



# Current and Future Challenges in the Delivery of Mental Healthcare during COVID-19

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## Abstract

The USA is in the midst of the COVID-19 pandemic. We assess the impact of COVID-19 on psychiatric symptoms in healthcare workers, those with psychiatric comorbidities, and the general population. We highlight the challenges ahead and discuss the increased relevance of telepsychiatry. We analyzed all available literature available as of March 25, 2020, on PubMed, Ovid Medline, and PsychInfo. We utilized the MeSH term “covid AND (psychiatry OR mental health)” and included all articles. Duplicates were removed resulting in 32 articles, of which 19 are cited. Four additional references are included to examine suicide data. During the review process, an additional 7 articles were identified which are also included. Frontline healthcare workers are currently experiencing increased psychiatric symptoms and this is more severe in females and nurses. Non-frontline healthcare workers, as well as the general population, are experiencing vicarious traumatization. People with psychiatric comorbidities, and the general population, face increased psychiatric symptom burden. Migrant workers, the elderly, children, and the homeless may be disproportionately impacted. Suicide rates may be impacted. The COVID-19 pandemic has resulted in a severe disruption to the delivery of mental healthcare. Psychiatric facilities are facing unprecedented disruptions in care provision as they struggle to manage an infected population with comorbid psychiatric symptoms. Telepsychiatry is a flawed but reasonable solution to increase the availability of mental healthcare during COVID-19.

**Keywords** COVID-19 · Pandemic · Psychiatry · Psychiatric facilities · Telepsychiatry

## Introduction

As of March 2020, the USA is in the midst of a pandemic. There are tremendous strains on healthcare workers, healthcare facilities, and the community at large. During this time, it is critical to also consider our population with psychiatric symptoms [1, 2].

This is a narrative review on the state of the current literature available as of March 25, 2020. We analyze the intersection of psychiatry and COVID-19 through the available literature. The purpose of this manuscript is to assess the impact of COVID-19 on psychiatric symptoms in healthcare workers and other affected individuals, and to highlight the increased symptom burden that may be placed on patients with psychiatric comorbidities. A secondary goal is to highlight future challenges.

## Methods

Our narrative review is conducted for literature as of March 25, 2020. We utilized the MeSH term “covid AND (psychiatry OR mental health).” We searched PubMed, Ovid Medline, and PsycInfo. As the purpose of this review is to survey all the current literature on this topic, we did not have any exclusion criteria. The initial search resulted in 52 articles. After duplicates were removed, there are 32 articles utilized for this review and 19 articles cited. Four additional references are included to examine data on suicidality. During the review process, an additional 7 articles were identified to be included [3–9].

## Populations Affected by COVID-19

### Healthcare Workers

Frontline healthcare workers are under tremendous stress, resulting in increased psychiatric symptoms. Frontline medical staff who are treating COVID-19 patients have increased incidence of anxiety symptoms, which appears to be increased in females compared to males. Further, the incidence of

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anxiety symptoms is higher in nurses compared to doctors [10]. In a large cross-sectional study, 1257 healthcare workers across 34 hospitals completed a survey on their experience of psychiatric symptoms. The most commonly reported symptoms include depression (50%), anxiety (45%), insomnia (34%), and distress (72%). Again, females and nurses reported more severe symptoms in all categories [11]. These trends were generally reproduced in the study by Wang and colleagues [12].

For healthcare workers, it is not simply those at the front-line who experience psychiatric symptoms. Vicarious traumatization affects those who are exposed to trauma second hand, by close contact with those directly exposed. Vicarious trauma is characterized by symptoms of decreased appetite, fatigue, physical decline, sleep disturbance, irritability/inattention, fear, and despair. Li and colleagues analyzed 740 people (214 general public, 234 frontline nurses, and 292 non-frontline nurses), a vicarious traumatization questionnaire was developed of 38 items. There were 11 items for physiological responses, 9 items for psychological responses, 7 items for behavioral responses, 5 items for cognitive responses, and 6 items for life belief. The non-frontline nurses, as well as the general public, had statistically significant more vicarious traumatization scores compared to frontline nurses [13].

