

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

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

November 23, 2020

**This plan is adapted from “Crisis Standards of Care: Planning Guidance
for the COVID-19 Pandemic” from the Commonwealth of
Massachusetts, Executive Office of Health and Human Services,
Department of Public Health
250 Washington Street, Boston, MA 02108-4619**

Table of Contents

25
26
27 I. Overview
28
29 II. Introduction
30
31 III. CSC Purpose, Assumptions, Concepts, and Ethical Principles
32
33 IV. Activation of Crisis Standards of Care Planning Guidance for COVID-19
34
35 V. Strategies for Maximizing Critical Care Resources (Allocation Framework)
36
37 VI. References
38
39 VII. Acknowledgements
40
41
42
43
44
45
46
47
48
49

50 DRAFTING NOTE: This guidance is based on the current Massachusetts Crisis Standards of Care Plan.
51 Modifications have been made to reflect Nebraska laws and other considerations unique to Nebraska.
52

53 **I. Overview**

54

55 In November 2020, a public health fusion cell was created by the Nebraska Department of Health and
56 Human Services, with the intent of coordinating efforts and connecting stakeholders across public
57 health in the COVID-19 response. Quickly, a request to establish a Fusion Cell team to focus on
58 Healthcare Surge was approved and adopted. One aim of the Healthcare Surge team of the fusion cell
59 was to develop a crisis standards of care plan to be implemented across the state, in the event that
60 hospitals and other healthcare facilities would be overwhelmed by a COVID-19-related surge. A work
61 group representing clinical, legal, and ethical perspectives was convened to create such a plan. As
62 there is not currently a state-backed crisis standards of care plan, this plan is intended to serve as
63 guidance and a model that may be adapted by health systems and individual healthcare facilities.
64 Depending on the needs and resources of a given healthcare facility or healthcare coalition, some
65 components of the plan may be adapted to occur at a regional coalition level, rather than at a facility
66 level. The Healthcare Surge team has established the Nebraska Medical Emergency Operations Center
67 (NEMEEOC) to now coordinate, communicate and optimize collaboration across the state for
68 healthcare surge. The NEMEEOC will serve as a guidance group for implementation of crisis standards
69 of care.

70

71 **II. Introduction**

72

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

77

78 **The foundation of this approach to crisis standards of care is that such difficult decisions must**
79 **be based on criteria that ensure that every patient has equitable access to any care from which**
80 **they might benefit. These criteria must be as clear, transparent, and objective as possible, and**
81 **must be based on biological factors related only to the likelihood and magnitude of benefit from**
82 **the medical resources, and should at all times minimize inequitable outcomes.**

83

84 **Factors that have no bearing on the likelihood or magnitude of benefit from the provision of**
85 **medical resources, including but not limited to race, disability, gender, sexual orientation,**
86 **gender identity, ethnicity, ability to pay, socioeconomic status, English language proficiency,**
87 **perceived social worth, perceived quality of life, immigration status, incarceration status,**
88 **homelessness or past or post-emergency use of resources, are not to be considered by providers**
89 **making allocation or triage decisions.**

90

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

96

97 Changes in the usual approaches to care and practice may be necessary due to limitations or fluctuations
98 in resources. The healthcare system may be forced to transition from conventional or usual care, to
99 contingency care that supports the provision of functionally equivalent care, and, if necessary, to “crisis”
100 care when available resources are inadequate to meet all important patient needs. The National Academy
101 of Medicine (formerly the Institute of Medicine (IOM)) has defined the level of health and medical care
102 capable of being delivered during a catastrophic event as “crisis standards of care” (CSC).¹
103

104 Crisis standards of care are limited to disaster scenarios where the resources available are significantly
105 inadequate to the need. These crisis standards of care were formulated in response to the COVID-19
106 pandemic. They are part of a comprehensive preparedness and response strategy that acknowledges that
107 regardless of the best planning and other preparatory efforts, the coronavirus pandemic could overwhelm
108 the Nebraska healthcare system in ways that will require challenging decisions about how to allocate
109 limited and potentially life-saving resources.
110

111 This guidance is intended to:

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

122 **III. CSC Purpose, Assumptions, Concepts, and Ethical Principles**

124 **A. Purpose**

126 This guidance is intended to provide a unified, transparent framework that supports consistent provider
127 decision-making aimed at maximizing the number of life years saved while taking equity matters into
128 account. To assure providers, patients, their families, and the community that CSC will be applied fairly,
129 it is essential that the ethical grounding of this guidance be clearly and specifically stated. The delivery
130 of healthcare under CSC is ultimately about maximizing the care delivered to the population as a whole
131 under circumstances that may limit treatment choices for both providers and patients.
132

133 **B. Assumptions**

¹ 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.

- 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 requiring 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, or
 - Concerns about moral distress. The process of triage and allocation of care is psychologically, emotionally and spiritually demanding for caregivers and may impair their capacity for patient care and decision-making.
- 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 required to deliver the generally accepted standard of care 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.
- This guidance will not supplant any guidance provided by the Nebraska Department of Health and Human Services (DHHS).

C. Concepts

1. Continuum of Care

As described by the National Academy of Medicine, 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 a pandemic are adequate to support clinical care that is equivalent to usual patient care.

180
181
182
183
184
185
186
187
188
189
190
191
192
193

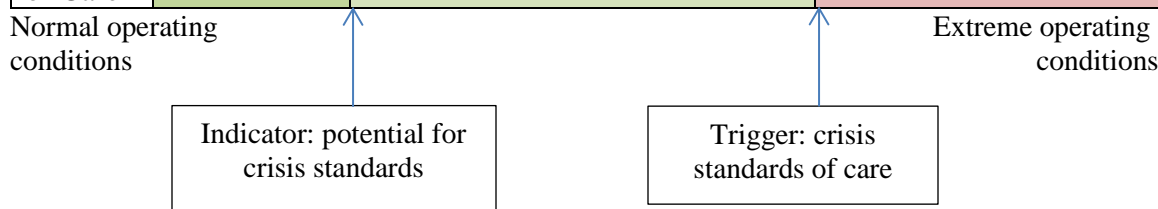
- **Contingency Capacity** The spaces, staff, and supplies used are not consistent with daily practices but support care that is functionally equivalent to usual patient care practices. Alterations in the use of clinical care spaces or practices may be used temporarily or on a more sustained basis during a 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.

