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Wolters Kluwer

COVID-19: Psychiatric illness

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INTRODUCTION

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the highly transmissible virus that causes coronavirus disease 2019 (COVID-19), which can be lethal and reached pandemic scale worldwide in 2020 [1-3]. COVID-19 is associated with multiple psychiatric problems in several groups, including clinicians who care for patients with suspected or confirmed COVID-19, patients with COVID-19, and patients who had psychiatric disorders predating infection [4-8]. Although the World Health Organization and the United States Centers for Disease Control and Prevention have declared that COVID-19 is no longer a public health emergency, the virus continues to circulate and new variants are emerging [9-12].

This topic addresses the epidemiology, course of illness, and management of psychiatric illnesses that are associated with the COVID-19. Other topics discuss COVID-19 per se and related issues arising in different specialties, such as cardiology, obstetrics and gynecology, and oncology.

EPIDEMIOLOGY

The subsections below describe the prevalence of mental health sequelae associated with COVID-19 in health care workers, patients with COVID-19, individuals in quarantine, and the general population.

Health care workers — Psychiatric symptoms and disorders can occur in clinicians exposed to COVID-19 through their occupations [4,5,13-16]. As an example, a meta-analysis of 33 studies found that the global point prevalence of clinically significant anxiety symptoms among practicing physicians (n >30,000) during the first year of the pandemic (2020 to 2021) was 26 percent, and for depression was 21 percent [17]. These rates appear to be greater than the prepandemic rates in the general global population.

A review of 59 studies of viral outbreaks, including the COVID-19 pandemic, identified multiple risk factors and protective factors for psychiatric problems in health care workers [18]:

- Risk factors – The most consistent risk factor across studies was increased contact with infected patients. Other consistent predictors were a prior history of psychiatric symptoms/disorders and/or general medical illnesses, spending a prolonged time in quarantine, perceived lack of organizational support, and perceived social stigma directed towards health care workers.
- Protective factors – Across studies, the factor that most consistently decreased the risk of adverse psychiatric outcomes in health care workers was access to personal protective equipment. Other consistent protective factors included having supportive peers, access to psychiatric interventions, and trust in the institution's infection control measures, as well as receiving clear communication from supervisors and adequate time off from work.

Patients with COVID-19 — Multiple studies consistently indicate that patients who survive COVID-19 are at increased risk of developing psychiatric disorders, including anxiety disorders, depressive disorders, sleep disorders, and substance use disorders.

The risk of psychiatric disorders in patients with COVID-19 is greater than the risk in patients with other respiratory illnesses. A retrospective study of administrative health care data sets identified patients with either COVID-19 (n >236,000) or influenza (n >105,000) [19]. After controlling for potential confounding factors by matching the different groups on baseline characteristics (eg, age and comorbidities), the analyses found that in the six months after COVID-19, several psychiatric disorders occurred in more patients with COVID-19 than influenza, including:

- Anxiety disorders – 17.4 percent of patients with COVID-19
- Unipolar depression or bipolar disorder – 13.7 percent
- Substance use disorder – 6.6 percent
- Insomnia – 5.4 percent
- Psychotic disorder – 1.4 percent
- Dementia – 0.7 percent

- Delirium – 0.1 percent

In addition, patients who survive acute COVID-19 are at increased risk for onset of new, incident psychiatric symptoms and disorders [20-25]. As an example:

- A one-year, retrospective study of administrative health care data examined the risk of incident psychiatric disorders in patients who survived COVID-19 for 30 days (n >150,000) and patients without COVID-19 (n >5,600,000) [26]. After adjusting for potential confounding factors (eg, age, smoking status, and general medical comorbidities), the analyses found that infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was associated with an increased risk of a psychiatric diagnosis (hazard ratio 1.46, 95% CI 1.40-1.52). Specific symptoms and disorders that were observed more often in patients with COVID-19 included:
 - Cognitive impairment
 - Anxiety disorders
 - Depressive disorders
 - Posttraumatic stress disorder (PTSD)
 - Sleep disorders
 - Substance use disorders
- A retrospective study of administrative health care data sets identified patients with COVID-19 (n >44,000), influenza (n >26,000), or other respiratory infections (n >44,000), who had no prior history of a psychiatric diagnosis [23]. After controlling for potential confounding factors, the analyses found that a subsequent, first lifetime psychiatric diagnosis occurred in more patients with COVID-19 than the other two groups (6 versus 3 and 3 percent). The most frequent psychiatric disorders following COVID-19 were anxiety disorders, depressive disorders, and insomnia, as well as dementia in patients age 65 years or more.

Other studies have also found that COVID-19 is associated with cognitive impairment. As an example, neuropsychological testing of individuals on two occasions approximately three years apart found that decline in attention and executive function was greater in those who developed COVID-19 between tests than controls who were not infected [27]. The effect was larger at older ages.

