



Global Perspectives on the Ethical Allocation of Scarce Medical Resources During a Pandemic

A report on international scarce resource allocation guidelines

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Introduction

The COVID-19 pandemic has been an unprecedented public health emergency during our history. The response to COVID-19 has highlighted insufficiencies in pandemic preparedness and healthcare resource allocation guidelines across the globe. The interconnectedness of the world in contemporary times calls for recognition that contagious agents will cross borders, limiting the ability to contain the crisis to just one country or region, necessitating the need for international and interregional coordination. Understanding the scope and content of country-, region-, and locality-specific strategies to address pandemic challenges is vital to the necessary coordination of pandemic response efforts across borders and populations.

In early March and April 2020, many governments and healthcare organizations began developing guidance for triage of COVID-19 and other patients and to assist in planning for the allocation of medical resources such as ventilators and personal protective equipment. Later, expectations of vaccine shortages called for guidance on immunization strategies to optimize the benefit from limited quantities of vaccine doses. These guidelines were developed swiftly, often relying on frameworks and ethical principles applied to previous epidemics, sometimes applied in novel ways or circumstances not envisioned by original planning efforts.

Critiques of the various guidelines included concerns such as: an over reliance on a patient's age, bias against people with disabilities, and how the unequal distribution of COVID-19 by racial/ethnic and socioeconomic status has been accounted for within different the guidelines. Such critiques sometimes led to conflicting or inconsistent guidance, inhibiting coordination of approaches as well as standardization necessary to properly evaluate the effectiveness of response efforts.

For example, guidelines offered early in the COVID-19 pandemic by the Swiss Academy of Medical Sciences explicitly rejected age as a focus for prioritizing access to resources, while in Italy, guidelines offered by the SIAARTI during the height of Italy's pandemic surge (in

CURRENT CRISIS

India, unfortunately, began experiencing in late April 2021 a significant increase of patients who are in need of hospital care. Patients presenting to hospitals are suspected or confirmed COVID-19 cases.

News reports indicate that several hospitals across India are experiencing a shortage of critical medical resources including oxygen, hospital beds, and vaccines.

Hospital leadership, healthcare providers, and other decision-makers are faced with the difficult task of allocating limited medical resources.

The situation in India highlights the impact of a public health emergency on hospitals and the need for advance planning on how scarce resources will be distributed.

(Source: [CBC News](#))



the Winter/Spring of 2020) denied scarce resources to those over age 65.¹ In the United States, early protocols based on “life cycles” and long-term prognosis raised concerns about discrimination from disability rights advocates, leading several state governments to retract and revise early guidance on how to allocate scarce medical resources.

Concerns about scarce resource allocation guidelines move across resource poor and rich contexts and provide an opportunity for developing dynamic guidelines centered on ethical principles and engagement of diverse members of the public. Allocating limited medical resources is challenging and, for some, something that they as physicians or hospital administrators have never done before.

Determining who does and does not get access to a scarce healthcare resource involves a series of complex clinical, ethical, and personal decisions. In addition, resource allocation decisions in the context of a pandemic require a shift in values and principles that guide the patient-doctor interaction to those that achieve public health goals.

This report summarizes observations gleaned from publicly available documents providing guidance on the allocation of scarce resources (both life-saving and preventive). The documents originate from 11 countries that were among the most affected by the COVID-19 pandemic.

International Perspectives

Several scarce resource allocation guidance documents from different countries² are publicly accessible (See Table 1) and can provide a sense of the diverse concerns reflected by international perspectives on the implementation of relevant ethical principles and concepts of fairness in scarce resource allocation processes. Despite their diverse international origins, several of these documents cited ‘achieving the greatest good for the greatest number of people’ as the primary goal of scarce resource allocation guidelines. Having access to these guidance documents can help inform stakeholders residing in the corresponding countries and abroad, as well. Guidance documents should reflect local values and the interests of the people who would be affected by the resulting policies that determine which patients would be prioritized to receive a scarce resource.

However, as evidenced by COVID-19, pandemics do not impact just one country. Containing the spread of the contagious agent is challenging due to the increasingly global economy and interconnectedness of many countries as people travel internationally for a variety of reasons. The COVID-19 pandemic demonstrates that restricting movement of people and essential goods can result in adverse effects to an economy and, in certain circumstances, might be logistically impossible. Traditional public health

¹ Swiss Academy of Medical Sciences. COVID-19 pandemic: triage for intensive-care treatment under resource scarcity. *Swiss Medical Weekly*. 2020;150(1314). doi:10.4414/smw.2020.20229; Italian Society for Anesthesia Analgesia Resuscitation and Intensive Care. Clinical ethics recommendations for admission to intensive care and for withdrawing treatment in exceptional conditions of imbalance between needs and available resources (translated copy). March 13, 2020. https://bioethics.miami.edu/_assets/pdf/education/translation-of-siaarti-3-6-20.pdf

² Attempts were made, though unsuccessful, to locate a guidance document from India, a country that has been devastated by a second wave of COVID-19 and shortages of medical care resources.

measures such as screening people at airports and contact tracing of suspected cases can help mitigate the likelihood of disease spread across borders.