194
195
196
197

Figure 1: Care Continuum

Incident demand/resource imbalance increases →
 Risk of morbidity/mortality to patient increases →
 ← Recovery

	Conventional	Contingency	Crisis
Space	Usual patient care space fully utilized	Patient care areas repurposed (PACU, monitored units for ICU-level care)	Facility non-patient care areas (classrooms, etc.) used for patient care; Physical space no longer available for clinical care
Staff	Usual staff called in and utilized	Staff extension (brief deferrals of non-emergent service, supervision of broader group of patients, change in responsibilities, documentation, etc.)	Trained staff unavailable or unable to adequately care for volume of patients even with extension techniques
Supplies	Cached and usual supplies used	Conservation, adaptation, and substitution of supplies with occasional reuse of select supplies	Critical supplies lacking, possible reallocation of life-sustaining resources
Standard of Care	Usual care	Functionally equivalent care	Crisis standards of care



198
199
200
201
202
203
204

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

206
207
208
209
210
211
212
213
214
215
216

- **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.²

2. Triage

217
218
219
220
221

Triage is the process of screening, evaluating, and sorting patients based on their medical status and likely outcome.³ 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 – and frequently is repeated at multiple

² 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

³ Dictionary of Military and Associated Terms. US Department of Defense. 2005

222 levels for a given patient. Effective triage will be essential to prioritize care and to do the greatest good
223 for the greatest number of patients. Although triage is generally a part of all disaster plans, many
224 physicians, nurses, and others may be unfamiliar or uncomfortable with the process.
225

226 *Primary triage* is the first level of evaluation and prioritization and typically occurs before initial medical
227 interventions: in the out-of-hospital setting, on EMS arrival, or in the hospital lobby.
228

229 *Secondary triage* occurs after an additional patient assessment and initial medical interventions are
230 performed (e.g., intravenous fluids or airway management). These decisions are usually performed by
231 medical staff to establish priority for diagnostic studies or treatment.
232

233 *Tertiary triage* involves assessment of the value of ongoing resource commitment during delivery of
234 definitive care (e.g., deciding about continued ventilator support).⁴
235

236 *Reverse triage* also may be utilized while CSC are in effect. Reverse triage is a system of reviewing the
237 acuity and needs of current inpatients when a catastrophic disaster occurs and determining which
238 patients may be safely triaged for early discharge from healthcare institutions. Discharging noncritical
239 patients can be an effective way to increase a hospital's capacity for emergency admissions during a
240 public disaster.⁵ Patients with a level of one (minimum risk) can typically be discharged. Patients with
241 a level of two (low risk) may be appropriate for transfer to a non-acute care facility (e.g., skilled nursing
242 facility, rehabilitation facility) or for early discharge when the overall effects of a disaster exceed the
243 individual risks of not remaining in the hospital or functional equivalency can be attained through
244 community-based methods of patient monitoring, or both. Patients with a level of three (moderate risk)
245 may be transferred to a facility with moderate capabilities if appropriate. Level 4 and level 5 will
246 typically remain in the hospital.
247
248
249

⁴ *Allocating scarce resources in disasters: emergency department principles.* Hick JL1, Hanfling D, Cantrill SV. Ann Emerg Med. 2012 Mar;59(3):177-87.

⁵ 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.

Risk of consequential medical event	Basis	Mean upper limit of tolerance for consequential medical events (IQR)
1 (minimum)	Minimum to no anticipated medical events during next 72 h	3.8% (2–5)
2 (low)	Calculated risk of non-fatal medical event. Transfer to low acuity facility appropriate. Consider early discharge when effects of disaster exceed risks of remaining in hospital—eg, risk of biothreat transmission, effects of resource constraints	11.7% (8–15)
3 (moderate)	Consequential medical event quite likely without critical intervention Discharge to home not advisable Transfer to facility of moderate capabilities appropriate	33.1% (25–50)
4 (high)	Patient care cannot be interrupted without virtually assured morbidity or mortality. Highly skilled care required Transfer to major acute-care facility only	61% (45–80)
5 (very high)	Patient cannot be moved or readily transferred Generally unstable for transport Consider ICU-capable transport only	92.3% (95–100)

ICU=intensive-care unit.

Table 1: Consensus disposition classification and tolerance for rate of consequential medical events

Table: Reverse Triage Factors (Kelen, 2006)

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. ⁶ CSC will be triggered only when there is no acceptable alternative, and its use will be discontinued as soon as possible.

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. The specific nature of these triggers may vary across healthcare facilities and healthcare coalition regions.

⁶ 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.

268 **D. Ethical Principles**

269 These guidelines are based on the following ethics principles.

- 270 • **Respect for Human Dignity** – All healthcare providers demonstrate respect for human dignity
271 by recognizing that the lives of all human beings are of inherent, equal, and incalculable value.
272 While this allocation framework operationalizes the broad public health goal of maximizing
273 benefit to populations of patients by giving priority to patients who are most likely to survive
274 to discharge with appropriate treatment with critical care resources, it also aims to respect the
275 dignity and inherent worth of each person and treat each individual patient fairly. To that end,
276 there must be a balance between use of the decision framework and the application of clinical
277 judgment.
- 278 • **Distributive and Procedural Justice/Fairness**⁷ – All patients will be treated with respect,
279 care, and compassion without regard race, ethnicity, color, national origin, religion, sex,
280 disability, veteran status, age, genetic information, sexual orientation, gender identity, or any
281 other protected characteristic under applicable law.⁸ All patients will be eligible to receive
282 critical care resources and receive a priority assignment based on illness severity and likelihood
283 of benefit to the individual from the intervention. No person who, in usual circumstances
284 would be eligible for critical care resources will be categorically excluded based on pre-
285 existing disabilities, underlying conditions or short-term survivability.
- 286 • **Proportionality** – Any allocation decisions and limitations will be made commensurate with
287 the degree of emergency and the degree of scarcity of resources (including staff resources).
288 The degree of scarcity of resources particular to the emergency situation will impact
289 prioritization decisions (including particular staff shortages in particular areas.⁸ As a public
290 health emergency evolves, expansion of critical care by all means possible will be the first
291 measure taken, followed by conservation and allocation of critical care resources only if
292 necessary. The timing of each measure should balance the dual imperatives of (a) minimizing
293 the potential harms, and (b) maximizing overall benefit.⁸
- 294 • **Solidarity/Common Good** - When there are limited resources, all people must consider the
295 greater good of the entire community. In the event of impending scarcity, the state will make
296 every effort to maximize the capacity of the entire healthcare system to provide critical care to
297 as many patients as possible by coordinating efforts to load balance patients across institutions
298
299
300

⁷ 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, poverty, structural racism and 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.

