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**Crisis Standards of Care  
Planning Guidance for the COVID-19 Pandemic**

**April 7, 2020  
(revised April 20, 2020; October 20, 2020)**

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## I. Overview

In March of 2020, a Crisis Standards of Care Advisory Working Group (“the Working Group”) was convened by the Commissioner of Public Health to prepare guidance in the event of the potential scarcity of necessary medical treatment resources in the Commonwealth caused by a surge in need due to the number of people suffering from COVID-19. This Committee included medical experts and ethicists from across the Commonwealth, representing both large academic medical centers and community hospitals, and was charged with expeditiously developing recommendations for ethical, equitable and transparent guidelines for providing acute care during a crisis. The Committee issued its original guidance document on April 7, 2020 (“the Original Guidance”).

The Original Guidance drew commentary from a number of groups and individuals, including advocates for residents with disabilities, older adults, and communities of color. The Committee and the Department carefully considered these comments and issued revised Guidance on April 20, 2020 (“the Revised Guidance”).

Additional comments were received from various advocacy groups after publication of the Revised Guidance and the Secretary of the Executive Office of Health and Human Services and the Commissioner of Public Health agreed to revisit the Revised Guidance in the late summer of 2020 in preparation for any spike in COVID-19 case in the Fall or Winter of 2020.

On August 26, 2020, the Working Group reconvened with the following members (“the Expanded Working Group”), with the additional members highlighted:

<b>Name</b>	<b>Title</b>	<b>Organization</b>
Scot Bateman, MD	Director, Office of Ethics	UMass Memorial
Paul Biddinger, MD FACEP	Medical Director for Emergency Preparedness	Mass General Brigham
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Eric Goralnick, MD MS	Medical Director for Emergency Preparedness	Brigham Health
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Joshua Kornbluth, MD	Director, Michael Neeley Neurosciences Critical Care Co-Chair, Tufts Medical Center Hospital Ethics Committee	Tufts Medical Center
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<b>Jennifer Lee-Rambharose</b>	<b>Chair</b>	<b>Massachusetts Statewide Independent Living Council</b>
Christine Mitchell, RN	Executive Director, Center for Bioethics	Harvard Medical School
Emily Rubin, MD JD MSHP	Pulmonary and Critical Care Medicine Co-Chair, Optimum Care Committee	Massachusetts General Hospital
Rev. Dean Shapley, MDiv	Director of Mission and Chaplaincy	Lowell General/Circle Health
Robert Truog, MD	Director, Center for Bioethics	Harvard Medical School
Sally Vitali, MD	Associate Medical Director Medical Surgical Intensive Care Unit & Respiratory Care and ECMO	Boston Children’s Hospital
Michael Wagner, MD FACP	Chief Physician Executive	Wellforce
J. Matthias Walz, MD, FCCP	Department of Anesthesiology and Perioperative Medicine	UMass Medical
Ellen Weinstein, JD	Deputy General Counsel	Boston Medical Center

Over the course of its most recent review, the Expanded Working Group reached out to and met with multiple individuals and organizations, including advocates for people with disabilities, older adults and people and communities of color. A draft of this document was posted for public comment on October 6, 2020, with a deadline for comments to be received by October 12, 2020.

This final revised document makes further changes and clarifications in response to comments received from stakeholders, particularly from members or representatives of vulnerable and marginalized communities.

## II. Introduction

Crisis care must be the best care it can be in light of the circumstances and available resources. The purpose of this document is to provide guidance for the triage of critically ill patients in the event that the public health emergency caused by the COVID-19 pandemic creates demand for critical care resources that outstrips the supply.<sup>1</sup>

**The foundation of the Commonwealth’s approach to crisis standards of care is that such tragically difficult decisions must be based on criteria that ensure that every patient has equitable access to any care from which they might benefit. These criteria must be as clear, transparent, and objective as possible, and must be based on biological factors related only to the likelihood and magnitude of benefit from the medical resources, and should at all times minimize inequitable outcomes. Factors that have no bearing on the likelihood or magnitude of benefit from the provision of medical resources, including but not limited to race, disability, gender, sexual orientation, gender identity, ethnicity, ability to pay or insurance status, socioeconomic status, English language proficiency, perceived social worth, perceived quality of life, immigration status, incarceration status, homelessness or past or future use of resources, are not to be considered by providers making allocation decisions.**

Catastrophic events such as the threat from the COVID-19 pandemic can drastically disrupt the health care system, exhaust resources, and overwhelm the system’s capacity to deliver care as usual. Depending on the spread and duration of COVID-19, healthcare system resources including adequate inpatient or outpatient clinical care spaces, medical supplies, and available trained staff may become depleted or in short supply.

Changes in the usual approaches to care and practice may be necessary due to limitations or fluctuations in resources. The healthcare system may be forced to transition from conventional or usual care, to contingency care that supports the provision of functionally equivalent care, and, if necessary, to “crisis” care when available resources are inadequate to meet all important patient needs. The National Academies (formerly the Institute of Medicine (IOM)) have defined the level of health and medical care capable of being delivered during a catastrophic event as “crisis standards of care” (CSC).<sup>2</sup>

Crisis standards of care are limited to disaster scenarios where the resources available are significantly inadequate to the need. These crisis standards of care were formulated in response to COVID-19. They

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<sup>1</sup> This document is only intended to apply to the allocation of general intensive care resources, for example but not limited to, mechanical ventilators or intensive care unit beds; it is not intended to apply to COVID-19 specific therapeutics or vaccines.

<sup>2</sup> Guidance for establishing crisis standards of care for use in disaster situations: A letter report. National Institute of Medicine (2009). According to the National Academies, crisis standards of care would be applicable only when there is “a substantial change in usual healthcare operations and the level of care it is possible to deliver, which is made necessary by a pervasive (e.g., pandemic influenza) or catastrophic (e.g., earthquake, hurricane) disaster.” A disaster that creates the level of need for medical care that overwhelms available resources for an extended period would necessitate a shift of focus from the absolute care of each individual to promoting the conscientious stewardship of limited resources with the goal of providing the best possible health outcomes for the population as a whole. Such a shift from conventional or contingency care to crisis care will be justified only in the most extraordinary circumstances, when formally declared by a state government, in recognition that crisis operations will be in effect for a sustained period.

are part of a comprehensive preparedness strategy that acknowledges that regardless of the best planning and other preparatory efforts, the coronavirus pandemic could overwhelm the Massachusetts healthcare system in ways that will require challenging and painful decisions about how to allocate limited and potentially life-saving resources.

This guidance is intended to:

- Help healthcare institutions and providers make fair and consistent decisions about the use and allocation of scarce critical care resources;
- Ensure that critical resources are conserved and distributed efficiently, equitably and ethically across the healthcare system;
- Promote transparent decision-making and public trust in the fairness and equity of the system;
- Protect those who might otherwise face barriers to accessing care; and
- Assure patients and their families that they will receive fair access to care under the circumstances regardless of where they live in the Commonwealth.

### **III. CSC Purpose, Assumptions, and Ethical Principles**

#### **A. Purpose**

This guidance is intended to provide a unified, transparent framework that supports consistent hospital and provider decision-making while taking equity matters into account. To assure providers, patients, their families, and the community that CSC will be applied fairly, it is essential that the ethical grounding of this guidance be clearly and specifically stated. The delivery of healthcare under CSC is ultimately about maximizing the care delivered to the population as a whole under austere circumstances that may limit treatment choices for both providers and patients.

#### **B. Assumptions**

- The wide spread of COVID-19 may result in a surge of patients requiring medical care that could overwhelm available resources.
- Demand on local medical resources may overwhelm local or regional capacity and capabilities, and local medical resources may be unavailable.
- Healthcare facilities may experience extreme resource challenges that may include: inadequate inpatient or outpatient care space, supply and equipment shortages, and/or a lack of sufficient trained personnel, and may become overwhelmed with persons seeking care.
- A significant percentage of healthcare workers may be unable to report or stay on the job because of:
  - Their own illness or that of family members, or
  - Practical impediments such as lack of dependent care or transportation.
- A percentage of healthcare workers may be unwilling to report or stay on the job during CSC situations because of:
  - Concerns about their personal health or safety, or that of family members, or
  - Concerns about their ability to effectively provide care, or
  - Concerns about legal liability.

- Pre-hospital and healthcare institutions have mutual aid agreements in place on a regional basis for supporting one another where possible, and will utilize these plans to the extent possible during a disaster.
- Patients will require medical transportation to and between healthcare facilities, and the increased volume of patient movement may require tracking.
- Coordination among response partners at all levels (facility, local, regional, state, and federal) is expected in order to best meet medical surge needs.
- Crisis standards of care are to be activated only in extraordinary circumstances when the level of demand for medical care exceeds available resources and crisis operations will be in effect for a sustained period.
- The public will need access to up-to-date, accurate, and transparent information about the use of CSC, and access to any relevant instructions as to how they may best seek access to care during the disaster.
- DPH may provide hospitals with supplemental clinical guidance specific to particular resource shortages. Such guidance will be supplied from DPH to affected stakeholders.
- DPH, with the assistance of regional Health and Medical Coordinating Coalitions (HMCCs), is monitoring for uneven levels of demand across the Commonwealth and will require scarce resources, such as ventilators and ICU beds, to be shared equitably. DPH will ensure CSC is used only as a true last resort, only when it is impossible to allocate resources across the Commonwealth in ways that meet all patients' needs, and for the shortest possible duration, by coordinating the movement of response assets from one region to another and the redistribution of patients in need of care where appropriate.
- DPH will monitor the implementation and impact of the activation of any CSC under a set of rules established through the issuance of a Public Health order.

