



Crisis Standards of Care: Lessons from New York City Hospitals' COVID-19 Experience

A Meeting Report
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Authors

Eric Toner, MD

Senior Scholar, Johns Hopkins Center for Health Security

Vikramjit Mukherjee, MD

Director, Bellevue Medical Intensive Care Unit

Dan Hanfling, MD

Vice-chair, Institute of Medicine Committee on Guidance for Establishing Standards of Care for Use in Disaster Situations

John Hick, MD

Member, Institute of Medicine Committee on Guidance for Establishing Standards of Care for Use in Disaster Situations

Lee Daugherty Biddison, MD, MPH

Chief Wellness Officer, Vice Chair, Clinical Affairs, Department of Medicine, Johns Hopkins Medicine

Amesh Adalja, MD

Senior Scholar, Johns Hopkins Center for Health Security

Matthew Watson

Senior Analyst, Johns Hopkins Center for Health Security

Laura Evans, MD, MSc

Medical Director, Critical Care, University of Washington Medical Center

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Executive Summary

New York City suffered an unprecedented surge of novel coronavirus disease 2019 (COVID-19) patients from April to June 2020 associated with extraordinary use of critical care resources and high case fatality ratios. Hospitals were overwhelmed and conventional standards of care were unable to be maintained, forcing hospitals and healthcare workers to adjust the way that care was provided in order to do the most good for the greatest number.

The purpose of this project was to convene a forum in which critical care physicians from a number of hospitals across New York City could frankly discuss their experiences with implementation of crisis standards of care (CSC). The Johns Hopkins Center for Health Security, in collaboration with New York City Health + Hospitals, convened a virtual working group in October 2020 consisting of 15 New York City intensive care unit (ICU) directors. The following major themes emerged from the discussion:

- Prepandemic CSC planning did not always align with the realities and clinical needs of the pandemic as it unfolded.
- The COVID-19 surge response was effective but often chaotic.
- Interhospital collaboration was an effective adaptive response.
- Situational awareness, especially related to information about patient load and resource availability, was a challenge for many clinicians.
- Multiple CSC challenges had to be overcome, especially around decision making for triage or allocation of life-sustaining care.
- Healthcare workers were profoundly psychologically affected by dealing with CSC issues amid the extraordinary surge.

Looking ahead, the following themes and suggestions were expressed:

- Going forward, there was a sense that CSC planning needs to be more operational and that clinicians need to be more involved.
- Clinicians must be taught that CSC fundamentally involves making the best decision one can when in an unfamiliar situation that involves risk to the patient or provider; such decisions are not limited simply to ventilator triage or other formal triage processes.
- More research is needed to understand what future guidance for CSC planning is needed. Discussions between clinicians and their legal advisors are needed in the planning process to resolve differences in understanding of what is and is not legal in the CSC context.

- In a crisis, a clear formal declaration that a CSC context exists at the hospital, hospital system, healthcare coalition, and jurisdictional levels is needed. This should include specific clinical guidance about the scope of the declaration—that is, which resources or processes it applies to and which it does not. CSC plans must factor in that a formal declaration from the state may not be made in time, and plans must be made for how to proceed without it.
- Physician leaders need better situational awareness of patient load, resources, and changing guidance and policies, and they need to find effective ways to keep their staffs informed. This includes both clinical and operational information sharing among hospitals, across hospital systems, and across the city or state.
- Triage decisions must be made quickly and cannot wait for a cumbersome committee structure. Rapid decision processes must be developed that involve the treating physician as well as other physicians. Education is needed for those clinicians who are making such decisions and a process developed for them to engage another expert rapidly if possible.
- There needs to be clarity around the kinds of triage and resource allocation decisions that hospital clinicians make frequently on very busy days and the shift in thinking and practice that is involved in a CSC context. There needs to be further education on the spectrum of crisis care—from conventional to contingency to crisis—and this should be practiced in emergency preparedness exercises.
- Future pandemic planning should be integrated with widely accepted ICU guidance about futility of care.
- Staffing was a great challenge even before COVID-19, and the pandemic has made it an even greater challenge. It likely will continue to be the greatest challenge in the foreseeable future. Planning for critical staff shortages is a high priority.
- Engagement of families is essential in end-of-life discussions, especially when resource triage issues are involved. This is much more difficult in the setting of a contagious disease that precludes families from being present in the hospital. Innovative solutions, beyond video conferencing, must be found.
- CSC situations impose a heavy emotional toll on healthcare workers. The incredible stress of the magnitude and pace of the patient surge intertwines with the moral burden of making life and death decisions. Ways must be found to alleviate some of this burden and to provide emotional support to healthcare workers.