⁸ Healthcare providers making allocation decisions should not consider characteristics that have no bearing on the likelihood or magnitude of benefit. Factors including but not limited to 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 have been taken into account in development of this framework. These factors will 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.⁽²²⁾

301 and directing critical care resources to the areas that are hardest hit by the pandemic.
302

- 303 • **Participatory Engagement and Transparency**- engaging the community, healthcare
304 organizations and facilities, healthcare providers, and emergency management agencies during
305 the development and implementation of guidelines encourages greater understanding and
306 clarity when clinical triage is needed. Prior to the implementation of the triage
307 recommendations included in this document, each institution will take all possible steps to
308 extend capacity to deliver critical care resources, including
 - 309 ○ accumulating and redeploying supplies;
 - 310 ○ delaying non-urgent care;
 - 311 ○ preparing to use space, and other resources that are not typically used for critical care
312 delivery to deliver critical care;
 - 313 ○ preparing healthcare workers to implement crisis standards of care and to practice care
314 at different standards or levels of care than normally expected, and
 - 315 ○ intensifying efforts to reduce critical care utilization for patients who are significantly
316 unlikely to benefit from it.
- 317 .
- 318 • **Duty to Care** - During a pandemic, health care providers and other healthcare workers are at a
319 greater risk than the general population. Yet, there is a duty to care based on ethics codes of
320 multiple professionals.⁹ This ethical obligation holds even in the face of greater than usual risks
321 to their own safety, health or life. The healthcare work force, however, is not an unlimited
322 resource; therefore, when participating in disaster responses, physicians and other healthcare
323 workers, and others with ability to provide essential healthcare services, should balance
324 immediate benefits to individual patients with the ability to care for patients in the future.” The
325 goal is a population-focused duty of care that includes maximizing social benefit as lives or
326 life-years saved.
- 327
- 328 • **Reciprocity** -- In addition, the health care professional is not the only one with a moral duty;
329 society has the duty to protect the physicians, health care workers and first responders by
330 providing protective equipment, antiviral medications, and available vaccines. The moral duty
331 of society towards the healthcare system includes the duty of implementing state and local
332 health measures to lower cases and transmission so as to not overload the healthcare system
333 and avoid crisis standards of care implementation. In addition, physicians and other healthcare
334 workers by virtue of the healing relationships they support through their work and their ability
335 to provide health care and other essential services to the community following their recovery,
336 and first responders and others performing essential duties that expose them to greater risk of
337 illness in order to protect the health and well-being of the community, may be justly given
338 preference for scarce critical care resources under some circumstances.
- 339
- 340 • **Special Considerations for Re-allocation of life-sustaining treatments:** There are specific
341 ethical issues involved in withdrawal of life sustaining treatment. These issues may be
342 particularly pronounced when resources are withdrawn from critically ill patients who are

⁹ For example, based on to the American Medical Association policy statement, “Physician Obligation in Disaster Preparedness and Response”: Because of their commitment to care for the sick and injured, individual physicians and other healthcare workers have an obligation to provide urgent medical care during disasters.

343 already receiving them at the time that a crisis standard of care is initiated. However, in the
344 event of a worsening crisis, adhering to a first come, first-served principle for those who were
345 already receiving critical care prior to application of the crisis standard may result in unjust
346 allocation of resources. As such, careful assessment and allocation will be necessary in order to
347 maximize benefit during a crisis.
348

349 • **Activation of Crisis Standards of Care Planning Guidance for COVID-19**

350
351 If a healthcare facility becomes, or anticipates becoming, no longer able to provide the usual standard
352 of care, they may decide to activate crisis standards of care. Due to the unique nature of healthcare
353 delivery and the uneven distribution of resources across healthcare facilities, the resources at one facility
354 may become exhausted well before another facility. Every effort will be made to avoid a situation where
355 the crisis standards need to be utilized.
356

357 In such an event, clear and frequent internal and external communication is essential to convey
358 information and maintain situational awareness with hospitals, EMS, alternate care systems, healthcare
359 personnel, and the public. It is important that the public be provided with a clear understanding of CSC
360 concepts such as triage of resources. Public information and messaging must be consistent and timely
361 and be culturally and linguistically accessible to ensure that information reaches individuals who are
362 deaf or hard of hearing, are blind, or have low vision, or have limited English proficiency.
363

364 These guidelines will be deactivated when a healthcare facility or health system is no longer operating
365 at a crisis level. This deactivation will occur when affected healthcare regions and facilities are able to
366 meet patient demand using contingency-level surge standards, or when patient transfer or evacuation
367 becomes a feasible tactic to alleviate crisis-level surge at affected healthcare facilities.
368

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

370 **Key triage and allocation principles**

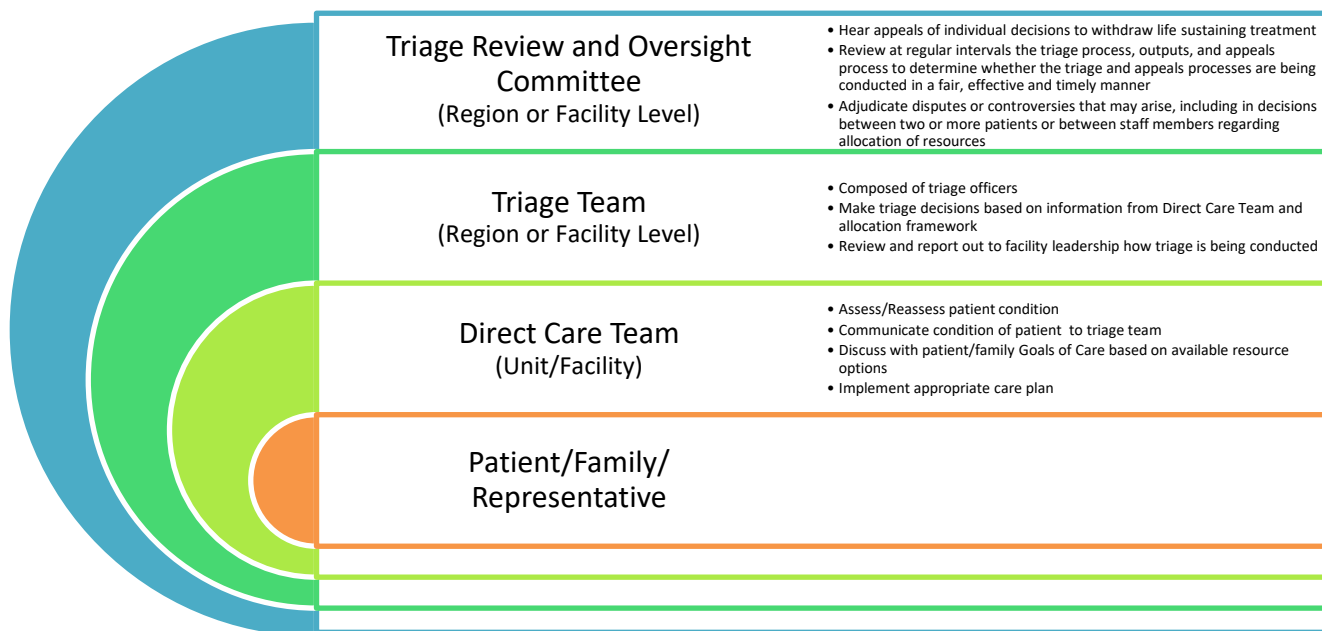
371 Each healthcare institution may modify its specific triage processes based on its particular resources
372 and circumstances, but each institution should adhere to the core triage principles set out in this
373 document. These include: 1) creation of a triage team to separate triage decisions from bedside clinical
374 decisions; 2) use of a critical care allocation framework that incorporates the scoring system and
375 prioritization categories laid out in this document; 3) reassessment of patients receiving critical care
376 with reallocation of resources where appropriate; 4) a commitment to the principle that allocation
377 decisions should not consider characteristics that have no bearing on the likelihood or magnitude of
378 benefit and should not penalize patients who identify with previously described historically
379 marginalized communities; 5) reasonable accommodations for people with disabilities; and 6)
380 incorporation of an appeals process for decisions to withdraw life-sustaining treatment over the
381 objection of a patient or surrogate.