Following a diagnosis of COVID-19, the increased risk of psychopathology persists for varying lengths of time across different psychiatric symptoms and disorders. A two-year retrospective study identified patients with a diagnosis of COVID-19 (n >1.2 million) and an equal number of patients with other respiratory infections, and used propensity scoring to match the two groups

on 82 potential confounders observed at baseline (eg, sociodemographic factors, comorbidities, and exposure to medications) [28]. For the first six months of follow-up after onset of infection, patients with COVID-19 experienced more psychopathology than patients with other infections. However, during follow-up beyond the initial six months, the increased risk of anxiety disorders, insomnia, and mood disorders subsequently dissipated, such that the risk in the two groups was equal. By contrast, COVID-19 was associated with a greater risk of cognitive impairment and psychotic disorders during the entire two-year follow-up.

The association between COVID-19 and psychiatric disorders seems to be bidirectional, such that survivors of COVID-19 are at increased risk of psychiatric sequelae, and patients with psychiatric disorders are at increased risk for COVID-19 [23]. (See '[Course of illness](#)' below.)

Patients critically ill with COVID-19 — Multiple studies have established the association between critical illness and the subsequent manifestation of psychiatric symptoms and disorders [22,29-31]. (See "[Post-intensive care syndrome \(PICS\) in adults: Clinical features and diagnostic evaluation](#)".)

Patients who are critically ill with COVID-19 are also at risk for persistent psychiatric illness, including new, incident disorders:

- In a national registry study that included patients without a psychiatric disorder (n >3.6 million) [32]:
 - New onset of psychiatric disorders was substantially greater in those who tested positive for SARS-CoV-2 and required hospitalization, compared with those who tested negative (hazard ratio 2.5, 95% CI 2.1-3.1).
 - Onset of psychiatric disorders in patients hospitalized with COVID-19 and patients hospitalized for other respiratory infections was comparable.
- In a meta-analysis of 13 observational studies that included nearly 1100 individuals with severe COVID-19 infection, the estimated pooled prevalence of PTSD at 4 to 16 weeks postdiagnosis was 16 percent [33]. This may exceed the rate in the general population.

Individuals in quarantine — Psychiatric symptoms and disorders that occurred in quarantined adults during the COVID-19 pandemic included anxiety and depression [34,35]:

- In an online survey of university students (n >69,000) who were quarantined during the pandemic for an unspecified duration, high levels of anxiety were reported by 28 percent, severe depression by 16 percent, severe traumatic stress by 22 percent, and suicidal ideation by 11 percent.

- Among nearly 7900 adolescents in quarantine during the pandemic for four months, an online survey found that anxiety occurred in 22 percent and depression in 25 percent [36].

In the two surveys, one common risk factor for psychiatric symptoms was problems with basic needs (food or housing). This is consistent with a review that concluded quarantines adversely affected mental health by disrupting pragmatic daily tasks such as earning a salary and accessing food [34].

General population — Multiple cross-sectional, self-report online surveys in 2020 suggested that the prevalence of clinically significant psychiatric symptoms during the pandemic may have exceeded the baseline prevalence [37-42]. However, the situation appears to be more nuanced. Higher quality studies indicate that on one hand, the general public's mental health before and during the pandemic was generally comparable [43-45]. On the other hand, the mental health of some subgroups in the general population deteriorated, and surveillance of individuals within these subgroups is warranted.

A systematic review identified higher quality studies that assessed mental health both before the COVID-19 pandemic (in 2018 and 2019) and during the pandemic (January 2020 or later) in 134 general population cohorts [46]. Within each study, prepandemic and pandemic assessments were conducted in 90 percent or more of the same participants, or statistical methods were used to account for missing data. The primary findings from a series of meta-analyses were as follows:

- General adult population – Before and during the pandemic:
 - Overall mental health was comparable
 - Anxiety symptoms were comparable
 - Depressive symptoms worsened slightly during the pandemic

Subgroups that were adversely affected by the pandemic, with modest worsening of overall mental health, anxiety, and/or depression, included the following:

- Females
- Individuals with pre-existing psychiatric disorders
- Older adults
- Parents or caregivers
- Sexual minority groups
- University students

For most of the meta-analyses, heterogeneity across studies was large [46]. This suggests that although the adverse psychiatric effects of the pandemic at the population level were on average limited, the effects were greater for subsets of individuals. Another study limitation is that there were relatively few data for some subgroups, such as health care professionals and people with low socioeconomic status, who may have been more vulnerable and suffered more severe effects from the pandemic. In addition, the timing of assessments during the pandemic may also have influenced the observed effects upon mental health, such that deterioration at the start of the pandemic may have subsequently stabilized [44].

- General pediatric population – Among children and adolescents in the general population, overall mental health, anxiety symptoms, and depressive symptoms before and during the pandemic were each comparable [46].