The social isolation in the general population, and in those providing mental healthcare, also increases symptom burden. Many healthcare workers describe how confinement increases fear and anxiety [14]. Another detrimental situation in China, which may be soon become replicated in the United States, is lack of available healthcare workers who can provide care [15].

### Patients with Psychiatric Comorbidities

Large-scale pandemics like COVID-19 force a redistribution of resources. Patients who already have limited access to care, like the mentally ill, may see further reduction in the availability of care at a time when they may be suffering more distress. A viral illness such as COVID-19 can exacerbate underlying psychiatric symptoms such as anxiety, depression, panic, delirium, psychosis, and suicidality [16]. Patients with serious illness such as schizophrenia are already socioeconomically disadvantaged; stay-at-home orders can further reduce their access to marginal employment opportunities and worsen their economic distress [16].

To make matters more dire, people with socioeconomic disadvantages may experience increased psychiatric symptom burden. This can be a crippling situation for homeless people, where all-cause mortality for people under age 65 is already 5–10 times greater than that of the general population [17]. For states that implement lockdowns, it is unclear what the impacts are on the homeless population, and shelters have had to close because of local outbreaks.

### The Elderly and Migrants

Elderly people appear to be disproportionately affected by COVID-19. As many methods to provide mental health have shifted to providing mental healthcare electronically, it must be noted that the elderly have limited access/ability to utilize phone and Internet services [18]. This perception of the lack of treatment may exacerbate the psychiatric symptom burden in the elderly. Further, most hospitals in affected areas currently do not allow visitors, so the burden of social isolation is worsened when hospitalization is required.

There are additional concerns for international migrant workers residing in other countries [19]. To date, there do not appear to be large-scale responses to care for this group. Similar concerns exist for international students as well [20].

### Worried Well

Health anxiety can play a maladaptive role during this pandemic. People with a high level of health anxiety may misinterpret relevant and/or benign signs. COVID-19-positive patients may avoid medical treatment to avoid facing implications of their illness, and COVID-19 negative patients may overutilize healthcare services about having the infection [21]. They may also overuse available mental health services, limiting access to patients with increased psychiatric symptoms. Anxiety also drives the hoarding of materials like toilet paper and hand sanitizer, which has been repeatedly described in the media. This hoarding can become a contagious behavior of its own; as people see others hoarding, they perceive scarcity, and engage in the hoarding behaviors themselves.

During the 2009 H1N1 influenza pandemic, there was a surge of hospital visits, primarily pediatric [21]. However, the increased fear of contagion in hospital settings may be limiting this behavior during the current pandemic.

Online mental health services are being utilized in China, as alluded to earlier. However, the impact of these services has not yet been systematically studied [22]. Because of their ease of use, they may be a useful tool in the worried well and may reduce strains on overburdened healthcare resources.

### Children

Children are at particularly increased risk of being negatively affected by the aftermath of the COVID-19 pandemic. This is because brain architecture is rapidly developing and sensitive to environmental adversities, especially so for younger children [6]. For example, peer contact is a recognized contributor to overall well-being [7]. However, social distancing and shelter at home laws have induced a forced isolation from peers [7]. Furthermore, children are exposed to increased chronic stress conditions. They worry that their loved ones may get sick, or possibly die. They share in the economic concerns of

parents, possibly witnessing parents lose their wages or struggle to pay bills.

Mental health risks secondary to COVID-19 are expected to disproportionately affect children and adolescents who are already disadvantaged. For example, children with intellectual disabilities who already struggle to understand environmental cues may struggle to appreciate the need for current restrictions, which could exacerbate agitation and anxiety. Additionally, children with pre-existing mental health conditions will continue to experience reduced access to psychiatric treatment [7].