382 **Creation of triage teams**

383 Each healthcare facility should define a triage team according to their internal structures whose
384 responsibility it is to implement the allocation framework described below. If a facility does not have

Publication date: 11/23/2020

385 the resources or staffing to create a triage team in their individual facility, a local triage team can be
 386 used within the healthcare coalition region. A triage team with expertise in the allocation framework,
 387 which is grounded in public health ethics, should make allocation decisions. The separation of the
 388 triage role from the clinical role is intended to enhance objectivity, avoid conflicts of commitments,
 389 and minimize moral distress. Every attempt should be made to assemble a team that reflects the
 390 diversity of the community and population served. Patients' treating providers should not make triage
 391 decisions.



392

393 **Triage Officers**

394 A diverse group of Triage Officers will be appointed at each facility, or within healthcare coalitions.
 395 Triage Officers should be the most experienced provider with established expertise in the management
 396 of critically ill patients, leadership ability, and effective communication and conflict resolution skills.
 397 If available at an institution, pediatric intensivists and neonatologists will serve as Triage Officers for
 398 children and newborns, respectively. Triage Officers will oversee the initial triage process, assess all
 399 patients, assign a level of priority for each, communicate with treating physicians, and direct attention
 400 to the highest-priority patients.

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

410 Triage officers will be determined by the Chief Medical Officer or equivalent clinical leadership of the
411 facility.

412 **Triage Team**

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

415 In order to best mitigate implicit bias, to the greatest extent possible each facility should aim to have a
416 group of Triage Officers and a Triage Team that adequately reflects the diversity of the patient
417 population served by the facility in terms of demographics such as race, ethnicity, disability, preferred
418 language, sexual orientation and gender identity. Every attempt should be made to assemble a team
419 that reflects the diversity of the community and population served by the facility.

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

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

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

434 **Triage Team Training**

435 All those involved in the triage process will undergo competency-based training to learn how to use
436 the allocation framework. Members will receive explicit education regarding using medical records to
437 accurately and efficiently identify information about patients without disclosing any patient
438 characteristics that should not be taken into consideration during the scoring and prioritization process
439 (for example, race, ethnicity, religion, disability, preferred language). Those involved in triage should
440 be trained to remove these factors from consideration and verify relevant diagnoses by evaluating the
441 primary medical data. Additionally, all Triage Team members and Triage Officers will receive training
442 on implicit bias in health care to understand and minimize the risk of unconscious bias in triage
443 decisions.

444 **Triage Mechanism**

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

450 **Triage Review and Oversight Committee**

451 There will be a Triage Review and Oversight Committee made up of individuals selected by clinical
452 leadership. This committee may be formed at the institutional or healthcare coalition region level,
453 depending on the needs and resources of a given institution or region. If practicable, committee
454 members should include representatives from medical, nursing, legal, and ethical perspectives.
455 Institutions or regions are strongly encouraged to include on the Triage Review and Oversight
456 Committee at least one lay community member who is not a member of a medical facility's staff to be
457 involved in the review of aggregate, anonymized data related to the triage process.

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

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

466 **Communication of triage decisions to patients and families**

467 If the triage decision results in a decision to not escalate care or to de-escalate care when that care
468 would be applied in usual circumstances, the Triage Officer (or designee) will first inform the affected
469 patient's attending provider of the triage decision. The Triage Officer (or designee) and attending
470 provider, in conjunction with bedside or supervisory nursing staff, will collaboratively determine the
471 best approach to inform the individual patient, family or emergency contact. Special consideration will
472 be made to ensure that this is done in a culturally competent manner, with racially, ethnically,
473 culturally and linguistically diverse team members available to assist in these communications when
474 possible. For individuals with communication disabilities, regardless of the presence of a formal
475 diagnosis, -- e.g., deaf, hard of hearing, blind, low vision, cognitively or intellectually disabled --
476 appropriate disability accommodations will be made.

477 As a default, the attending provider will explain the severity of the patient's condition and the Triage
478 Officer (or designee) will explain how the patient's condition and current circumstances resulted in the
479 triage decision. Both professionals must recognize the emotional nature of the conversation and should
480 consider whether others ought to be present to enhance empathy. If visitor restriction policies are in
481 place, all reasonable efforts should be made to contact the patient's family, emergency contact, or
482 designated decision-maker with power of attorney. The discussion may occur with the use of
483 telephone or, preferably, video conferencing such as institutional Skype or Zoom accounts.

484 The Triage Officer (or designee) should also emphasize that the triage decision was made independent
485 of the attending provider and care team, arising from the extraordinary emergency circumstances, and
486 that it reflected a public health decision. In addition to explaining the medical factors that informed the
487 decision, the triage officer should comment on the factors that were not relevant (e.g., race, disability,
488 gender, sexual orientation, gender identity, ethnicity, ability to pay, socioeconomic status, perceived
489 social worth, perceived quality of life, immigration status, incarceration status, homelessness, and past
490 or future use of resources).

491 Other options for communicating a triage decision include: 1) the Triage Officer conducts the
492 conversation; or 2) the attending provider conducts the conversation. To the extent possible within the
493 constraints of the institution’s resources, social workers, chaplains and/or palliative care clinicians
494 should also be present (in person or virtually) when the triage decision is communicated.

495 **Allocation process for ICU admission/ventilation**

496 This section describes the framework that will be used to make initial triage decisions for
497 patients who present with illnesses that typically require critical care resources. Allocation
498 decisions must be free from stereotypes and biases, including generalizations or judgments
499 about an individuals’ quality of life or relative value to society, and must not be based on
500 race, disability, gender, sexual orientation, gender identity, ethnicity, ability to pay,
501 socioeconomic status, perceived social worth, perceived quality of life, immigration status,
502 incarceration status, homelessness, and past or future use of resources. The scoring system
503 detailed below applies to all patients presenting with critical illness, not simply those with
504 the disease or disorders that arise from the public health emergency. This triage process
505 involves several steps, detailed below:

- 506 1. Calculating each patient’s priority score based on the multi-principle allocation framework;
- 507 2. Assigning each patient to a priority group (to which facilities may assign color codes); and
- 508 3. Determining on a frequent basis how many priority groups will receive access to critical care
- 509 interventions.