Older individuals (eg, ≥ 70 years), immunocompromised patients, and patients with chronic disease may also experience increased anxiety and depression related to COVID-19 [47,48]. In addition, individuals living in settings with armed conflicts and humanitarian crises (eg, refugees and internally displaced people) are at risk for psychiatric symptoms and disorders [49].

PATHOGENESIS

The pathogenesis of psychiatric symptoms and disorders that arise from infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) may involve biologic and psychosocial factors.

Multiple studies suggest that COVID-19 may indirectly affect central nervous system function through the associated inflammatory immune response [22,50,51]:

- Positron emission tomography of specific brain regions was conducted in 20 patients with persistent depression and cognitive symptoms following acute COVID-19 and in 20 healthy controls [52]. Evidence of gliosis, an inflammatory change, was greater in the ventral striatum and dorsal putamen of patients than controls.
- Immunology studies in patients with COVID-19 have found elevated serum C-reactive protein and pro-inflammatory cytokines (eg, interleukin-6) and decreased total blood lymphocyte counts [53].

Other hypotheses regarding the mechanism of SARS-CoV-2 related central nervous system changes include activation of processes that lead to neurotransmitter depletion and synaptic pruning [54].

COVID-19 also appears to cause structural brain abnormalities, even in relatively mild cases. A study obtained two magnetic resonance imaging (MRI) scans approximately three years apart in 386 individuals who tested positive for SARS-CoV-2 between scans but did not require hospitalization, and 384 controls who were not infected [27]. From the first to the second scan, individuals infected with the virus demonstrated more tissue abnormalities and modestly greater reduction in gray matter thickness and global brain size; the effects were larger at older ages. It is not clear if the changes are reversible.

Critical illness and resultant intensive care unit stays commonly expose patients to extreme physiological and psychological stressors that are life-threatening and traumatic, and frequently precipitate persistent psychiatric illness [22,30]. (See '[Patients critically ill with COVID-19](#)' above.)

In addition, psychosocial factors that may be involved in COVID-19 related psychiatric illnesses include [5,20,47,55,56]:

- Frequency and extent of exposure to individuals infected with the virus
- Fear of infecting family members
- Physical distancing, home confinement, quarantining, and loneliness
- Increased workloads
- Economic hardships and insecurity

CLINICAL FEATURES

COVID-19 appears to be associated with psychiatric symptoms that do not necessarily rise to the level of a psychiatric disorder, as well as full-blown anxiety disorders, depressive disorders, insomnia disorder, and posttraumatic stress disorder. The clinical features of psychiatric disorders that occur in patients with COVID-19 and in noninfected patients are generally the same, and are discussed separately:

- (See "[Generalized anxiety disorder in adults: Epidemiology, pathogenesis, clinical manifestations, course, assessment, and diagnosis](#)".)
- (See "[Panic disorder in adults: Epidemiology, clinical manifestations, and diagnosis](#)", section on '[Clinical Manifestations](#)'.)
- (See "[Unipolar depression in adults: Clinical features](#)".)
- (See "[Evaluation and diagnosis of insomnia in adults](#)", section on '[Clinical features](#)'.)

- (See ["Posttraumatic stress disorder in adults: Epidemiology, pathophysiology, clinical features, assessment, and diagnosis"](#), section on 'Clinical manifestations'.)

Other topics discuss the clinical features of substance use disorders that may stem from COVID-19:

- (See ["Risky drinking and alcohol use disorder: Epidemiology, clinical features, adverse consequences, screening, and assessment"](#).)
- (See ["Opioid use disorder: Epidemiology, clinical features, health consequences, screening, and assessment"](#).)
- (See ["Cocaine use disorder: Epidemiology, clinical features, and diagnosis"](#).)
- (See ["Cannabis use and disorder: Epidemiology, pharmacology, comorbidities, and adverse effects"](#).)
- (See ["Benzodiazepine use disorder"](#).)

COURSE OF ILLNESS

In stable patients with pre-existing psychiatric illness, infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) may exacerbate the pre-existing illness, and lead to new, comorbid psychiatric symptoms and disorders [21].

Among individuals who are fully vaccinated, those with a psychiatric disorder appear to be at increased risk of SARS-CoV-2 breakthrough infections [57,58]. Several specific disorders are associated with breakthrough infections, including bipolar disorder, posttraumatic stress disorder, psychotic disorder, substance use disorder, and unipolar major depression. The association is greater among older patients (eg, age ≥ 65 years).

It is not clear if patients with psychiatric disorders are more susceptible to infection with SARS-CoV-2, due to conflicting results across studies [23,59]. Nevertheless, patients with psychiatric disorders that precede infection with SARS-CoV-2 are at increased risk for severe COVID-19, including COVID-19 related mortality [60-63]. As an example, a meta-analysis pooled results from 21 observational studies with more than 91 million individuals, including patients with pre-existing unipolar depressive or bipolar disorders [59]. In analyses that controlled for potential confounding factors such as age, sex, and general medical comorbidities, the primary findings were as follows:

- Hospitalization – Hospitalization for COVID-19 was more likely to occur in patients with pre-existing depression or bipolar disorder than those without the disorders (odds ratio 1.3, 95% CI 1.1-1.5).

