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Inpatient Psychiatry During COVID-19: A Systems Perspective



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KEYWORDS

- COVID-19 • Inpatient psychiatry • Health care system • Telehealth
- Infection control

KEY POINTS

- A nonuniform pandemic affecting a nonuniform health care system makes it challenging for mental health providers to adapt to the rapidly shifting demands of the COVID-19 pandemic.
- Public and not-for-profit community health care settings and academic medical centers coordinated across systems to expand medical capacity and preserve space for acute psychiatric treatment.
- Regulations were extensively relaxed to allow hospitals and other providers to rapidly adapt to the COVID-19 pandemic.
- Use of telehealth increased in acute inpatient programs during the COVID-19 pandemic.

INTRODUCTION

Mirroring the public mental health system as a whole, the United States lacks a uniform approach to inpatient psychiatric care. Instead, inpatient care reflects a miscellany of tradition, laws, regulations, resource availability, and common practices. Inpatient practices vary not just between states but across municipalities and hospital systems, where different inpatient units can have widely disparate cultures, values, and outcomes.

Even if COVID-19 had affected the United States uniformly, these differences would have bred disparate responses. But the initial stage of the COVID-19 pandemic was anything but uniform.¹ Its effects came in waves that varied in time, place, and intensity. An ever-evolving pandemic with discordant results colliding with a nonuniform,

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heterogenous mental health system makes it challenging to describe a unified view of how the inpatient psychiatric system responded to COVID-19.

Numerous reports have described how individual hospitals responded to the pandemic, but few describe how these changes played out across a system of care. In this report the authors use New York State (NYS), and New York City (NYC) in particular, as a case study in how an inpatient psychiatry system of care reacted and adjusted to COVID-19. NYS has a robust inpatient psychiatric system, and NYC was one of the epicenters of the first COVID-19 outbreak in the Spring of 2020. The NYS response included a range of coordinated planning and regulatory efforts to preserve and create medical and intensive care unit (ICU) capacity; maintain access to acute psychiatric services; and redefine inpatient psychiatric care.

BACKGROUND: ACUTE PSYCHIATRIC SERVICES IN THE NEW YORK CITY METROPOLITAN AREA

In 2018, NYS had an estimated 7467 adult inpatient psychiatric beds (47.8/100,000 adults) and 1606 child and adolescent beds (38.2/100,000 children).² At that time NYC had an estimated 3763 adult beds (55.2/100,000 adults) and 468 child and adolescent beds (26.0/100,000 children). Most of these beds were in 36 NYC public or nonprofit community hospitals and are referred to here as “acute” beds or units to distinguish them from the State-run psychiatric hospitals described later. These community hospital units have an average length of stay of 1 to 2 weeks. Patients are typically admitted either from medical emergency rooms with varying degrees of dedicated psychiatric space or from 1 of 16 Comprehensive Psychiatric Emergency Programs. These are specifically designated settings with requirements for staffing, specialized resources, and the legal authority to admit people for 72-hour observation.

Seven NYS Office of Mental Health (OMH) State-operated adult, civil Psychiatric Centers (PCs) serve more than 12 million residents of the greater NYC metropolitan area, 1 in each of the 5 boroughs of NYC and 2 in surrounding suburban counties. These PCs rarely take admissions directly from the community; instead, they are centers of intermediate care and primarily serve people with persistent severe symptoms that cannot be adequately addressed in the acute care system and thus require further specialized treatment. In contrast to the relatively brief length of stay at the acute care hospitals, the average length of stay in these PCs varies from 6 to 12 months.

INITIAL RESPONSE TO THE COVID-19 SPRING 2020 SURGE IN NEW YORK: PRESERVING MEDICAL CAPACITY

COVID-19 was first identified in Wuhan, Hubei Province, China at the end of 2019. By March 11, 2020, the World Health Organization declared COVID-19 a pandemic, as it spread across continental boundaries and began to affect every state in the United States.³ New York State Governor Andrew Cuomo declared a state of emergency in response to COVID-19 on March 7, 2020. By March 22nd, the New York City area accounted for half of the cases in the United States and roughly 5% of cases globally.⁴

The initial days and weeks of the outbreak were chaotic and fluid, with rapidly mounting death tolls. It was unclear how long and severe the initial wave of infection would be, and there was real fear that hospitals would become overwhelmed by acutely ill patients with COVID-19 and run out of space, supplies, and staff.⁵ In this context, the mounting priority for individual hospitals, and the system as a whole, was to create medical and ICU capacity. Governor Cuomo ordered elective surgeries to be canceled across the state on March 7, 2020⁶ and furthermore required hospitals to maintain 30% ICU available capacity at all times.⁷

Hospitals responded by shifting space and staffing, which included repurposing of inpatient psychiatry services and staff. During the first wave of the pandemic, NYC acute care hospitals closed an estimated 20% of their inpatient psychiatric beds to accommodate the need for increased medical capacity.⁸ Some of these units were converted from psychiatric to medical capacity, whereas others were used for ancillary purposes (supplies, operation centers, staff respite, and so forth) or held vacant in anticipation of further surges of patients presenting for intensive medical care.

