (PUI) for COVID-19 in March 2020. PUIs and known COVID-19-positive patients are placed in private rooms. Single occupancy airborne isolation rooms are prioritized for all patients undergoing aerosolizing procedures. We implemented the use of universal droplet masks for all team members at VCUHS and mandated face shields for all team members providing direct patient care. VCUHS policy instructs staff to wear N95 respirators when caring for any patient with suspected or confirmed COVID-19, if there is concern for aerosolizing device or procedure. Our facility began universal COVID-19 screening by polymerase

chain reaction (PCR) testing on April 27, 2020, for all patients admitted to the healthcare system, including psychiatric admissions.

Special Challenges for Inpatient Psychiatric Settings

Open-space units for the treatment of inpatient psychiatric patients present special challenges for infection prevention (Table 1). It can be challenging to isolate patients requiring close contact for treatment. On inpatient psychiatric units, patients usually participate in group therapies and group

Table 1 Considerations and challenges for the management of COVID-19-infected psychiatry patients

Specific considerations and challenges	Intervention
Masking safety considerations	<ul style="list-style-type: none"> • Patients and visitors encouraged to wear level one masks (with the metal nose piece removed as it can be a choking hazard) • Masks had elastic parts going over the ear instead of strings to reduce ligature risk • Staff required to wear level three masks
Social distancing	<ul style="list-style-type: none"> • Group therapy participants placed 6 feet apart • Only 2 visitors allowed per patient • Floor marked for six-foot distancing
Confirmed COVID-positive adult patient in congregate psychiatric setting	<ul style="list-style-type: none"> • Patient moved to medical floor • All other patients and staff tested for COVID-19, and patients monitored for symptoms twice a day • Enhanced cleaning and precautions instituted • Unit closed to admission, visitations put on pause, group therapy ceased for 14 days • Units reopened after 14 days after repeat testing on everyone was negative
Confirmed COVID-positive pediatric patient in congregate psychiatric setting	<ul style="list-style-type: none"> • Patient placed in private room on contact and droplet precautions • Other patients placed on quarantine for 14 days • Unit closed to admission and parents encouraged to do virtual visitations • Unit reopened after repeat testing on everyone was negative
PPE use by staff	<ul style="list-style-type: none"> • Staff required to wear face shields over masks during patient interactions • Full PPE use required when rounding on COVID-positive psychiatric patient admitted to medical floor • ECT staff used full PPE and N95 masks during procedures
Interdisciplinary rounds	<ul style="list-style-type: none"> • Limiting number of participants to allow for social distancing • Conducting rounds virtually
Psychiatric admissions	<ul style="list-style-type: none"> • Patients testing negative for SARS-CoV-2 by PCR admitted to the psychiatric floor • Patients testing positive placed on droplet-contact precautions and admitted to the medical floor for psychiatric care

meals. Patients are allowed (and, prior to the COVID-19 pandemic, encouraged) to walk in hallways with increased verbal interactions. Milieu therapy is an integral part of inpatient psychiatric treatment involving close contact with patients and staff [3]. This can prove difficult, as these must be effectively minimized or cancelled in order to control the transmission of COVID-19.

Unique Challenges to Management of Psychiatric Patients Under COVID-19 Precautions—Psychiatric Challenges

Infrastructure Differences Between Psychiatric Units and Medical/Surgical Units

In many parts of the country, there is a scarcity of psychiatric inpatient beds. As such, it is essential for these units to remain operational and safe during this pandemic in order to meet the needs of the patients these inpatient units serve.

Inpatient psychiatric units differ from medical and surgical units in several ways [4••]. Even within inpatient psychiatric units, there are differences in terms of infrastructure [5]. Some inpatient psychiatric units are part of free-standing psychiatric hospitals with their own emergency departments. As a result, such units may not readily have access to specialty medical care if someone contracts COVID-19. Outbreaks in a free-standing facility have the potential to cause a partial or even complete shutdown of the facility [6]. Other inpatient psychiatry units may be co-located [either in the same building or on the same campus] with medical and surgical as well as intensive care units and may be better equipped to deal with an outbreak. Psychiatric units are oftentimes locked units and there are some advantages and disadvantages associated with this fact. When considering controlling the spread of COVID-19, one advantage of having a locked unit is that patients cannot walk out of the unit and inadvertently contribute to the spread of the infection. On the other hand, the patients and staff might feel cut off from the rest of the building and be at risk of adverse effects of isolation [7].