- **Mortality** – The risk of death from COVID-19 was also increased in patients with pre-existing depression or bipolar disorder (odds ratio 1.5, 95% CI 1.3-1.7).

In addition, patients with schizophrenia are at risk for severe COVID-19 infection; a meta-analysis of 23 observational studies found that psychotic disorders were associated with increased COVID-19 mortality (odds ratio 1.7, 95% CI 1.3-2.2) [60]. Even after adjusting for vaccination status and physical illnesses, COVID-19 related mortality is greater in patients with schizophrenia than the general population (relative risk 1.6, 95% CI 1.5–1.8) [64]. The increased risks of severe infection and mortality may stem from psychotic symptoms, cognitive deficits, and marginalized social status (congregate living or homelessness) that can impair the patient's ability to follow public infection control measures such as physical distancing, hand washing, and wearing masks [6,65-67]. These patients are also more likely to smoke and suffer from chronic illnesses that put them at risk for poorer health outcomes once infected.

The psychiatric effects of COVID-19 upon patients with pre-existing eating disorders may be substantial. In a systematic review of studies examining the impact of COVID-19 on eating disorders, the percentage of participants who reported a worsening of their eating disorders ranged as high as 78 percent [68]. Another review included 78 studies of patients with eating disorders and found that most studies reported a worsening of symptoms [69].

ASSESSMENT AND DIAGNOSIS

We suggest screening patients with COVID-19 for anxiety, depression, insomnia, and substance use disorder, within six months of infection. In addition, we suggest screening patients critically ill with COVID-19 for posttraumatic stress disorder. Patients who screen positive should receive a diagnostic assessment, which is discussed separately:

- (See "[Generalized anxiety disorder in adults: Epidemiology, pathogenesis, clinical manifestations, course, assessment, and diagnosis](#)".)
- (See "[Panic disorder in adults: Epidemiology, clinical manifestations, and diagnosis](#)".)
- (See "[Unipolar depression in adults: Assessment and diagnosis](#)".)
- (See "[Evaluation and diagnosis of insomnia in adults](#)".)
- (See "[Substance use disorders: Clinical assessment](#)".)
- (See "[Posttraumatic stress disorder in adults: Epidemiology, pathophysiology, clinical features, assessment, and diagnosis](#)".)

Individuals with moderate to severe distress, anxiety, or depression should be screened for suicidal thoughts and behavior; one can use a screening tool or directly ask. (See "[Suicidal](#)

[ideation and behavior in adults", section on 'Screening'.\)](#)

MANAGEMENT

General approach — For individuals with COVID-19 who experience anxiety, depression, insomnia, or posttraumatic stress disorder (PTSD), stepped care may be efficacious and cost-effective [70,71]. With this approach, monitoring patients is paramount [70].

Individuals with low levels of symptoms are provided with self-help materials pertinent to their symptoms and concerns and are eligible to speak with a mental health clinician if they have additional or persistent concerns [72]. Online or in-person, clinician-guided self-help or pure self-help cognitive-behavioral therapy (CBT) may also be beneficial [71]. Other interventions that may help individuals cope with relatively mild psychiatric symptoms related to COVID-19 include maintaining routines for sleep and work, maintaining structured activities such as exercise and engaging in pleasurable and relaxing activities, and staying connected to family and friends [47,71,73]. Individuals with moderate to severe symptoms can be treated by their primary care provider or referred to a mental health specialist.

One resource that provides examples of how clinicians can respond to patients or family members with different concerns or reactions to COVID-19 is the [COVID Ready Communication Playbook](#). This document addresses a range of topics specific to COVID-19, such as helping patients and family members cope with a dire situation, as well as how clinicians can manage their own emotions [20,65,72,74-81].

Preventing infection — Prevention of COVID-19 involves multiple measures, including vaccination, wearing masks, physical distancing, hand washing, and ventilation of indoor spaces. Use of these measures depends upon local rates of transmission, personal risk of infection, and guidelines issued by agencies such as the World Health Organization and the United States Centers for Disease Control and Prevention.

Physical distancing, which is widely encouraged to prevent transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), will result in loneliness for some individuals, particularly those living alone. This is likely to exacerbate the high rates of loneliness already experienced by older adults, especially those who rely on social services rather than family for human contact and connection [48]. Digital technology may serve as a bridge for social connections and should be encouraged [20,82]. However, many individuals may lack access or the ability to take advantage of this.

