Ethical considerations during the COVID-19 pandemic
Posted May 26, 2020

■ ABSTRACT
The care of patients during the COVID-19 pandemic has added many layers of complexity to ethical issues. Our response emphasizes the importance of having an ethically sound framework to inform our decisions, requiring caregivers to consider what is ethically optimal and feasible for the patient. It is increasingly important to understand the ethical principles and to appropriately apply them to both patient management decisions and guide scarce resource allocation. If we are to be prepared to face the many challenges of this pandemic, we must prioritize the ethical demands to our treatment and management concerns.

■ CLINICAL ETHICS DURING A PANDEMIC
Challenging ethical issues in healthcare are common because central to our role as caregivers is the relief of human suffering. Reviewed on a global scale, ethical issues surrounding pandemics are not unique to our healthcare systems, neither are the ethical issues surrounding scarce resource allocation. The concept of scarce resource allocation has value-incorporation, as shown during World War II when the US production of penicillin was not enough to meet all the need, with 90% being used for soldiers. This demonstrates the promotion of instrumental value (saves the most lives because soldiers were most valuable at that time) in allocation.

As part of an anticipated response to the effects of the COVID-19 pandemic, the importance of having an ethically sound framework to inform our clinical decisions cannot be emphasized enough. During this time, healthcare leaders are asked to engage in proactive planning where addressing worst-case scenarios is the first step to reducing morbidity, mortality, and other undesirable effects of an emerging public health emergency.

■ POPULATION HEALTH VS INDIVIDUAL RIGHTS
A public health emergency, such as a surplus of people seeking healthcare as well as critically ill patients with COVID-19 or another severe respiratory illness requiring admission to the intensive care unit (ICU), disrupts normal processes for supporting ethically sound patient care due to the steeply rising supply demand gap for treatment or supportive measures. The ethical framework in a public health crisis shifts to promoting the health of the population by using resources responsibly to maximize the total number of lives saved. Understanding the guiding principles surrounding public health ethics may help promote trust and alleviate moral distress and burn-out in bedside providers under austere circumstances. The focus of public health ethics, can require limitations on individual rights and preferences due to need for prudent use of resources and strategies. These limitations must be consistently and equitably applied, be proportional, necessary, and relevant.

■ PRIORITIES OF HEALTHCARE PROVIDERS
During pandemics, the priorities of healthcare providers change. Shifts in these priorities create competing obligations for providers who are naturally geared towards focusing on their individual patients. Policy planners are asked to consider the two competing ethical obligations that must be held in balance (for the sake of brevity we only consider the two primary obligations listed here but concede that other ethical obligations exist):
• Duty to care—relief of suffering and respect for the rights and preferences of patients, which is a focus of ethics consultation services.
Duty to promote equity and moral equality—
 fairness relative to need in the distribution of
 risks and benefits of care provision in society,
 which is the focus of public health ethics.3

Ethical reasoning thus requires caregivers to con-
 sider what should be ethically optimal and feasible
 for the patient. This is known as the crisis standard
 of care—a recognition of limitations during times
 of scarcity.6 In addition to duty to care and fairness,
 this ethical guidance is also based on duty to steward
 resources, transparency, consistency, proportionality,
 and accountability.2 As an ethical concept, it offers
 concrete guidance for a system-wide response to a
 disaster, addressing allocation.

■ ETHICAL PRINCIPLES GUIDING PATIENT
 MANAGEMENT IN A PANDEMIC

The severe acute respiratory syndrome (SARS) outbreak in 2003 exposed the healthcare systems’ vulnerabilities, revealing the need for coordinated and cooperative responses across national borders. As such, the Pandemic Influenza Working Group at the University of Toronto Joint Centre for Bioethics was formed. They created a document that provides a framework for values at risk during a pandemic.5 This is being used as a framework for ethical decision-making during the COVID-19 pandemic (Table 1).

■ ETHICAL PRINCIPLES REGARDING
 SCARCE RESOURCE ALLOCATION

A majorly anticipated ethical dilemma is the allo-
 cation of finite resources, defined as measures,
 rationale, or means by which resources or access to
 care is obtained by individuals to exclude others in
 a time of crisis.4 Estimates indicate that a moderate
 pandemic would infect 64 million Americans and
 necessitate hospitalization of 800,000 (1.25%) with
 160,000 (0.25%) needing space in the intensive care
 unit (ICU).7 With dwindling resources as hospitals
 approach surge capacity, it is likely that an increased
 need will cause competition for resources such as
testing, personal protective equipment (PPE), ven-
tilators, vaccines, and ICU beds. Ethical principles
 that guide resource allocation are well-described in
 the literature (Table 2).8–11 Ultimately, we stress that
 no single value stands alone in determining which
 patients should receive scarce resources.

