



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Psychiatric Issues Among Health Professionals



María Dolores Braquehais, MD, PhD^{a,b,*}, Sebastián Vargas-Cáceres^c

KEYWORDS

- Health professionals • Mental symptoms • Mental disorders • Addictions
- COVID-19

KEY POINTS

- During the COVID-19 pandemic, health professionals (HPs) have suffered from high levels of anxiety, insomnia, depressive and trauma-related symptoms.
- Although most of the HPs will be able to recover from these stressful circumstances, the prevalence of mental disorders among them during similar epidemic outbreaks is known to increase in the short and mid-long term.
- HPs usually have difficulties in caring for themselves and if they finally develop mental disorders they are reluctant to seek appropriate help.
- While affective and anxiety disorders are the most common mental disorders among HPs, others, such as addictive disorders, not only worsen their wellbeing but also pose risk to their practice safety.
- This new post-COVID-19 scenario becomes an opportunity to enhance a new culture of professionalism whereby caring for the caregivers becomes a priority both at a personal and institutional level.

INTRODUCTION

A high proportion of health professionals (HPs) neglect their self-care^{1,2} a phenomenon that has been popularly reflected in the old saying: “the shoemaker always wears the worst shoes” and, consequently, find it difficult to ask for help when their distress results in a mental disorder. Their sense of duty leads them to maintain a high level of arousal and commitment and may contribute to delay seeking help when suffering from a mental disorder.³ Although the attitudes of HPs with respect to self-care are slowly changing,⁴ they are still consciously or unconsciously trained to care for others

^a Integral Care Program for Health Care Professionals, Galatea Foundation, Galatea Clinic, Palafolls Street, 15-19, 08017, Barcelona, Spain; ^b Mental Health and Addiction Research Group, Vall d’Hebron Research Institute (VHIR), Vall d’Hebron University Hospital, Vall Hebron Hospital Campus, Passeig Vall d’Hebron, 119-129, 08035, Barcelona, Spain; ^c Adult Mental Health Service, Benito Menni Mental Health Services, Santiago Ramon y Cajal Street, 27-29, 080902, L’Hospitalet de Llobregat, Catalonia, Spain

* Corresponding author. Galatea Clinic, Carrer Palafolls, 15-19, Barcelona 08017, Spain.

E-mail address: mdbraquehais.paimm@comb.cat

and to put their patients' needs before their own. This is even more accentuated in circumstances such as emergencies, disasters, or life-threatening experiences, such as the recent COVID-19 pandemic. HPs also have to deal with non-occupational stressors related to work-home time imbalance and other personal, financial and contextual factors.^{5,6} Although most evidence on HPs' wellbeing has focused on physicians and nurses, others (such as psychologists, dentists, social workers, or pharmacists)² are also exposed to similar job-related stressors and tend to disregard personal care.

The interest in HPs' wellbeing has increased in the last 2 decades.⁴ Preoccupation with HPs' distress has changed into a proactive movement among professional associations and some institutions to raise awareness of the importance for HPs of maintaining healthy habits, achieving a good work-life integration, and promoting resilience despite the adversities found in an increasingly overloaded working environment. It is crucial to underline that not all mental distress turns into mental disorders. However, when this happens, HPs are still reluctant to recognize it and to ask for professional help. Besides the negative implications of this attitude on their wellbeing, in some cases, such as addictions or severe mental disorders, their practice safety can be compromised.

A general perspective on this phenomenon may ignore the role of some idiosyncratic factors associated with the onset of mental disorders and the way they manifest among HPs. Some of them are related to: age (younger HPs are more likely to experience mental distress),⁷ gender (women are still confronted by difficulties in balancing work and family, are more likely to develop affective and anxiety disorders compared with men and have less difficulty in seeking help),⁸ occupation (physicians, nurses and other HPs have specific work stressors),² each country/region's public and private health care system organization, type of mental health resources offered to them,^{9,10} and other psychosocial determinants.

In this article, we provide a wide overview of the impact the COVID-19 pandemic on HPs' mental health, analyze the general patterns of their coping strategies when suffering from mental disorders and describe the characteristics of some specialized mental health services designed for them around the world before COVID-19. Despite the serious consequences of this pandemic on HPs' mental health, these unprecedented circumstances can be seen as an opportunity to start promoting a new culture of professionalism that includes self-care as a priority for all HPs and the institutions they work in,^{4,11} according to what can be conceptualized as the 2.0 HP wellbeing paradigm.⁴

THE IMPACT OF COVID-19 IN HEALTH PROFESSIONALS

Before the COVID-19 pandemic, HPs were known to have increased rates of occupational distress in the form of burnout. Job-related mental strains increase the risk of developing mental disorders although their etiology is linked to a complex interaction of personal and contextual factors. Among HPs, the most prevalent diagnoses before the pandemic were not different from the general population. Therefore, depressive and anxiety disorders were the most common diagnoses followed by substance use disorders, some of which were related to easy access to medication.¹²⁻¹⁴