Although there was no unified or centrally managed process for unit closures and reallocation of staff, there was significant coordination and cooperation across the system. Some large hospital systems apportioned closures based on medical demand, so that hospitals in COVID-19 hotspots could allocate more resources toward medical capacity, whereas other hospitals within their system maintained more of their psychiatric capacity and could take on the closed hospital's demand for psychiatric care. In one case, this coordination occurred across hospital systems when one hospital was forced to close all of its emergency and inpatient psychiatric capacity. Recognizing that a nearby hospital was likely to see increased demand for psychiatric services, the hospitals agreed to share staff during this unique and unprecedented situation.

The NYS OMH fostered cross-system collaboration in multiple ways. Although NYS OMH collected data on inpatient capacity and utilization before COVID-19, the reporting mechanisms were not designed to account for the rapidly changing situation during the outbreak. NYS OMH was in frequent contact with hospitals from across the city and NYC metropolitan area to quantify the extent of inpatient closures and changes. During the pandemic, NYS OMH hosted weekly calls with directors of inpatient psychiatric programs to discuss service needs and infection control procedures.

To relieve the pressure on the system, NYS OMH rapidly responded in the 7 adult, civil State-operated PCs that serve the New York City metropolitan area. One of these PCs had recently completed construction on a new inpatient building when the COVID-19 pandemic struck. This building was repurposed as a medical facility for patients with COVID-19, managed by a community hospital system, for the duration of the pandemic in NYS. None of the other PCs were equipped to provide medical or ICU capacity. They did, however, support the "decanting" of patients from the acute care system. Rather than adding bed capacity, *per se*, the PCs accomplished this by working with the outpatient system to increase the pace of appropriate discharges and by creating swing space in offline wards. Before COVID-19, acute care hospitals would apply directly to one of the state-operated PCs to transfer patients with refractory symptoms. During the spring 2020 COVID-19 surge, this process was centralized, simplified, and expedited. The centralization allowed the NYS OMH Central Office to review applications and match referrals to the next available bed across the PC system.

These adjustments allowed for timely collaboration with acute care hospitals, particularly the NYC public hospital system, which has psychiatric inpatient programs at 11 of its hospitals. The NYC public hospital system converted approximately 30% of its adult inpatient capacity, 40% of its child and adolescent capacity, and 100% of its detox units to COVID-19-related medical services.⁸ During the initial course of the outbreak, NYS OMH and the NYC public hospital system collaborated to transfer an estimated 90 adult psychiatric inpatients from acute to state-operated hospitals. Across all NYC metropolitan area ("Downstate") acute hospitals, before COVID-19, approximately 35 to 45 adult individuals without a forensic legal status were accepted into inpatient units at civil, state-operated PCs each month. In March of 2020, this same population increased to 85 and further increased in April to 133. During the entire first wave of COVID-19 (March through end of May 2020), the state-operated PCs

accepted 263 transfers from acute care hospitals and forensic settings, approximately double the number from the similar period in 2019.