Inside the units, psychiatric facilities also have key differences from other medical units [1•, 8]. Unlike on general medical floors, psychiatric patients often spend a significant amount of time outside their rooms participating in group activities or socializing with peers. It would be unethical to confine patients to their rooms, which would be considered seclusion. One major characteristic of psychiatric units is the free movement in the hallways as well the availability of community areas so that patients can participate in group therapy activities [9]. Many disciplines offer group-based interventions on inpatient psychiatry units—occupational therapy, recreational therapy, pharmacy, music therapy, social work, and nursing. Group therapy is considered an integral part of psychiatric treatment, and thus, there are greater risks of transmission between patients and staff. While some psychiatric units have single occupancy rooms, many units have shared rooms and bathrooms, leading to increased risk of viral transmission. To reduce the risk of self-harm

by patients, psychiatric units are designed to be ligature-proof and often lack equipment found in other units such as television sets in patient rooms, leading patients to congregate in common areas where a TV is available[5]. Due to the ligature-proof nature of psychiatric units, it is more difficult to keep patients masked as cloth masks could be used as ligatures by some patients. Most psychiatric units lack specialized equipment such as telemetry and negative-pressure rooms. Some psychiatric units are specifically designed to treat patients with comorbid medical and psychiatric conditions. However, the vast majority of psychiatric units have limited capacity to treat patients with any substantive general condition. For this reason, such inpatient psychiatric units may not be able to have patients needing more involved general medical care such as intravenous lines or indwelling catheters.

Differences Between Psychiatric Patients and Patients on Other Units

Psychiatric patients are often vulnerable to contracting COVID-19 because of many factors such as crowded living conditions, homelessness, poor social support, and untreated medical conditions such as diabetes and hypertension [4••]. These patients often do not seek help when ill and may need to be brought to a treatment facility and hospitalized involuntarily. The pandemic itself has contributed to worsening mental health [10, 11], especially in people with depression, anxiety, and even paranoia. Cognitively impaired patients and patients with intellectual disabilities may be unable to comprehend the safety precautions in effect on the unit. There are also challenges related to the acutely agitated or behaviorally disinhibited patients. This may make it difficult to enforce use of masks, hand hygiene, physical distancing, and other measures to reduce the risk of viral transmission[6].

Differences in Staff Functioning on Psychiatric Units and Other Issues

Psychiatric units have interdisciplinary rounds which traditionally involve close contact between multiple team members. In academic medical centers, the presence of trainees and students makes it even more challenging to plan for physical distancing. Restricting students and residents on the psychiatric units risks compromising their ability to learn hands-on clinical skills [1•, 12]. The pandemic is also likely to lead to the lack of qualified physicians and staff available to meet the demands of psychiatric units because of expanding patient loads.

Another consideration related to social distancing is that there are regulatory requirements to conduct visual checks on patients every 15 min. Meeting this patient need frequently requires staff to come in close proximity of patients. Some patients with psychiatric illnesses may need sitters for elevated suicide risk or self-harm or because of the inability to take care of their activities of daily living, again increasing the risk of transmission.

There are other challenges that COVID-19 brings to psychiatric care on an inpatient unit that pertain to discharge planning. For example, once

psychiatrically stabilized, patients may encounter difficulties with being discharged home to self-quarantine. For homeless patients, there is the likelihood of difficulty in finding placement—shelters and step-down units may be closed or functioning at reduced capacity as a result of the pandemic. In addition, family members may be unwilling or unable to provide a place for patients to self-quarantine after discharge [4••]. Visitor restrictions in place in many facilities can lead to isolation and worsening of psychiatric illness for some patients who derive benefits from visitors. Finally, there are ethical issues related to patients' capacity to accept or decline treatment and/or vaccination. Psychiatric patients, especially those with cognitive impairment, may not have the capacity to weigh the risks versus the benefits of getting treated for COVID-19 and/or getting the vaccine when it becomes available to them. At such times, the healthcare team may need to consider seeking court-ordered forced treatment or vaccination.

