



# Inequitable Resource Allocation Amidst a Pandemic—A Crisis Within a Crisis

Hayley B. Gershengorn, MD

The COVID-19 pandemic has made us reconsider our approach to many aspects of health care. Two issues frequently discussed are the impact of systemic racism on access and outcomes as well as the need to establish practical and valid crisis standards of care (CSOC) policies to assist in resource allocation when demand exceeds supply. At their intersection is the possibility for inequitable triage, a humanmade crisis we cannot accept.

Elsewhere in *JAMA Network Open*, Riviello and colleagues<sup>1</sup> investigate the differential impact of the Massachusetts Department of Public Health's CSOC guidelines regarding resource allocation for patients of varying races and ethnicities. They used data from 498 critically ill adults in 6 greater Boston hospitals during the spring 2020 COVID-19 surge for whom, in preparation for possible triage, nurses had prospectively assigned priority scores based on estimates of short-term mortality (using Sequential Organ Failure Assessment [SOFA] score) and longer-term mortality (initially from comorbidity burden and later using attending physicians' estimates of expected 1- and 5-year survival). Using this schema, they found that Black patients were more likely to be in the lowest priority group than White patients (15.2% vs 8.1%;  $P = .046$  for lowest vs middle and high priority groups combined); however, when considering the distribution across all priority groups (low vs middle vs high, all separately) or individual priority score components (SOFA, comorbidities, or life-expectancy estimates), they found no difference between Black and White individuals. In a simulation using the CSOC guidelines where only the highest priority patients received ventilators, they found that 18 of 41 Black patients (43.9%) who received a ventilator would have been denied one vs only 58 of 203 patients identifying as other races (28.6%;  $P = .05$ ). No difference in priority was found for Hispanic and non-Hispanic patients.

These findings add to a growing yet inconsistent evidence base pertaining to CSOC equity. Two studies<sup>2,3</sup> evaluated the differential accuracy of SOFA scores across racial and ethnic groups, a score many CSOC policies rely on to estimate short-term mortality. In 1 study,<sup>2</sup> mortality discrimination by SOFA score was poor overall, but better for Black than White patients, and SOFA more commonly overestimated mortality in Black individuals; in the second,<sup>3</sup> discrimination was excellent overall and did not differ by race or ethnicity, yet mortality was both overestimated and underestimated for patients without COVID-19 across all racial and ethnic groups. Notably, cohort inclusion criteria for these 2 studies differed, as did the timing of SOFA assessment. The existing literature on CSOC policies themselves is similarly conflicting: among critically ill patients without COVID-19, Wunsch and colleagues<sup>4</sup> found use of components of 2 CSOC policies resulted in no clear differences in priority for patients of different races or ethnicities; for patients with COVID-19, Jezmir and colleagues<sup>5</sup> determined one (but not a second) CSOC policy had lower discrimination for Black (but not Hispanic) patients, and a simulation by Bhavani and colleagues<sup>6</sup> demonstrated CSOC policies incorporating short- and long-term mortality led to less ventilator allocation to Black individuals; lastly, our study<sup>7</sup> and one by Ross-Driscoll and colleagues<sup>8</sup> found no difference in priority scoring by race and ethnicity among mixed populations of patients with and without COVID-19. Again, cohort definitions, timing of priority assessment, and CSOC policy components differed across studies.

Unfortunately, therefore, the literature seems to leave us with more questions than answers. Are existing CSOCs equitable? Can we ever ensure equity? If so, how? If not, should we abandon these CSOC policies entirely?

While these questions are not easily answerable, there are 3 truths to which our best approach must adhere. First, we cannot abandon the paradigm of CSOC policies, no matter the challenges.

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Absent such policies, 1 of 3 things will surely happen if resources become scarce: an unweighted lottery will occur; resources will be offered on a first-come, first-served basis; or, those with greater means (eg, money, connections) will be prioritized. Riviello and colleagues<sup>1</sup> found that an unweighted lottery would result in more excess deaths than the evaluated CSOC policy. Health care workers and lay people alike are known to prefer strategies based on survivability, life stages lived, and value to others over unweighted lotteries or triage by arrival order.<sup>9</sup> None of these systems is desirable. Thus, we must resist the urge to dump the baby with the bathwater and discard such policies altogether. Instead, we must ensure continued focus on this issue once the COVID-19 pandemic wanes; many efforts to establish equitable CSOC policies were taken up during the epidemics of H1N1 influenza in 2009 and Ebola in 2014 and subsequently abandoned.

Second, we must do all we can to enhance the likelihood that CSOC policies will not exacerbate disparities. To accomplish this, all policy stakeholders (eg, clinicians, patients, ethicists, caregivers, administrators) must be represented on committees tasked with developing CSOC policies. Attention must be paid to ensuring these groups are diverse; they must include people of differing race and ethnicity, socioeconomic status, health (ie, individuals with disabilities, chronic conditions), education, and other characteristics. With such perspectives, consideration of thoughtful approaches to triage (eg, inclusion of correction factors for disadvantage) and thinking outside the box (eg, resource sharing across hospitals) are more likely. Furthermore, we must have robust processes in place to iteratively improve on developed policies. Unintended bias may creep in, and we must proactively prepare to evaluate for it and amend policies if disparities are identified. To accomplish this, we must, at a minimum, agree on cohorts at risk and metrics of success; if we do not agree on who to study and for what outcome, we will not get useable information.

Finally, we need to ensure that any CSOC policy is feasible, useful, and acceptable to all stakeholders. In the study by Riviello and colleagues,<sup>1</sup> priority scores were assigned by redeployed nurses, whereas in my hospitals, medical students sidelined from clinical roles took on this task.<sup>7</sup> It is notable that Riviello and colleagues<sup>1</sup> had to exclude 17.6% of their initial cohort because scores were incomplete. If these policies are to be enacted, we must ensure consistent and reliable assignment of priority. Proactive planning for well-trained individuals who reliably calculate these scores is essential. Moreover, Riviello and colleagues<sup>1</sup> found that 60.0% of all patients fell into the high priority group; in the study by Wunsch and colleagues,<sup>4</sup> it was 77.1% and, in our work, 69.4%.<sup>7</sup> In lumping the majority of patients into a single priority group, these tools may fail to triage sufficiently; tiebreakers (eg, age) may then end up being a main driver of resource assignment. Furthermore, for clinicians, patients, and families to tolerate the outcomes of any CSOC policy, the process by which it is created and used must be understood and accepted. Our relevant professional organizations must band together to lead creation of a single guidance document (with the possibility for amendments appropriate to local communities) to which local governments can turn to regulate policy; in no way can any of us trust an outcome that we know would have been different had we been admitted to a hospital down the street.

The crisis of COVID-19 has spawned crises in arenas as divergent as the economy and mental health. We cannot let it spur an additional crisis of inequitable resource allocation. Our patients, their families, and we ourselves deserve better.

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## ARTICLE INFORMATION

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**Corresponding Author:** Hayley B. Gershengorn, MD, Division of Pulmonary, Critical Care, and Sleep Medicine, University of Miami, Miller School of Medicine, 1951 NW 7th Ave, Miami, FL 33136 ([hbg20@med.miami.edu](mailto:hbg20@med.miami.edu)).

**Author Affiliations:** Division of Pulmonary, Critical Care, and Sleep Medicine, Department of Medicine, University of Miami Miller School of Medicine, Miami, Florida; Division of Critical Care Medicine, Albert Einstein College of Medicine, Bronx, New York.

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