MAINTAINING ACCESS TO ACUTE PSYCHIATRIC SERVICES

Although unit closures and transferring patients to PCs helped to create medical and ICU capacity across the system, most psychiatric inpatient beds remained available for admissions during COVID-19. Those remaining units made numerous adjustments to operating procedures to maintain staff and patient safety. Hospital psychiatric staff were likely especially concerned after hearing reports in the popular media of large outbreaks in psychiatric settings internationally.^{9,10} NYS hospitals adopted various strategies to prevent similar outbreaks. Early in the pandemic, testing for the COVID-19 virus was limited.¹¹ One NYC hospital reported that during the initial COVID-19 outbreak, 9.9% of patients were COVID-19 positive at the time of admission, and 76.1% of those positive cases were either asymptomatic or unable to report symptoms due to psychiatric issues.¹² Some hospital systems created specific dedicated units for people who had confirmed or suspected COVID-19. These units allowed other hospitals in their system to isolate COVID-19 positive patients. For example, after outbreaks on both of their inpatient units, one hospital converted the unit with the larger outbreak into a COVID-19 positive unit and the other unit into a COVID-19 negative unit.¹³ They used strict personal protective equipment (PPE) guidelines for staff and used videoconferencing for therapeutic interactions whenever possible (and for all family-patient interactions). Another community hospital psychiatric program developed a detailed algorithm for screening, testing, isolation, and infection control and also created a holding area for people awaiting test results and then admitted to either COVID-19 positive or negative units.¹⁴ A community hospital in the Bronx similarly created a “Person Under Investigation” area along with a COVID-19 positive unit.¹⁵ Similar to other hospitals, as testing became increasingly available, they described the progression from symptom-based testing to universal testing before admission.

Other hospitals created quarantine procedures within their units so that COVID-19 positive and negative patients did not mix. For example, one hospital’s voluntary unit was able to provide individual rooms to all patients, whereas another unit in their system designated 2 communal rooms for COVID-19 positive patients. With these precautions in place, transmission of the COVID-19 virus in the hospital psychiatric programs was low (just 3% of total identified cases).¹⁶

All psychiatric programs grappled with maintaining infection control procedures with an acutely psychiatrically ill population. Communal meals, group activities, and visitation were all curtailed or modified, as programs tried to enforce masking and social distancing. One NYC community hospital implemented telepsychiatry on its COVID-19 positive inpatient unit.¹⁷ Dispensing of medications, vital signs, laboratory draws, and routine checks remained in-person but tablets were provided to patients for meetings with the treatment team, virtual visits with family and friends in the community, and behavioral health-oriented apps. Another community hospital similarly created detailed infection control and programming protocols for its 35-bed COVID-19 positive unit and also distributed tablets to their patients.¹⁸ The hospital psychiatric program admitted a total of 48 patients in April and May of 2020, 8 of whom were subsequently transferred for acute medical care; all staff working on the unit remained COVID-19 negative.

REDEFINING INPATIENT PSYCHIATRIC CARE

To further reduce pressure on community hospital acute psychiatric programs that were struggling to rapidly implement infection control protocols and, in many places,

managing shortages of staff and PPE, NYS OMH relaxed regulatory standards for inpatient programs in late March 2020. These changes remained in effect throughout the spring of 2020.

To facilitate infection control protocols, programs were permitted to cancel therapeutic, rehabilitative, and recreational groups and allow patients to remain in their rooms throughout the day. Programs were also advised to consider plans in which nursing staff and one psychiatrist remained on-site to handle emergencies while the rest of the treatment team provided telehealth services. Because a federal and state public health emergency declaration was declared, documentation requirements were significantly relaxed, for example, the requirement was waived for written, multi-disciplinary treatment plans. Instead of writing daily comprehensive progress notes, treatment teams were only required to write admission notes, discharge notes detailing course of treatment, and brief notes detailing clinically relevant events. Each patient was required to have at least one medical record notation per day, not one per treating professional.

Discharge planning requirements were adjusted to fit the reality of an outpatient system that was also rapidly adapting to the pandemic. Inpatient providers continued to attempt scheduling a discharge appointment within 7 days of discharge, but if an outpatient provider was not available or was unable to accommodate the patient, NYS OMH staff provided assistance locating available outpatient providers. In the event the outpatient treatment could not be located, inpatient teams were encouraged to provide a larger supply of medications and remain available to the patient for refills and other clinical emergencies pending engagement to ambulatory care. For higher risk patients, the inpatient team was asked to proactively remain in contact with the patient after discharge pending continuation of outpatient care. NYS OMH leveraged several Assertive Community Treatment teams to provide critical time intervention services to individuals who presented to psychiatric emergency departments to reduce the need for inpatient readmissions.

Regulations on the use of telehealth for psychiatric treatment were relaxed across multiple treatment settings, including inpatient care. These regulatory changes remained in effect through the duration of the declared State and Federal emergency periods. Telehealth evaluations were permitted for involuntary inpatient holds or assisted outpatient treatment; outside of the emergency period, these evaluations are required to be in-person. Rules requiring an in-person evaluation by a physician for seclusion or restraint orders were also relaxed to allow an in-person evaluation by a nurse practitioner or physician assistant with telephonic consultation with a physician. However, telehealth-only evaluations for seclusion or restraint orders were not permitted.

