Maintaining a Bronx inpatient psychiatry service at full capacity during the COVID-19 pandemic

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Abstract

Purpose: The purpose of this article is to present an overview of rapidly transformed workflows on our inpatient psychiatry service during COVID-19 pandemic outbreak in New York.

Conclusion: Rapidly transformed workflows, staffing patterns and discharge policies, as well as programs addressing the emotional and social needs of our staff enabled us to not only run our service without interruptions and maintain full inpatient census but also prevent the spread of COVID-19.

Practice Implications: The challenges we faced and lessons we learned can be easily applied to other inpatient psychiatry services as we anticipate the second surge of COVID-19 infection.

KEYWORDS

COVID-19, inpatient psychiatry

Jacobi Hospital, a Level 1 Trauma Center, has the largest safety net Psychiatry Service in the Bronx. Jacobi Behavioral Healthcare Services (BHS) consists of 89 acute adult Inpatient Psychiatry beds generating 1600 discharges/year, 7700 Comprehensive Psychiatry Emergency Program (CPEP) visits per year, an Out-patient Psychiatry Program, Mobile Crisis Team, Assertive Community Treatment Team, Consultation/Liaison Service, and a Comprehensive Addiction Treatment Program. Our Inpatient Service plays a pivotal role in this full continuum of care, impacting workflow, dwell time, caseloads and safety of all the other programs.

When the Bronx became a COVID-19 epicenter with the highest number of COVID-19 deaths in New York State, Jacobi BHS was faced with the challenge of how to respond to the pandemic surge while minimizing disruption to all of these Behavioral Health programs. Keeping our Inpatient Service operational at full capacity while preventing the spread of infection was critical in safely caring for the most vulnerable population of mentally ill patients in the Bronx. Starace et al.,¹ stated,

"During the current COVID-19 disease emergency, it is not only an ethical imperative but also a public health responsibility to keep the network of community psychiatry services operational, particularly for the most vulnerable subjects (those with mental illness, disability, and chronic conditions) ... the goal is to avoid deepening the disparities of mental health resources or resistance to deliver appropriate mental health care."

This viewpoint needed to be balanced with the Substance Abuse and Mental Health Services Administration's recommendation to reevaluate the necessity of inpatient mental health services and restrict inpatient admissions to situations where there is the actual risk to life if the person is not hospitalized. This approach resulted in many inpatient psychiatry units across New York City being converted to medical intensive care units to care for nonpsychiatric COVID-19 patients.

Data from Italy indicated that in the early phase following the COVID-19 epidemic onset, there was a marked reduction in voluntary psychiatric admission rates; however, there was no noticeable
reduction in involuntary admissions.\textsuperscript{3} More than 90% of Jacobi inpatient psychiatry admissions are involuntary; therefore, we did not expect any significant decline in our census. Inpatient psychiatric care is a necessary component in our continuum, especially during a time of limited access to outpatient care and community resources. This was compounded by other stressors of the pandemic—fear of virus exposure, financial insecurities, food insecurities, and social isolation, all of which have the potential to exacerbate mental illness. With the surge of COVID-19 positive patients at Jacobi, early crisis planning considered transforming a portion of our Inpatient Service into a medical unit. We realized that such a decision could result in overcrowding of our CPEP and lead to increased virus exposure of those patients and staff, limiting our ability to respond appropriately to the acuity of the patients in that setting. Without a fully functioning inpatient service, our outpatients who required hospitalization might need to be transferred to a different hospital system. We were therefore challenged with the task of keeping our inpatients and inpatient staff safe to allow us to operate the service at full capacity.

\textbf{1 \textbar{} UNIQUE RISKS FOR PSYCHIATRY INPATIENTS}

\textbf{1.1 \textbar{} The vulnerability of the mental health population}

People living with serious mental illness may be particularly vulnerable to COVID-19 infection because of homelessness, living in congregate settings, and having cognitive and behavioral difficulties that can interfere with their ability to comply with quarantine and hygiene measures. Smoking, cardiovascular disease, diabetes, metabolic syndrome, sleep apnea, chronic pulmonary disease, and obesity are more common in people with serious mental illness than in the general population which may increase the risk of poor outcomes from COVID-19.\textsuperscript{1\textemdash}6

Once on an inpatient unit, it may be difficult for patients to comply with isolation measures. Isolation in their room over objection could be interpreted as seclusion. Due to the nature of their illness, some patients may resist hygienic measures or have difficulty practicing social distancing; some may become assaultive (spitting, scratching, biting, etc.) toward each other or staff. Signs of COVID-19 infection, such as fatigue, myalgia, or loss of taste and smell, might go unnoticed in patients with severe depression or negative symptoms, leading to a life-threatening situation even before the infection is recognized.