In December 2019, a new severe type of pneumonia, later known as COVID-19, was reported in Wuhan, Hubei, China and rapidly extended around the world. By 11 February 2022, the World Health Organization (WHO) reported more than 400 million confirmed cases of COVID-19, including more than 5.5 million deaths while, as of 7 February 2022, 10 million vaccine doses were administered.¹⁵ HPs, especially in

countries that had not experienced recent epidemic outbursts, were confronted by unexpected highly stressful experiences during the initial waves of the COVID-19 pandemic and before vaccinations became available to a large number of developed countries. Researchers have widely analyzed the mental health consequences of this epidemic crisis on HPs and their findings have been publicized by traditional and social media around the world.^{7,16}

Previous research on other infectious diseases, including the severe acute respiratory syndrome (SARS), the Middle East respiratory syndrome (MERS), and the Ebola virus disease, consistently showed that many HPs reported symptoms of anxiety and depression and were more prone to develop mental disorders, including addictions, both during and after the outbreak, causing a severe impact on their coping abilities, in some cases with long-lasting effects.^{17–19}

Many public health care systems in Western societies initially faced this extraordinary situation with significantly reduced material and human resources as a result of the economic cuts that followed the Great Recession (2008). This was in addition to the insecurity inherent in the lack of knowledge about the virus and the absence of effective treatments. The health workforce capacity was even more reduced during the first waves of the COVID-19 pandemic after many HPs became infected and needed to be quarantined.

The health-providing organizations and the socio-economic and political context changed during the pandemic, and the HPs' and general population's responses evolved accordingly. While at the beginning of the COVID-19, the most frequent responses were related to the hyper-activation of arousal and survival mind-body system, several types of loss, fatigue, exhaustion, and skepticism became predominant after the roll out of vaccinations, when the pandemic became apparently less severe despite the emergence of new variants of the virus.

A recent meta-analysis of 40 systematic reviews,²⁰ including data from 1828 primary studies and 3,245,768 participants estimated that anxiety (16%–41%), depression (14%–37%), and stress/posttraumatic stress disorder (18.6%–56.5%) were the most frequent COVID-19 pandemic-related mental health conditions affecting HPs. Other studies also included high prevalences of insomnia, burnout, fear, obsessive-compulsive disorder, somatization symptoms, phobia, substance abuse, and suicidal thoughts. When comparing countries and regions, the highest anxiety rate was reported in the United Kingdom, the greatest depression rates were in the Middle East and stress-related symptoms were more frequent in the Eastern Mediterranean region. Estimated prevalence figures varied depending on epidemiologic variables such as: number of cases per 100,000 habitants, specific COVID-19 pandemic stage, health service characteristics, and vaccination rates. Regrettably, information regarding maladaptive coping strategies such as alcohol use or sedative self-prescription is less available.⁷ Most studies do not specifically screen for potential substance use disorders although experience from previous pandemics points to an increase in the incidence of alcohol use and self-medication among HPs that may result in addictive behavior in the medium-to-long term.^{21,22} According to the increased prevalence of mental disorders among HPs in this new scenario, a heightened risk of suicide among is also expected to happen.²⁰

Most research evidence was collected at the beginning of the pandemic and later evaluated in several reviews and meta-analyses.²³ During the first stages of the COVID-19, HPs, especially those at the frontline of care, were confronted with unexpected, more intense, and frequent traumatic experiences than the general population. Women, nurses, and frontline HPs have more frequently developed anxiety and depression compared with men, doctors and second-line personnel.^{20,24,25} In

some studies, younger and less experienced HPs have also been reported to be at higher risk²⁵ while resilience, perceived intimate and public support, and positive coping styles have been identified as protective factors.²⁶

After analyzing the narratives of HPs, their main sources of distress at that point of the pandemic were related to fear of contagion (both in themselves or in relatives), lack of protective measures, social stigma associated with COVID exposure, ethical dilemmas, information and training, and aspects concerning perceived support by families, colleagues, institutions and society.^{27,28} The most reported coping strategies included: individual/group psychological support, family/relative support, training/orientation, and securing adequate personal protective equipment.²⁰

DIFFICULTIES IN SEEKING APPROPRIATE HELP AND ITS CONSEQUENCES

Certain aspects of the predominant culture of HP professionalism, especially among physicians and other caregivers with highly demanding jobs and responsibilities, have been associated with the resistance to seeking appropriate help when needed. These include: (1) their professional identity construction, with an exaggerated sense of duty combined with an increased sense of invulnerability and perfectionism; (2) their proneness to trying to cope alone; (3) their survival mentality; and (4) their high level of self-doubt, stigma and insecurity with regards to mental distress; and, (5) the fear of licensure problems when there are addictions or other severe mental disorders.^{29,30}