Introduction

In the spring of 2020, hospitals in New York City suffered an unprecedented surge of novel coronavirus disease 2019 (COVID-19) patients.^{1,2} This surge was associated with extraordinary use of critical care resources and high case fatality ratios (the number deaths divided by the number of recognized cases).³⁻⁵ During this epidemic, there were many reports of hospitals being overwhelmed.⁶⁻⁸ There were also reports about how conventional standards of care were unable to be maintained, forcing hospitals and healthcare workers to adjust the way in which care was provided in order to do the most good for the greatest number.⁹

Standard of care is a legal concept related to “the level at which the average, prudent provider in a given community would practice. It is how similarly qualified practitioners would have managed the patient’s care under the same or similar circumstances.”¹⁰ The term *crisis standards of care* (CSC) refers to “a substantial change in usual healthcare operations and the level of care it is possible to deliver, which is made necessary by a pervasive (eg, pandemic influenza) or catastrophic (eg, earthquake, hurricane) disaster.”¹¹ It is a conceptual framework that was developed in the context of planning for surge capacity and capability challenges that might deplete available resources needed to deliver usual and expected healthcare services. The framework details a systems approach to managing such challenges, with emphasis on ethics, the rule of law, performance improvement, and a series of key recommendations, including provider and community engagement on planning for its implementation.¹¹

For over a decade, there has been considerable discussion within the healthcare preparedness professional community about CSC. In 2009, the Institute of Medicine, now named the National Academy of Medicine, produced the first in a series of seminal reports that provided a foundation for CSC preparedness nationwide.¹¹ Until the COVID-19 pandemic, the CSC framework had largely been theoretical, since there had not been a sustained crisis of sufficient severity to invoke it. The COVID-19 pandemic surge in New York City was the first time in the United States that a transition to crisis standards was contemplated on a large and prolonged scale. Private conversations with several healthcare workers indicate that the transition to CSC did not go smoothly.

The purpose of this project was to convene a trusted space in which critical care physicians from hospitals across New York City could discuss their experiences with CSC implementation with each other and with national experts on CSC. The project was approved by the New York University School of Medicine and Bellevue Hospital Center Institutional Review Boards. This document is a report of a virtual working group meeting convened on October 21, 2020.

Overview of Crisis Standards of Care

During the 2009 influenza pandemic, following initial research prompted by experience with the 9/11 attacks, Hurricane Katrina, severe acute respiratory syndrome, and H5N1 influenza,¹² the Assistant Secretary for Preparedness and Response at the Department of Health and Human Services commissioned the Institute of Medicine to address the following key questions: Who should receive care during a sustained or catastrophic disaster event when not all could receive care? Should the standard of care change as a result? The results from these queries culminated in 3 reports that have been the foundation of most CSC planning.^{11,13,14} Central to the CSC planning framework is the recognition of a continuum of standards of care related to the degree of surge response required in a large-scale disaster that range from conventional to contingency to crisis. These different levels of care have been defined as:

Conventional capacity – The spaces, staff, and supplies used are consistent with daily practices within the institution. These spaces and practices are used during a major mass casualty incident that triggers activation of the facility emergency operations plan.

Contingency capacity – The spaces, staff, and supplies used are not consistent with daily practices but maintain or have minimal impact on usual patient care practices. These spaces or practices may be used temporarily during a major mass casualty incident or on a more sustained basis during a disaster (when the demands of the incident exceed community resources).

Crisis capacity – Adaptive spaces, staff, and supplies are not consistent with usual standards of care but provide sufficiency of care in the setting of a catastrophic disaster (ie, provide the best possible care to patients given the circumstances and resources available).¹⁵

Crisis capacity activation constitutes a significant adjustment to standards of care.