Children of low socioeconomic status are also more likely to be negatively affected [7]. The economic fallout secondary to the pandemic is expected to significantly increase the number of children living in extreme poverty, which is postulated to reverse progress made over the past few years to decrease infant mortality rates [6]. Widespread increases in poverty and unemployment would decrease the quality of childhood nutrition, care, and development [6]. Schools and childcare facilities across the globe have closed which has created severe nutrition concerns as school is a place where many children both in the USA and globally receive much needed meals and caloric intake [8]. These school closures, combined with disrupted interactions with extended families, deprive children of social and cognitive stimulation beyond those received in their homes [7].

Stress levels of parents are more likely to be elevated, secondary to increased demands. Parents must balance working from home and taking care of and educating children. They must manage their family's fears in the midst of possible economic stressors, especially given the current economic climate and high rates of unemployment. This increase in parental stress may give rise to increased rates of neglect and abuse of children in the home, a problem that is further exacerbated by many child protective agencies working under strained circumstances, which may delay needed recognition and intervention of any possible abuse or neglect [8]. Another risk with stay at home guidelines is a possible increase in online sexual exploitation, as children and adolescents are spending more time online, combined with a possible increase in demand for pornography, with adults also isolating at home [7].

### Domestic Violence

There are increasing rates of domestic violence during COVID-19. Domestic violence rates historically rise during economic recessions, which may be attributable to economic hardships leading to increased stress and resultant marital conflict [7]. Economic stresses combined with decreased freedom secondary to social distancing and stay at home laws, may increase prior existing controlling behaviors by perpetrators, as they sense a loss of control [7]. Stay at home laws most likely further exacerbate the problem since victims have

increased exposure to their perpetrators and are unable to temporarily leave the home as freely they may have been able to prior to the pandemic [7].

### Community Morale

For the general population in China, Li and colleagues analyzed Weibo posts from 17,865 active users utilizing online ecological recognition between January 13 and 26. The group found increased utilization of phrases for health and family with a decreased utilization for leisure and friend. There was also an increase in negative emotions such as anxiety/depression, decreased positive emotions, and increased sensitivity to social risk [23].

Wang et al. administered a questionnaire in China to investigate the general population's psychological distress and coping styles in the early stages of the COVID-19 pandemic and found that the general population reported higher level of psychological distress in the early stages of COVID-19 than those in non-epidemic period. Those who were unmarried and recently visited Wuhan in the last month perceived more impacts of the epidemic. Among this group, a purportedly negative coping style showed higher level of psychological distress, suggesting that this subset of the population may be good candidates for more urgent psychological interventions [9].

### On Suicide

It is unclear what will happen to suicide rates in the wake of the COVID-19 pandemic. In other times of national and global crises, particularly in times of war, research suggests that suicide rates decline, perhaps as a result of an increase in social cohesion, with members of a population coming together to cooperate towards a common goal [24].

There are concerns, however, that the COVID-19 pandemic will lead to an increase in suicide rates. While our nation has a common goal to come together to fight COVID-19, there is looming concern that the COVID-19 pandemic will lead to an increase in suicide rates. The elements of social isolation, economic downturn, increased unemployment rates, loss of loved ones, and an overall sense of hopelessness and helplessness all impact suicide rates independently. This past week saw a record increase in unemployment claims with unemployment numbers expected to continue to increase in the coming weeks. Unemployment is considered a major risk factor for suicide, with prior research suggesting that a one-percentage point rise in unemployment is associated with a 0.99% increase in suicide rate [25]. In 2009 alone, following the 2008 global economic crisis, there were 4900 excess suicides compared with those expected based on previous trends, which seemed to be associated with increases in unemployment [26]. To make matters worse, various major news

sources have reported massive increases in gun sales as COVID-19 concerns spread, which is particularly concerning, given that household firearm access increases the odds of completed suicide more than 3-fold [27].