Detailed information about reducing exposure to SARS-CoV-2 is discussed separately. (See ["COVID-19: Epidemiology, virology, and prevention", section on 'Prevention'.](#))

Telepsychiatry — Telepsychiatry is an established means of providing psychiatric care by computer or telephone that originated in the 1950s and became more widely available during the COVID-19 pandemic [83,84]. The evidence indicates that it can be efficacious for a variety of patients, including those with anxiety, depressive, psychotic, personality, and substance use disorders [84]. Practice settings that are amenable to telepsychiatry include outpatient, day hospital, and inpatient programs. Telepsychiatry interventions with demonstrated efficacy include pharmacotherapy and psychotherapies such as CBT, interpersonal psychotherapy, psychodynamic psychotherapy, and family therapy. Multiple national professional organizations such as the [American Psychiatric Association](#) have created guidelines for telepsychiatry, and guidelines for administering online psychotherapy are available from the [American Psychological Association](#).

Multiple studies suggest that patients and their psychiatric clinicians are generally satisfied with video visits and/or phone visits, and that the therapeutic alliance is comparable in telepsychiatry and in-person treatment [20,76-79]. Patient preference usually dictates whether visits are conducted by video or phone. Advantages of telepsychiatry include improved access for patients and the opportunity to see the patient's home, although some patients find this intrusive. Telepsychiatry also enables clinicians and patients to see each other's face without masks, which may feel more intimate. While some patients may feel more relaxed and be forthcoming, others may find it harder to effectively "connect" and establish trust with the clinician. Other potential disadvantages include difficulty observing nonverbal patient cues and hearing patients, technical disruptions such as frozen screens, as well as patients lacking privacy and problems with distractions. In addition, clinicians may feel isolated from colleagues or detached from patients.

Techniques that improve telepsychiatry include starting each visit by asking whether patients have enough privacy; if not, suggestions are offered such as using headphones or a car (not driving) or rescheduling the visit [80]. For video visits, it may be helpful for clinicians to use the same place in the office or home to provide consistency and reassurance for patients. Contingency plans should be in place to manage clinical problems that arise or technical issues with one's equipment. Other strategies to address common barriers to successful conversations over telephone or video are presented in the table ([table 1](#)).

Patients vary in their willingness to use telepsychiatry. Online treatment is preferred by some patient groups, including those with anxiety disorders and autism spectrum disorder [84]. For patients who view psychiatric telehealth as inferior to in-person treatment, it may help to

suggest that they experiment and try it [80]. If patients are dissatisfied or do not improve, they can switch to face-to-face treatment. Nevertheless, treatment conducted exclusively by telepsychiatry may not be feasible for patient populations who require solely in-person treatment or a hybrid approach, such as those who have complex needs, or are older or at higher risk for poor outcomes [84].

Some software platforms permit more than two people to meet and enable family involvement and group therapy. Therapists may find it helpful to scan and e-mail written materials as part of virtual treatment. Larger devices such as laptop or desktop computers are typically preferable to tablets or phones.

Using telepsychiatry requires knowledge of regulations regarding issues such as privacy, prescribing across geographic boundaries, and documentation [84]. Within the United States, rules promulgated by the Drug Enforcement Administration and the Substance Abuse and Mental Health Services Administration for prescribing controlled substances continue to evolve [85].

Additional information relevant for telepsychiatry is discussed separately. (See "[Telemedicine for adults](#)".)

Pharmacotherapy — Psychiatrists may be asked to consult on patients receiving pharmacotherapy for COVID-19 and should therefore be familiar with the medications that are currently being used. As an example, preferred treatments for adults with acute COVID-19 in the outpatient setting include [nirmatrelvir-ritonavir](#) and [remdesivir](#), which appear to be relatively free of psychiatric side effects. By contrast, the glucocorticoid [dexamethasone](#) may be indicated for patients hospitalized with severe COVID-19, and is associated with psychiatric side effects such as depression, emotional lability, euphoria, insomnia, malaise, personality changes, and psychosis. Specific medications that are used for COVID-19 are described separately. (See "[COVID-19: Management of adults with acute illness in the outpatient setting](#)", section on 'Treatment with COVID-19-specific therapies' and "[COVID-19: Management in hospitalized adults](#)", section on 'Specific treatments'.)

Patients should be asked about any other prescribed medications and supplements they may be taking. In many cases, it appears that psychotropic drugs can be safely prescribed to patients receiving pharmacotherapy for COVID-19. As an example, antidepressants (eg, [escitalopram](#)), antipsychotics (eg, [olanzapine](#)), benzodiazepines (eg, [lorazepam](#)), and [valproate](#) do not seem to interact with antiviral agents such as interferon and [remdesivir](#).

Nevertheless, psychiatrists should be aware of potential drug-drug interactions before suggesting psychotropic drugs for psychiatric disorders. Relatively minor drug-drug

interactions may occur with [olanzapine](#) and [nirmatrelvir-ritonavir](#), and moderate interactions with [valproic acid](#) and nirmatrelvir-ritonavir. Specific interactions of psychiatric medications with other medications may be determined using the [Lexicomp drug interactions](#) tool (Lexi-Interact Online) included in UpToDate.