■ APPLYING ETHICAL PRINCIPLES
 TO RESOURCE ALLOCATION

It is important to remember that context will deter-
 mine the crisis standard of care in order to apply ethi-
cal frameworks to our decisions. Thus, it is important
to stress how pandemic-associated priority shifts will
lead to the selection of ethical principles guiding
institutional- and clinician-driven patient-level deci-
sions. The current overarching goal is to “privilege
the greater chance to successfully overcome critical
illness with a greater probability of maintaining a
good quality of life.”13

Redefining our approach to individual patient
care while adhering to the principles of clinical
appropriateness and proportionality of care happens
as we move between the three operational stages in
a pandemic: Conventional, contingency, and crisis.14
Like Italy, we must contextualize and account for the
current disease severity, comorbidity, and the pres-
ence and reversibility of organ failures when allocat-
ing crucial resources.

Allocation of ICU resources (beds and ventilator)
The potential for recovery should be part of a
patient’s criteria for ICU admission. This approach
will be a conscious shift, taken deliberately so as
to not pursue our usual framework of ICU admis-
sion and care on a “first-come, first-served” basis.
This shift in the care model is indicative of the
health emergency nature of the care provision, as
illustrated by Italy, which, in March 2020, struggled
with being the second most-affected country glob-
ally.13 Clinical decision support systems in triage
decision-making with validated criteria for limits
(eg, Sequential Organ Failure Assessment (SOFA)
scores, Multi-Organ Dysfunction Prediction Score
(MODS), age) are helpful.11,15 As such, ventilator
allocation, should follow the same principle as allo-
cation of ICU beds to patients with higher chance
of survival. Consideration of time-limited trials13
with clear communication of this ahead of time will
address proportionality of care and enhance trans-
parency to families. It is also important to state that
all patients, regardless of COVID-19 status, should
be treated similarly during the pandemic (ie, viewed
with the same lens of chances of survivability) when
it comes to consideration for ventilator and ICU
bed allocation.

Withdrawal of life-sustaining treatment
Early consideration of a patient’s history, current
clinical course, expressed wishes, and expected goals
are important when the patient is not responding to
prolonged life-sustaining treatments. A consistent
mechanism of streamlined de-escalation of care is
important to have to guide clinician decisions. When
a decision to withhold or withdraw life-sustaining
treatments is made as a matter of good clinical practice, appropriate palliative care should be made available to hypoxemic patients.

### RESPONSIBILITY TO FAMILIES

Communicating the definition of crisis standards of care to patients and families at admission is crucial to...
fulfill our commitment to transparency. Complimentary services (eg, ethics service, palliative care teams) should be involved early to potentially decrease distress for the patient and family. This applies to all patients being cared for during the COVID-19 pandemic, regardless of COVID-19 status.

**Use of extra corporeal membrane oxygenation**

Extreme measures with little evidence and greater resource utilization (blood products, personnel, exposure) that portend poorer prognosis challenge the principle of maximizing benefits, which aims at saving the most individual lives or number of life-years by giving priority to patients likely to survive longest after treatment.9

**Need for tracheostomy**

In the context of COVID-19, a tracheostomy

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TABLE 2

<table>
<thead>
<tr>
<th>Allocation principle</th>
<th>Description example</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treating people equally</td>
<td>Military draft, vaccinations, employee drug screening</td>
<td>Hard to corrupt; little knowledge about recipients</td>
<td>Blind to other factors and ignores relevant principles</td>
</tr>
<tr>
<td>Lottery</td>
<td>ICU beds, organ allocation</td>
<td>Favors those with access: wealthy, powerful, and well-connected</td>
<td>Protects existing doctor-patient relationships; exposes inequities (lack of insurance, undesirable groups such as prisoners)</td>
</tr>
<tr>
<td>Waiting list on a first-come, first-served principle</td>
<td>Emergency room triage, organ allocation</td>
<td>Priority to those suffering right now; “rule of rescue”; makes sense in temporary scarcity; proxy for being worst off overall</td>
<td>Ignores needs of those who will become sick in future; might falsely assume temporary scarcity; leads to people receiving interventions only after prognosis deteriorates</td>
</tr>
<tr>
<td>Favoring the worse off: Prioritarianism</td>
<td>ACIP pandemic flu vaccine proposal12</td>
<td>Benefits those who have had least life; prudent planners have an interest in living to old age</td>
<td>Undesirable priority of infants over adolescents and young adults (eg, 2-month-old has less life than 20-year-old but is prioritized)</td>
</tr>
<tr>
<td>Youngest first</td>
<td>Disaster triage, penicillin distribution</td>
<td>Maximizes life years produced</td>
<td>Ignores distributive principles; does not consider number of lives saved</td>
</tr>
<tr>
<td>Maximizing benefits to all: Utilitarianism</td>
<td>Bioterrorism response</td>
<td>Avoids need to compare quality of life; less time spent deliberating</td>
<td>Ignores other principles</td>
</tr>
<tr>
<td>Number of lives saved</td>
<td>PPEs to essential healthcare workers during pandemics</td>
<td>Serves saving most lives because protects those who can help save others</td>
<td>Prone to abuse</td>
</tr>
<tr>
<td>Behavior</td>
<td>Rewards irreplaceable people who have served public</td>
<td>Justice to people who have contributed in the past</td>
<td>Rewards only those who have voluntarily provided societal services in the past; requires time to inquire</td>
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</table>

