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1/ [Fair Allocation of Scarce Medical Resources in the Time of Covid-19 \(NEJM\)](#)

**Bottom Line:** Even by conservative estimates, health needs created by the COVID-19 epidemic will exceed health system resources. Policymakers should create guidelines to fairly allocate scarce resources so this burden does not fall on frontline clinicians. The authors offer 6 guiding principles for fair allocation: 1) maximize benefits; 2) prioritize health workers; 3) do not allocate on a first-come, first-served basis; 4) be responsive to new evidence; 5) recognize research participation; and 6) apply the same principles to COVID-19 and non-COVID-19 patients.

**Details:** The COVID-19 pandemic will almost certainly create shortages of valuable health care resources, including tests, ICU beds, ventilators, PPE, medications, and possibly vaccines. The authors argue that four ethical values should guide policymakers' decisions about allocating scarce resources: maximize benefits, treat people equally, reward instrumental value (people who help others), and give priority to the worst off. These ethical values form the basis of 6 recommendations. In each case, guidelines should be instituted proactively (so as not to place individual clinicians in the position of weighing tradeoffs) and should be applied consistently.

- 1) **Apply utilitarian principles:** Use of limited resources should aim to save the most lives and maximize post-treatment lifespans.
- 2) **Keep frontline workers healthy:** Scarce resources should go first to frontline health workers who care for patients and who keep the basic infrastructure operating.
- 3) **Random selection for patients with similar prognoses:** Resources should be distributed through random allocation (e.g., lottery) when patients present with similar prognoses (as opposed to first-come, first-served, or based on patients' wealth or power).
- 4) **Follow the evidence:** Guidelines should change and be updated in response to new scientific evidence.
- 5) **Reward research participation:** People who participate in research on vaccines and treatments should receive some priority for scarce resources (e.g., as a tie-breaker for patients with similar prognoses).
- 6) **Treat COVID-19 and non-COVID-19 patients the same:** There should be no difference in resource allocation for patients presenting with COVID-19 versus those presenting for other medical conditions.

**Key Takeaways:**

- The COVID-19 epidemic has already led to scarcity of essential resources and will almost certainly lead to more, including ICU beds, ventilators, and personal protective equipment.
- Health care leaders and policymakers should create clear guidelines for fair allocation of scarce resources to prevent frontline clinicians from having to make ad hoc decisions about rationing care.
- Guidelines for allocation of scarce resources should be guided by four basic ethical principles: maximizing benefits, treating people equally, rewarding instrumental value (people who help others), and giving priority to the worst off.

## [2/COVID-19: consider cytokine storm syndromes and immunosuppression \(Lancet\)](#)

**Bottom Line:** A subset of patients with severe COVID-19 have been observed to have an overwhelming inflammatory response (cytokine storm syndrome) and may benefit from treatments aimed at mitigating this syndrome, particularly IL-6 receptor blockers

### **Details:**

Cytokine storm, also termed cytokine release syndrome, is an excessive inflammatory response to infection that can result in multiorgan failure and often death. In adults this response is most commonly triggered by viral infections and is observed in 3.7-4.3% of sepsis cases. Cytokine storm is an underrecognized complication of a subset of severe COVID-19 cases, and may be linked to mortality. While treatments aimed at reducing inflammation such as corticosteroids are not routinely recommended as they may exacerbate COVID-19 associated lung injury, treatments decreasing hyperinflammation during cytokine storm syndromes is likely to be beneficial. There are currently FDA approved randomized controlled trials of two IL-6 receptor blockers (tocilizumab and sarilumab) enrolling patients with severe COVID-19 disease and evidence of cytokine release syndrome.

### **Key Takeaway:**

- There is great importance in identifying and treating hyperinflammation in COVID-19 using existing therapies with known safety profiles
- All patients with severe COVID-19 disease should be screened for hyperinflammation (using lab tests and risk scores) in order to identify the subgroup of patients who may potentially benefit from treatments such as IL-6 receptor blockers

## [3/ Strategies to Inform Allocation of Stockpiled Ventilators to Healthcare Facilities During a Pandemic \(Health Security\)](#)

**Bottom Line:** When allocating stockpiled ventilators at the state and local level, it is important to consider healthcare facilities' ability to absorb and deploy additional ventilators, and their capacity to care for high-risk populations that may be more susceptible to illness.

**Details:** This article focuses on strategies to assist state and local planners to allocate stockpiled ventilators to healthcare facilities during a pandemic. Allocation decisions should be informed by:

- Assessment of need (based on available surveillance data)
- Determination of facilities' ability to use additional ventilators (based on having enough trained staff, adequate space, and necessary equipment to care for additional patients on mechanical ventilation)
- Facilities' capacity to ensure access to ventilators for vulnerable populations (eg, rural, inner city, and uninsured or underinsured individuals) or high-risk populations that may be more susceptible to illness.

Ethical principles to consider include transparent decision making, applying criteria consistently across facilities, and making plans to care for patients who cannot access ventilators if supplies are insufficient.

### **Key Takeaways:**

- Consider facilities' trained staffing, bed space, and availability of other critical care supplies (oxygen, suctioning, monitoring equipment) when allocating stockpiled vents
- When allocating ventilators, consider the populations that facilities serve to ensure access to vents for vulnerable or high-risk populations

**4/ [Countries test tactics in 'war' against COVID-19 \(Science\)](#)**

**Bottom Line:** Control measures to fight the COVID-19 outbreak vary widely between and within countries. Nations that have been able to control the outbreak have combined social distancing with large-scale testing, intensive contact tracing, and strict quarantine of possible infections.

**Details:** Many nations have adopted social distancing measures, including banning large gatherings, shutting down non-essential businesses, and closing schools. However, these measures are insufficient alone. Countries like China and South Korea have been able to slow the outbreak and flatten the curve, mainly through widespread testing and intensive efforts to isolate infected persons, trace their contacts, and quarantine potentially exposed individuals.

**Key Takeaways:**

- Social distancing is essential to help curb the COVID-19 outbreak, but is not enough on its own.
- Nations that have been able to control the outbreak have used the following key strategies:
  - Large-scale, well-organized testing, including drive-through testing stations to increase testing accessibility
  - Intensive contact tracing to track all possible infections or exposures associated with each infected person
  - Strict isolation and quarantine measures for all infected or potentially exposed persons