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POINT OF VIEW

A Matter of Life and Death

We should do everything possible to minimize the damage of the COVID-19 pandemic, but it's also time to decide how to best allocate scarce medical resources

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EDITOR'S NOTE: The following article is part of F&D's coverage of the COVID-19 pandemic, where we invite experts outside the IMF to share their views. Opinions expressed here are those of the authors; they do not necessarily represent the views of the IMF and its Executive Board, or IMF policy.

The COVID-19 pandemic has evolved rapidly. The dramatic increase in patients, particularly those with severe illness, has already overwhelmed the health system in many locales and will likely soon do so in many others, resulting in shortages of medical supplies, infrastructure, and staff.

Efforts are currently under way to “flatten the curve” of the pandemic and raise health system capacity across the globe. These efforts will be more or less successful in different contexts depending on factors such as the local epidemiology of the pandemic, demographics, human behavior, existing physical and human resources, and capacity to effectively implement technologies and innovative responses.

Given the speed with which the coronavirus is straining health care resources, rationing is likely inevitable. The question, then, is how to allocate resources during an emergency. Which patients should get priority when allocating ventilators or intensive-care beds? If a vaccine is developed, who should receive the first batches while production and delivery are being scaled? Establishing a legitimate prioritization strategy before rationing may be especially important in decentralized health systems with substantial private control of hospitals and other health care facilities; private health enterprises are likely to have a number of competing interests beyond providing optimal care, including revenue and profits as well as the preferences of board members, professional staff, and patient populations.

No more ‘business as usual’

A common method in the allocation of medical resources is the so-called first-come, first-served approach, which is used, for instance, in ICU admittance. If two people are involved in a car accident and both have the same injury requiring the same emergency operation, the one arriving first at the hospital will be treated first. This approach rests on the principle that everyone has an equal claim to health resources, and it has minimal drawbacks when health system capacity is sufficient to provide adequate care to all comers in due time.

However, while purporting to treat everyone equally, a first-come, first-served system may actually be inefficient and unfair when there is a surge of cases to be treated. In that scenario, it amounts to an implicit rationing mechanism that does not account for unequal potential to benefit from a specific intervention. Moreover, it lacks transparency and, in practice, may favor the wealthy and otherwise advantaged (for example, people who are better connected and know which hospitals are better supplied, or those who can take off days from work to look for medical treatment earlier in the course of illness).

Market-based approaches are also commonly used to allocate resources, including medical resources, throughout societies. While a system in which the distribution of care is based on individuals’ willingness to pay for it may be more efficient than alternatives, it is not necessarily ethical, especially as willingness to pay is largely driven by ability to pay. This is especially problematic in societies with highly unequal distributions of wealth and income. There is broad agreement among ethicists that allocation of society’s scarce medical resources should not be based on ability to pay.^{[1] [2]}

Business-as-usual approaches to prioritization of health resources fail to meet society’s expectations for fairness, justice, and efficiency. Given the absence of an adequate preexisting framework for COVID-19–related rationing decisions, there is a clear need to develop an ethical prioritization mechanism based on socially accepted principles.

An ethical approach

Ethically informed approaches to [battlefield triage](#) and [organ transplant wait-lists](#), as well as government directives like the Centers for Disease Control and Prevention’s official guidance for allocation of a [pandemic influenza vaccine](#), may be useful starting points for the COVID-19 pandemic. Under such approaches, priority is based partly on expected outcome, with the maximization of aggregate health benefits as a principal aim. Rationing in this way aims to save as many lives or life years as possible, and priority is given to those who will benefit most from the resource in terms of survival or increase in life expectancy.

Several proposals for COVID-19 rationing mechanisms already set forth by clinicians and bioethicists embody these principles.^{[3] [4] [5] [6] [7]} An article by Ezekiel Emanuel and others published in the *New England Journal of Medicine* in March 2020 does an outstanding job of articulating both the need for an ethical framework for rationing and the principles that should be considered in its design.^[8] We echo many of the points made in that piece here (see table).

Rationing in the COVID-19 crisis

Ethical principles can guide the rationing of care during the current pandemic.