The unique challenges presented to psychiatric care by COVID-19 begin in the emergency department (ED), where psychiatry patients are screened prior to admission. The main challenge is the time psychiatry patients need to wait in the ED pending their COVID-19 testing results. Notification of a patient's COVID status is necessary to identify safe and durable disposition. There can be disposition challenges when attempting to find an appropriate place for care for COVID-positive patients who are medically stable yet require psychiatric hospitalization. Therefore, our institution established specific infection control measures to be used for psychiatric admissions through the ED.

Psychiatric Admissions from Emergency Department (ED)

We implemented a screening process and protocol for psychiatry patients prior to admission to our adult and pediatric inpatient units. Patients medically cleared for admission to psychiatry from the ED are screened for symptoms of COVID-19, including fever and cough, and tested for SARS-CoV-2 by PCR prior to arrival to the inpatient unit. Symptomatic patients' pending results are transferred to a medical floor with psychiatric care consultation. Asymptomatic patients are assessed by the Psychiatry team to determine whether the patient can follow isolation guidelines in a private room pending test results. Adherent patients with test results pending are immediately isolated in their own rooms upon arrival to the unit. Non-compliant patients will remain in the ED until test results become available. COVID restrictions are removed for patients with negative test results and the patients held in the ED are admitted to the appropriate psychiatric floor. COVID-positive patients are placed on droplet-contact precautions and admitted to the medical floor for psychiatric care. For asymptomatic pediatric COVID-positive patients, they are admitted to the Virginia Treatment Center for Children (VTCC) on droplet-contact precautions.

Inpatient admission procedures and protocols from the ED evolved as testing resources became readily available. Senior leadership at VCUHS approved rapid testing of inpatient psychiatric patients in October 2020 given the unique challenges of this high-risk setting.

Adult COVID-19 Confirmed Patient in Congregate Setting

There are two adult behavioral health units at the VCU Health with a total of 36 beds. There are 24 private rooms and six semi-private rooms. In response to the COVID pandemic, patients were asked to wear American Society for Testing and Materials (ASTM) level one masks, when deemed safe and appropriate, and distance six feet apart. Group therapy activities were managed by placing patients six feet apart. Two visitors per patient were permitted on the units and visitors were required to wear an ASTM level one mask. Staff wore ASTM level three masks and were encouraged to wear face shields at all times.

Eight months into the pandemic, the Healthcare Infection Prevention Program (HIPP) was notified that a patient on the adult behavioral unit had developed symptoms on day 16 of admission prompting a COVID test that was subsequently positive, indicating a confirmed case of hospital acquired (HA) COVID-19 [13]. The patient was moved to a medicine floor and all patients and employees were screened for COVID. The milieu of the units presented a quandary; due to inconsistent patient masking, all patients met criteria for exposure and would be required to quarantine for 14 days. On our medical units, exposed patients are placed on droplet and contact precautions for 14 days, but the behavioral health population was unable to consistently adhere with this directive and the behavioral health team, HIPP, and hospital leadership concluded the risk to their progression in therapy by being placed in isolation outweighed the risk of continued transmission, if enhanced protocols were in place.

The decision was made by leadership and HIPP to close the unit to admissions, stop visitation, and hiatus group therapy for 14 days. Additionally, patients were strongly encouraged to wear mask, six foot distancing was clearly marked on the floor and patients were directed to these marks, and patients were monitored for symptoms with temperature checks each morning and evening and assessed for fever, cough, shortness of breath, chills, muscle pain, sore throat, or new loss of taste or smell. The team maintained a low threshold for isolation and COVID testing in symptomatic patients. It was reiterated to staff the importance of self-monitoring, staying home when sick, and reporting symptoms of COVID. Enhanced cleaning protocols were established that included daily assignment of a staff member for 2–4 h to wipe down of all common areas including handrails, tables, chairs, phones, and doorknobs. This promoted the culture of cleaning that continues with all staff aware of the need to keep common areas clean. In the meantime, all initial patient COVID screens were negative but eight employees tested positive. A second patient became symptomatic 15 days after the initial positive patient, on day 13 of admission, indicating a probable HA COVID-19 infection [13]. A second round of testing found all patients to be negative. The units reopened after completion of 14 days of quarantine. The division changed its practice from allowing patients with pending results to come up to the unit and isolate, to requiring a negative COVID prior to admission to the unit. There have been no cases of HA or probable HA COVID in patients since.

