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.

considerations—such as a correction factor to triage scores using a geographic measure of disadvantage—is one strategy to show equal respect for all during the pandemic. More broadly, ICU triage policies should be one among a suite of policy interventions to address the profound inequities in health outcomes that disadvantaged groups are experiencing during the pandemic.

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COUNTERPOINT:

Is Considering Social Determinants of Health Ethically Permissible for Fair Allocation of Critical Care Resources During the COVID-19 Pandemic? No

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COVID-19 has laid bare existing inequities in health care,[1,2] and the disproportionate impact on the poor and communities of color have rightfully driven a search for solutions to improve access across the spectrum of medical care delivery. Identifying at-risk areas of our community for targeted interventions is thus a key mitigation strategy to reduce further impact.

Social determinants of health are environmental, structural, and socioeconomic factors that shape the health of communities and individuals alike. Identifying these risks and mitigating them allows everyone the best opportunity for optimal health service access. Individual health is not, however, dictated by social determinants but remains a complex interplay with other factors such as genetics, environment, and conscious decisions—decisions such as whether to make appointments, take medication, or receive vaccinations. It is not on physicians to assess or judge to what degree each

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element contributed to illness; we simply treat the condition in front of us and make our best effort to heal the patient and again allow them to continue their path toward optimal individual health.

Centers for Disease Control and Prevention's Social Vulnerability Index (SVI) includes 15 factors such as socioeconomic, housing type, minority status, and disability to assign scores to geographic areas to establish the degree of structural health risk.[3] It has been recommended by the National Academies of Medicine as a potential tool for allocation of vaccine and targeting vaccination efforts.[4] Some authors have questioned whether the inclusion of race is legal, given long-standing prohibitions to considering it as a factor in resource utilization,[5] although notably race has also been acknowledged by the FDA as an "at-risk" condition that may be considered for monoclonal antibody treatment.[6] The Area Deprivation Index (ADI) includes many of the same variables without including racial demographic information and has been recommended as a consideration in allocating other resources, including critical care resources.[7,8] We believe that the advantages of a population-based instrument do not apply at the bedside of a hospitalized patient and preclude the individualized assessment that is preferred by the Office of Civil Rights.[9]

Population-based tools are rightfully used to direct information, testing, assessment, early treatment, and vaccine resources proportionally to areas of the community at risk. Prioritizing those resources thus assures equitable distribution in proportion to need within the community and balances out access issues. These tools are thus appropriately used, and were designed, for mitigation not treatment.

Providing mitigation services (information, access to screening and preventative services, testing, vaccination) to those in the at-risk geographic areas that do not qualify as at-risk individuals still enhances the health of the community members in that area because of reduced transmission of virus and thus still is "on-target" from an ethical and procedural standpoint.

Once an individual becomes ill, however, using a population-based tool to weight access to life-saving resources is like using a screwdriver as a hammer—a good tool fails when used for the wrong application. In many cases, privileged individuals live within areas that score high on SVI and ADI and would unfairly benefit from preferred access to resources. Furthermore, many individuals in high-risk social and racial groups reside outside these areas. Living a block within or outside a population-based line should not influence access to life-saving resources. Furthermore, many areas that have high ADI scores are rural and frontier and disproportionately White. Are we to prioritize critical care resources for those individuals once hospitalized at a tertiary center because they live in a rural area? Rural areas certainly have medical care access issues that need to be addressed, but few providers would advocate for differential access to critical care resources once these individuals are hospitalized in a tertiary center.

Inequity clearly exists in many areas when it comes to access to primary care, technology, transportation, testing, and vaccination. These inequities should be identified and corrected. But is there correctable inequity *during* critical care? When a community is disproportionately affected by illness, those community members will present to the hospital in proportion to impact. That is, if in a given area communities of color are affected at twice the rates of White individuals, they will occupy twice the relative beds and receive proportional and fair access to care. To maintain fairness, load-balancing mechanisms must exist to assure that the hospitals providing care to those communities are not overwhelmed and offering a different standard of care—which has been problematic in some areas during COVID-19 and must be corrected.[10,11] As long as a consistent standard of care is provided in proportion to the disease in the community, equity of inpatient care is maintained. For example, there is no evidence once a patient becomes ill and requires hospitalization that specific racial groups have worse outcomes in response to usual critical care interventions.[12-14] In fact, Rosenthal's study including over 35,000 hospitalizations showed an OR for inpatient death for Black individuals of 0.7 compared with White individuals.[13] Therefore, additional corrections during critical care do not seem indicated, particularly because there is no community consensus to correct historical inequities at the bedside (nor an operational means to do so, because race is a social construct, and it is exceedingly difficult to assess the impact of structural inequity at the individual level in a comparative way when making resource allocation decisions).

Operationalizing restrictions on disaster critical care has proved exceptionally difficult. Proposed scoring systems have limited applicability and utility, and clinical prognostication is difficult. Weighting social factors becomes even more difficult. Despite generally accepted preference for younger patients having access

to resources, there are key ethnic groups that would dissent in favor of prioritizing their elders, and there has been no consensus on dividing lines between age groups (how would we weight a difference of 10 years in age vs 20?). Given the difficulties coming to community consensus on fair ways to integrate age into decisions, we see very little potential for integrating social factors in a way that is operationally sound. The Office of Civil Rights has been clear that the best way to prevent discrimination is through an assessment of individual needs and risk.[9] We agree, and we emphasize that the use of population-based tools to weight priority for interventions runs counter to this goal. In the end, broad community consensus is required for any nonmedical factors that may be used when weighting resource allocation, and these are likely to be few and far between.

The best way to ensure equity in critical care is to ensure that systems are in place to rapidly facilitate transfer of patients to an appropriate facility and load-balance hospitals that are disproportionately burdened by an event, *not* through the triage of specific critical care resources.

Absent clear evidence for differential outcomes for hospitalized patients and an operational means to fairly consider social factor impact on the individual, there is no justification for providers to include them when allocating scarce resources. At the bedside, the care and decision-making need to be based on the individual and their prognosis according to the best medical evidence available. Too much focus has been placed on strategies for restricting critical care resources and not enough on the maximal utilization of available resources though a systems approach. Preventing crisis standards of care through maximal use of contingency strategies should be the focus, and critical care physicians are a crucial part of this planning.

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Rebuttal From Drs Hick and Hanfling

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We agree with White, Lo, and Peek on the need to address the deep inequities exposed during COVID-19. However, adjusting triage processes by using social indexes is not the way to do so.

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