### Effects of COVID-19 on the Delivery of Mental Health Services

The outbreak of COVID has caused a significant disruption in mental health services. Unfortunately, psychiatric hospitals can become epicenters for rampant spread of COVID-19. They are often crowded, include patients housed in double-rooms, and may include multiple patients who may not be able to comprehend the concept of social distancing due to severity of psychiatric symptoms. Furthermore, prior to inpatient psychiatric admission, patients often spend several hours in the emergency department, increasing risk of exposure to COVID-19. Several psychiatric facilities have adopted screening measures prior to admitting patients, such as screening for fevers or travel history, however these measures are far from foolproof due to long the incubation period, wide community spread, and high rates of asymptomatic patients. The potential risk of exposure at inpatient units may lead to mental health providers and family wanting to keep patients, who they previously would have admitted inpatient, at home, where risk of exposure would be lower. The risks of admitting a patient to a facility versus keeping a patient at home also needs to be considered for other residential facilities, such as inpatient substance use centers, as many outbreaks have already occurred in such settings as demonstrated by our own.

In many psychiatric outpatient settings, virtual care has substituted for in person treatment during the outbreak. The chronically mentally ill typically lack resources like computers and cannot readily adopt these new delivery models.

In hospitals with a high COVID-19 load, there are challenges imposed on psychiatric consultation services under the increasingly strict quarantine measures. Dr. Xiao has developed a template for structured letter therapy to merge consultation, diagnosis, and treatment [28].

### Caring for the Caregivers

After the outbreak of COVID-19 in Wuhan, Xiangya hospital of Central South University, tasked with the management of suspected patients, developed a psychological intervention plan. They attempted to build online courses to guide staff regarding psychological concerns, provide an assistance hotline with guidance and supervision, and develop group activities. However, these interventions were overwhelmingly rejected; reasons included not wanting their family to worry for them and lack of familiarity with the protocols. The hospital responded by providing a place of rest to isolate staff from family, develop video records to share with family,

training on personal protective equipment, provision of security to manage agitated/aggressive patients, and leisure activities. This second set of interventions were more accepted and utilized compared to first set of interventions [29]. In the USA, caregiver support strategies have begun to be implemented but have not yet been systematically studied.

### Local Responses

At our hospital, we have implemented a rotating shift and reorganized the flow of the rotation to minimize in-hospital time, while remaining accessible to our colleagues. We chart review outside of the hospital, evaluate the patient, and document outside of the hospital. Rather than the typical model of the resident evaluating a patient, and then again with an attending staff, we evaluate the patient together. Additionally, we provide multiple “curbside” assistance to our colleagues remotely.

In our institution, prior to the COVID outbreak, we had initiated virtual care. This was largely so in the behavior health integrated clinics which serviced a significant number of older adults. With the outbreak, we have effectively converted our outpatient care to almost entirely virtual care. The majority of our patients have been present for their virtual appointment, suggesting that this model could be effective during this pandemic. Virtual care has also been especially helpful in high risk areas such as the emergency department.

### The Challenges Ahead

One disruptive factor in China has been a lack of cooperation between community mental health services and psychiatric institutions [15]. Unfortunately, the United States appears to face similar troubles. Psychiatric hospitals already face constraints to manage medical conditions. They experience unique challenges in this current climate as well [30].

Free-standing psychiatric facilities are often ill equipped to manage complications of COVID-19 infections as there is limited access to advanced life care support or even adequate sanitary products such as hand sanitizer and personal protective equipment. As facilities have made progress to minimize suicide risks by limiting access to points of ligature, they have inadvertently created a shortage of essential resources during this pandemic, such as hand wash basins.

The high risk of exposure to COVID-19 that is present in psychiatric hospitals and emergency rooms has forced a reexamination of the risk benefit issues involved in psychiatric admission. Patients that might have been admitted to psychiatric facilities before the pandemic are not being admitted now, both because of infection risks in inpatient facilities and the lack of inpatient psychiatric resources.