## C. Concepts

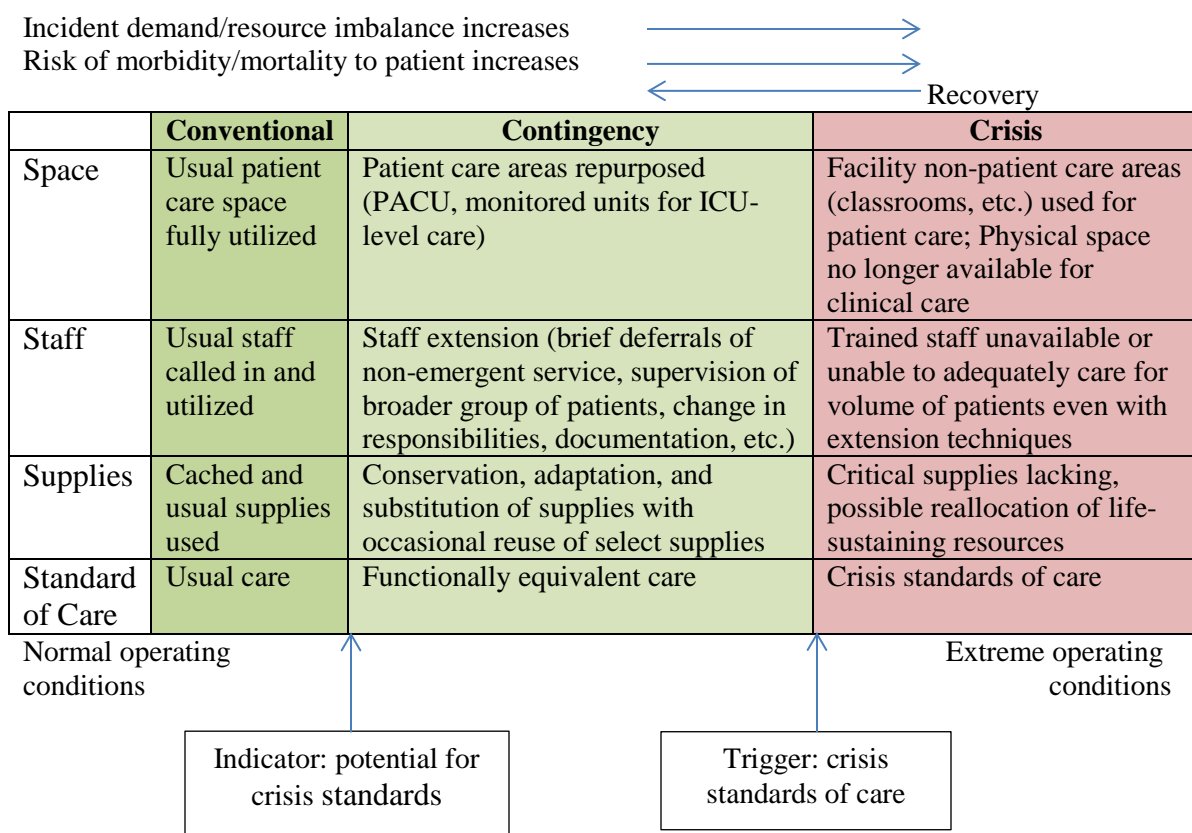
### 1. Continuum of Care

As described by the National Academies, the need for healthcare surge capacity in a disaster occurs along a continuum based on demand for health care services and available resources.

- **Conventional Capacity** The spaces, staff, and supplies used to deliver care are consistent with daily practices within institutions. The clinical care spaces and practices that are used in response to pandemic are adequate to support clinical care that is equivalent to usual patient care.
- **Contingency Capacity** The spaces, staff, and supplies used are not consistent with daily practices, but support care that is functionally equivalent to usual patient care practices. Alterations in the use of clinical care spaces or practices may be used temporarily or on a more sustained basis during the pandemic (when the demands of the incident exceed community resources). Some degree of regulatory action (such as with an EMS staffing waiver) may be required to support contingency capacity.
- **Crisis Capacity** Adaptive uses of space, staff, and supplies that are not consistent with usual standards of care, but provide sufficiency of care in the setting of a pandemic (i.e., provide the

best possible care to patients given the circumstances and resources available). Crisis capacity activation constitutes a significant adjustment to standards of care.

**Figure 1: Care Continuum**



Along the continuum of care, strategies to maximize healthcare resources include:

- **SUBSTITUTE:** Use an essentially equivalent facility, professional, drug, or device for one that would usually be available.
- **ADAPT:** Use a facility, professional, drug, or device that is not equivalent, but provides the best possible care.
- **CONSERVE:** Use lower dosages or change practices, e.g., minimize use of oxygen by using air for nebulizers, when possible.
- **REUSE:** Use single use items again, after appropriate disinfection or sterilization.
- **OPTIMIZE ALLOCATION:** Allocate resources to patients whose need is greater or who are more likely to survive the immediate crisis.<sup>3</sup>

<sup>3</sup> Adapted from The Guidelines for Use of Modified Health Care Protocols in Acute Care Hospitals During Public Health Emergencies. September 2013; Kansas Department of Health and Environment



## 2. Triage

Triage is the process of screening, evaluating, and sorting patients based on their medical status and likely outcome.<sup>4</sup> Triage may occur at the site of a disaster, in the pre-hospital setting, in the emergency department or in the inpatient or outpatient acute care setting. Effective triage will be essential to prioritize care and to do the greatest good for the greatest number of patients. Although triage is generally a part of all disaster plans, many physicians, nurses, and others may be unfamiliar or uncomfortable with the process.

*Primary triage* is the first level of evaluation and prioritization and typically occurs before initial medical interventions: in the out-of-hospital setting, on EMS arrival, or in the hospital lobby.

*Secondary triage* occurs after an additional patient assessment and initial medical interventions are performed (e.g., intravenous fluids or airway management). These decisions are usually performed by medical staff to establish priority for diagnostic studies or treatment.

*Tertiary triage* involves assessment of the value of ongoing resource commitment during delivery of definitive care (e.g., deciding about continued ventilator support).<sup>5</sup>

*Reverse triage* may be utilized while CSC are in effect. Reverse triage is a system of reviewing the acuity and needs of current inpatients when a catastrophic disaster occurs and determining which patients may be safely triaged for early discharge from healthcare institutions. Discharging noncritical patients can be an effective way to increase a hospital's capacity for emergency admissions during a public disaster.<sup>6</sup> Patients with a level of one (minimum risk) can typically be discharged. Patients with a level of two (low risk) may be appropriate for transfer to a non-acute care facility (e.g., skilled nursing facility, rehabilitation facility) or for early discharge when the effects of a disaster exceed the risks of remaining in the hospital. Patients with a level of three (moderate risk) may be transferred to a facility with moderate capabilities if appropriate. Level 4 and level 5 will typically remain in the hospital.

## 3. Indicators and Triggers

Indicators and triggers will guide transitions along the continuum of care, from conventional to contingency to crisis, and in the return to conventional care.<sup>7</sup> CSC will be triggered only when there is no acceptable alternative, and its use will be discontinued as soon as possible.

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<sup>4</sup> Dictionary of Military and Associated Terms. US Department of Defense. 2005

<sup>5</sup> *Allocating scarce resources in disasters: emergency department principles*. Hick JL1, Hanfling D, Cantrill SV. Ann Emerg Med. 2012 Mar;59(3):177-87.

<sup>6</sup> Kelen GD, Kraus CK, McCarthy ML, Bass E, Hsu EB, Li G, Scheulen JJ, Shahan JB, Brill JD, Green GB. Inpatient disposition classification for the creation of hospital surge capacity: a multiphase study. Lancet. 2006 Dec 2;368(9551):1984-90.

<sup>7</sup> Definitions taken from: Crisis Standards of Care: A Toolkit for Indicators and Triggers. Board on Health Sciences Policy. Dan Hanfling, John L. Hick, and Clare Stroud, Editors; Institute of Medicine of the National Academies. The National Academies Press. Washington, D.C.; Released: July 31, 2013.

*Indicators* are measures or predictors of changes in demand and/or resource availability in the healthcare system that may be based on situational awareness or factors specific to an event. The presence of indicators is detected through monitoring events that may affect the healthcare system and observing changes to the usual resources and usage patterns at the local, regional, and state levels.