Even so, considerations for resource management and distribution beyond a country's border is key to curbing the pandemic and resuming normalcy. What is needed is an ethical framework that reflects ethical principles with global application.

Table 1. Scarce Resource Allocation Guidance By Country	
<p>ARGENTINA Technical guidelines for the national vaccination campaign against COVID-19</p>	<p>MEXICO Bioethical Guideline for Allocation of Limited Critical Care Resources in Emergencies</p> <p>Recommendations regarding the COVID - 19 pandemic, from a bioethical approach</p>
<p>BRAZIL Technical Note No. 155/2021-CGPNI/DEIDT/SVS/MS</p>	<p>SOUTH AFRICA Allocation of Scarce Critical Care Resources During the COVID-19 Public Health Emergency in South Africa</p>
<p>COLOMBIA General Recommendations For Ethical Decision-Making in Health Services During the COVID-19 Pandemic</p>	<p>COVID-19 Outbreak Response Guidelines</p> <p>Vaccine Rollout Framework and Plan: Immediate Actions</p>
<p>FRANCE Ethical issues involving a SARS-COV-2 vaccine policy</p>	<p>SPAIN Ministry of Health Report on Ethical Issues in Pandemic Situations: SARS-CoV-2</p>
<p>GERMANY How should access to a COVID-19 vaccine be regulated?</p> <p>Recommendations on the allocation of intensive care resources in the event of a COVID-19 pandemic</p>	<p>UNITED STATES OF AMERICA The Advisory Committee on Immunization Practices' Ethical Principles for Allocating Initial Supplies of COVID-19 Vaccine — United States, 2020</p> <p>Rapid Expert Consultation on Crisis Standards of Care for the COVID-19 Pandemic</p>
<p>ITALY Clinical Ethics Recommendations For Admission To Intensive Care And For Withdrawing Treatment In Exceptional Conditions Of Imbalance Between Needs And Available Resources</p>	<p>UNITED KINGDOM COVID-19 ethic issues. A guide note.</p> <p>Joint Committee on Vaccination and Immunisation: advice on priority groups for COVID-19 vaccination, 30 December 2020</p>

Guiding Moral Principle of Scarce Resource Allocation During a Pandemic

Internationally, the perspective of the U.S. has dominated the medical literature surrounding pandemic response. This is perhaps unsurprising, as historically the U.S. has, both through participation in, and in cooperation with the World Health Organization, played a leading role in infectious disease response efforts. Values and frameworks commonly identified with the U.S., then, were often reflected in the international guidelines we reviewed.

The documents reviewed (Table 1) referred to several principles. A principle often referenced in the documents is the principle of utility, which guides efforts and decisions to maximize the benefit of limited resources and provide benefit to the greatest number of people. This principle is commonly ascribed to a public health ethics framework, and several documents discussed the differences in the ethical principles that guide clinical practice during ordinary times from clinical practice during a public health emergency.

Other principles and values referenced in the documents were:

- Autonomy
- Transparency
- Proportionality
- Solidarity

Decision-making strategies often recommended in the documents included save the most lives, which aims to provide treatment to prevent mortality among the greatest number of people. In the documents describing vaccine distribution, this strategy was often referred to as reducing morbidity and mortality from COVID-19.

Shift From a Clinical Ethics Framework to a Public Health Ethics Framework

Pandemic situations create a shift in the guiding ethical framework that informs decisions concerning medical resource allocation. Clinical medicine is guided by principles that govern the patient-physician relationship and focuses on the individual patient in its ethical analysis of the benefits and harms associated with medical decision making. In addition, physicians and hospitals have a duty to care for individuals in need of medical attention. In contrast, when responding to a public health emergency that affects a significant portion of the population, medicine cannot always provide standard types of care to

all affected individuals due to limited resources. Decisions about medical care then shift towards a public health ethics framework. Typically, this shift results in a focus on optimizing the benefits of the scarce resources that remain. Based on the review of the scarce resource allocation guidelines listed in Table 1 above, Table 2 summarizes distinctions in the application of the ethical principles that are fundamental in a clinical ethics framework when applied in a public health ethics framework. The considerations presented in Table 2 assume well-resourced communities.

Moral Distress

The change in decision-making can be distressing for healthcare workers who have not had to allocate scarce medical resources before, particularly when an allocation decision results in not all patients receiving a life-saving treatment. Moral distress is caused by the internal conflict from having to do something that feels wrong. Particularly for physicians and nurses who will not be able to treat a patient according to the standard of care, scarce resource allocation can create a taxing burden if preventative strategies are not implemented.

Overall, the documents listed in Table 1 described three strategies that can help mitigate the burden on decision-makers. First, develop an allocation algorithm (triage considerations) based on input from various stakeholders, including bioethics experts, so that decisions can follow the algorithm. Secondly, create triage teams so decisions are not solely made by an individual physician or nurse. Finally, consulting hospital ethics committees for complex situations that the algorithm does not address can reduce the burden of having to make a difficult decision.