Mentally ill patients with COVID-19 represent a special challenge. Community resources to manage such patients are simply unavailable.

With the rapid move to provide most of our outpatient care virtually, there have been technological challenges. The number of providers utilizing the web has increased leading to some dysfunction in the technology such as trouble with the connection, loss of audio input, or loud echoes. Further, it is unclear how most of the care provided will be reimbursed, leading to concern about financial losses to the healthcare system.

### Use of Telepsychiatry

Psychiatry, compared to other more procedure-based specialties, is potentially well suited for telepsychiatry. Studies suggest that telepsychiatry delivers high patient satisfaction. It is comparable to face-to-face services in terms of clinical assessments and treatment outcome, and may be preferable to in-person interaction for some patients [3]. While offering telepsychiatry services continues to increase access to mental healthcare during the pandemic, there are various limitations that need to be acknowledged.

For many providers, this is the first time they are utilizing technology to provide mental health services and very few have received training in how to provide digital therapy [4]. Clinicians will need to be trained in “websites manner,” the two components of which are audibility, which can be maintained through proximity to the microphone and limiting ambient noise and visibility, which can be improved with appropriate lighting and not having a window in the background [3].

It is imperative that mental health training programs start offering training in supervision in digital mental health and licensing and overseeing bodies should consider requiring training programs to do so [4]. Required licensing laws highlight another impediment to the widespread use of telepsychiatry as psychiatrists and therapists are often required to see patients only in states that they are licensed in [4]. Many patients who already see a therapist or psychiatrist, for example out of state college students, may face significant disruption to care as they would be forced to see an in-state therapist or psychiatrist [4]. While some states have waived these requirements in light of COVID-19, these changes are temporary and not all states have done so.

Ensuring privacy during telepsychiatry appointments is another concern. Fortunately, several HIPAA-compliant telecommunication services are now available [4]. Additionally, reimbursement for telepsychiatry is another limitation. While various insurers are now covering telepsychiatry services, it is uncertain how long these will last and coverage needs to be broadened to include additional types of digital therapy [4].

Telepsychiatry may not be suitable for all patients. It may have decreased utility for those with diminished cognitive

capacity or those who are not as technologically savvy, in addition to those with hearing difficulties, visual impairment, or poor manual dexterity. Unfortunately, these are limitations that disproportionately affect the elderly [3].

Additionally, telepsychiatry is scarce in many low- and middle-income countries and may overlook many vulnerable populations, including refugees, the homeless, those without secure housing and/or living in overcrowded spaces, and patients with severe mental illness [5].

The therapeutic alliance between patient and provider is also an important factor that cannot be overlooked and some may find building rapport to be difficult without meeting face-to-face, suggesting that perhaps telepsychiatry is better suited for patients who have already established a relationship with their provider [3].

Early career psychiatrists, in particular, have an important role to play in the transition to widespread telepsychiatry. They are part of a younger generation generally more familiar with technology, which is a strength they can utilize to bolster virtual offerings of mental health services [5].

Telepsychiatry has the potential to play a large role in treating health professionals affected by COVID-19 and early career psychiatrists have been able to use technology, including social media and the internet, to provide educational resources and group emotional support for their peers [5].

### Conclusion

The COVID-19 pandemic has had severe psychiatric impacts on the community. Healthcare providers and the mentally ill are disproportionately affected. Psychiatric institutions are facing unprecedented disruptions in care provision as they struggle to manage an infected population with comorbid psychiatric symptoms. Adaptive strategies, like virtual care, may not effectively address the needs of the elderly and the severely mentally ill. The effects of social isolation and economic disruption on the community at large are still not well understood. Telepsychiatry is a flawed but reasonable solution to increasing availability of mental healthcare during COVID-19.

### Compliance with Ethical Standards

**Ethical Statement** The authors declare that they have no conflict of interest.

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