Although some coping strategies for working as an HP are initially adaptive, they may become unhealthy defense mechanisms (denial, minimization, and rationalization) when they cannot cope with mental distress.³ Self-medication may also become a maladaptive strategy to cope with distress. In this situation, the evolution and prognosis of the mental disorders are likely to worsen and, if they remain untreated, there is a higher risk of developing addictive behaviors, and, in some cases, of suicide.^{31–33}

Stigma and self-stigma associated with mental disorders is even greater among HPs than in the general population. It is known that self-stigma can lead to a delay in asking for help, a tendency to self-medicate, and to a worse prognosis when suffering from a mental disorder.^{34,35} However, stigma associated with mental disorders cannot be conceptualized as a dichotomous (yes/no) variable but rather as a spectrum whereby stigma is inversely correlated with social acceptance.

The social recognition that HPs' efforts have received during this pandemic and the mass media diffusion of their testimonies about mental distress may help to lower their internal psychological barriers to seeking help. Therefore, it may become easier for HPs to admit anxiety or depressive symptoms if they are triggered by stressful life events, such as those activated during the COVID-19 pandemic. In contrast, severe disorders, such as bipolar or psychotic disorders, and addictions are experienced with shame and usually hidden. This attitude is not only internalized by HPs but is also present among their peers or in the institutions where they work. The difficulties in asking for help when suffering from severe mental disorders may increase the risk to themselves (suicide risk) and/or to others (practice safety). Prejudices around severe mental disorders and addictions among HPs may be related to the fear of potential disruptive behaviors at some point in their evolution. However, it regrettably persists even when the HP as a patient has consolidated a psychopathological stability and is ready to go back to work safely.

In some individual HPs, psychological barriers to recognizing their own vulnerability may be related to personal characteristics such as high self-criticism, low self-esteem, poor-bonding with relatives, and also to competitive, status-conscious, and humiliating work environments, as well as burn-out symptoms linked to high job demands.³⁶

However, vulnerability to developing mental disorders may be linked to other specific personal and family variables together with other psychosocial determinants.

Delaying help seeking is also likely to result in HPs trying to cope on their own and, in some cases, turning to drugs as one of their coping strategies (usually self-prescribed, like sedatives or hypnotics, or socially accepted, such as alcohol). In fact, an estimated 10% to 14% of physicians may become chemically dependent at some point in their careers.³⁷ However, trends in drug addictions are changing among new HPs and should be appropriately researched in the future. Knowledge and availability of legal drugs may partly explain the higher rates of substance use disorders among some HPs compared with others. Potentially, this combination of factors often leads HPs to experiencing both a substance use and a nonaddictive mental disorder thus complicating their evolution and prognosis.

Suicide risk among HPs is elevated compared with the general population^{32,38,39} and suicide incidence data may understate the problem, in part because of difficulties related to reporting reliability.³⁹ Besides other specific psychosocial factors, delaying help seeking together with easier access and knowledge of potential lethal methods may account for this phenomenon.^{40,41} Risk of suicide is higher among nurses, veterinarians, physicians, dentists and pharmacists compared with other HPs and other occupational groups [REF].^{40,42}

Denial (conspiracy of silence), minimization, and rationalization are also common defense mechanisms HPs show when a colleague suffers from a mental disorder despite its direct or indirect signs. Some strategies to handle this situation are offered in **Box 1**.

SPECIALIZED MENTAL HEALTH TREATMENT RESOURCES FOR HEALTH PROFESSIONALS

Mental disorders have a negative effect on HPs' practice and may lead both to *absenteeism* (staying away from work without providing a good reason)⁴³ and to underperforming *presenteeism* (attendance at work despite ill health).⁴⁴ In any case, evidence shows that sick HPs report more medication errors, patient falls, and give poorer standards of patient care.⁴⁵⁻⁴⁷ Therefore, providing appropriate treatment help to HPs with mental

Box 1

Promoting appropriate voluntary help seeking among health professionals with mental disorders

- A conspiracy of silence does not help the health professional (HP) in trouble.
- Avoid "corridor" consultations.
- Find a quiet, private place to talk without interruptions.
- Try to be empathic and nonjudgmental.
- Show a nonstigmatizing attitude toward mental disorders.
- Underline the benefits of early help seeking as a healthy coping strategy.
- Focus on HP's own strengths and competencies.
- Offer advice on the alternatives for appropriate mental health treatment or help.
- Free, easy access, highly confidential programs may help sick HPs overcome their initial resistance to being appropriately treated.
- Refraining from working should be encouraged if the HP is impaired by their mental disorder.

disorders is critical both to their wellbeing and also reinforces patient safety and society's trust, whereas not doing so increases risk in these areas.^{48–50}

The term “impairment” refers to those situations whereby HPs are rendered unable to carry out their professional responsibilities adequately due to a variety of health issues, including a medical disease or mental disorders.⁵¹ Professional impairment due to mental disorders is more frequently related to addictive behaviors. Besides the negative consequences on their practice, other personal and environmental problems can arise when mental disorders impair the HP: (1) sexual, marital, and/or financial difficulties; (2) driving convictions; (3) decreased involvement in family activities and commitments; (4) dependent children behavioral problems; (5) frequent arguments or unexpected mood shifts; (6) social isolation and/or loss of friends: and, (7) cessation of hobbies and other interests.^{49,52} In fact, relatives or close friends may be the first to identify addiction or severe mental disorder-related symptoms and may encourage the impaired HP to seek help, although it is not uncommon for the troubled HP to ignore or reject such recommendations.

