



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.

# Mitigating Health-Care Worker Distress From Scarce Medical Resource Allocation During a Public Health Crisis



Lauren E. Benishek, PhD  
 Allen Kachalia, MD, JD  
 Lee Daugherty Biddison, MD  
 Albert W. Wu, MD  
 Baltimore, MD

The coronavirus disease 2019 (COVID-19) pandemic has exposed a significant vulnerability of the US health-care system: the limited supply of life-saving medical resources, such as ventilators and dialysis machines. Shortages have sparked considerable anxiety among patients, the public, and health-care providers alike. Fair and ethical protocols are needed to manage these situations. In parallel, organizations must recognize that providing care when resources are scarce can be highly stressful, particularly when typical job demands are amplified.<sup>1</sup> Frontline health-care providers may be psychologically traumatized from

triaging life-saving treatments and bearing witness to the consequences of those decisions. Organizations must be prepared to implement strategies that will mitigate the resulting grief, anger, shame, guilt, anxiety, and moral distress providers may experience. Neglecting to do so fails these essential workers and further compromises patient safety and care quality.<sup>2</sup>

We recommend that health-care organizations consider adopting three sets of strategies to reduce provider stress. These strategies that ideally would be executed well in advance of a crisis include creating clear scarce resource allocation criteria and protocols, separating triage and frontline care providers while endorsing a rapid triage appeal process, and establishing essential programming to provide emotional support and adequate recovery.

## Clear Scarce Resource Allocation Protocols

Resource allocation protocols describe how space, equipment, and personnel will be managed during the institutional response to public health crises.<sup>3</sup> When established in advance, stakeholders have adequate time to develop policies that weigh organizational and societal values, consider equity concerns, and reduce bias. Protocols streamline decision-making, which frees frontline providers' cognitive load for other concerns. The adoption of similar protocols across regional health-care systems and states promotes consistency, accountability, and public trust.<sup>3</sup> Furthermore, because protocols usually are developed by an expert consensus panel, using them may reduce feelings of individual accountability and distress that are associated with allocation decisions.

The development of resource allocation protocols does not alleviate all concerns for frontline clinicians and, in fact, may create new ones. No matter how fair and clear the protocol, at times triage still demands seemingly impossible choices. It may be difficult for some providers to adhere to a protocol that conflicts with the usual treatment plan or their personal values. Misalignment between public or health care worker values and expert guidance or institutional rules can produce moral distress.<sup>3</sup> Individuals often defer to perceived authorities even when they doubt the

**AFFILIATIONS:** From the Armstrong Institute for Patient Safety and Quality (Drs Benishek, Kachalia, and Wu), Department of Anesthesiology & Critical Care Medicine (Dr Benishek), the Department of Medicine (Drs Kachalia and Daugherty Biddison), Johns Hopkins School of Medicine; and the Department of Health Policy and Management (Dr Wu), Johns Hopkins Bloomberg School of Public Health.

**FINANCIAL/NONFINANCIAL DISCLOSURE:** The authors have reported to *CHEST* the following: L. E. B. reports a grant from the National Institute for Occupational Safety and Health, outside the submitted work. A. W. W. reports grants from Robert Wood Johnson Foundation, grants from Agency for Healthcare Research and Quality, grants from AIG, grants from GenRe, personal fees from Osmotica, personal fees from ViiV, personal fees from GSK, outside the submitted work. None declared (L. D. B., A. K.).

**CORRESPONDENCE TO:** Lauren E. Benishek, PhD, Assistant Professor, Armstrong Institute for Patient Safety and Quality, Department of Anesthesiology & Critical Care Medicine, Johns Hopkins School of Medicine, 750 East Pratt St, 15th Floor, Ste 1544, Baltimore, MD 21202; e-mail: [lebenishek@jhu.edu](mailto:lebenishek@jhu.edu)

Copyright © 2020 American College of Chest Physicians. Published by Elsevier Inc. All rights reserved.

DOI: <https://doi.org/10.1016/j.chest.2020.07.073>

appropriateness of the orders. Navigating these tensions may leave health-care workers feeling powerless, anxious, depressed, or burned out.