Pediatric COVID-19 Confirmed Patient in Congregate Setting

Pediatric patients are screened for COVID-19 prior to admission to VTCC. VTCC is a VCUHS free-standing psychiatric facility providing services to children seventeen and under. There are 32 private beds that are divided into two units (A and B). Each unit has three different pods. The pods will hold 4 to 6 patients that share a common living space. They also have two isolation rooms with a bed and personal sitting area which prevents the isolated child from sharing the common area with other patients. If a patient at VTCC becomes positive during their admission, HIPP provides recommendations on isolation, screening of residents, and whether to close the unit for admissions during a quarantine period.

A patient at VTCC tested positive 10 days after previously testing negative on her admission screen. This was an asymptomatic patient that was retested for a required pre-admission screen to another facility. The patient reported a large family gathering for a holiday celebration the day prior to admission. Given the history of a large family gathering and the incubation period for COVID-19, this was likely acquired prior to admission [13]. The patient was placed in one of the isolation rooms on contact and droplet precautions. Prior to isolation, she had shared a pod with a common area and dined with four other patients. The four patients exposed to the COVID-19-positive patient were placed on quarantine for 14 days per CDC recommendations at the time and the decision was made to close the unit for admission. Interventions during the 14-day period included eating in the room instead of the common dining area, wearing a mask in the common area, encouraging virtual visitation of parents when possible, and rescreening children 5 days after exposure. All repeat screens for COVID-19 were negative.

VTCC has two isolation rooms available for COVID-19-positive patients. The infection prevention team collaborated with psychiatric providers and the clinical nursing team to develop a plan to accommodate the admission of 3 COVID-19-positive children. In this plan, the positive patients were cohorted together in a pod. Each would have a private room and share a common area since the bedrooms only have a bed (no television, couch, or table). Staff don gown, surgical mask, face shield, and gloves prior to entering the COVID pod. Once in PPE, staff work in 2- to 4-h rotations to monitor and supervise children. Staff wipe down high touch surfaces prior to exiting the pod. Similar to the quarantined pod, interventions include eating in room, wearing a mask in the common area, placing tape on the floor and furniture for social distancing, and encouraging virtual visitation for parents. De-escalation of the pod occurred 10 days after the most recent child tested positive.

Considerations for Procedures in Behavioral Health

Electroconvulsive therapy (ECT) at our institution serves inpatients and outpatients in a separate suite. In response to the COVID pandemic, this procedural area followed the perioperative services guidelines so that patients are screened for COVID 24–72 h prior to every treatment. In order to accommodate 6-foot distancing, the pre- and post-procedural area of ECT decreased its occupancy. This resulted in treatment days adjusting from 3 times a week to 5 times a week. All staff wear level 3 masks with face shield in the pre- and post-procedural area and an N95 with face shield in the treatment room as ECT is deemed an aerosolizing procedure. A 21-min down time between patients was implemented to allow for full air turnover of the treatment room.

The transcranial magnetic stimulation (TMS) treatment room was downsized to a single patient treatment room to accommodate 6-foot distancing guidelines. Staff wear level 3 droplet masks and face shields.

If a patient is found to be COVID positive following treatment in the ECT or TMS suite, the room is terminally cleaned and undergoes ultraviolet light disinfection. There would be no patient or staff exposures while following the recommended guidelines.

Conclusion

COVID-19 has a profound impact on inpatient psychiatry due to the unique challenges of the physical structure and treatment modalities of psychiatric units. Clear communication between clinical leaders of psychiatry, infection prevention, nursing, and hospital leadership is paramount to address the challenges and evolving recommendations to mitigate the risk of transmission to patients, staff, and visitors. This paper presents an institutional response to COVID-19 in psychiatric units to increase knowledge among clinicians and infection prevention teams.

Declarations

Human and Animal Rights and Informed Consent

This article does not contain any studies with human or animal subjects by any of the authors.

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Papers of particular interest, published recently, have been highlighted as:

- Of importance
- Of major importance

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