In addition to the numerous strategies to promote HPs' wellbeing and to the development of numerous counseling services around the world in recent decades, the negative impact of mental disorders when they finally impair HPs was the main reason behind the emergence of specialized mental health programs for them.⁵³ Physician Health Programs were first developed in the United States in the late 1970s. The purpose was to identify and treat physicians with problems resulting from mental health issues, mainly substance use disorders. Since then, other specialized programs have been developed in Canada, Australia, Spain, the United Kingdom, Argentina, and Uruguay.

The first specialized treatment services for nurses with addictions started even earlier in the US during the 1960s⁵³ while peer health assistance programs emerged in the 1980s.⁵⁴ Since then, treatment resources for nurses with addictions and/or mental disorders have been gradually developed in most of the US states⁵⁴ and in other countries such as Australia, Canada or New Zealand.^{55,56} In Catalonia, the program for physicians, the first of its kind in Europe, was progressively offered to other HPs, including nurses, psychologists, dentists, veterinarians, pharmacists, and social workers. This pioneer resource (The Galatea Care Program for Health Professionals) is a free, easy access, highly confidential mental health service, sponsored by both the Catalan Government's Department of Health and the respective HPs' association councils.⁵³ Although the program design combines promoting voluntary help seeking among HPs with protecting practice safety, the results are similar to other specialized programs around the world.⁵⁷

Across a range of countries and service models, studies from several specialized programs for HPs with addictions that include drug monitoring report long-term follow-up abstinence rates to be around 70% to 80%.^{10,57–63} There is a continuum in specialized mental health programs for HPs from the more punitive (mainly those that address practice problems) to the more supportive (merely focused on promoting HPs' wellbeing). Concerns have been raised regarding disciplinary approaches as they may become a controversial and counterproductive solution for those who are willing and potentially able to overcome their mental disorders that pose risks to their practice safety.⁵⁵ Therefore, services that are confidential, free, and promote voluntary referrals may reduce barriers to earlier help seeking as has been shown with two such programs for physicians in Europe^{3,37} and for nurses in other continents.^{55,56}

During the COVID-19 pandemic, Physician Health Programs in the US have adapted their provision of services and protocols both to support physicians and to continue monitoring those with substance use disorders to warrant safe practice.⁶⁴ In the

Box 2**The COVID-19 crisis as an opportunity to rethink caring for health professionals**

- A new culture of professionalism among Health Professionals (HPs) has to include self-care as a priority starting in the undergraduate period and continuing throughout their professional careers.
- Not all mental distress is due to individual factors: the context matters.
- Institutions and policy makers should proactively work in favor of caring for HPs.
- Having sufficient material and human resources to reduce work overload and provide a “good enough” health service should be prioritized.
- The ideal HP leader should be competent, team building, open-minded, fair, transparent, and compassionate.
- Learning healthy coping strategies and compassionate self-care, promoting work-life integration and collaborative teamwork should be fostered throughout the professional career.
- Peer support groups may be helpful to overcome mental distress.
- Destigmatization of mental disorders among HPs needs to be addressed at personal, academic, and institutional levels.
- Help seeking when there are mental disorders should be encouraged and facilitated.
- Offering free, easy access, highly confidential mental health services may help HPs with mental disorders (including addictions) to seek treatment voluntarily even when they are impaired.

UK, the National Health Service (NHS) Practitioner Health Programme, informed that nearly as many patients presented in the 12-month pandemic period (April 2020–March 2021) as in the first 10 years of service (4355 in the last 12 months vs 5000 over the first 10 years).⁶⁵ The Integral Care Program for Health Professionals in Catalonia has also experienced a significant increase of HP referrals during the pandemic, especially among physicians.⁶⁶ The percentage of HP women at admission and the clinical severity of the first treatment episode remained unchanged before and after COVID-19. The most prevalent main diagnoses after the outbreak were similar as well: adjustment (41.5%), mood (24.9%), anxiety (14.4%), and substance use disorders (11.8%).

