Ethics and Equity Considerations

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Structural Inequity

• Policies, laws, procedures and norms that differentially limit the access to goods, services, and/or opportunity.
  – Segregated schools
  – Racialized residential housing
  – Discriminatory banking/lending practices
  – Unfair criminal justice policies
  – Unequal access to food and basic human needs
Structural Racism

• Structural Inequities: Marginalized Social Identities
• Social Identities and Social Power
  – Race
  – Ethnicity
  – Gender and Gender Identity
  – Sexual Orientation
  – Ability/Disability
  – Age
  – Immigration Status
  – Indigenous Persons/Nationality
  – Primary Language
  – Income/Class
Structural Inequities and Health

• Residential segregation  Obesity and Diabetes
• Community violence  Hypertension
• Food insecurity  Worse diabetes control
• Limited built environment  Obesity
• Racial discrimination  Chronic lung disease, Cardiovascular disease
• Poor housing  Asthma

Balancing Ethical Principles

• Maximize benefits (healthy)
• Maximize life-years (age)
• Equity (socially marginalized)
<table>
<thead>
<tr>
<th>Protocol</th>
<th>Rules</th>
<th>Average survival (%)</th>
<th>Survival by race (%)</th>
<th>Allocation by race (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Black</td>
<td>White</td>
</tr>
<tr>
<td>Lottery</td>
<td>Random assignment</td>
<td>31 (30-33)</td>
<td>31</td>
<td>31</td>
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<tr>
<td>Youngest-first</td>
<td>Rank by age</td>
<td>35 (34-36)</td>
<td>35</td>
<td>28*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(32-38)</td>
<td>(25-31)</td>
</tr>
<tr>
<td>SOFA-only</td>
<td>Three SOFA tiers:</td>
<td>33 (32-34)</td>
<td>29*</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Yellow: 8-11</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Blue: &gt;11</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Lottery tiebreaker</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-principle</td>
<td>SOFA category points:</td>
<td>34 (32-35)</td>
<td>29*</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>2. 9-11</td>
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<td></td>
<td>3. 12-14</td>
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<td></td>
<td>4. &gt;14</td>
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<tr>
<td>Chronic conditions:</td>
<td>+ 3 points if</td>
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<tr>
<td></td>
<td>&quot;severe&quot;</td>
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</tr>
<tr>
<td>Age tiebreaker†</td>
<td></td>
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</table>
Miller WD, Han X, Peek ME, Charan Ashana D, Parker WF. Accuracy of the Sequential Organ Failure Assessment Score for In-Hospital Mortality by Race and Relevance to Crisis Standards of Care. JAMA Netw Open. 2021 Jun 1;4(6):e2113891.
Figure 1. Sequential Organ Failure Assessment (SOFA) Score Distribution and SOFA-Associated Mortality

A Distribution of SOFA score by race

B Mortality by SOFA score and race

Patients with SOFA scores of 15 or higher were combined, given that there were few patients in this range and this was above the threshold for lowest priority in all Crisis Standards of Care. A, The percentage of Black and White individuals with each SOFA score were calculated. B, The mortality of Black and White individuals with each SOFA score was calculated.

* A statistically significantly different proportion of Black and White individuals had a given SOFA score, determined by $\chi^2$.

* A statistically significantly different mortality was found between Black and White individuals at a given SOFA score determined by $\chi^2$. 
Table 3. Number of Black Patients Deprioritized by Shortage Condition

<table>
<thead>
<tr>
<th>System</th>
<th>Patients deprioritized, No. (%)&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Severe shortage</th>
<th>Intermediate shortage</th>
<th>Low shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2601 (15.6)</td>
<td>1086 (6.5)</td>
<td></td>
<td>379 (2.3)</td>
</tr>
<tr>
<td>B</td>
<td>1501 (9.0)</td>
<td>379 (2.3)</td>
<td></td>
<td>NA&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>C</td>
<td>1086 (6.5)</td>
<td>379 (2.3)</td>
<td></td>
<td>NA&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Abbreviation: NA, not applicable.

<sup>a</sup> Patients were eligible for allocation if they were priority tier 1 under severe shortage, priority tiers 1 to 2 under intermediate shortage, and priority tiers 1 to 3 under low shortage.