IMPACT OF COVID-19 SPRING 2020 SURGE ON NEW YORK STATE ACUTE PSYCHIATRIC SERVICE SYSTEM

Despite early capacity concerns, the NYS inpatient psychiatric system continued to serve individuals needing acute inpatient care during the initial COVID-19 wave. In addition to the measures described earlier, several factors helped the system remain functional. First, COVID-19 infections peaked the week of April 5, 2020, and COVID-19 hospitalizations began steadily decreasing by April 13, 2020.^{19,20} The peaking of the pandemic precluded further psychiatric inpatient unit closures. Second, fewer people presented for acute psychiatric services during the height of the pandemic. Preliminary NYS Medicaid data suggest that in April of 2020, approximately 14,000 Medicaid enrollees received an inpatient or emergency department mental health service compared with 21,000 enrollees in April 2019. There were anecdotal reports that

Emergency Medical Service crews were reluctant to transport non-COVID-19–related emergencies to hospitals during this time. Furthermore, people with psychiatric issues (as the general population) likely wanted to avoid hospitals to limit their exposure to COVID-19. However, it is worth reiterating that COVID-19 was not evenly distributed across time, space, or racial and socioeconomic lines.²¹ So although as a whole, the system remained intact, the situation at individual hospitals was difficult at times.²²

As the spring COVID-19 surge abated in NYC, some inpatient capacity came back online, whereas other units remained closed for various reasons. Some hospitals had converted their psychiatric units into full-scale medical units and needed to renovate to make the unit safe for psychiatric patients again. Other units were held offline in the event of another surge or remained closed due to staffing issues. When the second surge hit in October of 2020, the system responded in a similar but attenuated fashion. Some units closed again to reallocate staff to other parts of the hospital. Because of operations from the initial surge that remained in place through the winter of 2020, OMH's state-operated PCs did not need to expand capacity, and more widespread testing allowed for easier infection control protocols than in the spring.

COVID-19S EFFECT ON INPATIENT CARE BEYOND NEW YORK CITY

As the pandemic progressed, the popular press reported in March 2020 on outbreaks at psychiatric facilities first in Washington State.²³ By April, NBC News was reporting “more than 1450 COVID-19 cases at state mental health facilities in 23 states and Washington, D.C.”²⁴ Another media report highlighted hospital and governmental bureaucracy, lack of testing and PPE, a focus on reimbursement rather than treatment, and a lack of guidelines as drivers of outbreaks on psychiatric inpatient units.²⁵

There was, however, an informal network of providers that shared strategies over social media on how to prevent and control outbreaks on inpatient psychiatric units.²⁶ These strategies focused on testing, admission protocols, social distancing, limitations on groups, visitation restrictions, and infection control. Initial ideas about best practices also came out of the international community.^{27–29} By midsummer more guidelines were being published in academic journals. Li, for example, suggested strategies related to screening, PPE, visitor policies, staffing, use of telepsychiatry, and adjustments to programming.³⁰

As of 2021, published reports describing the impact of the COVID-19 pandemic on hospital psychiatric inpatient care largely focused on how individual hospitals and inpatient units responded. Less attention has been paid to the type of collaborations and interactions that occurred across networks and systems of behavioral health care. One exception is Angelino and colleagues' description of the development of a COVID-19–dedicated unit that served as a hub for the entire state of Maryland.³¹

On the individual hospital level, the strategies used were largely consistent with those adopted by NYC hospitals. COVID-19–dedicated units were established in Massachusetts,³² Washington State,³³ Pennsylvania,³⁴ and Connecticut.³⁵ Other units managed outbreaks by closing to new admissions and initiating mitigation efforts.³⁶ As in NYC, telepsychiatry became a crucial tool for maintaining operations on some inpatient units. Kalin and colleagues, for example, describe a blended model where rounding and team meetings were completed via telepsychiatry, physicians were available for specific situations such as physical examinations, and nurses led behavioral emergency responses with physicians available via video.³⁷ Similarly, Heyman-Kantor and colleagues described how nurses remained in-person with physicians generally performing remote evaluations but having at least one physician available for in-person evaluation when necessary.³⁸ Krass and colleagues described a mix

of telepsychiatry for therapy and evaluation with in-person programming on a COVID-19 positive adolescent unit.³⁴ Reflecting on the use of telepsychiatry on inpatient units, Morris and Hirschtritt suggest that telepsychiatry could help in future outbreaks with staffing, safety (in terms of both infection control and violence reduction), maintaining connections in the community, and developing the capacity for immediate consultation during crises.³⁹

