

Supporting Mental Health and Psychological Resilience Among the Health Care Workforce: Gaps in the Evidence and Urgency for Action

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ABSTRACT

Since the COVID-19 pandemic started, health care workers have faced various challenges to their mental health due to extreme working conditions. Yet these workers have continued to deliver care in the face of stressors and death among their patients, family, and social networks. The pandemic highlighted weaknesses within our health care work environment, especially pertaining to a need to provide increased psychological resilience to clinicians. There has been little research to determine the best practices for psychological health in workplaces and interventions to improve psychological resilience. Although some studies have attempted to provide solutions, there are noteworthy gaps in the literature on effective interventions to use in the time of crisis. The most common include an absence of preintervention data concerning the overall mental well-being of health care workers, inconsistent application of interventions, and a lack of standard assessment tools across studies. There is an urgent need for system-level strategies that not only transform the way workplaces are organized, but also destigmatize, recognize, support, and treat mental health conditions among health care workers. There is also need for more evidence-based resources to improve resilience on the job, and thereby increase clinicians' capacity to address new medical crises. Doing so may mitigate rates of burnout and other psychological conditions in times of crisis among health care workers.

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INTRODUCTION

Mental illness is highly prevalent and a major cause of disability. Crises and emergencies at the local and national levels challenge the mental health and psychological resilience of individuals, and health care workers are no exception. Since the COVID-19 pandemic started, the prevalences of mental illness and substance use disorder have increased. The pandemic has also highlighted weaknesses in our health care delivery work environment made clear by the toll of the crisis on health care workers. Despite clear risks to themselves and their families along with extreme working conditions, clinicians continued to deliver care in the face of extreme stressors and death among their patients, family, and social networks. Mental health needs of health workers have traditionally been neglected, however, and there is a need to integrate interventions to address increased mental distress and enhance resilience in medical work settings for those providing care.

MENTAL HEALTH CHALLENGES OF THE HEALTH WORKFORCE

Evidence of the need for such support is clear. Since the pandemic began, more than 3,600 US health care workers have died,¹ 93% of clinicians report being stressed,² and many are experiencing depression (21.7%),³ traumatic stress disorder (49%),⁴ and substance abuse (25% for alcohol abuse).⁵ Furthermore, a study using retrospective press reports of suicide has also identified rising suicide rates related to the pandemic among health care workers worldwide, with 23% of cases occurring in the United States.⁶

GAPS IN THE LITERATURE ON EFFECTIVE INTERVENTIONS

This is not a new problem, and we have had health crises before. A 2020 Cochrane review assessed the literature on interventions to support resilience and mental health of frontline health and social care professionals, not only during the

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COVID-19 pandemic, but also during other epidemics dating back to 2002.⁷ The investigators evaluated a range of interventions including changes in workplace structure or organization, provision of self-help resources featuring tools aimed at promoting resilience, and efforts to make available resources to treat or address emerging mental health needs. The Cochrane review evaluated 16 studies. The main barriers identified were lack of awareness and lack of resources dedicated to the needs of health care workers. The review concluded that there was no strong evidence on effective workplace strategies for supporting resilience and well-being in frontline clinicians.

We conducted a bridge search of the literature for additional studies published after the study period of the Cochrane review. We found new studies that examined providing workplace structure (eg, well-being hubs, recharge rooms, and peer support groups),⁸⁻¹⁴ providing tools to improve resilience of health workers (eg, a simulation-based training, wellness hub app),¹⁵⁻²⁰ and promoting increased awareness of and support for treating mental health concerns that arise (eg, learning modules, sessions of eclectic counseling²¹⁻²⁴). We determined, however, that strong evidence to guide health administrators on best practices is still lacking. Common weaknesses include an absence of preintervention data on the mental well-being of health care workers, a lack of standard assessment tools across studies, inconsistent application of a given intervention, and a lack of studies having both control and experimental groups to help ascertain the true effects of interventions.