SUMMARY

The prevalence of mental disorders, including addictions, has increased during the COVID-19 pandemic and is likely to remain at high rates in its aftermath. Until now, HPs have been consciously or unconsciously trained to prioritize caring for others instead of self-caring. Difficulties in seeking help when needed should be addressed during the undergraduate period and throughout their professional career. Several specialized mental health programs and wellbeing resources have been offered to HPs around the world in recent decades.⁴The impact of the pandemic on HPs mental health has also increased the number of initiatives to support them, although many of them may be temporary.^{67–70}

Mental disorders among HPs are only the tip of the iceberg of HPs wellbeing. This issue needs to be approached with a multi-dimensional perspective whereby both the individuals and the context are considered. While offering appropriate treatment programs for those with psychiatric and psychological issues should be a priority, the

COVID-19 pandemic can be seen as an invaluable opportunity to start considering caring for the caregivers not only a moral imperative but also an essential ingredient of professionalism and of health care organizations (**Box 2**). According to Dr Shanafelt proposal for physicians,⁴ we were recently moving from the era of distress, when the ideal HP should be perfect, have deity-like qualities, neglect self-care, prioritize autonomous performance and set no work limits, to that of wellbeing 1.0, where resilience, connection with other health care providers and work-life balance was promoted. HPs had hero-like qualities but were frustrated with the institutions they worked in. The COVID-19 pandemic could be a turning point to promote a new wellbeing 2.0 paradigm. HPs' human qualities and self-compassion should now be highly valued, work experienced as meaningful, work-life integration facilitated and team interactions transformed into a collaborative model. Professional organizations, institutions, leaders, HPs and the society, as a whole, need to be involved in the transition to this new paradigm.

CLINICS CARE POINTS

- If you are a health professional (HP), consider self-care as a priority to achieve a good clinical performance.
- If you or one colleague suffers from mental disorders, including addictions, do not delay help seeking.
- HPs should avoid self-medication or alcohol/drug use to cope with mental distress.
- Refraining from working should be encouraged if a HP is impaired by their mental disorder.
- Specialized treatment programs for HPs are a good alternative if you need mental health treatment.

DISCLOSURE

The authors have nothing to disclose.

REFERENCES

1. Bruguera M, Guri J, Arteman A, et al. Care of doctors to their health care. Results of a postal survey. *Medicina Clinica* 2001;117(13):492–4. [https://doi.org/10.1016/s0025-7753\(01\)72154-9](https://doi.org/10.1016/s0025-7753(01)72154-9).
2. Available at: <https://www.fgalatea.org/ca/recerca-estudis>. Accessed February 18, 2022.
3. Gerada C. Clare Gerada: Doctors' mental health and stigma - The tide is turning. *BMJ* 2019;366. <https://doi.org/10.1136/bmj.l4583>.
4. Shanafelt TD. Physician Well-being 2.0: Where Are We and Where Are We Going? *Mayo Clinic Proc* 2021;96(10):2682–93. <https://doi.org/10.1016/j.mayocp.2021.06.005>.
5. Marshall EJ. Doctors' health and fitness to practise: Treating addicted doctors. *Occup Med* 2008;58(5):334–40. <https://doi.org/10.1093/occmed/kqn081>.
6. Carinci AJ, Christo PJ. Physician impairment: Is recovery feasible? *Pain Physician* 2009;12(3):487–91. <https://doi.org/10.36076/ppj.2009/12/487>.
7. Braquehais MD, Vargas-Caceres S, Nieva G, et al. Characteristics of resident physicians accessing a specialised mental health service: A retrospective study. *BMJ Open* 2021;11(12). <https://doi.org/10.1136/bmjopen-2021-055184>.