One aspect of CSC relates to the allocation of scarce resources—especially life-sustaining resources such as mechanical ventilation or dialysis. Research has explored the ethical basis for making difficult scarce resource allocation decisions.^{16,17} Frameworks for such allocations were developed in several states, including a draft framework in New York.¹⁸

Description of the Working Group Meeting

The virtual meeting was convened by the Johns Hopkins Center for Health Security in collaboration with New York City Health + Hospitals on October 21, 2020.

The meeting included 15 intensive care unit (ICU) physicians who treated patients in New York City hospitals during April through June 2020. These participants were recruited by personal outreach from one of the ICU directors. Other participants included 3 physicians from the New York City Department of Health and Mental Hygiene who were involved in the COVID response, 2 authors of the Institute of

Medicine's CSC reports, and several physician scholars and researchers from the Johns Hopkins Center for Health Security. (See [Appendix A](#) for the list of attendees.)

The working group was conducted under Chatham House Rules, meaning that nothing said in the meeting can be quoted or attributed to an individual or institution. The project was approved by the New York University School of Medicine and Bellevue Hospital Center Institutional Review Boards, and informed consent was obtained from all participants.

After a brief background presentation on CSC, the participants were asked to discuss the following 5 questions in a moderated discussion relating to the surge of cases in New York during the spring of 2020:

- To what degree was there institutional engagement and support in CSC planning and implementation?
- To what degree did institutions collaborate?
- To what degree did bedside clinicians have situational awareness?
- How well did CSC plans work?
- What has been the post-CSC impact on healthcare worker resiliency and healthcare worker wellness?

Simultaneous notes from 4 notetakers were compiled and circulated to the attendees for review, after which the notes underwent thematic analysis. This report is the product of that analysis.

Major Themes Emerging from the Meeting

Prepandemic CSC planning did not always align with the realities and clinical needs of the actual event.

Many participants expressed the view that CSC plans did not work, leading to confusion among clinicians. It was not stated when these plans were made or whether they were made at the facility, health system, city, or state level. The participants noted that the plans were too theoretical and not operational enough. They also said that there was insufficient engagement by clinicians in the CSC planning process and that this had led to the plans being too focused on incident command structure and function and not enough on clinical issues. The plans lacked clinical specificity and at times seemed to have been developed without much clinical input. To the extent that there was clinical engagement in CSC planning, it occurred separately from the administrative planning process.

There was room for improvement in the flow of information around planning processes. At times there was a lack of willingness to put certain sensitive aspects of planning in

writing, which was challenging for those on the front lines. Prior to the pandemic, it was a challenge to get the State of New York to endorse in writing any CSC plan. Several participants noted that they had understood that, absent an emergency declaration by the state, it would be illegal to allocate resources differently than normal, and, therefore, it would be illegal to develop and distribute an official plan addressing that. CSC experts in the meeting believed this was a misunderstanding. Nevertheless, the State of New York never issued a specific declaration regarding CSC.

The absence of clinician engagement—which the CSC framework articulated in the 2012 report to be the very first step required in the development of CSC plans¹³—led to both an absence of needed clinical details and a misunderstanding of what kinds of decisions and adjustments to normal processes should be considered in the planning. Lack of clinical input into planning also led to lack of familiarity with the concepts of CSC among the clinicians and, indeed, confusion as to whether institutions were operating under CSC during the surge.

Irrespective of a state declaration or a workable plan, critical supply/demand mismatches were occurring, and decisions surrounding allocation of scarce resources had to be made by those on the front lines.

Participants stated that it would be ideal to have integrated plans at every level, from hospital to national. Short of that, at least having a facility or systemwide plan that lays out a set of responsibilities would provide the basis for CSC decision making.

“Having a plan gave us a place to start when it came time to make bigger plans. Having that infrastructure was essential.”

Several participants stated that there were few CSC subject matter experts in their institution, and that there were significant demands on those experts’ time and attention.

Participants also spoke to the importance of consistency between plans made at the local hospital level and at the health system level. Occasionally those plans would clash and create problems.

