

Forced Choices

Ethical Challenges in Cardiology During the COVID-19 Pandemic

The coronavirus disease 2019 (COVID-19) pandemic has dramatically changed the healthcare landscape. The influx of patients threatens to exhaust resources, from ventilators and critical care beds to personal protective equipment (PPE) and staff. Clinicians' core ethical commitments to patients remain, but we must make difficult choices. As acknowledged in a National Academies of Sciences, Engineering, and Medicine crisis care statement, "Clinicians are ethically justified—and, indeed, are ethically obligated—to use the available resources to sustain life and wellbeing to the greatest extent possible."¹ Thus, during crises, we must shift from optimizing care for every individual to care that "saves the most lives." This shift is not a denial of the importance of patients' autonomy but is an attempt to maximize social justice in resource-limited settings. Communities must preemptively come together to address the forced choices health professionals must make. The cardiology community is no exception.

Three ethical challenges have special salience in the care of cardiovascular disease during the COVID-19 pandemic. First, the halt on nonemergency clinical care has forced cardiologists to make difficult determinations regarding which patients need urgent or emergency procedures and which may be delayed without excessive risk. Second, as institutions develop frameworks for critical care resource allocation, cardiologists must develop fair approaches to triage cardiac patients. Third, cardiologists must counsel patients and families in situations where treatments cannot be provided due to scarcity.

Challenges in Determining Urgency of Subacute and Chronic Cardiovascular Diseases

Cardiovascular diseases are dynamic, and acute manifestations requiring urgent evaluation or intervention are common. Because COVID-19 has forced cardiologists to minimize in-person clinic visits and defer interventions, cardiologists must make complex determinations regarding urgency. It is difficult to determine when a patient with chronic stable angina requires urgent evaluation or when a heart failure patient requires inpatient admission. Cardiologists must make assessments using telemedicine without physical exams or diagnostic tools. Moreover, risk calculation requires consideration of patients acquiring COVID-19 in clinical settings. Justice-based considerations related to personal protective equipment use and limited time of clinicians and staff have become more relevant. Cardiologists must tell some patients who would normally be evaluated in-person to stay home; we must also implore some fearful patients to seek care.² The importance of the latter is illustrated by concerning observations of underrepresentation of critical cardiovascular diseases like acute coronary syndrome.

Cardiologists' ethical obligation to advance our patients' well-being is no different in the COVID era than in other times, but the bar for urgency is raised, the evaluation

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The opinions expressed in this article are not necessarily those of the editors or of the American Heart Association.

Key Words: COVID-19 ■ decision making ■ heart failure ■ heart transplantation ■ medical ethics ■ pandemics ■ resource allocation

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is complex, and the uncertainty is greater. In the short term, the risk of deferring care for subacute and chronic patients is usually low, but as the pandemic peaks intermittently over time and in-person care is limited, the risk to our patients will escalate. These decisions are more common, with potentially greater impacts, than ventilator or intensive care unit triage decisions that have received more public attention, yet these decisions are left to individual cardiologists with little guidance.

Critical Care Triage in Cardiac Patients

During the 2009 H1N1 pandemic the Institute of Medicine developed a crisis standards of care (CSC) framework³ for ethically allocating resources in times of scarcity, which is now adapted for possible use in critical care resource triage in the COVID-19 pandemic. CSC frameworks aim to uphold ethical principles of fairness, duty to care, duty to steward resources, transparency in decision-making, consistency, proportionality (ie, balancing individual autonomy against justice), and accountability.¹ These CSC triage protocols have special relevance for cardiologists because patients with advanced heart failure, severe valvular disease, electric instability, progressive or unstable coronary disease, and other critical cardiovascular diseases often require critical care. Delays or absence of treatment can lead to otherwise avoidable deaths, and under CSC our patients must compete with COVID-19 patients, and others, for intensive care unit beds, ventilators, dialysis machines, extracorporeal membranous oxygenators, and other therapies.