Specific psychiatric disorders — Pharmacotherapy and psychotherapy for anxiety disorders, depressive disorders, insomnia disorder, and PTSD that are associated with COVID-19 should follow recommendations for treating the general population of patients with these disorders and are discussed separately:

- (See "[Generalized anxiety disorder in adults: Management](#)".)
- (See "[Management of panic disorder with or without agoraphobia in adults](#)".)
- (See "[Unipolar major depression in adults: Choosing initial treatment](#)".)
- (See "[Overview of the treatment of insomnia in adults](#)".)
- (See "[Posttraumatic stress disorder in adults: Treatment overview](#)".)

Other topics discuss treatment of substance use disorders that may stem from COVID-19:

- (See "[Alcohol use disorder: Treatment overview](#)".)
- (See "[Opioid use disorder: Treatment overview](#)".)
- (See "[Stimulant use disorder: Treatment overview](#)".)
- (See "[Cannabis \(marijuana\): Acute intoxication](#)".)
- (See "[Benzodiazepine use disorder](#)".)

Hospitalized psychiatric patients — Psychiatric inpatients are at increased risk of COVID-19 because they reside in close quarters, are often free to move about open spaces on units and interact with other patients, are frequently in contact with nursing staff, and may be required to use shared bathrooms [86]. In addition, patients may have difficulty following infection control measures such as physical distancing and hand washing because of psychotic symptoms such as disorganized thinking, cognitive deficits, behavioral dysregulation, and poor insight.

We suggest that inpatient psychiatric programs follow general procedures for infection control in health care settings. These measures include screening all patients and health care workers prior to entry by asking about symptoms such as fever, cough, and sore throat ([table 2](#)). Although universal use of masks is dictated by the specific institution, we support universal masking on inpatient psychiatric units [87]. Additional information about preventing infection, including testing for infection, is discussed separately. (See "[COVID-19: General approach to infection prevention in the health care setting](#)".)

Inpatient psychiatric units should establish protocols to follow if an inpatient becomes infected with SARS-CoV-2. An example of one such protocol is as follows:

- New admissions to the inpatient unit should cease for five days.
- The infected patient should quarantine in a single room and wear a mask.
- Clinicians and staff who interact with the patient should use personal protection equipment. Prior to interacting with the patient, clinicians should don the appropriate personal protective equipment ([figure 1](#)): gown, gloves, eye protection, a respirator such as an N95 ([picture 1](#)), and shoe covers. Donning and doffing personal protective equipment are illustrated in the following figures ([figure 2](#) and [figure 3](#)).
- Reopen the unit to new admissions after five days and all patients on the unit test negative.

Although most treatment is administered in person, equipment should be available for mental health specialists such as psychiatrists to provide some aspects of care (eg, family meetings) by telepsychiatry. Typically, onsite, frontline nursing staff assist patients in using the equipment.

Psychiatric inpatients with COVID-19 who are stable but continue to test positive for the virus may have difficulty qualifying for discharge to congregate living settings such as group homes [88]. In addition, positive tests may persist for weeks and prolong hospitalization. One possible solution is to discharge patients home to quarantine until they test negative and can then move to the group home [8,89].

Family members of COVID-19 patients — Family members of a loved one who is severely ill and dying will respond with grief. Immediately or soon after the patient's death, the treatment team should provide condolences to the family in a compassionate manner that includes expressing sorrow for the loss, acknowledging their pain, and answering questions about their loved one's final days [90]. In addition, it can help to ask the family about thoughts, feelings, and behaviors related to their loss, as well as provide grief counseling as warranted. The

[American Psychiatric Association](#) website provides access to material to help clinicians with these discussions, such as the "Guidance Document on COVID-19 Death and Dying Exposures: Considerations for Family and Other Personal Losses Due to COVID-19-Related Death."

Children and adolescents may experience the death of a parent or caregiver due to COVID-19. Programs that promote stable and nurturing relationships may mitigate the adverse effects of the loss. (See "[COVID-19: Management in children](#)", section on 'Loss of a parent or caregiver'.)

Although most people adapt to bereavement, some families may be vulnerable to complications of bereavement, such as anxiety disorders, complicated grief, PTSD, and unipolar major depression, as well as stress-induced cardiomyopathy [90,91]. Risk factors for complications include sudden and unexpected death; especially close relationship to the deceased; previous history of anxiety, depression, insecure attachment, trauma, or loss; living alone; financial insecurity; primary caretaker for others; and fear of having been infected with SARS-CoV-2 [91].

At some point following the patient's death (eg, four weeks), the treatment team should reach out to the family if feasible, and ask how they are coping and assess the risk for bereavement complications [90,91]. In deciding whether referral for further assessment and care is required, it is useful to ask the family if they feel overwhelmed by their loss and grief and if they have social support.

