In the Eye of the Storm: Bioethics in the Time of COVID-19

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Introduction

Planning in New York City for the arrival of COVID-19 began in earnest in early March 2020, with the healthcare system, including the bioethics community, in a heightened state of readiness. Informed by the Chinese and the Italian experience, we knew the storm was coming and thought we knew what had to be done. Still, an eerie sense of dread was pervasive, as only certain characteristics of SARS-CoV-2, the virus that causes COVID-19, were appreciated—its highly infectious nature, its predilection for the lungs, and the high risk it posed for certain patients. That no effective therapies existed and that the condition was often fatal fueled the disquiet.

We present the story of COVID-19 as seen by the Bioethics Committee at the Hospital for Special Surgery (HSS)—who we are, what function we served, and how we helped during this trying, unprecedented period.

The Stage

Hospital ethics committees help resolve ethical dilemmas in the context of inpatient care. Clinicians find such dilemmas familiar: defining goals of care, handling treatment refusals or discharge problems, determining patients’ decision-making capacity, among others. In ordinary circumstances, physicians resolve these quandaries using a patient-centered orientation, yet these were far from ordinary circumstances! Indeed, COVID-19 presented a point of inflection unfamiliar to all healthcare professionals, one necessitating a shift from the usual patient-centered care, our comfort zone, to an orientation targeting the greater public good, a stressful shift for those who provide frontline medical care [1, 6]. Indeed, challenges specific to pandemics are among the most difficult [9]. The allocation of resources in limited supply, the emotionally charged family discussions concerning goals of care, and the decisions about resuscitation or initiation (or termination) of mechanical ventilation are some of the circumstances that can be anticipated and with which the bioethicist can assist.

That the pandemic would strain healthcare resources was widely foreseen, resulting in a number of procedural enhancements to our usual practices at HSS. The first of these was the establishment of the Bioethics Executive Committee, a subset of the larger HSS Ethics Committee. Its purpose was to streamline deliberations during the COVID-19 emergency; its members are the authors of this paper. Each of us had extensive training and experience in the field of bioethics, chairing the HSS Bioethics Committee, participating in ethics consultations at HSS and nearby New York Presbyterian Hospital (NYPH), as well as serving on the ethics committee of that institution.

Concerned with both the nature of and the need for ethics consultation, we approached our bioethics colleagues at Weill Cornell Medicine, the larger medical system with whom we are affiliated, concerning their planning. The advantages of a temporary amalgamation of our divisions were immediately evident to both parties. Thus, the bioethicists at HSS were, through the granting of consulting privileges, credentialled as clinical ethicists at NYHP, initiating what proved to be a remarkably collegial, mutually beneficial, and effective network of expertise. We convened virtual meetings four times weekly among the participants in the new organization. These sessions incorporated the NYPH
Fears pertaining to the availability of critical resources were prevalent throughout the crisis. Jointly reviewing and reconciling relevant monthly ethics committee meetings, the HSS Bioethics Executive Committee convened each morning and then later in the day to address HSS-specific issues and delve into the need for and potential benefits of an electronic medical record (EMR)-based ventilator triage tool was developed, aligning the methodology with state guidelines previously developed for use in a potential influenza pandemic (discussed below). Finally, we established an on-call consultation schedule (previously unnecessary due to our lower pre-COVID workload) to facilitate the process and to equitably apportion responsibility for the anticipated workload.

### Table 1 COVID-19 bioethics consultation

| Consultation request | A patient is referred by the ICU and palliative care teams for evaluation regarding goals of care, DNR status, and indication for continued mechanical ventilation |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **Clinical context**  | The patient is a 79-year-old woman with advanced dementia who was admitted with diabetic ketoacidosis and found positive for COVID-19. She developed respiratory symptoms soon after admission that evolved rapidly to respiratory failure requiring intubation. Other significant comorbidities include a history of coronary artery disease and stroke and prior hospitalizations for failure to thrive and infection. She is approaching 10 days of mechanical ventilation and remains designated as a full code |
| **Consultation process** | The consultation is conducted over the telephone with her son, the patient’s healthcare “proxy” and her primary caregiver. Her care in their home is supported by home care that he finances, and he also interacts with a half-sibling and an aunt. He is a deeply religious, thoughtful, and expressive individual who came to his Christian convictions later in life. “I believe in miracles,” he says, putting his faith concerning his mother’s outcome in God’s hands, declaring that “only [God] will determine whether Mother stays with us or not.” Describing his mother as a person of strong beliefs, a "champion of the underdog" who raised him by herself, he says he feels greatly indebted to her. No discussions of her healthcare or end of life preferences ever took place |
| **Findings** | The patient’s son appears to grasp the gravity of his mother’s circumstances, their implications, and the low probability of success with sustained aggressive treatment. Nonetheless, based primarily on religious grounds, he is of firm conviction concerning the maintenance of maximal supportive therapy, believing that a favorable outcome remains possible. This includes the maintenance of the full code designation, mechanical ventilation, and proceeding with tracheostomy, should that become clinically indicated |