Most allocation systems for CSC prioritize saving the most lives. One widely adopted framework allocates resources to individuals more likely to survive until discharge (based on severity of illness) and to those without comorbid conditions that limit near-term life expectancy if they survive the acute illness.⁴ Assessments within this framework are complex for cardiac patients. For example, the Sequential Organ Failure Assessment score is widely used, but it performs poorly as a risk predictor for many cardiovascular diseases. It may underestimate mortality in ventricular tachycardia storm and overestimate mortality in acute decompensated heart failure. Similarly, near-term life expectancy can be challenging to assess for cardiac patients. A patient listed status 2 or 3 for transplantation has high short-term mortality pretransplantation but a dramatically different prognosis post-transplantation.

Because these assessments are specialized, cardiologists have a responsibility to develop and implement triage processes. These roles require being both an advocate and a dispassionate expert. Our duty to care for our patients means that we must ensure that cardiac patients are not unfairly disadvantaged. Our duty to steward resources means that we must work with other specialties to ensure that our patients are not

preferentially treated at the expense of other critically ill patients. This balancing act is familiar to advanced heart failure cardiologists who grapple with similar challenges in transplant allocation.

Implementing critical care triage under CSC must happen acutely and without long-term relationships. However, core elements of advanced heart failure selection committees, such as separation of bedside treatment teams from allocation decisions, have been adopted for CSC teams because they are essential for ethical triage. Implementation of triage teams, should they be needed, are institution-dependent, but they should be multidisciplinary groups who review cases on short notice, blinded to clinically and ethically irrelevant factors (such as race or ethnicity), and empowered to make decisions in resource-limited situations. Serving on triage teams requires addressing decisions that no clinician wants to make, but cardiologists are obligated to participate in these processes given our critical care and acute decision-making expertise and our need to ensure fair and accurate assessment of our patients.

Addressing the Victims of Triage

The most difficult challenges cardiologists face in the COVID-19 era involve interactions with patients and families in the context of forced choices. A patient with decompensated heart failure and no advanced therapy options may be evaluated by a triage team and not receive intensive care unit care due to severe scarcity. In the case of a COVID-19 patient with cardiac arrest and refractory multiorgan failure, resuscitation efforts may be limited to minimize risks to medical staff given the very low chance of benefit.⁵ In resource-limited situations, cardiologists should do their best to mitigate these harms but must also be prepared to manage the fallout of such tragic forced choices.

These situations are deeply challenging, but there are key elements to meeting ethical obligations.⁴ First, we must recognize that not providing usual care in these unusual situations is not unethical. Forgoing procedures during a crisis when the prognosis of a patient is poor—even when the patient or family might want those procedures—is not stating that the patient's life is not worth saving and is not a determination of futility. Triage decisions should be made to maximize benefits and minimize harms, which means allocating limited resources to patients most likely to benefit. These are forced choice decisions that are a function of external constraints and a requirement to save as many lives as possible. Second, we must be honest with patients and families, explaining that these decisions are not made arbitrarily but through careful individual assessments of risks and benefits, emphasizing that the core ethical value underlying triage decisions is that every person's life has equal worth. Transparency around underlying values is especially important

because deep societal and racial inequities exist, compounded by this pandemic, and mistrust in healthcare is common. It is critical that cardiologists can describe and defend the ethical integrity of the triage process. Last, there must remain a strong commitment to ongoing care and support within the triage framework. Patients and their families should feel cared for, emphasizing palliative care when appropriate; but triage does not signal a shift toward euthanasia.

The COVID-19 pandemic will continue to affect cardiovascular care and impact cardiologists. Ethical challenges of triaging patients will evolve with the progression of this pandemic. In crisis settings, the cardiology community should help society understand the implications of extreme resource limitations. Cardiologists must continue to provide leadership in ensuring equitable care of cardiac patients, and we must support each other to address an unprecedented set of challenges so we can heal in the wake of this crisis.

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Sources of Funding

Dr Khazanie has institutional research grant support from the US National Institutes of Health (grant no. K23 HL145122). Dr Dickert receives research funding from the Agency for Healthcare Research and Quality (grant no. R01HS026081).

Disclosures

None.

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