The surge response was often chaotic but also often effective.

Some things went well during the surge. One participant noted that, early on, there was active cooperation and coordination among multiple departments—critical care, anesthesia, hospitalists—to address the 3 S’s: space, supplies, staffing. One participant described these relationships as having been “forever changed.” Another noted that they tried to work as a system to put out systemwide treatment guidelines, do not resuscitate forms, and the like. The institution also helped to develop initial guidance for shared ventilation protocols.

“It [clinical guidance] was not always done in the timeliest manner, but there was an effort to standardize across the system.”

Hospitals employed various tactics in response to the crisis. One hospital expanded their step-down unit to about 60 beds supervised by a single pulmonary critical care attending. When a patient needed to be intubated, the decision was made quickly by a separate group. They never experienced a lack of ventilators; the limiting factor was the lack of staff. Dialysis was also scarce and managed in a similar manner.

Another participant said they expanded into “pop-up ICUs” in vacant operating rooms for less severe but still critically ill patients. Those were the most problematic units; they had 3 to 4 patients on anesthesia machines supervised by non-ICU staff. There was low utilization of extra corporeal membrane oxygenation, due primarily to nursing staff limitations rather than equipment or space limitations. One system had 250 patients on ventilators in each of 2 hospitals but never ran out of ventilators or ICU space; they just kept adding space. There was some tension when nurses from the postanesthesia care unit (PACU) were asked to provide critical care.

“We had vents everywhere.”

One facility created procedure “SWAT teams” and prone positioning teams, both of which were useful. Another facility used “vent teams” that adjusted ventilator settings on patients under the care of non-ICU physicians. Still another facility used a “czar” for patient placement and decision making.

Therapy for kidney failure was also in short supply. One participant said that although the official line was that there was no rationing of continuous renal replacement therapy (CRRT), there was a triage process that considered the urgency of the need. Some patients were dialyzed twice rather than 3 times per week. Several participants talked about the shortage of dialysis staff, especially for CRRT. One facility formed a sustained low-efficiency dialysis unit with 1 nurse providing dialysis to multiple patients, which worked well.

A participant stated that initial plans included expanding ICU space to such places as endoscopy suites and operating rooms, but they quickly found that that was insufficient and opened new treatment space in the ambulatory surgery area and the PACU. Eventually they had 15 patients intubated in the emergency department.

Another participant noted that solid doors around the facility that were now in what became alternative COVID ICUs had to be refitted with translucent panels so that clinicians could see the patients without entering the rooms.

Staffing was a critical challenge everywhere.

“Our weakest link was staffing, particularly critical care nurses.”

In at least 1 facility, the ICU nurse-to-patient ratios went from 1:1-2 to 1:6-7, which was described as unworkable in a critical care setting. Hospitals competed for a limited number of “travelers” and locum tenens workers, which led to bidding wars that disadvantaged smaller hospitals with fewer resources.

Interhospital collaboration was an effective adaptive response.

Collaboration between hospitals took many forms, including information exchange and load balancing. Clinicians used their personal relationships to communicate with each other. This led to the creation of an LISTSERV thread, which was unstructured and organic, that connected many New York City ICUs. It helped to get people out of the silos of their own hospital and understand how things were being managed elsewhere. The list of participants continued to grow during the surge. The LISTSERV thread included sharing of clinical protocols. Within the network, there was extensive planning and communication.

“The email [LISTSERV] thread was very useful. Good to see that others were in the same boat.”

Although the LISTSERV thread was useful, it was not truly real-time. A WhatsApp group was created that enabled more rapid, real-time communication. Participants suggested that future planning should include a clinicians’ communication platform that could be turned on in a crisis.

In addition to the direct communications among clinicians, the Greater New York Hospital Association held daily calls with ICU directors, and at least 1 hospital system also held daily calls. Participants said that a great deal of information was shared through these calls. One participant said that when it came to inter-New York City communication, the response coordination was a “flash of how things could be.”

Several participants expressed that it was good to be part of a healthcare system; they received resources and staff from the system when needed. One stated that it felt like the system came together at the city level for the first time.