*Triggers* are decision points leading to activation of CSC. Based on changes in resource availability that require adaptations to health care services delivery along the care continuum, these events show that strategies implemented for contingency care are no longer sufficient to provide functionally equivalent care. In this case, an individual hospital or health system should contact the Department of Public Health to discuss if there were any available resources, whether that be supplies, staff, or space, via which a CSC activation could be averted. If that were not available, a CSC would be activated in coordination with the Department of Public Health.

#### **D. Ethical Principles**

As a public health emergency evolves, expansion of critical care capacity both locally and regionally by all means possible will be the first measure taken, followed by conservation and allocation of critical care resources only if necessary. The timing of implementation of each measure should balance the dual imperatives of (a) minimizing the potential harms related to implementing such measures and (b) implementing the measures in a timely enough fashion that they accomplish the goal of maximizing overall benefit.<sup>8 9</sup>

In the event of impending scarcity, the Commonwealth will make every effort to maximize the capacity of the entire healthcare system to provide critical care to as many patients as possible by coordinating efforts to load balance patients across institutions and directing critical care resources to the areas that are hardest hit by the pandemic.

For healthcare facilities, prior to the implementation of the triage recommendations included in this document, each institution will take all possible steps to extend capacity to deliver critical care resources, including by (a) accumulating supplies; (b) delaying non-urgent care; (c) preparing to use space, staff and other resources that are not typically used for critical care delivery to deliver critical care; (d) intensifying efforts to reduce critical care utilization for patients who are significantly unlikely to benefit from it and (e) alerting and coordinating with the Department of Public Health as described in Section IV, below.

The allocation framework for critical care services set forth in this document is grounded in ethical obligations that include the duty to care for all individuals, duty to steward resources, distributive and procedural justice, equity, and transparency.<sup>10</sup> Every effort has been made to use equity as the foundation of this framework, recognizing that this effort begins in a context where many populations have historically faced and continue to face discrimination, ageism, poverty, structural racism and

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<sup>8</sup> Childress JF, Faden RR, Gaare RD, et al. Public health ethics: mapping the terrain. *J Law Med Ethics* 2002;30:170-8.

<sup>9</sup> Gostin L. Public health strategies for pandemic influenza: ethics and the law. *JAMA* 2006;295:1700-4.

<sup>10</sup> Beauchamp TL, Childress JF. *Principles of Biomedical Ethics*. 6th ed. ed. New York, NY: Oxford University Press; 2009.

structural ableism, each of which leads to unfair health burdens. By emphasizing objective medical criteria, individualized assessments, and the likelihood of surviving the acute illness, as described below, the aim is to minimize the impact of bias and inequitable consequences to the maximum extent possible. By accounting only for prognosis for surviving the acute illness and surviving one year beyond the acute illness, and not focusing on long-term life expectancy, the framework attempts to mitigate the impact of disparities caused by social inequity. Each hospital operationalizing CSC must also make every effort to guard against the potential for disproportionate negative impact on already disadvantaged populations, including by ensuring that those who develop and oversee institutional CSC protocols reflect the full diversity of our communities, and by implementing robust data monitoring.

As described below, the allocation framework operationalizes the broad public health goal of maximizing benefit to populations of patients by giving priority to patients who are most likely to survive to hospital discharge with appropriate treatment with critical care resources. Although focused on maximizing benefit to populations of patients, it also aims to treat each individual patient fairly.

The allocation framework does not categorically exclude any patients who, in usual circumstances, would be eligible for critical care resources. All patients are treated as eligible to receive critical care resources and receive a priority assignment based on illness severity. No patient is categorically disqualified from being evaluated for life saving treatment solely based on pre-existing disabilities, underlying conditions or short-term survivability. The framework is based largely on the principle of saving the most lives. Within the context of keeping all patients eligible, the allocation framework also accounts to a limited extent for duration of benefit by giving some priority to patients who are expected to live at least one year beyond the acute illness.

All of these ethical principles are viewed within the context of ensuring meaningful access for all patients and conducting individualized patient assessments based on objective medical knowledge. Patients who are more likely to survive with intensive care are prioritized over patients who are less likely to survive with intensive care. Patients who are not expected to die within one year due to advanced underlying medical conditions are given priority over those who are expected to die within one year due to such advanced conditions. As summarized in Table 1, the Sequential Organ Failure Assessment (SOFA) score, with appropriate modifications for people with disabilities and in conjunction with clinical judgment, is used to assess patients' prognoses for hospital survival during initial triage. The presence of conditions in such an advanced state that they are expected to limit duration of benefit to one year regardless of survival of the acute illness is used to characterize duration of benefit.

Healthcare providers making allocation decisions should not consider characteristics that have no bearing on the likelihood or magnitude of benefit. Such factors include but are not limited to race, disability, gender, sexual orientation, gender identity, ethnicity, ability to pay or insurance status, socioeconomic status, perceived social worth, perceived quality of life, immigration status, incarceration status, homelessness, and past or future use of resources. These factors should not be used to limit care, and efforts must be made to ensure that the application of the framework does not result in negative impact on individuals from these groups or with these characteristics.

There are inherent limitations in the ability to prognosticate and there are innumerable potential individual scenarios that may arise. As a result, clinicians should ensure that predictions are grounded in individualized, objective medical evidence. Establishing a fair process to determine the optimum use of scarce resources will promote ethical decision-making and ensure that similarly situated people are treated similarly. This process must balance use of decision frameworks with application of clinical judgment.

There is a duty to care for all patients irrespective of resource scarcity. Critical components of crisis standards of care include transparent, compassionate communication and the best comfort-oriented care including general and sub-specialty palliative care for those who may benefit from it.

There are specific ethical issues involved in withdrawal of life sustaining treatment. These issues may be particularly pronounced when resources are withdrawn from critically ill patients who are already receiving them at the time that a crisis standard of care is initiated. However, in the event of a worsening crisis, adhering to a first come, first-served principle for those who were already receiving critical care prior to application of the crisis standard may result in unjust allocation of resources. As such, careful assessment and allocation will be necessary in order to maximize benefit during a crisis.

#### **IV. Activation of Crisis Standards of Care Planning Guidance for COVID-19**

On March 10, 2020, Governor Charles D. Baker declared a State of Emergency to support the Commonwealth's response to COVID-19. On March 11, 2020, in view of the grave threat that COVID-19 presents to the public health, the Public Health Council authorized and directed the Commissioner to act pursuant to G. L. c.17, § 2A, and to take all appropriate actions, incur such liabilities, and establish such rules, requirements, and procedures necessary to prepare for, respond to, and mitigate the spread of COVID-19 in order to protect the health and welfare of the people of Massachusetts.

On March 14, 2020 the COVID-19 Response Command Center (Command Center) was established, led by Secretary of the Executive Office of Health and Human Services Marylou Sudders, to serve as the Commonwealth's single point of strategic decision making and coordination for the Administration's comprehensive COVID-19 response. In support of the Command Center, the State Emergency Operations Center has been partially activated, and MEMA's Regional Operations Centers in Tewksbury, New Bedford, and Agawam have been partially activated to support local communities.

In response to COVID-19, the Commissioner activated the MDPH Emergency Operations Plan, which provides the operational framework for the Department's response to all emergencies and disasters that affect the public health and healthcare system in Massachusetts. The Commissioner also activated the MDPH Infectious Disease Emergency Response Plan. An incident command structure was established to ensure internal coordination of gathering and sharing information, respond to resource requests, provide guidance on clinical and laboratory issues, and support other needs related to the response.

Due to the unique nature of healthcare delivery and the uneven distribution of resources across healthcare facilities, the resources at one facility may become exhausted well before another facility. If a healthcare facility becomes, or anticipates becoming, no longer able to provide the usual standard

of care, the facility must contact the DPH Duty Officer available 24-7 at (617) 339-8351. The statewide incident command will either direct the triage of patients to a reasonable alternative facility or coordinate the reallocation of resources to the facility in need. Every effort will continue to be made to avoid a situation where the crisis standards need to be utilized.

In such an event, clear and frequent internal and external communication is essential to convey information and maintain situational awareness with hospitals, EMS, alternate care systems, healthcare personnel, and the public. It is important that the public be provided with a clear understanding of CSC concepts such as triage of resources. Public information and messaging must be consistent and timely and be culturally and linguistically accessible to ensure that information reaches individuals who are deaf or hard of hearing, are blind, or have low vision, or have, limited English proficiency.

These guidelines will be deactivated when healthcare facilities are no longer operating at a crisis level. This deactivation will occur when all affected healthcare regions and facilities are able to meet patient demand using contingency-level surge standards, or when patient transfer or evacuation becomes a feasible tactic to alleviate crisis-level surge at affected healthcare facilities.

## **V. Strategies for Maximizing Critical Care Resources (Allocation Framework)**

### **A. Key triage and allocation principles**

Each healthcare institution may modify its specific triage processes based on its particular resources and circumstances, but each institution's specific process must adhere to the core triage principles set out in this document. These include: 1) creation of a triage team to separate triage decisions from bedside clinical decisions; 2) use of a critical care allocation framework that incorporates the scoring system and prioritization categories laid out in this document; 3) reassessment of patients receiving critical care with reallocation of resources where appropriate; 4) a commitment to the principle that allocation decisions should not consider characteristics that have no bearing on the likelihood or magnitude of benefit; 5) reasonable accommodations for people with disabilities; and 6) incorporation of an appeals process for the mathematical calculation of an initial priority score or a decision to withdraw life-sustaining treatment over the objection of a patient or surrogate.

