



## Short Communication

# Healthcare resource allocation in the COVID-19 pandemic: Ethical considerations from the perspective of distributive justice within public health

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## ABSTRACT

*Objectives:* One of the many challenges public health practitioners have faced during the COVID-19 pandemic is deciding on the optimal allocation of limited healthcare resources. The current paper addresses the normative question of how medical resources can be optimally distributed during the current pandemic.

*Methods:* As an article of short communication, an ethical analysis from the moral perspectives of distributive justice was conducted.

*Results:* As multiple moral considerations must be analyzed to construct an ethically grounded and systematic allocation system, conflicting notions regarding efficiency, equity, and distributive justice are considered. Several practical recommendations were derived by leveraging the values of utilitarian, egalitarian, and prioritarian approaches to the proposed normative question.

*Conclusions:* Transparent, equitable, and consistent allocation mechanisms underpinned by the ethical values and recommendations presented in this paper should inform prioritization guidelines when medical resources are stretched.

## 1. Background and normative question

Since the coronavirus disease 2019 (COVID-19) pandemic began in late 2019, public health systems have been subjected to enormous and constant strain on already stretched healthcare resources. For example, healthcare service providers are struggling to procure sufficient critical healthcare equipment, notably, personal protective equipment (PPE), and as demand continues to increase, administrators will be obliged to introduce some system of rationing. If the spread of the virus can be halted to some extent by the mass observation of preventive measures, such as social distancing, hand hygiene, wearing of facemasks, and so forth, there may be less pressure on resources. Nonetheless, whereas such behaviors may be effective, planning is still required in advance to ensure that a system for the optimal allocation of scarce resources is established where necessary. As many countries are observing a widening gap between the resources required and those at hand, public health ethicists are urged to address the following normative question: "How best can we ensure the optimal distribution of medical resources during the COVID-19 pandemic?"

## 2. Ethical analysis and recommendations

According to Beauchamp and Childress [1], the principles of distributive justice offer guidance on how benefits and burdens can most fairly, equitably, and suitably be distributed under the societal norms that arise from the dominant system of social cooperation within a specific group. Based on this definition, considerations of how to optimally ration healthcare resources must address elaborate ethical systems [2,3]. Utilitarianism, for example, aims to maximize public utility by considering criteria from multiple sources and prioritizing the needs of social welfare. Egalitarian theories of justice offer an alternative to utilitarianism by positing that any benefits deemed valuable by rational members of a given group should be equally accessible to all. Although such benefits may be tangible or intangible, an egalitarian theory frequently focuses on the distribution of material benefits and insists that justice is based on considerations of need and equality. In the case of public health ethics, the distribution of resources during a pandemic under an egalitarian theory of justice would equate healthcare with goods or services and work towards ensuring that it is equally distributed among all patients requiring it [1].

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A review of the public health ethics literature reveals that medical triage decision-making considers several principles, each based on a different conceptualization of distributive justice. However, no one ethical value can, in isolation, underpin the design of a distribution system in the context of scarce resources [4–7]; rather, such a system requires a framework that incorporates multiple ethical values and that can be adapted to the nature of the contested resources and context in which distribution must occur. Hence, an ethically justified distribution of resources during the current pandemic must aspire to achieve the following three goals: (1) optimal efficiency in decision-making, such that resources are dedicated to those most at risk; (2) equity, by treating all patients in a similar manner; and (3) prioritization, such that resources are available to those patients most in need at any given moment.

The utilitarian approach to managing resources within a pandemic seeks to maximize total benefit, understood as life expectancy [5,6]. Hence, distribution decisions are justified by whether they will increase the number of recoveries and the extent to which treatment sustains such recoveries. There is a consensus among experts that these values are appropriate [5,6]. Given the time and data limitations that decision makers and professionals face during a pandemic, maximizing survival rates is the most important aim, whereas achieving reasonable life expectancy (if possible, enhancing it) is a secondary one. It is only necessary to consider the aim of extending life expectancy when comparing patients with similar chances of survival. In terms of operationalizing this value, priority must be given to the following: (1) people who contract COVID-19 but who are judged to have a good chance of recovery; (2) those considered likely to recover without being treated; and (3) those considered unlikely to recover even with treatment. As group 1 often contains young, severely ill patients, operationalizing the value of maximizing benefit also prioritizes those who have the most to lose in the sense of living for the shortest period.