Including frontline providers in the design of resource allocation protocols can improve clinical relevance and mitigate the distress that using the protocols will inevitably provoke. Doing so will elevate the provider voice and ultimately encourage their buy-in. Protocols can be written to reflect the individual value systems held by local providers, which may limit the likelihood or severity of moral distress.

### Take Triage Decisions Out of Provider Hands and Allow for Appeals

Separating triage and treatment responsibilities may also mitigate health-care worker stress. A triage team functioning independently and in support of frontline care teams can remove or reduce the decision-making burden from frontline providers. Triage teams can serve to implement protocol guidelines that are based primarily on population demands and leave frontline care teams to maintain their traditional focus on individual patients. Separation may also increase decision objectivity.<sup>4</sup>

With recognition that situations are fluid, triage protocols are new and relatively untested, and human error is always a possibility, organizations should implement an appeal process for significant triage decisions that is available to providers and to patients and their families. Such a channel would accept arguments countering existing resource allocation guidelines. Despite best intentions and design by multiple experts, situations will arise in which resource allocation protocols are potentially deficient or inappropriate. A formal appeals system can be a mechanism through which these situations are addressed rapidly and in real-time. It would provide another platform for clinicians to have the voice and control over decision-making that is important to professional fulfillment and well-being. The appeals process may also function as a mechanism for collecting data regarding the success of the published resource allocation schema and offer insights into protocol modifications.

### Provide Peer Support and Downtime

Even when health-care workers agree with resource allocation protocol guidelines, watching patients die and families suffer due to insufficient resources will cause

stress. These “second victims” endure emotional distress that results from adverse events that affect patients.<sup>5</sup> Their cognitive, emotional, and behavioral reactions to stressful events can have significant impact on their colleagues, patients, and themselves.<sup>5</sup> Organizations must anticipate the distress and potential emotional trauma that are associated with confronting moral dilemmas and provide infrastructure and frontline support to lessen the impact. Doing so requires structures that can support workers’ physical, psychological, and spiritual well-being. Peer responder support programs can be established to provide emotional support and facilitate resilience. These programs can assist any employee, especially those caring for critically ill patients and the triage team members who consult on allocation decision-making. Considerations of spiritual well-being can be integrated by including chaplains in the process.

Staff support in a crisis begins with attending to basic human needs. To preserve their resilience, both triage team members and frontline providers must have time to rest, recover, and regenerate. It can be difficult to find time and space to recharge during an ongoing crisis; honoring breaks and providing tranquil places for respite can diminish these barriers. Motivation to serve during a crisis may be strong; many providers may feel called to duty. Unit leaders should manage schedules carefully and require time away from the facility to providers who have given too much and are at risk for burnout.

### Conclusion

Public health crises that exceed available health-care resources can traumatize many, including frontline providers. Institutions have a moral obligation to mitigate health-care worker stress response. An emotionally compromised health-care workforce is a liability for patients and workers.<sup>2</sup> Institutions must have appropriate structures in place both to allocate resources and to support workers who are involved in crisis response. We have recommended three types of institutional strategies that can be leveraged during public health emergencies to mitigate and manage health-care worker stress response.

### References

1. Demerouti E, Bakker AB, Nachreiner F, Schaufeli WB. The job demands-resources model of burnout. *J Appl Psychol*. 2001;83(3): 499-512.
2. Panagioti M, Geraghty K, Johnson J, et al. Association between physician burnout and patient safety, professionalism, and patient

- satisfaction: a systematic review and meta-analysis. *JAMA Intern Med.* 2018;178(10):1317-1331.
3. Daugherty Biddison EL, Faden R, Gwon HS, et al. Too many patients...a framework to guide statewide allocation of scarce mechanical ventilation during disasters. *Chest.* 2019;155(4):848-854.
  4. Christian MD, Sprung CL, King MA, et al. Triage: care of the critically ill and injured during pandemics and disasters: CHEST consensus statement. *Chest.* 2014;146(suppl4):e61S-e74S.
  5. Seys D, Wu AW, Van Gerven E, et al. Health care professionals as second victims after adverse events: a systematic review. *Eval Health Prof.* 2013;36(2):135-162.