510 **Initial assessment and stabilization of patients**

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

516 **Step 1: Calculation of each patient’s priority score using the multi-principle allocation**
517 **frame work**

518 **A. Priority Scoring for Adult Patients (18 and over)**

519 This allocation framework has two primary scoring components: prognosis for hospital survival and
520 prognosis for survival beyond the acute episode of illness. As summarized in Table 1, the Sequential

521 Organ Failure Assessment (SOFA) score, with appropriate modifications for people with disabilities
 522 and modification to mitigate the disproportionate impact of chronic kidney disease, is used to
 523 characterize patients’ prognosis for hospital survival. As discussed below, the presence of underlying
 524 conditions in such an advanced state that they would limit duration of benefit to no more than one year
 525 from the episode of acute illness is used to characterize patients’ prognosis for survival beyond the
 526 acute episode of illness.

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

531 **Table 1: Multi-principle Strategy to Allocate Critical Care to Adult Patients During a**
 532 **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

533 SOFA = Sequential Organ Failure Assessment
 534 *Persons with the lowest cumulative score will be given the highest priority to receive critical care
 535 services.

536 **Limitations of SOFA scoring**

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

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

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

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

547 The Glasgow Coma Scale, a tool for measuring acute brain injury severity in the SOFA, adds points to
548 the SOFA score when a patient cannot articulate intelligible words, even if this condition is due to a
549 pre-existing speech disability or chronic ventilation. Persons with disabilities who experience baseline
550 levels of impairment prior to the acute care episode should be afforded reasonable accommodations in
551 the scoring process so as not to increase SOFA scores for purposes of this protocol unless those
552 \conditions are believed to directly and substantially impact an individual’s likelihood of survival of
553 the acute illness with treatment. Additionally, patients with communication disabilities and/or limited
554 English proficiency must be offered full access to interpreter services and, if indicated, assistive
555 technology or other reasonable accommodations in order to appropriately and objectively complete the
556 assessment. For some patients with significant communication disabilities, this may require having a
557 member of the patient’s care team (e.g. a family member or personal PCA) present at the bedside with
558 appropriate safety training and PPE, or virtually present if the nature of the baseline information or
559 facilitation may be accommodated that way. This should be considered a reasonable accommodation
560 even in the context of otherwise restrictive visitor policies though the risk of coercion on the family
561 member or close associate by the need to be present should be considered.

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

565 **One-year prognostication**

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

574
575 The mere existence of certain underlying medical conditions (including without limitation a diagnosis
576 of end stage renal disease, a diagnosis of congestive heart failure, or a diagnosis of dementia) should
577 not be used in and of themselves to assign points for “death likely within one year” without objective,
578 medical evidence that such conditions are of a severity that would limit life expectancy to less than
579 one year. Disabilities or chronic, stable underlying conditions that have no impact on the likelihood of
580 surviving the acute illness, or surviving one year beyond the acute illness, will not be considered in
581 assigning points.

582 **B. Approach to Pediatric Patients (< 18 years of age)**

583 In the COVID-19 pandemic, adults have been more severely impacted than children, though children
584 sometimes experience consequential COVID-19 disease, including death. When possible, pediatric
585 patients should be managed in pediatric centers, allowing both best application of experience with
586 these cases as well as additional local resources for adults that by fraction carry a higher burden of
587 disease. If CSC triage guidelines are in effect, pediatric ICU patients may be stabilized in their local

588 combined hospital emergency departments and then transferred to the pediatric center where the triage
 589 can occur by an expert pediatric/neonatal triage team.

590 Scoring systems meant for adult critical care patients are not validated in the pediatric populations.
 591 While there are similar scoring systems for pediatric and neonatal patients, they are less reliable as the
 592 basis for determining priority for several reasons. Most children requiring critical care and mechanical
 593 ventilation have a much higher likelihood of survival to hospital discharge than non-pandemic adult
 594 patients who require these interventions and drive the way that these scores perform. Moreover,
 595 children requiring neonatal or pediatric critical care may have chronic medical and surgical conditions,
 596 some congenital and some acquired. Many of these are rare conditions, and regardless they require
 597 multi-specialist expertise. The interplay between the underlying disease and the current illness is not
 598 captured by any scoring system. Finally, within the small range of ages included under the umbrella of
 599 pediatrics, patient age is not a meaningful factor to distinguish priority for ventilators or critical care.

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

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

616 **Table 2: Multi-principle Strategy to Allocate Critical Care to Pediatric Patients During a**
 617 **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

618 **C. Other patient characteristics**

619 In determining the priority score for a patient, the Triage Officer(s) may by necessity as part of the
620 evaluation have access to characteristics that have no bearing on the likelihood or magnitude of benefit
621 (including but not limited to: race, disability, gender, sexual orientation, gender identity, ethnicity,
622 ability to pay, socioeconomic status, perceived social worth, incarceration, homelessness, perceived
623 quality of life, immigration status, or past or future use of resources). Triage Officers must not
624 consider such characteristics in any way in making priority determinations and should be mindful of
625 the role that implicit bias may play in decision making.

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

628 **D. Reasonable accommodations**

629 Treating doctors and triage teams should consider reasonable accommodations to triage protocols for
630 individuals with disabilities. No patient should be disqualified from receiving life-saving treatment
631 solely because of the presence of a disability. Additionally, treatment allocation decisions may not be
632 based on the perception that a person's disability will require the use of greater treatment resources,
633 either in the short or long term. This should preclude the denial of initial access to a scarce medical
634 resource, such as a ventilator, based on the assumption that the person will require its use for a longer
635 period of time than a nondisabled person. This provision also precludes denying care to an individual
636 because treating them will require that they be hospitalized for a longer period of time, will require
637 greater-than-normal investment of staff time, or will require accommodations to standard hospital
638 procedures.
639

640 **Step 2: Assign patients to color-coded priority groups**

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

654 The color coding allows prioritization and assignment of critical care resources to those eligible for
655 them. All patients other than those who are thought to be imminently dying regardless of critical care
656 interventions will be *eligible* to receive critical care beds and services regardless of their priority score.

657 The availability of critical care resources will determine how many eligible patients will receive
658 critical care, in the order described above. Patients who are not triaged to receive critical
659 care/ventilation will at a minimum receive symptom management and psychosocial support, and
660 additional medical care as resources allow. In some instances this may include robust hospitalist care,
661 though in others all advanced interventions including antimicrobial therapy, non-symptom directed
662 pharmacotherapy (e.g. dexamethasone), and respiratory therapy may be needed for those in critical
663 care. Each patient should be reassessed daily to determine if changes in resource availability or their
664 clinical status warrant provision of critical care or other intermediate services.