<sup>b</sup> There were 3 tiers in system B, so only 2 were included during any triage scenario.

<sup>c</sup> Because of a small number of patients, the total hospital-adjusted Black mortality was equivalent to the hospital-adjusted White mortality at Sequential Organ Failure Assessment score of 14 or less.
Implement city and statewide protocols to share resources and patients

- Hospital variation in risk-adjusted mortality (6.6 -80.8%)
- OR of death: 3.28 for hospitals with fewer ICU beds
- Pandemic protocol ~Trauma, CVA

WBEZ: The Pandemic Revealed Another Gap In Chicago Health Care: Hospitals Are On Their Own To Transfer Patients
Mitigating Inequities and Saving Lives with ICU Triage during the COVID-19 Pandemic

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Abstract

The burdens of the coronavirus disease (COVID-19) pandemic have fallen disproportionately on disadvantaged groups, including the poor and Black, Latinx, and Indigenous communities. There is substantial concern that the use of existing ICU triage protocols to allocate scarce ventilators and critical care resources—most of which are designed to save as many lives as possible—may compound these inequities. As governments and health systems revisit their triage guidelines in the context of impending resource shortages, scholars have advocated a range of alternative allocation strategies, including the use of a random lottery to give all patients in need an equal chance of ICU treatment. However, both the save-the-most-lives approach and random allocation are seriously flawed. In this Perspective, we argue that ICU triage policies should simultaneously promote population health outcomes and mitigate health inequities. These ethical goals are sometimes in conflict, which will require balancing the goals of maximizing the number of lives saved and distributing health benefits equitably across society. We recommend three strategies to mitigate health inequities during ICU triage: introducing a correction factor into patients’ triage scores to reduce the impact of baseline structural inequities, giving heightened priority to individuals in essential, high-risk occupations; and rejecting use of longer-term life expectancy and categorical exclusions as allocation criteria. We present a practical triage framework that incorporates these strategies and attends to the twin public health goals of promoting population health and social justice.

Keywords: COVID-19; ethics; critical care; triage; public health

The first wave of the coronavirus disease (COVID-19) pandemic revealed that even well-resourced countries may not have enough ventilators and critical care resources to treat all critically ill patients in need. In February 2020, ICUs in northern Italy were overwhelmed with patients with COVID-19-associated acute respiratory failure and dying of COVID-19 who had to make difficult choices about who would receive ventilator support and who would not (1). Weeks later, hospitals in New York City faced similar shortages; overtriage was only averted because hospitals took unprecedented steps to increase their critical care capacity (2, 3). Table 1 presents a clinical vignette that illustrates the difficult choices clinicians face when there are not enough ICU resources for all patients who may benefit from them.

Many governments and health systems developed triage guidelines to prioritize who should receive scarce critical care resources when not all can (4, 5). Although the various guidelines differ in their details, all are firmly grounded in the utilitarian goal of efficiency: maximizing the number of lives saved and, in some cases, maximizing the number of life-years saved. However, disadvantaged groups, such as persons of color and the poor, are dying at disproportionately high rates—not because of innate biological differences but because structural inequities place them at higher risk of contracting and dying of COVID-19 (6). Critics argue that many existing triage protocols would amplify these disparities, because disadvantaged groups have more medical comorbidities that would lessen
**Table 2. Strategies to Promote Justice in ICU Triage**

**Modifications to existing triage guidelines:**
1. Use a correction factor to reduce the impact of structural inequities.
2. Give heightened priority to all frontline essential workers, not just healthcare workers.
3. Do not use quality of life, long-term life expectancy, broad social worth, gender, race, ethnicity, disability status, or sexual orientation as triage criteria or categorical exclusion criteria.

**Procedural justice considerations:**
1. Engage diverse communities when developing triage policies.
2. Ensure that triage teams receive training in implicit bias, health equity, and antiracism.
3. Blind triage team to ethically irrelevant patient characteristics.
4. Establish a real-time review of triage decisions to monitor for bias or inequitable outcomes.

**Considerations at the state level:**
1. Prioritize safety net hospitals and others that serve disproportionately disadvantaged populations to receive additional ventilators from the state and national stockpiles.
2. Ensure that robust interhospital transfer mechanisms are used to transfer patients from overwhelmed safety net hospital to better-resourced hospitals.
Thank you!