Small, unaffiliated hospitals, however, had a different experience. One small hospital felt like they were “alone.” While there was information flow and networking, there was limited willingness to help with patient transfers and resource requests. They said they came “close” to running out of available ventilators.

Load balancing within health systems was extremely important. One participant said that they were able to transfer patients from the emergency department in 1 hospital directly to the ICU in another. Approximately 900 patients were transferred over a 4-week period in 1 system.

“Load balancing really saved us.”

On the other hand, 1 receiving hospital became overloaded by all of the transfers, pushing it into a crisis situation.

But load balancing did not happen across health systems or across the state. Participants expressed a need for better coordination of transfers across the city—across different health systems—and across the state. Many participants expressed frustration that the state government did not enable or facilitate the transfer of patients to other parts of the state where capacity existed.

In some cases, it was difficult to identify patients who were stable enough to transfer out. That was a challenge in relieving some smaller hospitals.

Although equipment resource balancing was easier to accomplish than patient load balancing, balancing the staff resources needed to run the equipment was far more difficult and, ultimately, resulted in equipment limitations. In some instances, personnel were redistributed; this was easier to do with physician staffing than with nurses.

Participants said that state policymakers need to be pushed to enable load-balancing mechanisms and practices. One potential solution could be a Medical Operations Coordination Cell, a concept has been promoted by the federal government to enable load balancing at the local, regional, and state levels.¹⁹

Situational awareness was a challenge for many clinicians.

From an institutional perspective, the bidirectional flow of information was challenging. Some participants had not realized how much sensitivity there was around facility stockpile status and management. Hospital emergency managers were not comfortable making supply levels or needs (eg, personal protective equipment, respiratory therapy supplies) available to clinicians, much less the public.

Additionally, there was also a perceived lack of needed clinical guidance and lack of adequate communication from senior leaders to clinicians about any guidance. Even if information had become available, it would have been a challenge to communicate it to everyone who needed it, as no formal communication structure was used. One participant described the incoming information flow as a game of telephone:

“During staff huddles, it was like ‘I heard this,’ ‘I heard that.’ Anyone who was off-service was looking at [US Centers for Disease Control and Prevention] and other trusted information sources to communicate that information to on-service staff.”

Participants said they spent a lot of time reporting up the chain of command. One institution implemented a “pit boss” concept to collect on-the-ground information. This concept places a physician at the center of all incoming information. That person is not directly involved in patient care; instead, they move through the units, making lists of patient needs regarding dialysis, ventilators, bed availability, and the like.

“No matter what information I gave, it wasn’t enough information.”

There were some specific areas of concern. Participants expressed a need for better transparency about which facilities were implementing CSC protocols. They said they did not have detailed information about resource availability in various hospitals, only overall numbers of patients. This affected their ability to understand how many patients could be accepted with available staffing and resources without slipping into CSC. Some expressed that it was helpful to have a clinical person in a nonclinical, coordinator role—someone able to help share information and or field resource requests. There was considerable anxiety over staffing coverage and supply shortages that was exacerbated by a lack of sufficient information.

Implementing CSC on the fly was extraordinarily challenging.

Some participants said that it was not clear whether their hospital was in a CSC situation or not. There was some confusion around clinical guidelines, particularly for providers not used to providing critical care. It was not always clear whether the most up-to-date information was being provided to clinicians. To address this challenge, 1 institution established an information clearinghouse website.

Many participants said that numerous patients were treated differently than they would have been under nondisaster conditions and that the rapid pace of required decision making was not conducive to an orderly and deliberative process for each decision. Some participants did not have confidence that the decisions were made using a strong, bioethically informed process. Participants noted that a broad swath of clinicians needed to have a model of the decision making that must be used during a CSC event. They doubted that many of the bedside clinicians had the skills and training needed to make the least bad decision under extraordinary circumstances. This was especially a concern for clinicians who were new to the hospital.

Then again, as 1 participant mentioned, clinicians did not have the luxury of time for the hospital administration, state, or lawyers to weigh in. Realistically, it was said, these are decisions that should be made by critical care providers.