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

667

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

668 **Step 3: Make daily determination of how many priority groups can receive the scarce**
669 **resource**

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

679 There may be situations in which the hospital determines that it will offer critical resources to a certain
680 priority group on a given day, and then there are not enough critical care resources for all patients
681 within that priority group to receive them. In such a case, the raw priority scores will determine the
682 priority order for patients in the same priority group (the lower the score, the higher the priority). In

683 some circumstances, it may be ethically permissible to conserve scarce critical care resources during
684 times of high demand to assure that the resources are available to those with the best prognoses.

685 **Pregnancy**

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

689 **Distinguishing between patients in same priority group where resources are insufficient** 690 **(“tiebreakers”)**

691 In the event of severe scarcity, there may be several situations in which multiple patients are being
692 considered for initiation or continuation of critical care at the same time and need to be distinguished
693 from one another. These situations include 1) the need to compare multiple patients in the same
694 priority group awaiting initiation of critical care when there are limited critical care resources
695 available; 2) the need to compare patients already receiving critical care resources with those waiting
696 for them; and 3) the need to compare multiple critically ill patients already receiving critical care.

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

700 **Priority score**

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

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

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

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

716 **Pediatric patients**

717 If there are multiple patients who are thought to have similar prognoses for short-term survival after
718 consideration of additional factors as above, pediatric patients shall be given priority for allocation of
719 critical care resources over non-pediatric patients.^{10 11 12}

720 **Randomized Allocation**

721 In the event that there are “ties” between patients for allocation of resources after consideration of the
722 factors listed above, random allocation may be used to determine which patients receive limited
723 critical care resources.¹³

724 **Categorical exclusion criteria and non-survivable conditions**

725 A central feature of this allocation framework is that it avoids the use of categorical exclusion criteria
726 to indicate individuals who should not have access to critical care services under any circumstances
727 during the COVID-19 pandemic. There are some conditions that lead to immediate or near-immediate
728 death despite aggressive therapy (e.g., cardiac arrest unresponsive to appropriate ACLS,
729 overwhelming traumatic injuries or burns, advanced and irreversible neurologic event, intractable
730 shock). During a public health emergency, clinicians must still make clinical judgments about the
731 appropriateness of critical care using the same criteria they use during normal clinical practice and, to
732 the extent critical care utilization would be deemed non-beneficial during normal clinical practice, it
733 should not be offered during a public health emergency. Triage Officers and attending providers will
734 make clear in communicating with families whether critical care is not being offered based on the
735 existence of a non-survivable medical condition or based on the allocation framework. To the extent
736 possible within the constraints of the institution’s resources, social workers, chaplains and/or palliative
737 care clinicians should also be present when the triage decision is communicated.

738 **Reassessment for ongoing provision of critical care/ventilation**

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

742

743

744 **Ethical goal of reassessment of patients who are receiving critical care services**

¹⁰ Emanuel EJ, Wertheimer A. Public health. Who should get influenza vaccine when not all can? *Science* 2006;312:854-5.

¹¹ 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.

¹² 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.

¹³ 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>

Publication date: 11/23/2020

745 Every approach to the allocation of critical care resources is imperfect, and requires trade-offs.
746 Because (1) initial triage under emergent circumstances is extremely challenging; (2) it is ethically
747 valuable to give as many patients as could benefit a chance to receive critical care resources; (3) many
748 patients treated during the COVID-19 pandemic will have the same initial priority score; and (4)
749 unlike a sudden disaster such as an earthquake, critically ill patients during the COVID-19 pandemic
750 will present over an extended period of time, the initial framework laid out in this document will likely
751 result in a large element of first-come, first-served allocation. This can arbitrarily favor those who
752 were first in line by virtue of chance (timing of illness) and/or ability to access hospital resources. As
753 such, it is important to carefully plan for reassessing patients and reallocating critical resources, and to
754 approach reassessment and reallocation using the same ethical principles that govern the initial
755 allocation decisions.

756 In a public health emergency, when there are not enough critical care resources for all, the goal of
757 maximizing population outcomes would be jeopardized if patients who were determined to be unlikely
758 to survive were allowed indefinite use of scarce critical care services. On the other hand, when
759 escalating care of an individual, judicious use of critical care resources includes allowing a reasonable
760 window to have an effect once a triage decision has been made. Consequently, a deliberate approach
761 to regular reassessments of patients already receiving critical care resources, and reallocation of those
762 resources where appropriate, is required and will lessen the chance that arbitrary considerations (such
763 as when an individual develops critical illness or how able an individual is to access hospital
764 resources) will unduly affect patients' access to treatment or the value to be obtained by previous
765 decisions.

766 **Therapeutic trial of critical care**

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

775 **Regular reassessments**

776 A Triage Team will conduct regular reassessments of all patients receiving critical care/ventilation to
777 determine the relative prognoses of the patients for survival of the acute illness. Given the importance
778 of consensus and confidence in determining prognosis, the Triage Team should include multiple
779 Triage Officers with relevant training and ideally include a clinician with a specific focus on diversity,
780 equity and inclusion.

781 Determination of prognosis may include consideration of individual factors known to influence the
782 outcomes of critical illness, including for example progressive frailty including from extreme age and/
783 or severe underlying medical conditions for which there is objective medical evidence, and

784 improvement or decline in organ function since the time of initial triage. Those factors will only be
785 considered to the extent that they are thought to affect prognosis for survival of the acute illness.

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

790 **Reallocation**

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

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

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

803 **Reasonable modifications for persons with disabilities**

804 In the context of reallocation decisions and assessment of prognosis, reasonable modifications must be
805 made for persons with disabilities.¹⁴ These may include interpreter services or other modifications or
806 additional services needed due to disability. Given that the clinical trajectory for any one patient may
807 be influenced by their underlying conditions including disabilities, clinicians should consider these
808 factors when performing reassessments and allow for variations on recovery that are in the context of
809 the underlying condition or disability. An underlying disability should not be used as the sole basis for
810 determining that a patient has a poor prognosis for surviving the acute illness.

811 **Communication regarding reallocation decisions**

812 When a determination has been made that a patient can no longer receive ongoing critical
813 care/ventilation, the Triage Team will explain in detail to the patient or the patient's surrogate
814 decision-maker the reasoning behind the decision and offer the opportunity for an appeal of the
815 determination (following the process for appeals detailed below). If an appeal is denied, assent of the
816 patient or surrogate will not be required for discontinuation of critical care/ventilation. Patients who
817 are no longer prioritized for critical care/ventilation should receive medical care including intensive

¹⁴ 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.

818 symptom management and psychosocial support. If available, palliative care teams will participate in
819 the communication process and the medical management of these patients.