ICU = intensive care unit; PPE = personal protective equipment
increases the number of healthcare providers exposed and increases PPE use, which at various stages of the pandemic might itself be a scarce resource. So tracheostomy would be a case-by-case decision point.

■ ACCESS TO DIAGNOSTICS TESTING

COVID-19 testing is currently available in Ohio; however, nationally, testing may become scarce, requiring it to be allocated according to the same principles noted previously. We initially prioritize testing based on supply and demand and operating level of the institution (conventional, contingency, crisis). Therefore at the onset, we reserved testing for the patients with the greatest disease burden. As we enter a more conventional level in which normal operations in institutions resume, patients who are not suspected to be COVID-19 positive may require testing to be allocated in order to safely allocate healthcare resources and minimize exposure (eg, being tested for COVID-19 prior to accessing healthcare settings for services such as chemotherapy infusions, invasive procedures, or surgery).

■ RESPONSIBILITIES TO HEALTHCARE WORKERS: PPE, EXPOSURE RISK, PSYCHOLOGICAL AND MENTAL BURDEN

Pandemics challenge our duty to provide care to patients versus the moral obligation to ourselves and our families, among other tensions. The risk of occupation-related infectious exposures reveal vulnerabilities for both patient and caregiver populations during a public health emergency. Such populations include older individuals, those with underlying health conditions, and existence of pre-existing barriers to health care owing to insurance or immigration status. Thus, healthcare workers are prioritized when distributing PPE because their specialized training lends instrumental valve in pandemic response, which in turn increases their perceived duty to provide care.5,9 If providers are sick, their smaller numbers will impair the crisis response, further diminishing our ability to maximize benefits for patients. Furthermore, the risk of quarantine and loss of income, transmission of the disease, and, possibly, death prove that the risk to front-line medical providers is both physical and psychological—both aspects of which should be considered.

■ SUMMARY

The care of patients during the COVID-19 pandemic has multiple layers of complexity. A shift in the perspectives of both patients and caregivers is necessary.

If we are to be prepared to face the many challenges this pandemic will bring, we must prioritize the ethical demands of this disease as much as we do treatment and management concerns. Our Cleveland Clinic approach to resource allocation is summarized in Table 3. It aligns with guidelines from the Ohio Hospital association.16

| TABLE 3 |
| COVID-19 ethical resource allocation approach at Cleveland Clinic |

<table>
<thead>
<tr>
<th>Resource allocation</th>
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<tbody>
<tr>
<td>• Recognize that pandemic crisis standards of care can interrupt access to care that is suspended temporarily in outpatient settings.</td>
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<tr>
<td>• Use a clinical decision support system in triage decision-making with validated criteria for limits (eg, SOFA scores, Multi-Organ Dysfunction Prediction Score (MODS), age).11,15</td>
</tr>
<tr>
<td>• Account for prognosis, comorbidities, and functional status in admission criteria to the ICU.</td>
</tr>
<tr>
<td>• Form triage teams that are distinct from bedside care team and are specific to allocation decision-making, to reduce moral distress during pandemic settings for the treating team.</td>
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<td>• Palliative care for discussions on advanced care planning or decision to withhold or withdraw life-sustaining treatments are done on an individual basis.</td>
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<tr>
<td>• Patients appropriately triaged to palliative care are notified of their right to discuss concerns or appeal decisions. In these situations, palliative care and ethics consultation services are readily accessible.</td>
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<td>• Conservation and reallocation of resources make utilization more efficient and allow appropriate PPE to be made available to healthcare workers across settings such as the hospital, outpatient, long-term acute care facilities, and hospice.</td>
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</tbody>
</table>

■ REFERENCES