Relevant principle

Implications or examples

Saving the most lives or life years	Consider patient prognosis; highest priority
Priority for those with greater instrumental social value	Prioritize health care workers and research study participants when other factors are equal
Priority for the worst off	Prioritize the young and socially disadvantaged groups (e.g., the poor) when other factors are equal
Random selection (“lottery”)	Can be used for deciding between patients who are similar along other criteria

Source: Adapted from E. Emanuel and others. 2020. “Fair Allocation of Scarce Medical Resources in the Time of Covid-19.” *New England Journal of Medicine* (March).

Allocating ventilators to patients in respiratory failure during the pandemic is one example that lets us consider the implications of relevant ethical principles. Maximizing health benefits requires that prioritization be based first on severity of condition—for example, severity of respiratory failure—and then on the patient’s expected benefit from the treatment—for example, chances of survival and probability of living a long and healthy life. Some kind of lottery could be used to make rationing decisions when patients are practically indistinguishable according to the relevant criteria.

The goal of maximizing health benefits implicitly discounts the value of treating those with poorer prognoses, even if the underlying rationing system makes no judgment of the worth of any individual life. This means that individuals with comorbidities or aged people are apt to be deprioritized because they are less likely to get better even with treatment and because their treatment will require a disproportionate quantity of resources, which imposes an opportunity cost with respect to the treatment of others. Another implication of relying on a more carefully considered rationing strategy than a first-come, first-served approach is that patients with worse prognoses may need to be removed from ventilators to make them available for others.

Note that treatment and prevention strategies give rise to different recommendations. In contrast to ventilators, consider the allocation of a preventive resource such as a vaccine or a diagnostic. The goal of maximizing health benefits requires prioritizing immune-compromised individuals since they are at greater risk of mortality should they contract the virus. Similarly, it follows that aged people should be prioritized in the allocation of preventive resources.

Beyond consideration of patient health benefits, it may be relevant to prioritize critical human resources (such as health workers) because of their higher contribution to societal well-being during a pandemic. If essential personnel fall ill, basic health care needs will be underprovided, and the entire population is at greater risk of suffering severe health outcomes. Moreover, prioritizing health workers for treatment also recognizes their social contributions and diminishes a potential disincentive for continued caregiving—that is, their heightened risk of COVID-19 infection. It may likewise be reasonable to offer study participants in socially beneficial research on COVID-19 some level of prioritization over others with similar health status.

As equity and justice are also important ethically, attention may be paid to pre-existing inequities according to, for example, race, wealth, income, and geography. For instance, hospitals in rural areas may be underequipped and understaffed, preventing people living in those areas from accessing health care. Similarly, poorer members of society may disproportionately suffer from health conditions that happen to place them at higher risk of severe outcomes from COVID-19. It may also be reasonable to consider younger individuals as worse off in terms of having lived fewer years or had less life experience and therefore somewhat more deserving of prioritization. Based on these principles, potential rationing decisions that emerge from other ethical considerations (such as prognosis) may need to be adjusted to some degree—perhaps at a subpopulation, as opposed to an individual, level.

Finally, ensuring the fair distribution of medical resources related to COVID-19 requires free access to care for those who cannot afford treatment, with eligibility determined perhaps on a means-tested basis. One possibility is to use payments from wealthy individuals who are allocated scarce treatment (according to the principles described above) to help subsidize the treatment of those without the means to pay—although safeguards would have to be in place to ensure that knowledge of patient ability to pay does not creep into initial allocation decisions.

An ethical approach to resource allocation during the COVID-19 pandemic also requires the prohibition of privately purchased access to public medical care. For instance, wealthy people who are denied treatment—perhaps because of their prognosis relative to others’ or by virtue of losing a lottery—should not be able to buy the right to treatment from another person to whom care has

been allocated, even if both agree to such a transaction. Beyond the question of whether such a transfer can actually be executed, the idea violates basic principles of justice and respect for human dignity. Allowing such a mechanism would also lead to the exploitation of vulnerable groups, causing further inequity.