820

821 **Patients requiring chronic ventilation**

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

825 **Rapid reassessment of patients unable to be triaged initially**

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

835 **Protections for people with disabilities**

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

843 In addition to the reasonable modifications and accommodations identified throughout this document
844 for people with disabilities, decisions to withhold or withdraw critical care resources from such
845 individuals should be subject to a high level of scrutiny, should be reviewed by at least two providers
846 and made only when there is consensus with a high degree of confidence, and should ideally be
847 reviewed by a provider with medical expertise related to the disability in question.

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

854 **Appeals process for individual triage decisions**

855 It is possible that patients, families, or clinicians will challenge individual triage decisions. Procedural
856 fairness requires the availability of an accessible, prompt, and transparent appeals mechanism to
857 resolve such disputes. Special consideration will be made to ensure that this is done in a culturally
858 competent manner, with racially, ethnically, culturally and linguistically diverse team members
859 available to assist in these communications if possible, and specialized assistive technology or other
860 reasonable accommodations available for patients and families who require it. Ideally, these
861 challenges will be addressed by the Triage Review and Oversight Committee as detailed previously.

862 **Initial triage decisions**

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

868 **Decisions to withdraw scarce resources**

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

- 875 • The appeal will be immediately brought to the Triage Review and Oversight Committee.
- 876 • The individuals who are appealing the triage decision should explain the grounds for their
877 disagreement with the triage decision. An appeal may not be brought based on an objection to
878 the overall allocation framework.
- 879 • The Triage Team should explain the grounds for the triage decision that was made.
- 880 • Appeals based on considerations other than disagreement with the allocation framework should
881 immediately be brought to the Triage Review and Oversight Committee. Any triage decision
882 based on consideration prohibited under this document should be reversed and redetermined
883 using only the relevant, individualized clinical assessment
- 884 • The appeals process must occur quickly enough that the appeals process does not harm patients
885 who are in the queue for the scarce resource.
- 886 • Three committee members will be needed for a quorum to render a decision, using a simple
887 majority vote, but need not meet in person.
- 888 • The decision of the Triage Review and Oversight Committee for a given hospital will be final.
- 889 • The decision of the Triage Review and Oversight Committee will be documented in sufficient
890 detail to demonstrate that the outcome represents a well-considered decision.
- 891 • Periodically, the Triage Review and Oversight Committee should retrospectively evaluate
892 whether the review process is consistent with effective, fair, and timely application of the
893 allocation framework.

894

895

896

897

898 **Other Provisions**

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

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

905 **Early intervention:** Once the Crisis Standards of Care allocation framework has been activated, every
906 effort should be made to identify early those patients in the hospital who are at high risk of declining
907 to the point of requiring critical care as soon as possible. Those patients should be called to the
908 attention of a Triage Officer.

909 **Transparency:** Once the Crisis Standards of Care allocation framework is activated, clinicians will
910 communicate in transparent language with patients and families about the public health emergency and
911 the need to allocate resources differently than when the allocation framework is not activated. Special
912 consideration will be made to ensure that this is done in a culturally competent manner, with racially,
913 ethnically, culturally and linguistically diverse team members available to assist in these
914 communications if possible, and specialized assistive technology or other reasonable accommodations
915 available for patients and families with disabilities or those who otherwise require it. Local
916 government and state officials and the public should also be informed through appropriate means and
917 media.

918
919 **Documentation:** All triage decisions made through the Triage Officer and Triage Team will be
920 documented in the medical record. As long as the allocation framework is in effect, the overall
921 allocation of critical care resources within the institution will be documented and reported to promote
922 transparency. When the appeals process is conducted, the Triage Review and Oversight Committee
923 will document in sufficient detail to demonstrate that the outcome reflects a well-considered decision.
924 A reporting mechanism will be developed to monitor the results of the triage process by race,
925 ethnicity, preferred language, gender, disability and other patient demographic characteristics.

926
927 **Reassessment of the allocation framework:** If it is determined that critical care resources are being
928 inequitably distributed based on demographic or other data, attempts will be made by the Triage
929 Review and Oversight Committee to identify where the inequity is occurring through an iterative
930 process and to immediately develop strategies for remediation. Identification of the factors causing

931 inequitable distribution and the immediate development of strategies for remediation should be
932 undertaken.

933

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

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

948 **Healthcare decision making.** Although there may be circumstances where a particular individual
949 cannot be offered critical care resources and will therefore will not be offered cardiopulmonary
950 resuscitation or intubation, no individual or their families shall be required to commit to a DNR and/or
951 DNI order as a prerequisite to receiving treatment, regardless of the level of strain on hospital
952 resources or the individual's disability, pre-existing health condition. Individuals with disabilities,
953 older adults, or people with chronic health conditions and their families may not be coerced into
954 agreeing to DNR and/or DNI orders. All individuals being treated should be fully informed on their
955 care options. Any individual presenting with severe COVID-19 symptoms should be offered the
956 opportunity to execute a standard Nebraska health care proxy form if they do not already have a
957 designated emergency decision maker. All patients, including older adults and patients with
958 disabilities or chronic conditions should be afforded accommodations as necessary to communicate
959 their wishes and preferences with regard to treatment decisions, and the providers/ethics committees,
960 Triage Team or Triage Review and Oversight Committee making recommendations regarding end of
961 life decisions should guard against discriminatory assumptions, including assumptions about an
962 individual's competency, quality of life, value to society, life expectancy, or desire to continue living
963 with a chronic underlying disability.

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

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

973 cardiology and cardiac surgery in the case of mechanical circulatory support) will make all decisions
974 regarding initiation of such specific resources. The goals will be to reserve these resources for those
975 most likely to benefit from them and to avoid prolonged use in patients who are not showing signs of
976 recovery.

977 **Patient personal equipment:** If a patient presents to a hospital and has personal medical equipment
978 (including equipment used or rented by the patient prior to presentation at the hospital), such as a
979 ventilator, that equipment will not be confiscated or used for any other patient. Efforts should be made
980 to keep this personal medical equipment with the patient.

981 **Accommodations for communication:** Hospitals will ensure access to interpretive services through
982 electronic means or other methods appropriate for the clinical circumstance. For patients who require
983 assistance to communicate effectively, hospitals will make reasonable accommodations to hospital
984 non-visitation policies attempts to and use other adaptive methods for communication, including but
985 not limited to the provision of American Sign Language interpretation to patients who are Deaf.
986

987 **Outside hospital transfers:** When the allocation framework is activated, triage of outside hospital
988 requests for an ICU bed will be centralized through the Triage Team. In communicating about a
989 proposed transfer of a patient, the transferring hospital should communicate the priority score of the
990 patient to the receiving hospital. In case of conflict or competing requests for transfer, the Triage Team
991 may use a randomized allocation approach to resolve the conflict. If the Triage Team decision is
992 challenged, the Triage Review and Oversight Committee should review and make the final decision.