### **B. Creation of triage teams**

#### **1. Separation of triage role from clinical role**

Each acute care hospital should define triage team whose responsibility it is to implement the allocation framework described below. As detailed below, every attempt should be made to assemble a team that reflects the diversity of the community and population served. Patients' treating physicians should not make triage decisions. A triage team with expertise in the allocation framework, which is grounded in public health ethics, should make allocation decisions. The separation of the triage role from the clinical role is intended to enhance objectivity, avoid conflicts of commitments, and minimize moral distress.

## **2. Triage Officers**

A diverse group of Triage Officers will be appointed at each hospital. Triage Officers should be physicians with established expertise in the management of critically ill patients, leadership ability, and effective communication and conflict resolution skills. If available at an institution, pediatric intensivists and neonatologists will serve as Triage Officers for children and newborns, respectively. Triage Officers will oversee the initial triage process, assess all patients, assign a level of priority for each, communicate with treating physicians, and direct attention to the highest-priority patients.

Triage Officers will make decisions according to the allocation framework described below. The Triage Officers will have the responsibility and authority to make decisions about which patients will receive the highest priority for receiving critical care. They will also be empowered to make decisions regarding reallocation of critical care resources when there is ongoing scarcity and patients who have been allocated critical care resources are deemed to have low likelihood of surviving the acute illness. In carrying out these responsibilities, the Triage Officers will communicate clearly with bedside nurses, physicians and other clinicians. In the event that triage decisions must be made that involve adults, children, and newborns, the Triage Officers appropriate for each age group involved will collaborate to determine respective priority levels.

Triage Officers will be nominated by the chairs/directors of the clinical departments within each hospital that provide care to critically ill patients, the Chief Medical Officer, the Chief of Medical Affairs, the President of the Medical Staff, the hospital's Chief Diversity/Inclusion Officer and/or other administrative leadership at each hospital. The Chief Medical Officer and the individual responsible for Emergency Management should approve all nominees. A roster of approved Triage Officers should be maintained that is large enough to ensure that Triage Officers will be available on short notice at all times and that each physician will have sufficient rest periods between shifts.

## **3. Triage Team**

There will be a Triage Team, which will consist of multiple Triage Officers, at least one nurse with supervisory experience, and at least one administrative staff member.

In order to best mitigate implicit bias, to the greatest extent possible each hospital should have a group of Triage Officers and a Triage Team that adequately reflects the diversity of the patient population served by the hospital in terms of demographics such as race, ethnicity, disability, preferred language, sexual orientation and gender identity. Every attempt should be made to assemble a team that reflects the diversity of the community and population served by the hospital. Diversity among triage officers is intended to promote health equity and to mitigate against the perpetuation of health disparities in resource allocation.

The Triage Team will provide information to the Triage Officer(s) making initial triage decisions and help facilitate and support their decision-making process. The Triage Team will also conduct reassessments of patients already receiving critical care in order to make decisions about continuation of critical care, and will review and report out to hospital leadership how triage is being conducted.

The administrative staff member will conduct data-gathering activities, documentation, and record keeping. The staff member must be provided with appropriate computer and IT support to maintain updated databases of patient priority levels and scarce resource usage and availability (total numbers, location, and type).

A representative from hospital administration should also be linked to the Triage Team in order to supervise maintenance of accurate records of priority scores and triage decisions and to serve as a liaison with hospital leadership. As hospital resources permit, there may be representatives from social work, chaplaincy, and palliative care who are linked to the Triage Team to assist in coordinating psychosocial support and/or intensive symptom management for patients and families in situations where critical care resources cannot be offered or need to be reallocated.

#### **4. Triage Team training**

All Triage Team members and Triage Officers will undergo competency-based training to learn how to use the allocation framework. Members will receive explicit education regarding using the EMR to accurately and efficiently identify information about patients. Direct use of EMR in scoring calculations can immediately expose Triage Officers to demographic characteristics (including patient race, ethnicity, preferred language) that should not be considered at early stage of scoring. It also has the potential to expose Triage Officers to factors such as high health care utilization and presence of a disability requiring accommodations that could be inadvertently introduced into scoring. Triage Team members should be trained to remove these factors from consideration and verify relevant diagnoses by evaluating the primary data. Additionally, all Triage Team members and Triage Officers will receive training on implicit bias in health care to understand and minimize the risk of unconscious bias in triage decisions.

#### **5. Triage mechanism**

The Triage Officer(s) will use the initial allocation framework to determine priority scores for all patients who require a scarce critical care resource. All patients already being supported by the scarce resource will be regularly reassessed as detailed below. The Triage Officers, with assistance from the rest of the Triage Team, will communicate with the clinical teams immediately after a decision is made regarding allocation or reallocation of a critical care resource.

#### **C. Triage Review and Oversight Committee**

There will be a Triage Review and Oversight Committee made up of individuals selected from among the following: Chief Medical Officer (or his/her designee), Chief Nursing Officer (or his/her designee), Legal Counsel, member of Ethics Committee leadership, off-duty Triage Officers. It is strongly recommended that the committee have representation from the Chief Diversity, Equity and Inclusion Officer or a representative of the Patient Family Advisory Committee if available and feasible. Institutions are strongly encouraged to include on the Triage Review and Oversight Committee a lay community member who is not a member of the hospital staff to be involved in the review of aggregate, anonymized data related to the triage process.

The roles of the Triage Review and Oversight Committee will be: 1) to hear appeals of individual decisions to withdraw life sustaining treatment; 2) to review at regular intervals the triage process and appeals process to determine whether the triage and appeals processes are being conducted in a fair, effective and timely manner; and 3) to adjudicate disputes or controversies that may arise, including in decisions between two or more patients regarding allocation of resources

The Triage Review and Oversight Committee should receive regular updates on decisions made during an activation of the CSC, and have the ability to convene rapidly when needed.

#### **D. Communication of triage decisions to patients and families**

The Triage Officer (or designee) will first inform the affected patient's attending physician of the triage decision. The Triage Officer (or designee) and attending physician, in conjunction with bedside or supervisory nursing staff, will collaboratively determine the best approach to inform the individual patient, family or emergency contact. Special consideration will be made to ensure that this is done in a culturally competent manner, with racially, ethnically, culturally and linguistically diverse team members available to assist in these communications when possible. For individuals with communication disabilities, regardless of the presence of a formal diagnosis, (e.g., deaf, hard of hearing, blind, low vision, cognitively or intellectually disabled), appropriate disability accommodations will be made.

As a default, the attending physician and Triage Officer (or designee) will conduct this conversation, explaining the severity of the patient's condition in an emotionally supportive way and the Triage Officer (or designee) explaining the implications of those facts in terms of the triage decision. If visitor restriction policies are in place, all reasonable efforts should be made to contact the patient's family or emergency contact.

The Triage Officer (or designee) should also emphasize that the triage decision was not made by the attending physician but is instead one that arose from the extraordinary emergency circumstances, and reflected a public health decision. It may also be appropriate to explain the medical factors that informed the decision, as well as the factors that were not relevant (e.g., race, disability, gender, sexual orientation, gender identity, ethnicity, ability to pay, socioeconomic status, perceived social worth, perceived quality of life, immigration status, incarceration status, homelessness, and past or future use of resources). Other options for communicating a triage decision include: 1) the Triage Officer conducts the conversation; or 2) the attending physician conducts the conversation. To the extent possible within the constraints of the institution's resources, social workers, chaplains and/or palliative care clinicians should also be present when the triage decision is communicated.

#### **E. Allocation process for ICU admission/ventilation**

This section describes the framework that will be used to make initial triage decisions for patients who present with illnesses that typically require critical care resources. Allocation decisions must be based on individualized assessments and be free from stereotypes and biases, including generalizations or judgments about an individuals' quality of life or relative value to society. These decisions must not be based on race, disability, gender, sexual orientation, gender identity, ethnicity, ability to pay or insurance status,



socioeconomic status, perceived social worth, perceived quality of life, immigration status, incarceration status, homelessness, and past or future use of resources. The scoring system detailed below applies to all patients presenting with critical illness, not simply those with the disease or disorders that arise from the public health emergency. This triage process involves several steps, detailed below: (1) initial assessment and stabilization of patients; (2) calculating each patient's priority score based on the multi-principle allocation framework; (3) assigning each patient to a priority group (to which hospitals may assign color codes); and, (4) determining on a frequent basis how many priority groups will receive access to critical care interventions.

## **1. Initial assessment and stabilization of patients**

First responders and bedside clinicians should perform the immediate stabilization of any patient in need of critical care, as they would under normal circumstances. Along with stabilization, temporary ventilator or other critical care support may be offered to allow the Triage Officer time to assess the patient for critical care resource allocation. Every effort should be made to complete the initial triage assessment within 90 minutes of the recognition of the need for critical care resources.