Additional information about the clinical features and management of grief and bereavement is discussed separately. (See "[Bereavement and grief in adults: Clinical features](#)" and "[Bereavement and grief in adults: Management](#)".)

Health care workers — Health care workers who directly or indirectly treat patients with COVID-19 are at risk for psychiatric symptoms and disorders (see '[Health care workers](#)' above) [92]. These clinicians and staff are likely to benefit from private, on-demand access to mental health professionals who can address anxiety, distress, and other emotions related to caring for patients [18,93-95]. However, health care workers may be reluctant to engage in treatment because of concerns about stigma and problems with licensure, credentialing, and career advancement [96].

Mental health professionals treating psychiatric illness in frontline clinicians should address potential sources of anxiety, depression, distress, and trauma, including [13,18,75,93-99]:

- High transmissibility of SARS-CoV-2 and risk of self-exposure and infection.
- Risk of transmitting the virus to family members, friends, colleagues, and patients.
- Enforcement of infection control procedures in the workplace.
- Feeling disconnected from patients and their families due to personal protective equipment and physical distancing.
- Difficulties providing emotional support to patients.
- Loss of control, burnout, and vulnerability.

- Feelings of helplessness, worthlessness, and guilt for poor patient outcomes, becoming sick, not helping one's colleagues, and infecting others.
- Physical distancing, loneliness, and isolation from colleagues and managers, as well as families and friends.
- Patient deaths and their grief-stricken family members – We encourage clinicians to speak with these families about their loved ones. (See '[Family members of COVID-19 patients](#)' above.)

In addition, the [American Psychiatric Association](#) website provides guidance for mental health clinicians in helping health care workers who directly treat patients dying with COVID-19: "Guidance Document on COVID-19 Death and Dying Exposures: Considerations for Healthcare Workers and Staff Exposed to COVID-19 Death and Dying."

Coping behaviors and strategies — Health care workers use a variety of approaches for coping with stressors related to the COVID-19. A cross-sectional, online survey of clinicians (n >600) working at a medical center in New York City during April 2020 found that coping behaviors included physical activity/exercise (59 percent), psychotherapy (26 percent), yoga (25 percent), religious or spiritual practices (23 percent), meditation (23 percent), and virtual support groups (16 percent) [13].

Other means of coping include accepting the reality of the stressor, taking action to circumvent the stressor, and viewing the situation in a more positive light and attempting to grow from the situation [100].

Individuals in quarantine — We suggest the following steps to mitigate the adverse psychological impact of quarantine, based upon a review of 24 studies [56]:

- Explain the purpose of quarantine and how to implement it
- Voluntary quarantine is associated with less distress than mandatory quarantine
- Emphasize the altruistic benefit of quarantine in keeping others safe
- Facilitate acquisition of general supplies (eg, food and housing) and medical supplies (eg, prescriptions, thermometers, and face masks)

For those who are not at high risk for complications of COVID-19 and are not living with someone who is at high risk, we suggest going outside daily. Contact with others may be diminished early or late in the day.

Suicidal ideation and behavior — Interventions for managing suicidal ideation and behavior (suicidality) in patients with COVID-19 include the following [97]:

- Treatments specific for suicidality (see "[Suicidal ideation and behavior in adults](#)")
- Treatments for underlying psychiatric disorders by telepsychiatry or in-person, depending upon the severity of suicidality
- Encouragement to maintain social contact by telephone or computer, as well as face-to-face encounters that maintain physical distancing
- Referrals to social work for help in accessing financial safety nets (eg, food, housing, unemployment support, and loans)

LONG COVID SYMPTOMS

Patients who recover from acute COVID-19 may experience multiple symptoms, including fatigue and cognitive impairment, which constitute a syndrome referred to by several terms, including “postacute sequelae of SARS-CoV-2 infection” and “long COVID.” This syndrome, including its prevalence, clinical features, assessment, and management, is discussed separately. (See "[COVID-19: Evaluation and management of adults with persistent symptoms following acute illness \('Long COVID'\)](#)".)

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately.

- Index of available COVID-19 guidance – (See "[Society guideline links: COVID-19 – Index of guideline topics](#)".)
- More detailed guidance for psychiatry – (See "[Society guideline links: COVID-19 – Psychiatric care](#)".)
- Resources for psychiatric patients and their families – (See "[Society guideline links: COVID-19 – Psychiatric care](#)", section on 'Resources for patients'.)

INFORMATION FOR PATIENTS

UpToDate offers two types of patient education materials, "The Basics" and "Beyond the Basics." The Basics patient education pieces are written in plain language, at the 5th to 6th grade reading level, and they answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials. Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are written at the 10th to 12th grade reading level and are best for patients who want in-depth information and are comfortable with some medical jargon.

Here are the patient education articles that are relevant to this topic. We encourage you to print or e-mail these topics to your patients. (You can also locate patient education articles on a variety of subjects by searching on "patient info" and the keyword(s) of interest.)