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

996 **Flexibility and limitations:** This document provides a framework for decision-making regarding
997 critical care resources in the event that demand for critical care resources outstrips capacity during the
998 COVID-19 pandemic. In institutions that have a limited number of critical care, ethics or other
999 resources, it may not be possible to follow the precise processes and guidelines outlined in this
1000 document. Each institution will follow the processes and guidelines to the extent possible, modifying
1001 as necessary to adhere to the spirit of the document given the hospital or other organization's
1002 constraints. If the processes laid out in this document need to be modified throughout the course of the
1003 public health emergency, any modifications will be done through a fair and transparent process that
1004 involves Hospital Incident Command, critical care and ethics leadership.

1005 **Retrospective Review:** The accumulated data of all hospital triage decisions in facilities which have
1006 activated the Crisis Standards of Care will be subject to retrospective review at the hospital level.

1007 In addition, if Triage Teams perform Crisis Standards of Care allocation decision-making over a
1008 prolonged time period, health systems should take steps to develop and deploy, in a timely way, a
1009 method of tracking the implementation of their policy, defining and describing quality performance of
1010 Triage Teams, and longitudinally analyzing the performance. Data collection should include data on
1011 morbidity and mortality outcomes to assess trends by demographic factors such as gender, race and
1012 ethnicity, disability type (including physical disability, mental health diagnosis, and

1013 intellectual/developmental disability), geographic location, or socioeconomic status. These processes
1014 should be reviewed by the Triage Review and Oversight Committee.

1015 At the conclusion of an emergency triggering crisis standards of care and implementation of the triage
1016 protocol, a formal report describing the health system's experience, patient outcomes, community
1017 response, and lessons learned should be developed and shared with providers, system leaders, governing
1018 authorities, patients, and the public. This consultation process must include organizations which
1019 advocate for the rights of racial and ethnic minorities and people with disabilities in healthcare settings.
1020 Feedback from these stakeholders should be utilized to evaluate and update, as appropriate, all aspects
1021 of the triage framework. The report should be reviewed and approved by the Triage Team, the Triage
1022 Review and Oversight Committee and health system leadership.

1023 **Publication:** All healthcare facilities or healthcare coalitions should publish their CSC protocols,
1024 including appeal procedures, on their websites.

1025

1026 **VI. REFERENCES**

- 1027
- 1028 1. Institute of Medicine (US) Forum on Medical and Public Health Preparedness for Catastrophic
- 1029 Events. Crisis Standards of Care: Summary of a Workshop Series. Washington (DC): National
- 1030 Academies Press (US); 2010. B, Summary of Guidance for Establishing Crisis Standards of
- 1031 Care for Use in Disaster Situations: A Letter Report. Available from:
- 1032 <https://www.ncbi.nlm.nih.gov/books/NBK32748/>
- 1033
- 1034 2. The Guidelines for Use of Modified Health Care Protocols in Acute Care Hospitals During
- 1035 Public Health Emergencies, September 2013, Kansas Department of Health and Environment
- 1036
- 1037 3. Dictionary of Military and Associated Terms. US Department of Defense. 2005.
- 1038
- 1039 4. *Allocating scarce resources in disasters: emergency department principles*. Hick JL1, Hanfling
- 1040 D, Cantrill SV. Ann Emerg Med. 2012 Mar;59(3):177-87.
- 1041
- 1042 5. Kelen GD, Kraus CK, McCarthy ML, Bass E, Hsu EB, Li G, Scheulen JJ, Shahan JB, Brill JD,
- 1043 Green GB. Inpatient disposition classification for the creation of hospital surge capacity: a
- 1044 multiphase study. Lancet. 2006 Dec 2;368(9551):1984-90.
- 1045
- 1046 6. Crisis Standards of Care: A Toolkit for Indicators and Triggers. Board on Health Sciences
- 1047 Policy. Dan Hanfling, John L. Hick, and Clare Stroud, Editors; Institute of Medicine of the
- 1048 National Academies. The National Academies Press. Washington, D.C.; Released: July 31,
- 1049 2013.
- 1050
- 1051 7. Childress JF, Faden RR, Gaare RD, et al. Public health ethics: mapping the terrain. J Law Med
- 1052 Ethics 2002;30:170-8.
- 1053
- 1054 8. Gostin L. Public health strategies for pandemic influenza: ethics and the law. JAMA
- 1055 2006;295:1700-4.
- 1056
- 1057 9. Beauchamp TL, Childress JF. Principles of Biomedical Ethics. 6th ed. ed. New York, NY:
- 1058 Oxford University Press; 2009.
- 1059
- 1060 10. Emanuel EJ, Wertheimer A. Public health. Who should get influenza vaccine when not all can?
- 1061 Science 2006;312:854-5.
- 1062
- 1063 11. Rosenbaum SJ, Bayer R, Bernheim RG, et al. Ethical considerations for decision making
- 1064 regarding allocation of mechanical ventilators during a severe influenza pandemic or other
- 1065 public health emergency. Atlanta: Centers for Disease Control and Prevention, 2011.
- 1066
- 1067 12. Neuberger J, Adams D, MacMaster P, Maidment A, Speed M. Assessing priorities for
- 1068 allocation of donor liver grafts: survey of public and clinicians. British Medical Journal
- 1069 1998;317:172-5.
- 1070

1071 13. Crisis standards of care: Guidance from the AMA Code of Medical Ethics. April 2020.
1072 Accessed on: October 2020. Available at: <https://www.ama-assn.org/delivering->
1073 [care/ethics/crisis-standards-care-guidance-ama-code-medical-ethics](https://www.ama-assn.org/delivering-care/ethics/crisis-standards-care-guidance-ama-code-medical-ethics)
1074
1075 14. Mello MM, Persad G, White DB. Respecting Disability Rights - Toward Improved Crisis
1076 Standards of Care. N Engl J Med. 2020 Jul 30;383(5):e26.
1077
1078
1079
1080
1081
1082
1083
1084
1085
1086
1087
1088
1089
1090
1091
1092
1093
1094
1095
1096
1097
1098
1099
1100
1101
1102
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112
1113
1114
1115
1116

1117 **VII. ACKNOWLEDGEMENTS**

1118
1119 The following individuals were involved in the review and creation of this document:
1120

1121 Dr. David M. Brett-Major, MD

1122 Dr. Mark W. Davis, MD

1123 Dr. Stephen E. Doran, MD*

1124 Dr. Harris A. Frankel, MD

1125 Dr. Brian J. Keegan, MD

1126 Dr. Leslie A. Kuhnel, DBe*

1127 Dr. James V. Lawler, MD

1128 Rachel E. Lookadoo, JD*

1129 Abigail E. Lowe, MA*

1130 Dr. Kate M. McKillip, MD

1131 Dr. Robert W. Plambeck, MD

1132 Dr. Kevin J. Reichmuth, MD

1133 Shelly M. Schwedhelm, MSN*

1134 Dr. Michael C. Wadman, MD
1135

1136 *Denotes members of the Healthcare Surge Workgroup
1137