Next step: Implementation

In some cases, the principles previously described can lead to contrasting recommendations. Suppose, for instance, that only one ventilator is left in a hospital and there are two patients requiring treatment. The goal of maximizing health benefits would give priority to an otherwise healthy individual who is very likely to survive if treated. On the other hand, priority-for-the-worst-off arguments would favor an immune-compromised individual because of the higher underlying burden of disease. And considerations for socially valuable productivity would allocate it to a health worker. Guidelines on how to balance the principles and how to operationalize them are clearly required.

A plausible next step is for clinicians and bioethicists to develop a checklist or a grading system to routinize the prioritization process. Such a tool would provide guidance and legal protection to health care workers forced to make difficult rationing decisions, such as transferring a ventilator from one patient to another with a better prognosis. It would also give legitimacy to decisions that may be questioned post hoc by those who are adversely affected.

Moreover, the process of setting criteria and developing specific rationing guidance should be transparent, and the criteria and underlying rationale should be publicly accessible. The same criteria should be adopted for *all patients* facing resource constraints due to the crisis, not just COVID-19 patients, as rationing of resources will affect the entire health system. As suggested in the March 2020 article by Emanuel and others, it may be advisable for affected health care facilities to employ triage officers to apply the guidelines and make rationing decisions to relieve the frontline clinicians of that burden. Patients may also help take rationing decisions out of the hands of health professionals by preparing advance directives for their medical care.

Rationing based on the ethical guidelines discussed here is a lofty goal, but there are challenges to implementation. In some jurisdictions, there may be legal prohibitions against considering certain potentially relevant patient attributes (for example, age) when making care decisions. In addition, safeguards must be put in place to protect against the potential for corruption of the personnel responsible for making rationing decisions. Social inequities can also prevent people from accessing critical health resources before rationing even comes into play.

The bottom line is that agreed-on guidelines should be carried out faithfully to the greatest extent possible; they will also serve as a useful benchmark against which to judge decisions as they are carried out and after the fact.

Urgent action needed

The world is in the midst of a health crisis of staggering proportions. Development status does not protect countries from COVID-19, yet the manner in which the disease spreads, its impact on health systems and human lives, and its economic implications will vary significantly across countries. With dedicated energy, efforts to flatten the curve of the COVID-19 pandemic in some countries will help reduce the burden on their health care systems. This will also provide time to build and adapt capacity to meet rising needs.

One thing all countries have in common is the potential for their health care needs to acutely exceed their capacity to provide for them. Health care workers and leaders around the globe will have to make difficult decisions in the coming weeks and months.

As resource constraints in health care emerge, common practices of relying on markets or first-come, first-served approaches for prioritization of resources are likely to be suboptimal. In lieu of carrying on business as usual, we argue for a deliberate and ethical approach to the rationing of medical resources during the COVID-19 pandemic. Among medical professionals and bioethicists, there seems to be significant agreement on the general principles of such an approach, though most acknowledge that they may translate into different practices and outcomes depending on epidemiological, economic, institutional, and social factors.

Health policymakers must start considering these ethical frameworks early and transparently, incorporating concerns about both maximizing benefit and equitable allocation, so that they can be acceptable to their societies. At a global level, a plausible next step is for the World Health Organization or another relevant governing body to develop a concrete tool for implementing an ethically defensible approach to COVID-19 rationing.

The manner in which scarce medical resources are allocated during this crisis will have far-reaching implications. An ethical approach to rationing will carry the most social, political, and moral legitimacy of all the unsavory options. By contrast, if prioritization and allocation are carried out in a haphazard or morally dubious manner, it could undermine political and institutional legitimacy for years to come. If societies make unethical decisions now, the survivors among us will have to live with the consequences for the rest of their lives.

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[7] Washington State Department of Health and Northwest Healthcare Response Network. 2020. "[Scarce Resource Management & Crisis Standards of Care.](#)"

[8] Emanuel, Ezekiel J., Govind Persad, Ross Upshur, Beatriz Thome, Michael Parker, Aaron Glickman, Cathy Zhang, Connor Boyle, Maxwell Smith, and James P. Phillips. 2020. "Fair Allocation of Scarce Medical Resources in the Time of Covid-19." *New England Journal of Medicine*, March 23. DOI: 10.1056/NEJMsb2005114.

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