\textbf{1.2 \textbar{} Inherent risks for psychiatry inpatients units}

There are reports of COVID-19 outbreaks in psychiatric units in Wuhan Mental Health Center and Daenam Hospital.\textsuperscript{7,8} Even though the official numbers for the rate of COVID-19 infections in New York State inpatient psychiatry units have not yet been released, there are reports of concerningly high numbers.\textsuperscript{9,10}

Inpatient psychiatry units are especially vulnerable to the spread of infectious diseases because of their unique operational structure. Multiple factors can lead to increased virus exposure for both patients and staff. Inpatient treatment relies on interpersonal communications, group therapy, and communal interactions. Patients are ambulatory and encouraged to be out of bed and interactive as a part of their treatment. Staff and patients do not typically wear personal protective equipment (PPE), the use of alcohol-based hand sanitizer is restricted for fear of ingestion, and there are shared patient bathrooms. Staff is required to perform face-to-face patient safety checks every 15 min, and for those who are at risk for self-harm, constant observation at arm’s length may be needed. While clinical pathways, workflow and policies and procedures have been developed for other infectious diseases such as influenza, we were never faced with a contagion similar to COVID-19 in the past. We were entering uncharted territory.

Through rapidly evolving improvement cycles and lessons learned at each juncture, as well as guidance from Center for Medicare and Medicaid Services,\textsuperscript{11} New York State Office of Mental Health,\textsuperscript{12} and New York City Department of Health and Mental Hygiene,\textsuperscript{13} we created a safe and effective standard workflow. Our approach prevented the spread of the COVID-19 virus throughout our inpatient psychiatry service as was witnessed in many other New York City hospitals. This manuscript is designed to share our guiding principles behind this work flow, measures undertaken to overcome obstacles as well as our current standard work protocols.

\textbf{2 \textbar{} ADMISSION SCREENING PROCESS}

Because patients can be contagious yet asymptomatic, a new admission screening process with diagnostic testing was required to determine COVID-19 status. This testing had limitations: inconsistent availability, 24–72-hour lag for standard test results, modest test sensitivity leading to false negatives and variations in testing accuracy due to sample collection and symptom duration.\textsuperscript{17} Obtaining a detailed history from patients presenting to our CPEP was challenging due to their impaired mental status, inability to cooperate, or unawareness of exposure.

With these factors in mind, a new comprehensive screening process at triage was developed. All patients were screened for the following: the presence of respiratory symptoms (cough, shortness of breath, chest pain), myalgia, fever (subjective or objective), presence of gastrointestinal symptoms (i.e., diarrhea), loss of taste and smell, decreased oxygen saturation, abnormal vital signs, abnormal laboratory tests, and exposure to COVID-19 within last 2 weeks. The presence of any one of these signs and symptoms was considered a positive screen. Patients who screened positive were placed in isolation and tested for COVID-19 before being admitted to an inpatient unit.

We converted our Extended Observation Bed (EOB) Unit within the CPEP into a person under investigation (PUI)/COVID-19
isolation area for this purpose. Our EOB Unit has six single bedded rooms which allowed isolation for up to 72 hour until these testing results were obtained and a decision regarding a final disposition could be made.

Asymptomatic patients with laboratory abnormalities (i.e., leukopenia/lymphopenia, abnormal differential, abnormal liver function tests, increased creatinine) were also isolated and tested for COVID-19 before being admitted to the inpatient unit. If COVID-19 testing was negative but laboratory abnormalities were present in an asymptomatic patient, a medical consult was obtained to determine further steps and the need for retesting. Once COVID-19 testing became widely available, we started testing all admissions to the inpatient service.

3 | INPATIENT MEASURES

3.1 | Establishment of COVID-19 psychiatry unit

The use of isolation to mitigate the spread of infection had to be distinguished as a separate course of action from the use of seclusion for behavioral management. COVID-19 positive psychiatric inpatients who were not able to comply with medical isolation quickly forced us to consider converting one of our units to a COVID-19 unit. This would allow us to cohort these patients away from COVID-19 negative patients and minimize the spread of the virus throughout our inpatient population. As the number of COVID-19 patients increased and the risk of spreading the infection to all units and exposing the entire workforce became a critical concern, this COVID-19 unit became a necessity. It allowed us to provide care and treatment for COVID-19 positive patients without restricting their movement by isolating them in their bedrooms. Dedicated nursing and psychology staff was assigned to this unit. Physician and social work staff, who also provided care for patients on the non-COVID-19 units, utilized a hybrid approach in caring for these patients, combining face-to-face and in-hospital telehealth treatment whenever possible to decrease exposure and transmission to the other units.