The weaknesses in the literature in this field contrast with strengths in the area of ergonomics and occupational therapy. Ergonomics, the scientific study of human work,²⁵ is a central aspect of occupational medicine with ties to work done 300 years ago by Bernardino Ramazzini.²⁶ Several studies have examined how institutions used ergonomic settings to provide mental health support for their workers.^{27,28} Curiously, although much progress has been made as far as changing work settings to improve the way workers experience the setting and to increase their physical resilience, there has been little development of best practices on psychological health in workplaces and interventions to improve psychological resilience. Such application of the lens of occupational health and emotional ergonomics could be explored in future studies.

RECOMMENDATIONS AND A CALL TO ACTION

From crisis comes opportunity. Increasing challenges in addressing growing unmet mental health problems in general led to a movement to integrate behavioral health resources into care delivery systems, which improved patient satisfaction with care and clinical outcomes while also saving money.^{8,9,19,20} The pandemic has revealed in settings across the world that we need the same focus on the health care worker. The unmet emotional needs of clinicians appear substantial. We offer 5 observations and related recommendations on approaches to promote psychological well-being among

health care workers and to strengthen their capacity to meet health care needs during and after crises and emergencies.

First, health care workers require better emotional support through systematic and organizational programs, effective intervention tools, and integration of behavioral health services to be prepared for the next health care crisis. One best practice for supporting psychological resilience is based on the concept of psychological first aid. Psychological first aid is an evidence-informed modular approach involving humane, supportive, and practical interventions to help fellow human beings in the immediate aftermath of a disaster or crisis.²⁹

Second, integration of behavioral health services into primary care and other medical settings sprang from a need to respond to patients as whole persons, with biological, emotional, and social needs. When delivery systems are no longer siloed, patients get better care. Similar attention is needed to provide integrated support for the health care workforce within the context of their work settings and demands, to forestall burnout and exacerbation of mental health conditions in this group supporting the health of communities and the nation.

Third, even though the current evidence base is not robust, the limited literature supports an urgent need for system-level strategies that transform the way workplaces are organized. Such system-level or organizational strategies should be combined with individual-level interventions. This approach is exemplified by intervention tools reported in the literature such as the “wellness hubs” used by Saqib and Ramal,⁸ which improved overall mood in 97% of medical workers who participated in the intervention.⁸

Fourth, integrating additional effective resilience tools within the health care workplace may further mitigate the psychological distress of health care workers. At the same time, there is critical need to make available evidence-based resources to improve resilience on the job that may improve clinicians’ capacity to address new health crises.

Fifth, there are many evidence gaps, including lack of robust data on the prevalence and impact of mental health-related disorders among health care workers. Stronger evidence from well-designed studies and increased awareness of and attention to the emotional ergonomics of work in health care are sorely and urgently needed before the next crisis arrives. Evidence is also needed on trauma-informed care approaches for addressing mental health needs among health care workers.

CONCLUSIONS

In conclusion, the evidence needed to guide interventions to prevent and mitigate suffering and death from mental health disorders is limited, and action is needed now. Government, industry, and private funders must prioritize investments to support well-designed and rigorous research to identify effective interventions that support the mental well-being of health care workers. As also noted in the Cochrane review,⁷ future research should account for characteristics of local settings that act as barriers to and promoters of implementation

of evidence-based interventions for clinicians. Additionally, stigma against mental health remains a substantial obstacle to mental health care that may be even greater for health care workers, for whom professional reputation and licensure may be threatened by self-disclosure. We therefore call for urgent action by health care institutions and by licensing and certification bodies to destigmatize mental health conditions among health care workers to improve recognition, support, and treatment.