## **2. Calculation of each patient's priority score using the multi-principle allocation frame work**

### **a) Priority Scoring for Adult Patients (18 and over)**

This allocation framework has two primary scoring components: prognosis for hospital survival and prognosis for survival beyond the acute episode of illness. As summarized in Table 1, the Sequential Organ Failure Assessment (SOFA) score, with appropriate modifications for people with disabilities and modification to mitigate the disproportionate impact of chronic kidney disease, is used to characterize patients' prognosis for hospital survival. As discussed below, the presence of underlying conditions in such an advanced state that they would limit duration of benefit to no more than one year from the episode of acute illness is used to characterize patients' prognosis for survival beyond the acute episode of illness.

Points are assigned for SOFA score category (1-4 points) and the presence of underlying conditions that make death likely within 1 year (4 points). These points are then added together to produce a total priority score, which ranges from 1 to 8. Lower scores indicate higher likelihood of benefiting from critical care; priority will be given to those with lower scores.

**Table 1: Multi-principle Strategy to Allocate Critical Care to Adult Patients During a Public Health Emergency**

Specification	Point System*			
	1	2	3	4
Prognosis for survival of the acute illness	SOFA score <6	SOFA score 6-9	SOFA score 10-12	SOFA score > 12
Prognosis for survival beyond the acute illness				Severely life limiting conditions; death likely within 1 year regardless of whether patient survives the acute illness

SOFA = Sequential Organ Failure Assessment

\*Persons with the lowest cumulative score will be given the highest priority to receive critical care services.

### *Limitations of SOFA scoring*

There are several objective scoring systems used to assess severity of critical illness and likelihood of survival. Each has significant limitations in prognosticating survival for individual patients and all, including SOFA, should be applied and adjusted in the context of clinical judgment.

### *Adjustment to SOFA for patients with chronic kidney disease*

Use of SOFA scoring has the potential to compound existing structural inequities. For example, use of SOFA scoring will have a disproportionately negative impact on patients with chronic kidney disease, who are disproportionately persons of color, who have in turn been disproportionately impacted by COVID-19. In an effort to mitigate this effect, any patient who is known to have chronic kidney disease will be assigned no more than 2 points in the SOFA score for elevated creatinine.

### *Reasonable accommodations in use of SOFA in patients with disabilities*

The Glasgow Coma Scale, a tool for measuring acute brain injury severity in the SOFA, adds points to the SOFA score when a patient cannot articulate intelligible words, even if this condition is due to a pre-existing speech disability or chronic ventilation. Similarly, patients with pre-existing neuromuscular conditions or spinal cord injuries may be unable to move parts of their body in response to verbal direction. Persons with disabilities who experience baseline levels of impairment prior to the acute care episode should be afforded reasonable accommodations in the scoring process so as not to increase SOFA scores for purposes of this protocol unless those conditions are believed to directly and substantially impact an individual's likelihood of survival of the acute illness with treatment. Additionally, patients with communication disabilities and/or limited English proficiency must be offered full access to interpreter services and, if indicated, assistive technology or other reasonable accommodations in order to appropriately and objectively complete the assessment. For

some patients with significant communication disabilities, this may require having a member of the patient's care team (e.g. a family member or personal PCA) present at the bedside with appropriate safety training and PPE. This should be considered a reasonable accommodation even in the context of otherwise restrictive visitor policies.

If laboratory values or other elements needed for the priority score are not available prior to the need for a time sensitive decision by the Triage Officer, the Triage Officer will do his/her best to approximate a priority score.

### ***One-year prognostication***

In some cases, sufficient objective evidence about a patient's medical history will not be available at the time of initial triage to determine whether a patient has underlying medical conditions that are expected to limit survival to less than one year regardless of whether the patient survive the acute illness. In these cases, clinicians should make conservative judgments regarding prognosis, relying upon individualized assessment and the most expert clinical judgment available to them. Points should only be assigned for "death likely within one year" if at least two physicians agree with a high degree of confidence that the patient is likely to die within one year regardless of whether he survives the acute illness.

The mere existence of certain underlying medical conditions (including without limitation a diagnosis of end stage renal disease, a diagnosis of congestive heart failure, or a diagnosis of dementia) should not be used in and of themselves to assign points for "death likely within one year" without objective, individualized medical evidence that such conditions are of a severity that would limit life expectancy to less than one year. Disabilities or chronic, stable underlying conditions that have no impact on the likelihood of surviving the acute illness, or surviving one year beyond the acute illness, will not be considered in assigning points.

### **b) Approach to Pediatric Patients (< 18 years of age)**

In the COVID-19 pandemic adults have been more severely impacted than children. As such, the care of pediatric patients should be concentrated in large pediatric centers, thereby allowing hospitals that treat both adults and children to devote more resources to adult patients. If CSC triage guidelines are in effect, pediatric ICU patients may be stabilized in their local combined hospital emergency departments and then transferred to the pediatric center where the triage can occur by an expert pediatric/neonatal triage team.

Scoring systems that are meaningful for adult critical care patients do not apply to pediatric patients or newborns. While there are similar scoring systems for pediatric and neonatal patients, they are less reliable as the basis for determining priority for several reasons. Most children requiring critical care and mechanical ventilation have a much higher likelihood of survival to hospital discharge than adults who require these interventions and therefore most will have favorable scores. Moreover, many children who require neonatal or pediatric critical care have chronic medical and surgical conditions, some congenital and some acquired. Many of these are rare conditions that require multi-specialist expertise, and the interplay between the underlying disease and the current illness is not captured by

any scoring system. Finally, within the small range of ages included under the umbrella of pediatrics, patient age is not a meaningful factor to distinguish priority for ventilators or critical care.

For these reasons, experienced pediatric intensivists and neonatologists serving as Triage Officers should exercise clinical judgment in assigning priority scores for children. Triage Officers will focus on the likelihood of surviving the current admission and will also take into account conditions that are expected to limit survival to no more than one year regardless of whether the patient recovers from the episode of critical illness. Triage should be guided by the acute severity of the patient’s current medical condition, the epidemiology of the disease, and the current status of any underlying medical diseases that may hinder recovery. Triage Officers may use validated scoring systems (e.g., PELOD-2, modified pediatric SOFA, SNAPPE-II) to aid in their assigning of priority scores. Triage Officers should not factor a patient’s pre-hospitalization quality-of-life or predictions of future quality-of-life into the assignment of priority scores. Disabilities or chronic, but stable underlying, conditions that have no impact on short term survivability should not be considered.

Points are assigned for prognosis for survival of the acute illness (1-4 points) and the presence of underlying conditions (3 points for severe underlying conditions with life expectancy < 1 year and 4 points for conditions expected to be non-survivable during the hospital admission). These points are then added together to produce a total priority score, which ranges from 1 to 8. Lower scores indicate higher likelihood to benefit from critical care; priority will be given to those with lower scores.

**Table 2: Multi-principle Strategy to Allocate Critical Care to Pediatric Patients During a Public Health Emergency**

Specification	Point System			
	1	2	3	4
Prognosis for survival of the acute illness	75-100% chance of short-term survival	50-75% chance of short-term survival	25-50% chance of short-term survival	0-25% chance of short-term survival
Presence of underlying conditions			Severe co-morbid conditions; death likely within 1 year	Conditions expected to be non-survivable during this admission

**c) Other patient characteristics**

In determining the priority score for a patient, the Triage Officer(s) may by necessity as part of the evaluation have access to characteristics that have no bearing on the likelihood or magnitude of benefit (including but not limited to: race, disability, gender, sexual orientation, gender identity, ethnicity, ability to pay, socioeconomic status, perceived social worth, incarceration, homelessness, perceived quality of life, immigration status, or past or future use of resources). Triage Officers must not consider such characteristics in any way in making priority determinations and should be mindful of the role that implicit bias may play in decision making. As set forth in Section V.E.5, a patient’s age may be considered only as part of an individualized assessment of the patient’s prognosis, and also in

tiebreaker situations where patients who are under the age of 18 shall be given priority for allocation of critical care resources over patients who are over the age of 18.

Assessment of prognosis for survival and assignment of a priority score must not include subjective criteria such as quality-of-life or intrinsic worth.

#### **d) Reasonable accommodations**

Treating doctors and triage teams should consider reasonable accommodations to triage protocols for individuals with disabilities. No patient should be disqualified from receiving life-saving treatment solely because of the presence of a disability. Additionally, treatment allocation decisions may not be based on the perception that a person's disability will require the use of greater treatment resources, either in the short or long term. This should preclude the denial of initial access to a scarce medical resource, such as a ventilator, based on the assumption that the person will require its use for a longer period of time than a nondisabled person. This provision also precludes denying care to an individual because treating them will require that they be hospitalized for a longer period of time, will require greater-than-normal investment of staff time, or will require accommodations to standard hospital procedures.

#### **e) Pregnancy**

Pregnant patients will be assigned a priority score based on the same framework used for non-pregnant patients. If a pregnant patient is at or beyond the usual standards for fetal viability, the patient will be given a two-point reduction in priority score, giving the person a higher priority score.