8. Braquehais MD, Arrizabalaga P, Lusilla P, et al. Gender Differences in Demographic and Clinical Features of Physicians Admitted to a Program for Medical Professionals with Mental Disorders. *Front Psychiatry* 2016;7(NOV):181. <https://doi.org/10.3389/fpsy.2016.00181>.
9. Braquehais MD, Mozo X, Gausachs E, et al. Nurse admissions at a specialized mental health programme: A pre-Covid-19 retrospective review (2000-2019). *J Adv Nurs* 2022. <https://doi.org/10.1111/jan.15189>.
10. Braquehais MD, Tresidder A, DuPont RL. Service provision to physicians with mental health and addiction problems. *Curr Opin Psychiatry* 2015;28(4):324–9. <https://doi.org/10.1097/YCO.000000000000166>.
11. Shapiro J, McDonald TB. Supporting Clinicians during Covid-19 and Beyond — Learning from Past Failures and Envisioning New Strategies. *N Engl J Med* 2020; 383(27):e142. <https://doi.org/10.1056/nejmp2024834>.
12. Tay S, Alcock K, Scior K. Mental health problems among clinical psychologists: Stigma and its impact on disclosure and help-seeking. *J Clin Psychol* 2018; 74(9):1545–55. <https://doi.org/10.1002/jclp.22614>.
13. Mihailescu M, Neiterman E. A scoping review of the literature on the current mental health status of physicians and physicians-in-training in North America. *BMC Public Health* 2019;19(1). <https://doi.org/10.1186/s12889-019-7661-9>.
14. Mark G, Smith AP. Occupational stress, job characteristics, coping, and the mental health of nurses. *Br J Health Psychol* 2012;17(3):505–21. <https://doi.org/10.1111/j.2044-8287.2011.02051.x>.
15. WHO Coronavirus (COVID-19) Dashboard. Available at: <https://covid19.who.int/>. Accessed February 18, 2022.
16. Batra K, Singh TP, Sharma M, et al. Investigating the psychological impact of COVID-19 among healthcare workers: A meta-analysis. *Int J Environ Res Public Health* 2020;17(23):1–33. <https://doi.org/10.3390/ijerph17239096>.
17. Gómez-Durán EL, Martín-Fumadó C, Forero CG. Psychological impact of quarantine on healthcare workers. *Occup Environ Med* 2020;77(10):666–74. <https://doi.org/10.1136/oemed-2020-106587>.
18. Bettinsoli ML, di Riso D, Napier JL, et al. Mental Health Conditions of Italian Healthcare Professionals during the COVID-19 Disease Outbreak. *Appl Psychol Health Well-Being* 2020;12(4):1054–73. <https://doi.org/10.1111/aphw.12239>.
19. Sirois FM, Owens J. Factors Associated With Psychological Distress in Health-Care Workers During an Infectious Disease Outbreak: A Rapid Systematic Review of the Evidence. *Front Psychiatry* 2020;11:589545. <https://doi.org/10.3389/fpsy.2020.589545>.
20. Chutiyami M, Cheong AMY, Salihu D, et al. COVID-19 Pandemic and Overall Mental Health of Healthcare Professionals Globally: A Meta-Review of Systematic Reviews. *Front Psychiatry* 2021;12:804525. <https://doi.org/10.3389/fpsy.2021.804525>.
21. Madoz-Gúrpide A, Leira-Sanmartín M, Ibañez Á, et al. Self-reported increase in alcohol and drugs intake as a coping strategy in hospital workers during COVID-19 outbreak: A cross-sectional study. *Adicciones* 2021;0(0):1643. <https://doi.org/10.20882/adicciones.1643>.
22. McKay D, Asmundson GJG. COVID-19 stress and substance use: Current issues and future preparations. *J Anxiety Disord* 2020;74. <https://doi.org/10.1016/j.janxdis.2020.102274>.
23. Fernandez R, Sikhosana N, Green H, et al. Anxiety and depression among health-care workers during the COVID-19 pandemic: A systematic umbrella review of

- the global evidence. *BMJ Open* 2021;11(9). <https://doi.org/10.1136/bmjopen-2021-054528>.
24. Cénat JM, Blais-Rochette C, Kokou-Kpolou CK, et al. Prevalence of symptoms of depression, anxiety, insomnia, posttraumatic stress disorder, and psychological distress among populations affected by the COVID-19 pandemic: A systematic review and meta-analysis. *Psychiatry Res* 2021;295. <https://doi.org/10.1016/j.psychres.2020.113599>.
 25. de Brier N, Stroobants S, Vandekerckhove P, et al. Factors affecting mental health of health care workers during coronavirus disease outbreaks (SARS, MERS & COVID-19): A rapid systematic review. *PLoS ONE* 2020;15(12 December). <https://doi.org/10.1371/journal.pone.0244052>.
 26. Labrague LJ. Psychological resilience, coping behaviours and social support among health care workers during the COVID-19 pandemic: A systematic review of quantitative studies. *J Nurs Manag* 2021;29(7):1893–905. <https://doi.org/10.1111/jonm.13336>.
 27. Billings J, Ching BCF, Gkofa V, et al. Experiences of frontline healthcare workers and their views about support during COVID-19 and previous pandemics: a systematic review and qualitative meta-synthesis. *BMC Health Serv Res* 2021;21(1). <https://doi.org/10.1186/s12913-021-06917-z>.
 28. Koontalay A, Suksatan W, Prabsangob K, et al. Healthcare Workers' Burdens During the COVID-19 Pandemic: A Qualitative Systematic Review. *J multidisciplinary Healthc* 2021;14:3015–25. <https://doi.org/10.2147/JMDH.S330041>.
 29. Stanton J, Randal P. Doctors accessing mental-health services: an exploratory study. *BMJ open* 2011;1(1):e000017. <https://doi.org/10.1136/bmjopen-2010-000017>.
 30. Trockel M, Sinsky C, West CP, et al. Self-Valuation Challenges in the Culture and Practice of Medicine and Physician Well-being. *Mayo Clinic Proc* 2021;96(8):2123–32. <https://doi.org/10.1016/j.mayocp.2020.12.032>.
 31. Merlo LJ, Gold MS. Prescription opioid abuse and dependence among physicians: Hypotheses and treatment. *Harv Rev Psychiatry* 2008;16(3):181–94. <https://doi.org/10.1080/10673220802160316>.
 32. Center C, Davis M, Detre T, et al. Confronting Depression and Suicide in Physicians: A Consensus Statement. *J Am Med Assoc* 2003;289(23):3161–6. <https://doi.org/10.1001/jama.289.23.3161>.
 33. Davidson JE, Zisook S, Kirby B, et al. Suicide Prevention: A Healer Education and Referral Program for Nurses. *J Nurs Adm* 2018;48(2):85–92. <https://doi.org/10.1097/NNA.0000000000000582>.
 34. Rössler W. The stigma of mental disorders: A millennia-long history of social exclusion and prejudices. *EMBO Rep* 2016;17(9):1250–3. <https://doi.org/10.15252/embr.201643041>.
 35. Ungar T, Knaak S. The hidden medical logic of mental health stigma. *Aust N Z J Psychiatry* 2013;47(7):611–2. <https://doi.org/10.1177/0004867413476758>.
 36. Firth-Cozens J. Predicting stress in general practitioners: 10 year follow up postal survey. *Br Med J* 1997;315(7099):34–5. <https://doi.org/10.1136/bmj.315.7099.34>.
 37. Braquehais MD, Lusilla P, Bel MJ, et al. Dual diagnosis among physicians: A clinical perspective. *J Dual Diagn* 2014;10(3):148–55. <https://doi.org/10.1080/15504263.2014.929331>.
 38. Hem E, Haldorsen T, Aasland OG, et al. Suicide rates according to education with a particular focus on physicians in Norway 1960-2000. *Psychol Med* 2005;35(6):873–80. <https://doi.org/10.1017/S0033291704003344>.