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References

- McCarthy N. The pandemic's devastating impact on healthcare workers. Statista. Published Jan 5, 2021. Accessed Mar 22, 2022. <https://www.statista.com/chart/23847/healthcare-worker-deaths-in-the-pandemic-by-occupation/>
- Mental Health America. The mental health of healthcare workers in COVID-19. Accessed Mar 22, 2022. <https://mhanational.org/mental-health-healthcare-workers-covid-19>
- Li Y, Scherer N, Felix L, Kuper H. Prevalence of depression, anxiety and post-traumatic stress disorder in health care workers during the COVID-19 pandemic: a systematic review and meta-analysis. *PLoS One*. 2021;16(3):e0246454. [10.1371/journal.pone.0246454](https://doi.org/10.1371/journal.pone.0246454)
- Saragih ID, Tonapa SI, Saragih IS, et al. Global prevalence of mental health problems among healthcare workers during the COVID-19 pandemic: a systematic review and meta-analysis. *Int J Nurs Stud*. 2021;121:104002. [10.1016/j.ijnurstu.2021.104002](https://doi.org/10.1016/j.ijnurstu.2021.104002)
- Vinicius Santinelli Pestana D, Raglione D, Junior LD, et al. Stress and substance abuse among workers during the COVID-19 pandemic in an intensive care unit: a cross-sectional study. *PLoS One*. 2022;17(2):e0263892. [10.1371/journal.pone.0263892](https://doi.org/10.1371/journal.pone.0263892)
- Jahan I, Ullah I, Griffiths MD, Mamun MA. COVID-19 suicide and its causative factors among the healthcare professionals: case study evidence from press reports. *Perspect Psychiatr Care*. 2021;57(4):1707-1711. [10.1111/ppc.12739](https://doi.org/10.1111/ppc.12739)
- Pollock A, Campbell P, Cheyne J, et al. Interventions to support the resilience and mental health of frontline health and social care professionals during and after a disease outbreak, epidemic or pandemic: a mixed methods systematic review. *Cochrane Database Syst Rev*. 2020;11(11):CD013779. [10.1002/14651858.CD013779](https://doi.org/10.1002/14651858.CD013779)
- Saqib A, Rampal T. Quality improvement report: setting up a staff well-being hub through continuous engagement. *BMJ Open Qual*. 2020;9(3):e001008. [10.1136/bmjopen-2020-001008](https://doi.org/10.1136/bmjopen-2020-001008)
- Putrino D, Ripp J, Herrera JE, et al. Multisensory, nature-inspired recharge rooms yield short-term reductions in perceived stress among frontline healthcare workers. *Front Psychol*. 2020;11:560833. [10.3389/fpsyg.2020.560833](https://doi.org/10.3389/fpsyg.2020.560833)
- Mellins CA, Mayer LES, Glasofer DR, et al. Supporting the well-being of health care providers during the COVID-19 pandemic: the CopeColumbia response. *Gen Hosp Psychiatry*. 2020;67:62-69. [10.1016/j.genhosppsych.2020.08.013](https://doi.org/10.1016/j.genhosppsych.2020.08.013)
- Afshari D, Nourollahi-Darabad M, Chinisaz N. Demographic predictors of resilience among nurses during the COVID-19 pandemic. *Work*. 2021;68:297-303. [10.3233/WOR-203376](https://doi.org/10.3233/WOR-203376)
- Awano N, Oyama N, Akiyama K, et al. Anxiety, depression, and resilience of healthcare workers in Japan during the coronavirus disease 2019 outbreak. *Intern Med*. 2020;59(21):2693-2699. [10.2169/internalmedicine.5694-20](https://doi.org/10.2169/internalmedicine.5694-20)
- Balay-Odao EM, Alquwez N, Inocian EP, Alotaibi RS. Hospital preparedness, resilience, and psychological burden among clinical nurses in addressing the COVID-19 crisis in Riyadh, Saudi Arabia. *Front Public Health*. 2021;8:573932. [10.3389/fpubh.2020.573932](https://doi.org/10.3389/fpubh.2020.573932)
- Goh YS, Ow Yong QYJ, Chen TH, Ho SHC, Chee YIC, Chee TT. The impact of COVID-19 on nurses working in a university health system in Singapore: a qualitative descriptive study. *Int J Ment Health Nurs*. 2021;30(3):643-652. [10.1111/inm.12826](https://doi.org/10.1111/inm.12826)