In closing the interview, the patient’s son, who has been driving during this conversation, pulls to the side of the road. He proceeds, with tears, to applaud the healthcare team providing his mother’s care.
exclusion criteria are applied, the risk of mortality estimated (using standardized methods), with mandatory reassessments of patients placed on ventilators at specified intervals; those not improving would then be extubated (thus releasing the ventilator for use by another patient). According to this protocol, decision-making authority is assigned to a triage officer or committee, individuals with no clinical involvement in a patient’s care, whose job is to direct ventilators to those most likely to benefit. Recognized as heart-wrenching decisions, they would at least be rationally and equitably based. However, such protocols did not apply well to the unanticipated problems COVID-19 posed with respect to mechanical ventilation. Owing to a particularly severe form of lung involvement, COVID-19 patients usually required mechanical ventilation for several weeks. With the state protocols mandating the reassessment of ventilator indications at 2 and 5 days, this unique feature of the condition essentially rendered the allocation protocols inapplicable, fueling the already high tensions for clinicians and bioethicists. Rumored revisions never arrived, and the problem was averted (just) by an increase in ventilator supply and a waning of the infection.

There were other serious deficiencies with the published allocation guidelines. For example, the dramatic rapidity with which a patient could progress from mild shortness of breath to respiratory arrest made estimations of survivability in the population difficult and uncertain. Recognizing this failing in the guidelines, the committee spent many hours reframing our triage priorities, making them COVID-19 appropriate. Though likely viewed as controversial, this response was believed essential to the saving of lives in this specific setting.

In addition, we enlisted the help of our intensivists and computer programmers to develop an EMR-based tool for use in ventilator assignment based on the newly modified guidelines. This tool required clinicians to update allocation priorities continuously so to prevent delays in the assignment of a ventilator as soon as one became available.

Goals of Care

Arguably the overriding responsibility of the bioethicist is the assurance that a patient’s care aligns with their wishes. If viewed narrowly, such decisions may be limited to establishing a patient’s resuscitation status, yet the concept of goals of care can, and should, imply a broader notion of healthcare decision-making, one encompassing treatment considerations, preferences concerning the intensity of care, notions of quality (versus quantity) of life, incorporation of religious beliefs, and even planning for the future. Ideally exploratory, intimate, and reflective, goals-of-care discussions are optimally performed at some remove from acute medical problems, either with the patient or by surrogates designated by patients themselves should they lose decision-making capacity. These conditions are infrequently seen in the setting of COVID-19, an acute condition of which the hallmark is a precipitous deterioration in respiratory function often resulting in mechanical ventilation. Complicating matters, these events took place in isolation from family and friends. Burdening patients (and their families), these circumstances also presented difficult ethical dilemmas for clinicians, who were overwhelmed by the magnitude of their responsibilities, with no time for reflective, end-of-life discussions. Thus the COVID-19 context required patients (if they could) and family members (often) to “reframe,” under duress and in the moment, their prior views regarding healthcare decisions, deal with emotional reactions to their evolving circumstances, realign values, match treatment decisions with their beliefs, and make recommendations to the clinicians upon which physicians would act. An involved bioethicist could play an important role in such discussions, effectively off-loading this responsibility from the primary team.

A practical challenge relevant to achieving these goals was establishing the decision-maker when the patient was unable to make decisions themselves. The bioethics team initiated a hospital-wide triage and recording system documenting which patients had existing healthcare proxy and a designated surrogate decision-maker. This information would prove critical in decision-making during the peak of the pandemic, although surrogates often could not be identified and healthcare proxies did not exist.

Cardiopulmonary Resuscitation

Hospitalized COVID-19 patients developed life-threatening complications in high frequency. Conditions including thrombosis, renal failure, heart failure, secondary infection, and sepsis were often seen in themselves constituting threats of life, yet it was pulmonary involvement that proved the most threatening, contributing to the most deaths [3]. Although risk factors such as older age, obesity, and other comorbidities greatly contributed to mortality, in the setting of cardiac arrest or ventilation, COVID-19 sufferers were unlikely to survive. Thus it was, on a daily basis, that clinicians confronted the most charged of medical decisions, the do-not-resuscitate (DNR) order. Under usual conditions, cardiopulmonary resuscitation (CPR) is initiated immediately by those present at the time of a cardiac arrest, unless a DNR order has been established. Such orders reflect an agreement, achieved through discussion by the patient (or their surrogate) with the treating physician to refrain from instituting resuscitative efforts in life-threatening circumstances and are based on a patient’s stated wishes. In order to protect patients from biased and unequal application of this procedure, hospitals have policies, procedures, and committees that define and oversee CPR practices. These ensure the equitable provision of medical care, congruent with the patient’s beliefs and wishes, in such circumstances.