### **3. Assign patients to color-coded priority groups**

Once a patient's priority score is calculated using the multi-principle scoring system described in Tables 1 or 2 for adult and pediatric patients respectively, each patient will be assigned to a color-coded triage priority group (Table 3), which should be noted clearly in their chart/electronic medical record. This color-coded assignment of priority groups is designed to allow Triage Officers to create operationally clear priority groups to receive critical care resources, according to their score on the multi-principle allocation framework. For example, individuals in the Red group have the best chance to benefit from critical care interventions and should therefore receive priority over all other groups in the face of scarcity. The Orange group has intermediate priority and should receive critical care resources if there are available resources after all patients in the Red group have been allocated critical care resources. The Yellow group has lowest priority and should receive critical care resources if there are available resources after all patients in the Red and Orange groups have been allocated critical care resources. The priority scoring process should be consistent across organizations, although specific color codes used to designate priority group may vary.

All patients other than those who are thought to be imminently dying regardless of critical care interventions will be *eligible* to receive critical care beds and services regardless of their priority score. The availability of critical care resources will determine how many eligible patients will receive critical care. Patients who are not triaged to receive critical care/ventilation will receive medical care that includes intensive symptom management and psychosocial support. They should be reassessed

daily to determine if changes in resource availability or their clinical status warrant provision of critical care services.

Where available, specialist palliative care teams will be available for consultation. Where palliative care specialists are not available, the treating clinical teams should provide primary palliative care.

**Table 3**  
**Step 2- Use Priority Score from Multi-principle Scoring System to Assign Priority Category**

Level of Priority and Code Color	Priority score from Multi-principle Scoring System
<p style="text-align: center;"><b>RED</b>  <b>Highest priority</b></p>	<p style="text-align: center;"><b>Priority score 1-2</b></p>
<p style="text-align: center;"><b>ORANGE</b>  <b>Intermediate priority</b>  (reassess as needed)</p>	<p style="text-align: center;">Priority score 3-5</p>
<p style="text-align: center;"><b>YELLOW</b>  <b>Lowest priority</b>  (reassess as needed)</p>	<p style="text-align: center;">Priority score 6-8</p>
<p style="text-align: center;"><b>GREEN</b>  <b>Do not manage with scarce critical care resources</b>  (reassess as needed)</p>	<p style="text-align: center;">No significant organ failure or no requirement for critical care resources</p>

#### **4. Make daily determination of how many priority groups can receive the scarce resource**

Hospital leaders and the Triage Team will make determinations twice daily, or more frequently if needed, about what priority groups will have access to critical care services. These determinations will be based on real-time knowledge of the degree of scarcity of the critical care resources, as well as information about the predicted volume of new cases that will be presenting for care over the following several days. For example, if there is clear evidence that there is an imminent shortage of critical care resources (i.e. few ventilators available and large numbers of new patients daily), only patients in the highest priority group (Red group) should receive the scarce critical care resource. As scarcity subsides, additional priority groups (e.g. first Orange group, then Yellow group) should have access to critical care interventions.

There may be situations in which the hospital determines that it will offer critical resources to a certain priority group on a given day, and then there are not enough critical care resources for all patients within that priority group to receive them. In such a case, the raw priority scores will determine the priority order for patients in the same priority group (the lower the score, the higher the priority). In some circumstances, it may be ethically permissible to conserve scarce critical care resources during times of high demand to assure that the resources are available to those with the best prognoses.

#### **5. Distinguishing between patients in same priority group where resources are insufficient (“tiebreakers”)**

During the Covid-19 pandemic, patients have generally presented for critical care sequentially as opposed to simultaneously. Where this is the case, side by side comparisons between patients in the setting of initial triage typically are neither possible nor necessary. In the event of severe scarcity, however, there may be several situations in which multiple patients are being considered for initiation or continuation of critical care at the same time and need to be distinguished from one another. These situations include 1) the need to compare multiple patients in the same priority group awaiting initiation of critical care when there are limited critical care resources available; 2) the need to compare patients already receiving critical care resources with those waiting for them; and 3) the need to compare multiple critically ill patients already receiving critical care.

The reallocation of resources when patients are already receiving critical care is addressed below. Regarding distinguishing between multiple patients who are being initially triaged for critical care resources and fall into the same priority group, the following criteria should be used.

##### ***Priority score***

In the event that multiple patients present for initial triage simultaneously and there are insufficient critical care resources for all the patients, patients with a lower absolute priority score will receive priority over those with a higher absolute priority score.

### *Additional factors that affect short-term survival*

There may be multiple patients with the same absolute priority score who, based on individual patient characteristics not accounted for by SOFA, are deemed to have substantially different prospects for survival of the acute illness. Such individual patient characteristics may include, for example, age, progressive frailty and severe underlying medical conditions for which there is objective medical evidence. To the extent that several patients with the same priority score are deemed to have substantially different prospects for survival of the acute illness, priority may be given to the patients with the higher likelihood of surviving the acute illness.

Decisions to allocate resources to one patient over another patient with the same priority score should be based on the consensus of at least two physicians, should be documented in detail, and should be subject to regular review by the Triage Review and Oversight Committee to ensure that adjustments are not being driven by implicit or explicit bias in favor of or against any group of similarly situated individuals.

### *Pediatric patients*

If there are multiple patients who are thought to have similar prognoses for short-term survival after consideration of additional factors as above, patients who are under the age of 18 shall be given priority for allocation of critical care resources over patients who are over the age of 18.<sup>11 12 13</sup>

### *Lottery*

In the event that there are “ties” between patients for allocation of resources after consideration of the factors listed above, a lottery (i.e., random allocation) may be used to determine which patients receive limited critical care resources.<sup>14</sup>

## **6. Categorical exclusion criteria and non-survivable conditions**

A central feature of this allocation framework is that it avoids the use of categorical exclusion criteria to indicate individuals who should not have access to critical care services under any circumstances during the COVID-19 pandemic. There are some conditions that lead to immediate or near-immediate death despite aggressive therapy (e.g., cardiac arrest unresponsive to appropriate ACLS, overwhelming traumatic injuries or burns, advanced and irreversible neurologic event, intractable shock). During a public health emergency, clinicians must still make clinical judgments about the appropriateness of critical care using the same criteria they use during normal clinical practice and, to the extent critical care utilization would be deemed non-beneficial during normal clinical practice, it

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<sup>11</sup> Emanuel EJ, Wertheimer A. Public health. Who should get influenza vaccine when not all can? *Science* 2006;312:854-5.

<sup>12</sup> Rosenbaum SJ, Bayer R, Bernheim RG, et al. Ethical considerations for decision making regarding allocation of mechanical ventilators during a severe influenza pandemic or other public health emergency. Atlanta: Centers for Disease Control and Prevention, 2011.

<sup>13</sup> Neuberger J, Adams D, MacMaster P, Maidment A, Speed M. Assessing priorities for allocation of donor liver grafts: survey of public and clinicians. *British Medical Journal* 1998;317:172-5.

<sup>14</sup> Crisis standards of care: Guidance from the AMA Code of Medical Ethics. April 2020. Accessed on: October 2020. Available at: <https://www.ama-assn.org/delivering-care/ethics/crisis-standards-care-guidance-ama-code-medical-ethics>



should not be offered during a public health emergency. Triage Officers and attending physicians will make clear in communicating with families whether critical care is not being offered based on the existence of a non-survivable medical condition or based on the allocation framework.

## **F. Reassessment for ongoing provision of critical care/ventilation**

The purpose of this section is to describe the process the Triage Team will use to reassess patients who are receiving critical care services, in order to determine whether the patient will continue with the treatment.

### **1. Ethical goal of reassessment of patients who are receiving critical care services**

Every approach to the allocation of critical care resources is imperfect, and requires trade-offs. Because (1) initial triage under emergent circumstances is extremely challenging; (2) it is ethically valuable to give as many patients as could benefit a chance to receive critical care resources; (3) many patients treated during the COVID-19 pandemic will have the same initial priority score; and (4) during the COVID-19 pandemic patients generally present for critical care sequentially as opposed to simultaneously, the initial framework laid out in this document would likely result in a large element of first-come, first-served allocation. This can arbitrarily favor those who were first in line by virtue of chance (timing of illness) and/or ability to access hospital resources. As such, it is important to carefully plan for reassessing patients and reallocating critical resources, and to approach reassessment and reallocation using the same ethical principles that govern the initial allocation decisions.

In a public health emergency, when there are not enough critical care resources for all, the goal of maximizing population outcomes would be jeopardized if patients who were determined to be unlikely to survive were allowed indefinite use of scarce critical care services. Regular reassessments of patients already receiving critical care resources, and reallocation of those resources where appropriate, will lessen the chance that arbitrary considerations (such as when an individual develops critical illness or how able an individual is to access hospital resources) will unduly affect patients' access to treatment.

### **2. Therapeutic trial of critical care**

All patients who are allocated critical care services (other than those who receive critical care briefly to allow for initial triage by a Triage Officer and are subsequently determined to be unable to receive critical care based on priority assignment) will be allowed a therapeutic trial of a duration to be determined by the clinical characteristics of the patient, the patient's disease and the expected trajectory of recovery. The duration of the therapeutic trial also may be affected by the degree of scarcity a hospital is facing; therapeutic trials may be shorter if the ability of the hospital to reallocate resources in the ordinary course of critical care is overwhelmed by the demand for such resources (i.e., there is a significant queue of patients waiting for resources).