39. Davidson JE, Stuck AR, Zisook S, et al. Testing a strategy to identify incidence of nurse suicide in the United States. *J Nurs Adm* 2018;48(5):259–65. <https://doi.org/10.1097/NNA.0000000000000610>.
40. Hawton K, Agerbo E, Simkin S, et al. Risk of suicide in medical and related occupational groups: A national study based on Danish case population-based registers. *J Affect Disord* 2011;134(1–3):320–6. <https://doi.org/10.1016/j.jad.2011.05.044>.
41. Skegg K, Firth H, Gray A, et al. Suicide by occupation: Does access to means increase the risk? *Aust N Z J Psychiatry* 2010;44(5):429–34. <https://doi.org/10.3109/00048670903487191>.
42. Dutheil F, Aubert C, Pereira B, et al. Suicide among physicians and health-care workers: A systematic review and meta-analysis. *PLoS one* 2019;14(12). <https://doi.org/10.1371/JOURNAL.PONE.0226361>.
43. Dyrbye LN, Shanafelt TD, Johnson PO, et al. A cross-sectional study exploring the relationship between burnout, absenteeism, and job performance among American nurses. *BMC Nurs* 2019;18(1). <https://doi.org/10.1186/S12912-019-0382-7>.
44. Letvak SA, Ruhm CJ, Gupta SN. Nurses' presenteeism and its effects on self-reported quality of care and costs. *Am J Nurs* 2012;112(2).
45. Fahrenkopf AM, Sectish TC, Barger LK, et al. Rates of medication errors among depressed and burnt out residents: Prospective cohort study. *BMJ* 2008;336(7642):488–91. <https://doi.org/10.1136/bmj.39469.763218>.
46. Gärtner FR, Nieuwenhuijsen K, van Dijk FJH, et al. The impact of common mental disorders on the work functioning of nurses and allied health professionals: A systematic review. *Int J Nurs Stud* 2010;47(8):1047–61. <https://doi.org/10.1016/j.ijnurstu.2010.03.013>.
47. Emami P, Boozari Pour M, Zahednezhad H, et al. Investigating the relationship between workplace stressors and caring behaviours of nursing staff in inpatient wards: A cross-sectional study. *J Adv Nurs* 2021. <https://doi.org/10.1111/jan.15080>.
48. Edwards D, Burnard P. A systematic review of stress and stress management interventions for mental health nurses. *J Adv Nurs* 2003;42(2):169–200. <https://doi.org/10.1046/j.1365-2648.2003.02600.x>.
49. Myers MF. Treatment of the mentally ill physician. *Can J Psychiatry Revue canadienne de psychiatrie* 1997;42(6). <https://doi.org/10.1177/070674379704200625>.
50. Melnyk BM, Kelly SA, Stephens J, et al. Interventions to Improve Mental Health, Well-Being, Physical Health, and Lifestyle Behaviors in Physicians and Nurses: A Systematic Review. *Am J Health Promot* 2020;34(8):929–41. <https://doi.org/10.1177/0890117120920451>.
51. O'Connor PG, Spickard A. Physician impairment by substance abuse. *Med Clin North Am* 1997;81(4):1037–52. [https://doi.org/10.1016/S0025-7125\(05\)70562-9](https://doi.org/10.1016/S0025-7125(05)70562-9).
52. Mayall RM. Substance abuse in anaesthetists. *BJA Education* 2016;16(7):236–41. <https://doi.org/10.1093/BJAED/MKV054>.
53. Poplar JF. Characteristics of nurse addicts. *Am J Nurs* 1969;69(1):117–9. <https://doi.org/10.1097/0000446-196901000-00038>.
54. Pace EM, Kesterson C, Garcia K, et al. Experiences and outcomes of nurses referred to a peer health assistance program: Recommendations for nursing management. *J Nurs Manag* 2020;28(1):35–42. <https://doi.org/10.1111/jonm.12874>.
55. Monroe T, Kenaga H. Don't ask don't tell: Substance abuse and addiction among nurses. *J Clin Nurs* 2011;20(3–4):504–9. <https://doi.org/10.1111/j.1365-2702.2010.03518.x>.