Table 2. Application of Ethical Principles in Clinical Ethics and Public Health Ethics







CLINICAL ETHICS	PRINCIPLE	PUBLIC HEALTH ETHICS
Fair and equitable care for all patients regardless of personal characteristics (age, ethnicity / race, gender, etc.) and ability to pay for medical care.	Distributive Justice 	Fair and equitable opportunity to be considered to receive a scarce resource regardless of personal characteristics (age, ethnicity / race, gender, etc.) and ability to pay for medical attention.
Patients make decisions concerning their medical care. Patients with diminished decision-making capacity are cared for according to their wishes expressed in an advance directive or based on the decisions of a surrogate decision-maker.	Autonomy  Relational Autonomy	Compulsory treatment or preventive measure must be ethically (and in some jurisdictions, legally) justified. Patients with diminished decision-making capacity are cared for according to their wishes expressed in an advance directive or based on the decisions of a surrogate decision-maker. A person's individual-level decision-making is understood as affecting the autonomy of all others and thus shifts towards a relational orientation. It is important to note that during a crisis surge, not all medical therapies may be able to provide to all those that would both benefit and request such therapies.
Physician makes decisions with the intent to provide the patient with medical care that promotes the patient's well-being.	Beneficence  Maximizing Communal Benefit	All responding to the public health emergency (physicians and public health officials) make decisions with the intent promoting the well-being of the population. This includes providing patients not selected to receive a scarce resource with other available medical resources such as palliative comfort care.
Physician considers the benefits and risks of providing, withholding, or withdrawing treatment with the intent of not harming the patient.	Nonmaleficence  Proportionality	Physician, or other healthcare provider, considers the benefits and risks of providing, withholding, or withdrawing treatment with the intent of not causing unjustified harm. The harm of any interventions must be proportional to the harms they cause to the population.

Table 2. Application of Ethical Principles in Clinical Ethics and Public Health Ethics		
CLINICAL ETHICS	PRINCIPLE	PUBLIC HEALTH ETHICS
		Also, regulatory entity overseeing novel therapeutics evaluates clinical studies data to decide whether or not to approve for use novel therapeutics with the intent of preventing harm to people.
Clear and accessible information to patients about the diagnosis and, if applicable, the treatment plan.	Truth-Telling  Transparency	Clear and accessible information to the general public about how scarce medical resources will be allocated.
Patients voluntarily consent to medical or surgical procedure after physician communicates risks and benefits.	Informed Consent 	People voluntarily consent to treatment or preventive measure, such as vaccination, after receiving information about the risk and benefits.

Achieving Equity

Scarcity of critical medical resources will likely result in some patients not receiving the full array of resources and attention they might where scarcity does not exist, representing disparate access to resources and services that may have detrimental consequences for an individual's health and welfare. Also of concern in the context of equity during an infectious disease pandemic are vulnerable populations who are at increased risk of being infected because of where they work or where they live. In addition, the burden of disease is often not equally shared as not all individuals have well-managed health and some will have a higher risk for severe complications from pandemic-related illness related to comorbidities attributable to pandemic-independent structural health disparities.

Given the above, it is important to consider inevitable issues related to how best to account for existing structural injustices within pandemic response strategies. It may be argued that the response to a pandemic is not the time to address wrongs stemming from persisting inequalities and disparity. However, perpetuating discriminatory practices can hinder emergency response efforts by not treating those who should be treated based on clinical information that results in the desired outcomes. Furthermore, an unfair allocation process can exacerbate existing distrust of the health infrastructure, which could further deter people from seeking other medical resources, such as vaccines, for which widespread compliance is important both to saving lives and to curbing the pandemic.

The allocation of scarce resources allows for a fair distribution of resources that is consistent with the ethical principle of justice. Several of the guidelines in Table 1 called for an equitable allocation of resources that does not exclude vulnerable populations. Among the vulnerable populations mentioned in the documents are the elderly, people who are incarcerated or otherwise under state custody, and people

with health challenges or disabilities. Healthcare workers at increased risk of exposure are also vulnerable due to their professional tasks.

The Role of Public Engagement in Guidance Development

Considering the ethical and clinical complexities involved with scarce resource allocation, involving people from the general public may not appear to be necessary or beneficial. However, inviting people from different communities to participate in discussions can inform the development an ethical framework that addresses local concerns and reflects local values. In addition, engaging people from the communities who will be affected by the resulting allocation strategy can promote public acceptance and trust of these inherently difficult and sometimes controversial response strategies and inform efforts to disseminate information about how allocation decisions will be made so that information is understandable and accessible to individuals with diverse informational and language needs.

Engagement of lay members of the public in discussions that informed scarce resource guidance development was not reported in many of the documents in Table 1. It is possible that input from community members was solicited and was not noted in the document. The urgency of the COVID-19 pandemic may not have allowed adequate time to identify and speak with community members. Initiating these discussions after countries resume normalcy can start preparations for the next public health emergency.

Forthcoming In-Depth Analysis

A detailed analysis of the scarce resource allocation guidelines described in this report is being prepared for publication. Through a qualitative analysis, the manuscript will examine (1) the guiding ethical framework, if discussed, (2) whether the delineated allocation considerations, such as priority groups, align with the ethical framework, and (3) if members of the public contributed to the development of the document.

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