Given the highly contagious nature of SARS-CoV-2, however, the patient is not the only consideration in this clinical setting. CPR procedures promote the aerosolized transmission of SARS-CoV-2, thereby imposing risks to those who respond to resuscitations; those frontline responders may then, unwittingly, go on to expose co-workers and family members. Coupling these considerations with the low success rate of in-hospital
cardiac resuscitation created unique ethical challenges in the COVID-19 CPR setting [8]. Indeed, early on, with concerns regarding PPE availability high, universal DNR orders were considered by many institutions [2]. Recognizing these dilemmas, and in the absence of national guidelines, the Bioethics Committee initiated a review of our resuscitation procedures in conjunction with the leadership of the HSS Resuscitation Committee. Agreement was reached concerning modifications in our protocols; the intent of which was to minimize provider exposure to COVID-19 while not severely compromising CPR procedure and success. These recommendations ultimately aligned well with those developed by a national task force of relevant professional associations [5].

Selecting patients for ventilation, determining its duration, and when to withdraw treatment became an even more difficult problem than evaluating DNR status. As the pandemic wore on, it became clear that a COVID-19 patient placed on a ventilator was unlikely to come off, at least for a period of several weeks, producing downstream problems such as tracheostomy, higher intensity nutritional support, and further strain on the ventilator supply. In addition, clinicians become aware of other threatening complications of the virus including unexpected neurological, renal, immune, and hematological phenomena. Altogether, these conditions overwhelmed ICU capacities and staff, limited the availability of ventilators, and necessitated the reconsideration of the guidelines concerning the appropriate duration of ventilator support.

On a practical level, these decisions were nuanced and difficult; also, subtle, inherent inconsistencies made it hard to convey a patient’s “code status” to the healthcare team. For instance, in the case of respiratory failure (but not cardiac arrest), could a patient designated “DNR” still be intubated? Conversely, could a patient undergo a partial resuscitation with chest compressions and cardioversion but not be placed on a ventilator (do-not-intubate, DNI)? Then there was true DNR—that is, provide comfort care in the event of cardiopulmonary arrest. The multiple variations of such circumstances proved unsettling to frontline staff and challenging to the bioethics team to provide straightforward, easily comprehended directives for their use. One of the authors (SW) conceptualized this dilemma (Fig. 1), and while it conveys the jury-rigged nature of how we had to function, this depiction was ultimately deemed inaccurate and rejected.

The anesthesiology attending physicians in charge of the hospital’s COVID-19 ICU efforts were extremely busy with the demands of patient care. They complained that procedures and paperwork required to comply with the hospital’s DNR policy were onerous, time-consuming, and interfering with their ability to care for other patients. We were asked to work with the hospital’s
legal team to simplify the process. The result of this collaboration greatly streamlined the existing policy. Reduced from 22 pages to three, it delineated pathways for reassigning tasks from the ICU leaders to others where appropriate while adding more robust protections which included the ethics team taking charge of assuring that the patient’s agents and surrogates had been properly identified (information often lacking in patients transferred to the institution). The new HSS format proved easier to use, enhanced compliance, and was preferred by most practitioners over the Medical Orders for Life-Sustaining Treatment (MOLST) forms, the pre-pandemic DNR method used by many clinicians.

Work on the DNR policy led to the development of a team to ensure that all admitted patients with decisional capacity had an identified healthcare proxy. Such individuals and their contact information were documented in a process resulting in something similar to a war room’s big board (actually a dashboard within the EMR). This record was updated daily and followed by the ethics team, who would address identified deficiencies.

Family Communication

One of the truly tragic consequences of COVID-19 was the forced displacement of family members from their sick, hospitalized loved ones. Literally thousands of patients died without contact with a family member or friend. Recognizing this inhumane consequence of the pandemic, members of our anesthesiology staff spearheaded a program through which families were kept abreast of a patient’s clinical course. Participating in this program as family liaisons were members of the anesthesiology staff and the bioethics team who, through daily briefings from the clinical team, provided assessments of a patient’s medical condition by telephone to the family. This program, one deeply appreciated by the families and found rewarding for the staff participants, targeted the ICU ventilated patients and is described in another paper published in this issue.

Conclusion

Bioethicists usually work one step removed from the frontline. Though typically a principle- and case-based practice, ethics consultation in the time of COVID-19 was bioethics on the fly, the pace dictated by the rapidity in which the pandemic, with its unique clinical features, descended on a hastily prepared healthcare system. Liking our activity to the “eye of the storm,” we have sought to convey the vortex that was COVID-19, including the range, the nature, and the urgency of the challenges arising in what was a highly charged ethical milieu.

Compliance with Ethical Standards

Conflict of Interest: The authors declare that they have no conflicts of interest.

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