56. Bettinardi-Angres K, Pickett J, Patrick D. Substance Use Disorders and Accessing Alternative-to-Discipline Programs. *J Nurs Regul* 2012;3(2):16–23. [https://doi.org/10.1016/S2155-8256\(15\)30214-3](https://doi.org/10.1016/S2155-8256(15)30214-3).
57. Geuijen PM, van den Broek SJM, Dijkstra BAG, et al. Success rates of monitoring for healthcare professionals with a substance use disorder: A meta-analysis. *J Clin Med* 2021;10(2):1–31. <https://doi.org/10.3390/jcm10020264>.
58. Boisaubin Ev, Levine RE. Identifying and assisting the impaired physician. *Am J Med Sci* 2001;322(1):31–6. <https://doi.org/10.1097/00000441-200107000-00006>.
59. Brewster JM, Kaufmann IM, Hutchison S, et al. Characteristics and outcomes of doctors in a substance dependence monitoring programme in Canada: Prospective descriptive study. *BMJ* 2008;337(7679):1156–8. <https://doi.org/10.1136/bmj.a2098>.
60. McLellan AT, Skipper GS, Campbell M, et al. Five year outcomes in a cohort study of physicians treated for substance use disorders in the United States. *BMJ* 2008;337(7679):1154–6. <https://doi.org/10.1136/bmj.a2038>.
61. DuPont RL, McLellan AT, Carr G, et al. How are addicted physicians treated? A national survey of physician health programs. *J Subst Abuse Treat* 2009;37(1):1–7. <https://doi.org/10.1016/j.jsat.2009.03.010>.
62. Bruguera E, Heredia M, Llavayol E, et al. Integral Treatment Programme for Addicted Physicians: Results from the Galatea Care Programme for Sick Physicians. *Eur Addict Res* 2020;26(3):122–30. <https://doi.org/10.1159/000505914>.
63. DuPont RL, Skipper GE. Six lessons from state physician health programs to promote long-term recovery. *J Psychoactive Drugs* 2012;44(1):72–8. <https://doi.org/10.1080/02791072.2012.660106>.
64. Polles A, Bundy C, Jacobs W, et al. Adaptations to substance use disorder monitoring by physician health programs in response to COVID-19. *J Subst Abuse Treat* 2021;125. <https://doi.org/10.1016/j.jsat.2021.108281>.
65. Gerada C. Practitioner Health's COVID Experience. Meeting the mental health needs of doctors during the pandemic. *Pract Health Pract Health Programme* 2020. Available at: <https://www.practitionerhealth.nhs.uk/media/content/files/PHP-covid-report-web version FINAL.pdf>.
66. Braquehais MD, Gómez-Duran E, Nieva G, et al. Help seeking of highly specialized mental health treatment before and during the COVID-19 pandemic among health professionals. [Published online 2022]. *Int J Environ Res Public Health* 2022;19(6):3665.
67. Kisely S, Warren N, McMahon L, et al. Occurrence, prevention, and management of the psychological effects of emerging virus outbreaks on healthcare workers: rapid review and meta-analysis. *BMJ (Clinical research ed)* 2020;369:m1642. <https://doi.org/10.1136/bmj.m1642>.
68. Drissi N, Ouhbi S, Marques G, et al. A Systematic Literature Review on e-Mental Health Solutions to Assist Health Care Workers during COVID-19. *Telemed e-Health* 2021;27(6):594–602. <https://doi.org/10.1089/tmj.2020.0287>.
69. Hooper JJ, Saulsman L, Hall T, et al. Addressing the psychological impact of COVID-19 on healthcare workers: Learning from a systematic review of early interventions for frontline responders. *BMJ Open* 2021;11(5). <https://doi.org/10.1136/bmjopen-2020-044134>.
70. Cabarkapa S, Nadjidai SE, Murgier J, et al. The psychological impact of COVID-19 and other viral epidemics on frontline healthcare workers and ways to address it: A rapid systematic review. *Brain Behav Immun - Health* 2020;8:100144. <https://doi.org/10.1016/j.bbih.2020.100144>.