### **3. Regular reassessments**

A Triage Team will conduct regular reassessments of all patients receiving critical care/ventilation to determine the relative prognoses of the patients for survival of the acute illness. Given the importance

of consensus and confidence in determining prognosis, the Triage Team should include multiple Triage Officers with relevant training and ideally include a clinician with a specific focus on diversity, equity and inclusion.

Determination of prognosis may include consideration of individual factors known to influence the outcomes of critical illness, including for example age, underlying serious medical conditions, and improvement or decline in organ function since the time of initial triage. Those factors will only be considered to the extent that they are thought to affect prognosis for survival of the acute illness.

To the extent possible, members of the Triage Team making such decisions will be blinded to patient characteristics that should not be used in decision making including race, disability, gender, sexual orientation, gender identity, ethnicity, ability to pay, socioeconomic status, perceived social worth, perceived quality of life, immigration status, or past or future use of resources.

#### **4. Reallocation**

If there are patients in the queue for initiation of critical care services who are in the high priority group, then patients already receiving critical care who are deemed on reassessment to have very poor prognoses for survival of the acute illness should not receive ongoing critical care/ventilation.

If there are multiple patients who are deemed to have equally poor prognoses for survival of the acute illness, and decisions regarding continuation of critical care resources need to be made, a lottery may be used to determine which patients will and will not receive ongoing critical care/ventilation.

This approach to reassessment will apply to all patients receiving critical care resources, including those who were already receiving critical care resources at the time the allocation framework was activated. The Triage Team will review all patients receiving critical care at the time the allocation framework was activated and will determine in conjunction with bedside clinicians when it is appropriate to reassess those patients.

#### **5. Communication regarding reallocation decisions**

When a determination has been made that a patient can no longer receive ongoing critical care/ventilation, the Triage Team will explain in detail to the patient or the patient's surrogate decision-maker the reasoning behind the decision and offer the opportunity for an appeal of the determination (following the process for appeals detailed below). If an appeal is denied, assent of the patient or surrogate will not be required for discontinuation of critical care/ventilation. Patients who are no longer prioritized for critical care/ventilation should receive medical care including intensive symptom management and psychosocial support. If available, specialist palliative care teams will participate in the communication process and the medical management of these patients.

## **6. Reasonable modifications for persons with disabilities**

In the context of reallocation decisions and assessment of prognosis, reasonable modifications must be made for persons with disabilities.<sup>15</sup> These may include interpreter services or other modifications or additional services needed due to disability. Given that the clinical trajectory for any one patient may be influenced by their underlying conditions including disabilities, clinicians should consider these factors when performing reassessments and allow for variations on recovery that are in the context of the underlying condition or disability. An underlying disability should not be used as the sole basis for determining that a patient has a poor prognosis for surviving the acute illness.

## **7. Patients requiring chronic ventilation**

Patients who present for acute care and are already using a personal ventilator for pre-existing respiratory conditions (e.g. home ventilation or ventilation at a skilled nursing facility) must not be separated from their ventilators in order to reallocate them to other patients.

### **G. Rapid reassessment of patients unable to be triaged initially**

Those patients who receive critical care services (e.g. mechanical ventilation) emergently in order to allow time for initial triage by a Triage Officer, but who are subsequently determined to be unable to receive critical care based on priority assignment (as above in the section regarding initial assessment), will receive medical care including intensive symptom management and psychosocial support. They will not receive a trial of critical care as described above. By way of example, this might include patients intubated in the field, patients intubated emergently in the emergency department, patients with severe trauma stabilized in the emergency department and brought to the ICU, and patients resuscitated on a medical floor in a code situation. The appeals process for withdrawal of critical care described below will not apply to these patients.

### **H. Protections for people with disabilities**

Individuals with certain disabilities or background characteristics may be at particularly high risk of being subject to inaccurate prognostic judgments based on implicit bias related to these characteristics, including assumptions about life expectancy and quality of life. These conditions include, for example, autism, communication disability (e.g., dysarthria), intellectual or cognitive disability (e.g. Down's syndrome, genetic conditions with developmental delay), mental health disability (e.g. severe depression or anxiety), physical mobility disability (e.g. spinal cord injury, spina bifida, neuromuscular conditions), sensory disability (e.g. blindness, deafness).

In addition to the reasonable modifications and accommodations identified throughout this document for people with disabilities, decisions to withhold or withdraw critical care resources from such individuals should be subject to a high level of scrutiny, should be reviewed by at least two physicians

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<sup>15</sup> Mello MM, Persad G, White DB. Respecting Disability Rights - Toward Improved Crisis Standards of Care. *N Engl J Med.* 2020 Jul 30;383(5):e26.

and made only when there is consensus with a high degree of confidence, and should ideally be reviewed by a physician with medical expertise related to the disability in question.

Physicians and medical institutions operating in accordance with these standards may not deny, withhold, remove, or suspend care to any patient based solely on their own assessment of the patient's quality of life due to a disability or medical condition. This prohibition extends to both subjective assessments and to the use of metrics such as Quality-Adjusted Life Years (QALYs) and Disability-Adjusted Life Years (DALYs). Such assessments do not reflect the value that people with disabilities place on their own lives.

## **I. Appeals process for individual triage decisions**

It is possible that patients, families, or clinicians will challenge individual triage decisions. Procedural fairness requires the availability of an accessible, prompt, and transparent appeals mechanism to resolve such disputes. Special consideration will be made to ensure that this is done in a culturally competent manner, with racially, ethnically, culturally and linguistically diverse team members available to assist in these communications if possible, and specialized assistive technology or other reasonable accommodations available for patients and families who require it.

### **1. Initial triage decisions**

By necessity, many initial triage decisions will be made in highly time-pressured circumstances. As such, for initial triage decisions, the only appeals that will be entertained are those based on a claim that an error was made by the Triage Officer in the calculation of the priority score or in the use or nonuse of a tiebreaker consideration. In the event of such an appeal, the Triage Team will verify the accuracy or the priority score by recalculating it or will revisit tiebreaker considerations.<sup>16</sup>

### **2. Decisions to withdraw scarce resources**

Decisions to withdraw scarce resources (including mechanical ventilation) from a patient who is already receiving critical care may cause heightened moral concern and may also depend on more clinical judgment than initial allocation decisions. Clinicians, patients and surrogates will be informed of their right to appeal any such decisions. If a clinician, patient or surrogate would like to appeal such a decision, the following process will take place.

- The appeal will be immediately brought to the Triage Review and Oversight Committee.
- The individuals who are appealing the triage decision should explain the grounds for their disagreement with the triage decision. An appeal may not be brought based on an objection to the overall allocation framework.
- The Triage Team should explain the grounds for the triage decision that was made.
- Appeals based on considerations other than disagreement with the allocation framework should immediately be brought to the Triage Review and Oversight Committee. Any triage decision based on consideration prohibited under this document should be reversed and redetermined using only the relevant, individualized clinical assessment
- The appeals process must occur quickly enough that the appeals process does not harm patients who are in the queue for the scarce resource.

- Three committee members will be needed for a quorum to render a decision, using a simple majority vote, but need not meet in person.
- The decision of the Triage Review and Oversight Committee for a given hospital will be final.
- The decision of the Triage Review and Oversight Committee will be documented in sufficient detail to demonstrate that the outcome represents a well-considered decision.
- Periodically, the Triage Review and Oversight Committee should retrospectively evaluate whether the review process is consistent with effective, fair, and timely application of the allocation framework.

## **J. Other Provisions**

**Communication with staff:** Once Hospital Incident Command System (HICS) leadership has determined that the institution is activating the allocation framework, this will be communicated clearly and consistently to all hospital clinical staff.

**Consolidation of critical care triage:** Once the allocation framework has been activated, critical care triage throughout the institution will be consolidated and the allocation framework will be applied to all critical care triage within the institution.

**Early intervention:** Once the allocation framework has been activated, every effort should be made to identify early those patients in the hospital who are at high risk of declining to the point of requiring critical care within 24-48 hours. Those patients should be called to the attention of a Triage Officer.

**Transparency:** Once the allocation framework is activated, clinicians will communicate in transparent language with patients and families about the public health emergency and the need to allocate resources differently than when the allocation framework is not activated. Special consideration will be made to ensure that this is done in a culturally competent manner, with racially, ethnically, culturally and linguistically diverse team members available to assist in these communications if possible, and specialized assistive technology or other reasonable accommodations available for patients and families with disabilities or those who otherwise require it.

**Documentation:** All triage decisions made through the Triage Officer and Triage Team will be documented in the medical record. As long as the allocation framework is in effect, the overall allocation of critical care resources within the institution will be documented and reported to promote transparency. When the appeals process is conducted, it will be documented in sufficient detail to demonstrate that the outcome reflects a well-considered decision. A reporting mechanism will be developed to monitor the results of the triage process by race, ethnicity, preferred language, gender, disability and other patient characteristics. All documentation related to triage decisions and appeals made during a period of crisis activation including, as specified by the Department of Public Health, demographic information, medical records (electronic or paper), logs, appeals records and decision tools will be made available to DPH at any time upon their request.