Statistics reported from across the United States also generally mirrored those reported in NYC. Various hospitals reported decreased census in line with most reports from NYS.^{35,40} Some hospitals that treated COVID-19 positive patients on psychiatric inpatient units reported that they did not have to transfer patients to medical units due to COVID-19 symptoms.^{34,35} Similar to NYC, rates of positive tests were relatively low, with Li and colleagues, for example, reporting 5.9% positive test rate among all tests and a 10.2% positive rate among people suspected of having COVID-19.³⁵ One outbreak at a state psychiatric hospital in the South provided a cautionary tale; despite following CDC guidelines, 78% (51/70) of test results in a building with an outbreak were positive; the investigators urged mask wearing and universal testing of staff to prevent similar outbreaks in other hospitals.⁴¹

OTHER ISSUES SURROUNDING INPATIENT PSYCHIATRY DURING COVID-19

COVID-19 brought to the fore ethical issues in all aspects of medicine, and psychiatric inpatient care was no exception. Barnett noted that the risk that a patient involuntarily committed to a psychiatric unit could infect others, or become infected themselves, added an additional level of complexity to an already fraught ethical framework around involuntary commitment.⁴² Similarly, Bojdani and colleagues encouraged hospital providers to disclose this potential additional risk to patients before admission as part of a risks and benefits discussion.³² Other investigators highlighted the ethical issues involved with capacity to refuse COVID-19 testing or appropriate monitoring⁴³ and how to enforce infection control policies as having patients wear masks and stay in their rooms.^{44,45}

COVID-19 highlighted the need to think of inpatient psychiatry in the context of the full array of community services. Various investigators pointed out that disposition became very challenging during COVID-19 due to limitations in outpatient and residential services brought about by the pandemic.^{30,32} In particular, Millard and colleagues discuss challenges with discharge related both to delays in testing and the investigators' impression that congregate settings were being more stringent than CDC guidelines suggested.⁴⁶

SUMMARY

The COVID-19 pandemic provided valuable lessons on how inpatient psychiatric systems of care can respond to public health emergencies. Although it may seem trivial, having a convening entity that maintains contacts with each hospital within a region is a key step that can be accomplished during nonemergent times. Centralization allows for system-wide planning instead of each hospital reacting on an individual basis; this is not specific to COVID-19; for example, if a hospital decides to change its inpatient capacity, that decision has ripple effects across the community. However, the surrounding hospitals may be part of different hospital systems, making it difficult to formulate a plan that is coherent for the entire community. During COVID-19 there was more cooperation than usual, but even then, decisions were largely undertaken within rather than among hospital systems. Developing a better system to track hospital capacity and demand is not only critical in a public health emergency but would

improve the overall resiliency and adaptability of the mental health system. Improved coordination would also facilitate dissemination of information and clinical best practices that could save lives during an emergency. The response to COVID-19 also demonstrated that oversight agencies can act rapidly to provide regulatory relief that preserves providers' fiscal viability and allows them to adapt to ever-changing and complex demands of a pandemic or other similar emergency.

Acute psychiatric services in NYS and nationally are typically not closely linked to outpatient and residential services. From a systems perspective, when inpatient beds close, the logical next step is to ensure that resources in the community are sufficient to provide for the needs that were previously met with inpatient hospitalization; this suggests a shifting of resources from inpatient to outpatient settings. The pandemic provided a condensed lesson in some of the difficulties of achieving that type of coordination in the current psychiatric care system. During the height of the pandemic, there were efforts to ease access to high-intensity outpatient services and housing settings. But those efforts required coordination across multiple government and nonprofit agencies, slowing down any progress. Moreover, NYS had the advantage of having a very large state-operated, mental health system with considerable capacity that could absorb patients from community hospitals. A more integrated system could allow for more nimble and creative approaches.

Finally, the details of what actually happens on inpatient units also changed during the pandemic. Some of these changes, as limitations in group therapy, seem counter-therapeutic and should not persist in a postpandemic world. Others, as the wider implementation of telepsychiatry, have potential benefits and drawbacks that need to be further evaluated.

COVID-19 had profound impacts on every level of inpatient psychiatry: patients, providers, units, hospitals, systems of care, and society as a whole. It behooves us to take heed of the lessons learned from the pandemic and to answer the myriad clinical, ethical, and systems questions that it raised. Doing so will help during the next emergency but should also allow us to design a more rational, effective, and compassionate system of care.

CONFLICT OF INTEREST

None reported.

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