Participants expressed that the formal resource allocation committee was not well-suited to the reality on the ground. The committee was not prepared for the dynamic and “stuttering” nature of CSC, especially with respect to scarce resources like ventilators and dialysis. The allocation process required an entity that was very well informed and very flexible, because availability of ventilators and other critical equipment varied from hour to hour. At least 1 facility outsourced some especially hard decisions to an ethics resource group.

There was confusion around the use of cardiopulmonary resuscitation (CPR) in a CSC setting. Decisions of whether to use or withhold CPR for some COVID-19 patients became complicated in this new CSC context. Some participants stated that responding physicians could not always get a clear answer as to how they should proceed. There was concern about the medical futility of using CPR for some COVID-19 patients as well as concerns about healthcare worker safety. At least 1 institution altered their advanced cardiac life support (ACLS) guidelines to reflect the new context. Two providers would do 2 rounds of ACLS and then discontinue efforts if there was no return of spontaneous circulation. Several participants expressed that better communication about resuscitation guidelines was needed when CSC plans were implemented. Clinicians responding to a “code” were not necessarily equipped to determine futility in the heat of the moment; they needed more information about the patient. Unless there was a clear do not resuscitate designation, generally CPR was initiated until more information could be gathered.

Endotracheal intubation with mechanical ventilation was another challenging area. As the capacity for mechanical ventilation became limited, triage decisions needed to be made about whether to intubate certain patients or which type of ventilator (eg, full function vs transport) they should get. Given the lack of written guidelines, a lot of were left to bedside clinicians. Many triage decisions arose that depended on the support of the local group, including ICU directors and other physicians . The primary consideration was what was right for the patients. One institution did develop a COVID-specific do not resuscitate form that gave providers additional flexibility. In addition to the form itself, clinicians needed to understand the specific end-of-life wishes of the patient concerning, for example, intubation, tracheostomy, and dialysis. Site leaders in at least 1 facility were empowered to consult a 3-person decision-making team—that included an ethicist and were available 24 hours a day/7 days a week—to determine the appropriateness of and need for intubation. That system was intended to anticipate and prevent ventilator shortages. Several participants expressed that the hospital supported clinicians and sought clinical input when hospitalization rates rose. In 1 system, a clinical guideline to intubate all patients requiring more than low-flow oxygen threatened to exacerbate the ventilator shortage and had to be resisted by physicians on the front lines.

Participants expressed concerns that because of restrictive visitor policies, it was difficult to talk with families about resource allocation. For example, it was a challenge to let families know that exceptions could be made to triage decisions but that they had to be the ones to raise the concern or request and exception. Participants did not feel that it was fair to the families. Eventually, the decision was made to inform each family that exceptions could be made. Once family members were allowed into the facility to see their loved ones on various forms of life support, making end of life decisions became easier. Not proactively engaging palliative care in conversations around end-of-life care was a missed opportunity that would have facilitated CSC decision making.

The difference between a CSC event and a “busy day” needs to be clarified.

Many participants felt strongly that the dividing line between being extraordinarily busy—“a bad Saturday night”—and a CSC event was not as clear as plans had assumed. The situation was much more dynamic. Frontline clinicians were often not aware that resources were becoming scarce and that patients, therefore, needed to be triaged before the shortage was critical.

“A challenge for us will be to identify the middle ground between a busy Saturday night and [Hurricane] Katrina.”

Some participants wondered if CSC could be understood as being analogous to how they manage ICUs on a busy day, which is something they do all the time. Others noted that these situations are distinct from simply “pedaling the bike faster.” CSC experts in the meeting pointed out that from a legal perspective, it is not just a busy day; and, as such, it is essential to have a pervasive change that forces implementation of CSC. Ethics and the rule of law are foundational to CSC. It is legally important to have a plan, even if it is flawed.

Some participants suggested that a potential distinction is that CSC is about the big decisions to be made, rather than the day-to-day alterations to patient care. Another participant suggested there has been overemphasis on ventilator allocation in CSC planning; it is about more than the most extreme examples and practices. Another analogy that was suggested was the provision of heroic care—that is, similar resource allocation decisions are made under similar time pressures (ie, real time).

Participants noted that it needs to be made very clear what standards apply even under CSC. Some clinicians felt “liberated” under CSC, feeling that the normal rules no longer applied.