**Reassessment of the allocation framework:** If it is determined that critical care resources are being inequitably distributed based on demographic or other data, attempts will be made by the Triage Review and Oversight Committee to identify where the inequity is occurring through an iterative process and to immediately develop strategies for remediation. Identification of the factors causing

inequitable distribution and the immediate development of strategies for remediation should be undertaken. Facilities must notify the Department of Public Health of any finding that may indicate potential inequitable distribution of resources resulting from the implementation of these guidelines.

**Palliative care:** To the extent the resources of the institution allow, there will be palliative care staff specifically designated to work closely with the Triage Officer and Triage Team and to facilitate development of care plans for patients who require intensive symptom management and psychosocial support. Palliative care plays an important role in responding to a pandemic by assisting with symptom management, decision-support, and emotional and spiritual support for patients and families. As early as possible, health systems and palliative care teams should devise plans to accommodate the surge in demand for palliative care services and the adaptations that will be required to deliver those services, given the unique constraints posted by the circumstances of the pandemic.

**Cardiopulmonary resuscitation and intubation:** Any patient who is evaluated by the Triage Team and is determined to be unable to receive scarce critical care resources under the allocation framework will not undergo cardiopulmonary resuscitation or intubation. If circumstances materially change and the patient subsequently is assigned a priority score that would allow receipt of critical care, the clinical management in life-threatening circumstances should be reconsidered.

**Healthcare decision making:** Although there may be circumstances where a particular individual cannot be offered critical care resources and will therefore will not be offered cardiopulmonary resuscitation or intubation, individuals or their families shall not be required to commit to a DNR and/or DNI order as a prerequisite to receiving treatment, regardless of the level of strain on hospital resources or the individual's disability, pre-existing health condition. Individuals with disabilities, older adults, or people with chronic health conditions and their families may not be improperly pressured or coerced into agreeing to DNR and/or DNI orders. All individuals being treated should be fully informed on their care options. Any individual presenting with severe COVID-19 symptoms should be offered the opportunity to execute a standard Massachusetts health care proxy form if they do not already have a designated emergency decision maker. All patients, including older adults and patients with disabilities or chronic conditions should be afforded accommodations as necessary to communicate their wishes and preferences with regard to treatment decisions, and physicians/ethics committees making recommendations regarding end of life decisions should guard against discriminatory assumptions, including assumptions about an individual's competency, quality of life, value to society, life expectancy, or desire to continue living with a chronic underlying disability.

**Use of extracorporeal life support:** If the allocation framework is activated, all decisions regarding use of extracorporeal life support ("ECLS") will be made by the Triage Team in consultation with Hospital Incident Command leadership and critical care ECLS specialists with the goals to reserve this limited resource for those who would be most likely to benefit from it and to avoid prolonged use in patients who are not showing signs of recovery.

**Use of other specific critical care resources:** Once the allocation framework is activated, there may be specific critical care resources other than ECLS that become limited (e.g., dialysis, mechanical circulatory support). Once Hospital Incident Command leadership has made this determination, the Triage Team in conjunction with respective clinical are groups (e.g. nephrology in the case of dialysis, cardiology and cardiac surgery in the case of mechanical circulatory support) will make all decisions

regarding initiation of such specific resources. The goals will be to reserve these resources for those most likely to benefit from them and to avoid prolonged use in patients who are not showing signs of recovery.

**Patient personal equipment:** If a patient presents to a hospital and has personal medical equipment (including equipment used or rented by the patient prior to presentation at the hospital), such as a ventilator, that equipment will not be confiscated or used for any other patient.

**Accommodations for communication:** Hospitals will ensure access to interpretive services through electronic means or other methods appropriate for the clinical circumstance. For patients who require assistance to communicate effectively, hospitals will make reasonable accommodations to hospital non-visitation policies attempts to and use other adaptive methods for communication, including but not limited to the provision of American Sign Language interpretation to patients who are Deaf.

**Outside hospital transfers:** When the allocation framework is activated, triage of outside hospital requests for an ICU bed will be centralized through the Triage Team. In communicating about a proposed transfer of a patient, the transferring hospital should communicate the priority score of the patient to the receiving hospital.

**Suspension of standard hospital policy:** The Hospital Incident Commander should suspend hospital policies based on routine operations that are in conflict with this document to the extent these can be identified in a timely fashion.

**Flexibility and limitations:** This document provides a framework for decision-making regarding critical care resources in the event that demand for critical care resources outstrips capacity during the COVID-19 pandemic. In institutions that have a limited number of critical care, ethics or other resources, it may not be possible to follow the precise processes and guidelines outlined in this document. Each institution will follow the processes and guidelines to the extent possible, modifying as necessary to adhere to the spirit of the document given constraints. If the processes laid out in this document need to be modified throughout the course of the public health emergency, any modifications will be done through a fair and transparent process that involves Hospital Incident Command, critical care and ethics leadership.

**Retrospective Review:** The accumulated data of all hospital triage decisions in facilities which have activated CSC, maintained as required above in Section V.B and herein, will be subject to retrospective review at both the hospital level and on a state-wide level by the Department of Public Health.

In addition, if triage teams perform allocation decision-making over a prolonged time period, health systems should take steps to develop and deploy, in a timely way, a method of tracking the implementation of their policy, defining and describing quality performance of Triage Teams, and longitudinally analyzing the performance. Data collection should include data on morbidity and mortality outcomes to assess trends by demographic factors such as gender, race and ethnicity, primary language, disability type (including physical disability, mental health diagnosis, and intellectual/developmental disability), address, or socioeconomic status (including but not limited to insurance status and occupation).

At the conclusion of an emergency triggering crisis standards of care and implementation of the triage protocol, a formal report describing the health system's experience, patient outcomes, community response, and lessons learned should be developed and shared with providers, system leaders, governing authorities, patients, and the public. This consultation process must include organizations which advocate for the rights of racial and ethnic minorities and people with disabilities in healthcare settings. Feedback from these stakeholders should be utilized to evaluate and update, as appropriate, all aspects of the triage framework.

**Publication:** All hospitals shall publish their CSC protocols, including appeal procedures, on their websites.



## VI. RESOURCES

Sequential Organ Failure Assessment (SOFA) Score						
Variable	Score 0	Score 1	Score 2	Score 3	Score 4	Score for each row
PaO <sub>2</sub> /FIO <sub>2</sub> ratio*	≥400	< 400	< 300	< 200	< 100	
Platelets/nl	≥150	<150	<100	<50	<20	
Bilirubin, mg/dl	< 1.2	1.2-1.9	2.0-5.9	6.0-11.9	≥12	
Hypotension* *	None	MAPBP <70	Dop ≤ 5 or dobutamine (any dose)	Dop 5.1-15 or Epi ≤0.1 or Norepi ≤0.1	Dop >15 or Epi >0.1 or Norepi >0.1	
Glasgow Coma Scale	15	13-14	10-12	6-9	<6	
Creatinine level, mg/dl	<1.2	1.2-1.9	2.0-3.4	3.5-4.9 or urine output <500 mL in 24 hours	>5 or urine output <200 mL in 24 hours	
SOFA Score (total from all rows)						

\*FIO<sub>2</sub>=fraction of inspired oxygen; MAP mean arterial pressure; PaO<sub>2</sub> partial pressure of oxygen

\*\*Hypotension:

- MABP=mean arterial blood pressure in mm Hg [diastolic + 1/3(systolic-diastolic)]
- Dop=dopamine in micrograms/kg/min
- Epi=epinephrine in micrograms/kg/min
- Norepi=norepinephrine in micrograms/kg/min

<b>Glasgow Coma Scale Scoring Criteria</b>			
<b>Criteria</b>		<b>Score</b>	<b>Criteria Score</b>
<b>Eye Opening Response</b>	<b>No eye opening</b>	<b>1</b>	
	<b>To pain only</b>	<b>2</b>	
	<b>To verbal stimuli</b>	<b>3</b>	
	<b>Spontaneous</b>	<b>4</b>	
<b>Verbal Response</b>	<b>No response</b>	<b>1</b>	
	<b>Incomprehensible</b>	<b>2</b>	
	<b>Inappropriate words</b>	<b>3</b>	
	<b>Confused conversation but able to answer questions</b>	<b>4</b>	
	<b>Oriented</b>	<b>5</b>	
<b>Motor Response</b>	<b>No response</b>	<b>1</b>	
	<b>Extension response in response to pain</b>	<b>2</b>	
	<b>Flexion response in response to pain</b>	<b>3</b>	
	<b>Withdraws in response to pain</b>	<b>4</b>	
	<b>Purposeful movement in response to pain</b>	<b>5</b>	
	<b>Obeys commands for movement</b>	<b>6</b>	
<b>Total Score (range 3-15)</b>			

## VII. REFERENCES

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