3.2 | Management of non-COVID-19 psychiatry units

To prevent COVID-19 infection spread on the non-COVID-19 units, we had to address issues specific to all sources: patients, staff, environment, and visitors.

3.2.1 | Patients

Single room occupancy was utilized when inpatient census allowed. Patients were allowed to remain in their rooms throughout the day. Additional dining space was created and dining in patients' bedrooms was allowed to ensure social distancing during mealtime. Groups were modified to modalities not requiring close contact or the use of shared material and the number of patients per group was limited to further allow for social distancing. All patients were engaged in ongoing education about the importance of social distancing, hand hygiene, and infection prevention.

Managing agitation and preventing escalation requires close physical contact through the use of manual holds and restraints. This risk of infection was mitigated through recognition of early warning signs, de-escalation techniques, PRN medication utilization, timely standing medication adjustment, and patient engagement in the development of their personalized crisis prevention plan to identify their triggers and calming strategies.

Close monitoring of COVID-19 symptoms and vital signs was conducted throughout the hospitalization to quickly identify new infections. If a patient developed COVID-19 symptoms or showed any other signs of infection (laboratory abnormalities indicative of COVID-19 infection, changes in baseline functioning, etc.), they were immediately placed on contact/droplet isolation and tested. A limited number of staff provided care for that patient, entering the room only while wearing full PPE (N95 mask, eye shield/goggles, gown, and gloves). COVID-19 positive patients were transferred to our newly established COVID-19 inpatient unit. If their symptoms were of such severity that safe treatment was not possible in psychiatry (i.e., requiring oxygen treatment, intravenous treatment, intubation, etc.), they were transferred to a medical unit. A roommate of a newly diagnosed COVID-19 patient was also immediately isolated, tested, and closely monitored for the development of COVID-19 symptoms. Staff exposed to a newly diagnosed patient were required to closely self-monitor for symptoms.

3.2.2 | Staff

Staff was required to take their temperature twice a day and self-monitor for COVID-19 symptoms. Flexible work scheduling was implemented to decrease staff exposure and allow adequate time for rest and self-care. Staff with increased risk, including immunocompromised individuals, were offered the opportunity of working remotely. Staff entering units was limited to essential direct care members only and staff rotation between units was avoided whenever possible. Initially, all staff was provided with surgical masks and staff treating COVID-19 positive patient or PUs were provided with full PPE. Once a sufficient supply became available, all staff members were provided with N95 masks. Telepsychiatry was introduced, allowing remote work, both from home and on-site. Treatment team meetings were held virtually. Virtual on-site departmental huddles were held daily to assess the current situation and identify urgent issues and needs. Our hospital-wide Helping Healers Heal Program and Psychology Support Team offered support to staff dealing with emotional distress related to the pandemic.16 Housing arrangements within the hospital or at local hotels were offered to staff concerned for potentially infecting their families.
3.2.3 | Environment

Disinfection of the items and spaces used frequently, including communal phones, doorknobs, and shared computers was performed each shift by departmental coordinating managers and hospital housekeeping. Terminal cleaning of patient rooms following discharge or transfer of COVID-19 positive patients was performed by hospital housekeeping before the room was reutilized.

3.2.4 | Visitors

Restriction of visits from families, outside agencies, and all items brought from outside was instituted at the beginning of the pandemic. iPads were used to allow contact with families and conduct meetings with outside agencies, minimizing the potential negative impact of these restrictions on patients, their treatment, and discharge planning.

3.3 | Discharge process during the COVID-19 pandemic

Efficient, safe inpatient discharge immediately upon psychiatric stabilization was critical in preventing unit overcrowding and ensuring an adequate number of available beds. We faced many challenges in achieving this goal. Family and outside providers/agencies, who were typically involved in confirming a patient’s readiness for discharge were not allowed to visit our units. Many outpatient clinics were closed to new patients and were not providing face-to-face visits for established patients. There was a marked decrease in access to substance use clinics, in a time when patients were at even higher risk of relapse due to the stress of the pandemic.

Primary care follow-up of patients with complex medical conditions was limited due to the change of workflows in response to the COVID-19 surge. Many patients faced housing challenges including not being able to return home due to their COVID-19 status, and concerns about exposure to COVID-19 if going to a shelter, nursing home, residence, or other congregate settings. The referral process to many residential settings was suspended. There was a threat of increased disengagement, noncompliance, and rapid relapse due to the changes in healthcare delivery in the community.

We quickly established multiple new discharge workflows. The importance of a comprehensive risk assessment and identification of patients at heightened risk for suicide, violence, and serious complication of their medical illness was recognized. For these patients, the inpatient team remained in contact after discharge and continued to assess risk and provide follow-up via telehealth until a community-based provider could assume treatment responsibility.