Many participants expressed that views of CSC between the legal and medical professionals were very different. Many of the ICU physician participants from New York City interpreted the legal viewpoint to be very black and white and focused solely on

extreme scenarios. It was very clear to providers that the standard of care had changed, but it was less so to the legal department. One good outcome, they said, might be a clear consensus definition that includes a middle category that falls short of formal resource allocation. There was very little discussion of the concept of contingency standards of care as described in the Institute of Medicine reports.¹⁵

Healthcare workers were profoundly affected by dealing with CSC issues amid the extraordinary surge.

The surge was an extraordinarily difficult situation for all the New York City participants. More than one noted that the pandemic surge was a life-changing event. Planning for ventilator allocation, relying on donations of personal protective equipment, and coming close to running out of many resources contributed to the staff's stress and anxiety. Participants said they and their nursing and support staff are still dealing with the aftermath 6 months later, and a tremendous amount of moral distress remains.

“We did what we thought was best, and this is a time to reflect. This is a new world of being unsure and uncertain.”

One participant shared that their clinicians are still struggling in the face of mass death even 6 months later. Some are questioning whether more lives could have been saved if the response had been more effective at delivering lifesaving care. Participants said that everyone is still hurting, and they are struggling with how to care for personnel effectively. Getting staff out of the hospital for a 1- or 2-week break has been a priority for 1 institution. Another participant shared that staff were overwhelmed during the surge, and now the urgency to get back to normal has felt like an additional stressor, including pressure by hospitals to improve finances. A third participant said that there was no time to process during the wave, but afterward, the inclusion of a trauma psychologist helped to normalize the psychological stress and provide skills to cope. All 3 Institute of Medicine reports address the importance of psychological and moral distress and the need to support the healthcare workforce through these forced choices. The 2012 report alludes specifically to the importance of psychological first aid as a tool for healthcare workers to use.

Trainees were exposed to an extreme amount of psychological trauma, and there was considerable moral distress among nurses because of expanded nurse-to-patient ratios. Likewise, participants reported finding a lot of post-COVID stress and traumatization in non-ICU-trained clinicians, such as PACU staff, who took care of critical patients.

“During the pandemic there were overt accolades and appreciation for healthcare workers, but that’s now gone away, and morale is back down.”

One participant suggested that some clinicians were not taking advantage of counseling and that framing it as a debrief, rather than a mental health intervention, might be more successful.

Nearly all participants expressed grave concern about a second wave of the pandemic, saying that another large surge would put the whole system at great risk and that it would be difficult to deal with a second surge as people are still processing the first one. Also, it was stated that the stress experienced in the spring could be a potentiator of even more psychological harm if and when the next waves come.

Limitations

This project has several limitations. Its small size and convenience sample preclude it from being considered representative of all New York City ICU physicians. Selection bias could also be involved. Because only ICU physicians were included, it cannot be considered necessarily representative of all city healthcare workers. Ideally, healthcare coalitions would play a role in the issues discussed in this report; however, New York City has a unique approach to healthcare coalitions that may limit the generalizability of some of the findings. Recall bias may have played a role because the meeting took place 6 months after the surge in April 2020.

Summary

This working group meeting provided a valuable opportunity for New York City ICU physicians to discuss their experiences in trying to implement aspects of CSC during the spring COVID-19 surge. Much has been learned from this working group that can inform CSC guidance going forward for the remainder of this pandemic and the next.

The following are some of the forward-looking themes that emerged from the discussion.

- Most of the participants expressed some degree of frustration that the prepandemic CSC planning did not align well with the realities as they unfolded. Going forward, there was a sense that CSC planning needs to be more operational and that clinicians need to be much more involved.
- Many clinicians misunderstand CSC to be limited to ventilator triage or to involve only formal triage processes, rather than being about making the best decision one can when in an unfamiliar situation that involves risk to the patient or provider. This needs to be corrected through education and outreach.