- Barzilay R, Moore TM, Greenberg DM, et al. Resilience, COVID-19-related stress, anxiety and depression during the pandemic in a large population enriched for healthcare providers. *Transl Psychiatry*. 2020;10(1):291. [10.1038/s41398-020-00982-4](https://doi.org/10.1038/s41398-020-00982-4)
- Cai W, Lian B, Song X, Hou T, Deng G, Li H. A cross-sectional study on mental health among health care workers during the outbreak of corona virus disease 2019. *Asian J Psychiatr*. 2020;51:102111. [10.1016/j.ajp.2020.102111](https://doi.org/10.1016/j.ajp.2020.102111)
- Jose S, Dhandapani M, Cyriac MC. Burnout and resilience among frontline nurses during COVID-19 pandemic: a cross-sectional study in the emergency department of a tertiary care center, North India. *Indian J Crit Care Med*. 2020;24(11):1081-1088. [10.5005/jp-journals-10071-23667](https://doi.org/10.5005/jp-journals-10071-23667)
- Lin J, Ren YH, Gan HJ, Chen Y, Huang YF, You XM. Factors associated with resilience among non-local medical workers sent to Wuhan, China during the COVID-19 outbreak. *BMC Psychiatry*. 2020;20(1):417. [10.1186/s12888-020-02821-8](https://doi.org/10.1186/s12888-020-02821-8)
- Cheung VK, So EH, Ng GW, So SS, Hung JL, Chia NH. Investigating effects of healthcare simulation on personal strengths and organizational impacts for healthcare workers during COVID-19 pandemic: a cross-sectional study. *Integr Med Res*. 2020;9(3):100476. [10.1016/j.imr.2020.100476](https://doi.org/10.1016/j.imr.2020.100476)
- Golden EA, Zweig M, Danieletto M, et al. A resilience-building app to support the mental health of health care workers in the COVID-19 era: design process, distribution, and evaluation. *JMIR Form Res*. 2021;5(5):e26590. [10.2196/26590](https://doi.org/10.2196/26590)
- Luceño-Moreno L, Talavera-Velasco B, García-Albuérne Y, Martín-García J. Symptoms of posttraumatic stress, anxiety, depression, levels of resilience and burnout in Spanish health personnel during the COVID-19 pandemic. *Int J Environ Res Public Health*. 2020;17(15):E5514. [10.3390/ijerph17155514](https://doi.org/10.3390/ijerph17155514)
- Ou X, Chen Y, Liang Z, Wen S, Li S, Chen Y. Resilience of nurses in isolation wards during the COVID-19 pandemic: a cross-sectional study. *Psychol Health Med*. 2020;26(1):98-106. [10.1080/13548506.2020.1861312](https://doi.org/10.1080/13548506.2020.1861312)
- Cheng W, Zhang F, Liu Z, et al. A psychological health support scheme for medical teams in COVID-19 outbreak and its effectiveness. *Gen Psychiatry*. 2020;33(5):e100288. [10.1136/gpsych-2020-100288](https://doi.org/10.1136/gpsych-2020-100288)
- Gupta S, Kumar M, Rozatkar AR, et al. Feasibility and effectiveness of tele-counseling on the psychological problems of frontline healthcare workers amidst COVID-19: a randomized controlled trial from Central India. *Indian J Psychol Med*. 2021;43(4):343-350. [10.1177/02537176211024537](https://doi.org/10.1177/02537176211024537)
- Gainer RD. History of ergonomics and occupational therapy. *Work*. 2008;31(1):5-9.
- Dhungat JP. Bernardino Ramazzini—father of occupational diseases. *J Assoc Physicians India*. 2017;65(3):109.
- Kelly F, Ulys M, Bezuidenhout D, Mullane SL, Bristol C. Improving healthcare worker resilience and well-being during COVID-19 using a self-directed e-learning intervention. *Front Psychol*. 2021;12:748133. [10.3389/fpsyg.2021.748133](https://doi.org/10.3389/fpsyg.2021.748133)
- Foureur M, Besley K, Burton G, Yu N, Crisp J. Enhancing the resilience of nurses and midwives: pilot of a mindfulness-based program for increased health, sense of coherence and decreased depression, anxiety and stress. *Contemp Nurse*. 2013;45(1):114-125. [10.5172/conu.2013.45.1.114](https://doi.org/10.5172/conu.2013.45.1.114)
- World Health Organization, War Trauma Foundation, and World Vision International. *Psychological First Aid: Guide for Field Workers*. World Health Organization; 2011.