Inpatients were engaged in the development of a personal safety plan to identify their early warning signs of relapse or self-harm and utilize measures that would mitigate their risk. Family members were involved in safety planning via telehealth to enhance social support upon discharge when deemed to be safe. Long-acting injectable medication utilization was increased whenever possible to improve compliance. Given limited outpatient care and new risks with travel, some patients were given a month’s supply of outpatient medications upon discharge. If the lethality potential of this approach was too high for a given patient, smaller quantities were given on discharge and a prescription was transmitted to the community pharmacy with a later release date to prevent medication accumulation. Educational material, emphasizing the importance of social distancing, face covering, and hand hygiene was also provided to patients upon discharge. This was not only to keep our patients safe but to assist them in feeling prepared to attend their outpatient appointments when these became available.

4 | CHALLENGES AND LESSONS LEARNED FOR POTENTIAL NEXT WAVE

4.1 | The threat of rapid spread of the virus throughout service

Psychiatry was not viewed as a high-risk area for COVID-19 infection at the start of the pandemic as initially most of the COVID-19 positive patients presenting to our service were asymptomatic. Therefore, COVID-19 testing of all admissions is necessary. A PUI area in the CPEP allows for safe cohorting of patients. Diligent monitoring of not only respiratory symptoms but also any change in baseline functioning along with monitoring of vital signs at least twice daily is crucial in the timely identification of COVID-19 positive cases. Ability to quickly isolate admitted patients who develop COVID-19 symptoms is essential in preventing the spread of infection throughout the service. A COVID-19 unit allows for quick isolation of positive cases, a decrease in staff and patient exposure, and PPE conservation. Investment in video technology equipment is needed to allow for telehealth, both on-site and remote, to minimize exposure and provide uninterrupted care.

4.2 | Staffing shortages

We faced staffing shortages due to isolation or quarantine, lack of child care, or medical conditions leading to inability to work on-site. Telepsychiatry should be utilized whenever possible to allow remote work. With school closing, a number of staff members faced child care issues. Although this was recognized at the start of the pandemic, we were not able to assist in an organized fashion. Child care issues can only be resolved at the organizational level, and this should be one of the top priorities to prepare for the next wave.

4.3 | Universal patient mask utilization

There was a delay in providing surgical masks to all psychiatry inpatients due to supply chain issues, concerns for ligature risk and
injury from metal nose strip, and infection control issues (patients in congregate settings might exchange masks accidentally). An adequate supply of safe masks for our patients needs to be ordered and distributed. Patient educational groups that emphasize the importance of wearing masks and social distancing need to be held frequently.

4.4 Social and psychological needs of staff

Staff faced catastrophic stressors, which included: witnessing an unprecedented volume of sick and dying patients, fear of infecting themselves and their family members as well as concern about the health and prognoses of family and coworkers who had fallen ill. In spite of available resources for staff’s emotional support, only a limited number of staff members utilized them.

Ongoing monitoring is crucial in identifying those who are at risk for the development of mental health issues and ensuring that they are aware of available resources. An organized system for reaching out to staff members who have fallen ill and providing support during that time should be established. Deployment of a “battle buddy” system17 as a psychological resilience intervention could be the most practical way of providing support, monitoring stress, and reinforcing safety procedures with little to no cost and very short start-up time.

Ensuring adequate PPE supply, training on how to recognize the signs and symptoms of COVID-19 infection and knowledge about basic strategies to mitigate the spread of disease is pivotal in preparing the workforce and improving staff engagement.

4.5 Timely and accurate dissemination of information

The constant influx of new information and guidelines, supply and testing availability updates, and continued need for change led to confusion and frustration. Attention to timely staff updates with transparency and accuracy of information through daily huddles at all levels (from hospital leadership to unit), email blasts, and overhead announcements mitigate confusion and mistrust. The latest advisories and most recent studies should be utilized in developing a flexible and adaptable operational system.

5 IMPLICATIONS FOR NURSING PRACTICE

Out of 233 BHS patients tested between March 18, 2020 and June 11, 2020, 32 (13.6%) were positive, confirming that BHS should be considered a high-risk area. During the same period, our admissions increased by 6.5% compared to the same period in 2019, reinforcing the need to keep our inpatient service fully operational. Through teamwork, open communication, workflow adjustment, and flexibility, we were able to achieve this goal while providing comprehensive and safe psychiatric care for our patients.

The next wave of COVID-19 will coincide with flu season, putting more stress on the healthcare system. Repeated “traumatization” of patients, staff, and our community will bring its own challenges. The review of lessons learned during this first wave is critical in maintaining an inpatient service at full capacity during any upcoming COVID-19 surges.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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