- Basics topic (see "[Patient education: COVID-19 overview \(The Basics\)](#)")

Patient education material is also available through the United States [National Institute of Mental Health](#) and United States [Centers for Disease Control and Prevention](#).

SUMMARY

- **Epidemiology of psychiatric symptoms**
 - **Health care workers** – Clinicians who treat patients with coronavirus disease 2019 (COVID-19) may develop moderate to severe psychiatric symptoms. As an example, the global point prevalence of clinically significant anxiety symptoms among physicians during the first year of the pandemic was 26 percent, and for depression was 21 percent. (See '[Health care workers](#)' above.)
 - **Patients with COVID-19** – Patients who survive acute COVID-19 are at increased risk for psychiatric symptoms and disorders, including anxiety disorders, depressive disorders, sleep disorders, and substance use disorders. (See '[Patients with COVID-19](#)' above.)
 - **General population** – Contrary to the perception that the prevalence of clinically significant psychiatric symptoms in the general adult population during the pandemic exceeded the baseline prevalence, the general public's mental health before and during the pandemic was typically comparable. However, modest worsening of overall mental health, anxiety, and/or depression occurred in different subgroups, including females,

older adults, parents or caregivers, and individuals with pre-existing psychiatric disorders. (See ['General population'](#) above.)

- **Clinical features** – The clinical features of psychiatric disorders that occur in patients with COVID-19 and in noninfected patients are generally the same. (See ['Clinical features'](#) above.)
- **Course of illness** – Patients with psychiatric disorders that precede infection with severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2) are at increased risk for severe COVID-19, including COVID-19 related mortality. (See ['Course of illness'](#) above.)
- **Assessment and diagnosis** – We suggest screening patients with COVID-19 for anxiety, depression, insomnia, and substance use disorder, within six months of infection. Patients who screen positive should receive a diagnostic assessment. (See ['Assessment and diagnosis'](#) above and ["Generalized anxiety disorder in adults: Epidemiology, pathogenesis, clinical manifestations, course, assessment, and diagnosis"](#), section on ['Screening'](#) and ["Screening for depression in adults"](#) and ["Evaluation and diagnosis of insomnia in adults"](#), section on ['Self-report screening tools'](#) and ["Screening for unhealthy use of alcohol and other drugs in primary care"](#).)
- **Management**
 - **General approach** – For individuals with COVID-19 who experience anxiety, depression, insomnia, or posttraumatic stress disorder, stepped care may be efficacious. With this approach, monitoring patients is paramount. Those with low levels of symptoms are provided with self-help materials and are eligible to speak with a mental health clinician if they have additional or persistent concerns. Individuals with moderate to severe symptoms can be treated by their primary care provider or a mental health specialist. (See ['General approach'](#) above.)

Telepsychiatry is an established means of providing psychiatric care that became more widely available during the COVID-19 pandemic. The evidence indicates that it can be efficacious for a variety of disorders. Practice settings that are amenable to telepsychiatry include outpatient, day hospital, and inpatient programs. Telepsychiatry interventions with demonstrated efficacy include pharmacotherapy and different psychotherapies. Strategies to address common barriers to successful conversations over telephone or video are presented in the table ([table 1](#)). (See ['Telepsychiatry'](#) above.)

- **Health care workers** – Mental health professionals working with health care workers who develop psychiatric problems related to COVID-19 should address potential sources of anxiety and distress, including risk of self-exposure and infection, risk of exposing others to infection, increased and taxing workloads, and patient deaths. (See ['Health care workers'](#) above.)
- **Individuals in quarantine** – The adverse psychological impact of quarantine may be mitigated by taking steps such as explaining the purpose of quarantine and how to implement it, as well as emphasizing the altruistic benefit of quarantine in keeping others safe. (See ['Individuals in quarantine'](#) above.)
- **Hospitalized psychiatric patients** – Patients who are hospitalized for psychiatric disorders are at high risk for COVID-19 (particularly during periods of increased COVID-19 prevalence in their community) because they reside in close quarters. We suggest that inpatient psychiatric programs follow general procedures for infection control in health care settings (eg, screening all patients and health care workers prior to entry), as well as other procedures specific for inpatient psychiatric facilities if feasible. (See ["COVID-19: Infection prevention for persons with SARS-CoV-2 infection"](#), section on ['Infection prevention in the health care setting'](#) and ['Hospitalized psychiatric patients'](#) above.)
- **Suicidal ideation and behavior** – Interventions for managing suicidal ideation and behavior (suicidality) in patients with COVID-19 include treatments specific for suicidality and treatments for underlying psychiatric disorders. (See ['Suicidal ideation and behavior'](#) above.)
- **Long COVID** – Patients who recover from acute COVID-19 may experience multiple symptoms, including fatigue and cognitive impairment, which constitute a syndrome referred to by several terms, including “postacute sequelae of SARS-CoV-2 infection” and “long COVID.”

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