An egalitarian distribution, grounded in the moral equality of all patients, would prioritize considerations of equal access over those of maximum overall benefit [1]. Under this model, physicians treat patients only according to clinical needs. If two patients have a similar prognosis, the principle of equality can be observed by the random allocation of resources (the “short-straw” approach) rather than a “first-come, first-served” one [8]. Although the first-come, first-served method of allocating scarce healthcare resources may be egalitarian in the context of, for example, receiving one-off organ donations for transplant, in the context of the current pandemic, it is not. Scarcity of resources is ongoing and some patients can survive without them. If a first-come, first-served approach were to be adopted in COVID-19 treatment, those patients living in proximity to health facilities would benefit more than those further away. Moreover, compelling people to arrive early to stake their claim to a medicine or vaccine in this manner could provoke congestion, possibly rioting, at a time social distancing is essential. Finally, this approach is potentially unfair to those people who observe public health measures and contract COVID-19 subsequent to those who do not in that the former may be denied treatment.

Furthermore, the allocation of scarce resources should not be prioritized for COVID-19 patients above those suffering other conditions. All life-threatening conditions necessitate swift medical attention, whether a pandemic is underway or not, and a scarcity of resources provoked by COVID-19 is also likely to adversely impact patients diagnosed with diseases such as heart failure and cancer. The principle of allocating resources based on maximizing benefits must apply to all patients, not only those with COVID-19.

Under a prioritarian moral approach, the worst-affected COVID-19 patients are prioritized when circumstances arise, such that not all patients can be administered a particular resource [1]. Prioritization guidelines are not fixed: decision-makers must consider each intervention uniquely and on the basis of the most recent scientific evidence. For example, as COVID-19 vaccines prevent the disease rather than cure it, priority should be given to older patients in vaccination programs or when post- or pre-exposure prophylaxis is trialed. It is well documented

that COVID-19 outcomes tend to be worse among older people as well as those suffering from chronic conditions [9]. Hence, if allocation gravitates toward maximizing the number of recoveries, persons over 60 or with comorbidities should be prioritized for vaccination, after healthcare workers and first responders. If there are insufficient vaccine supplies to meet the needs of the highest risk categories, then the principle of equality can be operationalized by random selection [4,6]. However, should epidemiologic modeling indicate that viral spread is best contained by prioritizing the vaccination of younger patients, the distribution model should pivot accordingly. Hence, keeping abreast with the most recent scientific data is vital for decision-makers to evaluate the most effective means of maximizing benefit through the distribution of future experimental treatments among patients who are seriously but not critically ill. For example, patients who cannot support ventilation could be suitable candidates for this approach that involves experimental treatment.

### 3. Conclusion

Considerations of social justice play an important role in the fields of medicine and healthcare. Equal access to affordable, high-quality healthcare converges with contentious issues regarding the role of society, government, and human communities. Given that several ethical values must be considered in the case of each intervention, whether context- or location-specific, it is unsurprising that experts, practitioners, and other commentators have varying opinions regarding the choice of values that must be prioritized and in which context. Transparent, equitable, and consistent allocation mechanisms that respect all stakeholders, from clinicians through patients and public health officials, should, therefore, be devised to retain public trust. Fair allocation procedures underpinned by the values and recommendations presented in this paper should inform prioritization guidelines so that the grim task of decision-making regarding whom to prioritize on treatment, which is usually undertaken under considerable pressure and with limited data, is not left solely to decision-makers and clinicians. Requiring individuals to make decisions of such weight has potential consequences on their mental health.

Clearly, government and policy makers must make the utmost effort to ensure that medical resources are consistently available. However, when such resources dwindle, as during the present pandemic, the recommendations in this paper can help ensure fair and consistent allocation.

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### Declaration of interest statement

None.

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