- More study and analysis are needed to understand what future guidance for CSC planning is needed. There is a need for roundtable discussions among clinicians and legal advisors to the planning process to resolve differences in understanding.
- There needs to be a clear formal declaration that a CSC context exists at the hospital, hospital system, healthcare coalition, and jurisdictional levels. This should include specific clinical guidance about the scope of the declaration—which resources or processes it applies to and which it does not. However, CSC plans must factor in that a formal declaration from the state may not be made in time and should include how to proceed without it.
- Physician leaders need better situational awareness, and they need to find effective ways to keep their staffs informed. This includes both clinical and operational information sharing among hospitals, across hospital systems, and across the city or state.
- Triage decisions must be made quickly and cannot wait for a cumbersome committee structure. Rapid decision processes must be developed that involve the treating physician but also other physicians. Education is needed for those clinicians making such decisions and a process should be developed for them to engage another expert rapidly, if possible. Bedside decisions based on what is best for the immediate patient in the context of the status of resources could be the best way to make decisions, if there is adequate situational awareness and education of the clinician about CSC policy.
- There needs to be clarity around the kinds of triage and resource allocation decisions that hospital clinicians make frequently on very busy days and the shift in thinking and practice that is involved in a CSC context. There needs to be further education on the spectrum of crisis care from conventional to contingency to crisis, and this should be practiced in emergency preparedness exercises. Future pandemic planning should integrate with widely accepted ICU guidance about futility of care. In 2016, the Society for Critical Care Medicine issued guidelines regarding futile care in the ICU—that is, inappropriate interventions in which “there is no reasonable expectation that the patient will improve sufficiently to survive outside the acute care setting.”²⁰
- Staffing has been and likely will continue to be the greatest challenge. Planning for critical staff shortages of physicians, nurses, and other healthcare workers is a high priority.
- Engagement of families is essential in end-of-life discussions, especially when resource triage issues are involved. This is much more difficult in the setting of a contagious disease that precludes families from being present in the hospital. Innovative solutions must be found. Palliative care departments should be included in CSC planning.

- CSC situations impose a heavy emotional toll on healthcare workers. The incredible stress of the magnitude and pace of the patient surge intertwines with the moral burden of making life-or-death decisions. Ways must be found to alleviate some of this burden and to provide emotional support to healthcare workers.

Next steps

The Johns Hopkins Center for Health Security intends to continue to work with New York City Health + Hospitals to convene further working groups with a broader spectrum of New York City healthcare workers in the coming months to gain others' perspectives. Specifically, we will be looking to engage nurses and emergency physicians. The Center will continue to engage with CSC experts and consider recommendations to update CSC guidance.

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Appendix A. Participant List

Samuel Acquah, Mount Sinai Health System
Amesh Adalja, Johns Hopkins Center for Health Security
Mark Adelman, New York University, Brooklyn
Kristin Burkhart, Columbia University Medical Center
Lee Daugherty Biddison, Johns Hopkins Center for Health Security
Lewis Eisen, Montefiore Medical Center
Laura Evans, University of Washington (formerly with New York City Health + Hospitals (NYC H+H)/Bellevue
Mary Foote, New York City Department of Health and Mental Hygiene (NYC DOHMH)
Chris Grantham, St. Barnabas Hospital
Dan Hanfling, Institute of Medicine Crisis Standards of Care committee
John Hick, Institute of Medicine Crisis Standards of Care committee
Roopa Kohli-Seth, Mount Sinai Health System
Young Lee, Mount Sinai Beth Israel
Joseph Mathew, Mount Sinai West
Vikramjit Mukherjee, NYC H+H/Bellevue
Mangala Narasimhan, North Shore/Long Island Jewish
Celia Quinn, NYC DOHMH
Janet Shapiro, Mount Sinai Morningside
Timothy Styles, NYC DOHMH
Eric Toner, Johns Hopkins Center for Health Security
Natoushka Trenard, NYC H+H/Metropolitan
Amit Uppal, NYC H+H/Bellevue
Matt Watson, Johns Hopkins Center for Health Security
Natalie Yip, Columbia University Medical Center

**Johns Hopkins
Center for Health Security**

621 E. Pratt Street, Suite 210
Baltimore, MD 21202

Tel: 443-573-3304

Fax: 443-573-3305

centerhealthsecurity@jhu.edu
centerforhealthsecurity.org



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Health Security**