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Critically Ill Patients with CKD Deserve Better Mortality Prediction Scores

To the Editor,

I sincerely appreciate the article by Silberzweig *et al.*,¹ which addresses the potential effect of health care resource rationing on patients with CKD. The authors discuss the ethical principles underpinning the scarce resource allocation systems considered in the throes of the coronavirus disease 2019 pandemic. They specifically call attention to the use of strict exclusion criteria, including ESKD, as a reason to deny a patient other life-saving treatments, such as mechanical ventilation, in the setting of crisis standards of care.¹

The authors recommend that in the event that all contingency plans have been exhausted, tools such as the Sequential Organ Failure Assessment (SOFA) score should be used to determine eligibility for scarce resources.¹ Although the SOFA score provides an objective estimate of mortality and is therefore a step forward from exclusion criteria, I feel it is important to point out its flaws in patients with CKD and ESKD.

The SOFA score assigns points on the basis of the absolute creatinine value at a single point in time. Because the goal of the scoring system is to assess organ dysfunction resulting from severe illness, the change in creatinine would be a much more useful metric. It is known that AKI carries an increased risk of mortality in critically ill patients,² but the presence of CKD may modify this association. Critically ill patients with preexisting CKD who develop AKI have lower mortality than those without.³ The Acute Physiology and Chronic Health Evaluation (APACHE) score differentiates between AKI and CKD in assigning points and may be more equitable. However, because the APACHE score includes electrolyte

abnormalities, its performance among patients with ESKD is moderate at best, with a tendency to overestimate mortality.⁴

Illness severity scores were never intended to be interpreted as a snapshot or used to allocate scarce resources. However, as noted by the authors, objective and quantitative metrics are integral to ethical triage decision making. Therefore, to provide just treatment for our patient population, we must recognize the biases in these scores and investigate better methods of assessing mortality.

DISCLOSURES

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Authors’ Reply

We agree that there are limitations to the use of Sequential Organ Failure Assessment (SOFA) scores for stratification of mortality

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risk of patients with CKD and ESKD.¹ Using a single creatinine (or daily urine volume) measurement to assess the kidney function of patients with CKD is one of many limitations of SOFA scores, as is the lack of differentiation in the SOFA score between acute kidney disease and CKD. We agree that these limitations are particularly important when used to compare one individual with another for possible resource prioritization, and acknowledge that the SOFA score, along with virtually all other severity of illness scores, tends to overestimate mortality risk of patients with advanced CKD. Nevertheless, while recognizing these caveats, we believe that the SOFA score is still helpful to objectively assess patients with complex illness, but agree with Dr. Sanghavi² that even better methods to assess mortality risk are needed to optimize equitable allocation of resources in the setting of scarcity.

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See related Letters to the Editor, "Critically Ill Patients with CKD Deserve Better Mortality Prediction Scores," on page 2492.

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