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Allocation of Scarce Critical Care Resources During a Public Health Emergency	

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Please click the icon on the upper right of the document to view Exhibit A. 

Executive Summary

Introduction: The purpose of this policy is to provide guidance for the triage of critically ill patients in the event that a public health emergency creates demand for critical care resources (e.g., ventilators, critical care beds) that outstrips the supply. These triage recommendations will be enacted only if: 1) critical care capacity is, or will shortly be, overwhelmed despite taking all appropriate steps to increase the surge capacity to care for critically ill patients; and 2) a regional authority has declared a public health emergency. This allocation framework is grounded in ethical obligations that include the duty to care, duty to steward resources to optimize population health, distributive and procedural justice, and transparency. It is consistent with existing recommendations for how to allocate scarce critical care resources during a public health emergency, and has been informed by extensive consultation with citizens, disaster medicine experts, and ethicists.

This policy describes: 1) the three levels of pandemic triage through which the organization will move and the thresholds and mechanism to consider when activating this policy and its accompanying algorithm; 2) the creation of triage teams to ensure consistent decision making; 3) allocation criteria for initial allocation of critical care resources; and 4) reassessment criteria to determine whether ongoing provision of scarce critical care resources are justified for individual patients.

Levels of Triage and Activation of Resource Allocation Policy: In the event of a formally-declared public health emergency, Kaweah Delta's Chief Executive Officer, in consultation with the Medical Staff's Chief of Staff, will be responsible for activating the elements of this policy and its accompanying resource allocation algorithm. The CEO will continually evaluate the severity of the emergency in the context of the following three levels of pandemic triage:

Triage Level 1 (Early in the pandemic):

- As the threat of the activation of the triage protocol increases, the hospital will cancel outpatient procedures, including elective surgeries that require a back-up option of hospital admission and ventilator support if complications arise (Note: In the event of a severe and rapidly-progressing pandemic, start with Triage Level 2).

Triage Level 2 (Worsening pandemic):

- Hospital has surged to maximum bed capacity, and emergency department is overwhelmed (defined as 95% occupancy rate across the hospital's adult medical/surgical/ICU/ICCU patient care units, including any patient care areas that have been temporarily converted to adult patient care units (e.g., pediatric unit, NICU, areas of the Emergency Department, etc.).

- There are not enough beds to accommodate all patients needing hospital admission and not enough ventilators to accommodate all patients with respiratory failure (defined as 90% of ventilators in use).
- Hospital staff absenteeism is 20% to 30% (includes physicians, advanced practice providers, and hospital-employed staff).
- A Level 2 triage will be formally declared when any of these criteria are met and we will begin to apply the Hospital and ICU/Ventilator Admission Triage algorithm illustrated and described in Exhibit A

Triage Level 3 (Worst-case scenario):

- A Level 2 triage is currently activated and now reflects worsening conditions.
- Hospital has implemented altered standards of care regarding nurse/patient ratios and has expanded capacity by adding patients to occupied hospital rooms.
- Hospital staff absenteeism is 30% to 40% (includes physicians, advanced practice providers, and hospital-employed staff).
- Clinicians will continue using the Hospital and ICU/Ventilator Admission Triage algorithm illustrated and described in Exhibit A.

Section 1. Creation of Triage Teams: Kaweah Delta's Chief Executive Officer, or delegate, and its Medical Staff's Chief of Staff, or delegate, will form a number of triage teams, each comprised of an acute care physician triage officer, an acute care nurse, and an administrative support person, who will apply the allocation framework described in this policy and collaborate with the attending physician to disclose triage decisions to patients and families. The creation of independent triage teams allows for the separation of the triage role from the clinical role to promote objectivity, avoid conflicts of commitments, and minimize moral distress.

Section 2. Allocation criteria for ICU admission/ventilation: This allocation framework, as described and illustrated on the attached Exhibit A—"Hospital and ICU/Ventilator Admission Triage", is based primarily on saving lives within the context of ensuring meaningful access for patients and individualized patient assessments based on objective medical knowledge. All patients who meet usual medical indications for ICU beds and services and do not meet one or more Hospital Admission Exclusion Criteria (as defined in Exhibit A hereto) will be assigned a priority score, derived from patients' likelihood of surviving to hospital discharge, assessed with an objective and validated measure of acute physiology (e.g., SOFA score). This priority score may be converted to color-coded priority groups (e.g., high, intermediate, and low priority) if needed to facilitate streamlined implementation. All scored patients will be eligible to receive critical care beds and services regardless of their priority score, but available critical care resources will be allocated according to priority score, such that the availability of these services will determine how many patients will receive critical care. Patients who are triaged to not receive ICU beds or services, including those who may be discharged home, will be offered, to the extent available, medical care, including intensive symptom management and psychosocial support.

Section 3. Reassessment for ongoing provision of critical care/ventilation: The triage team will conduct periodic reassessments of all patients receiving critical care services during times of crisis (i.e., not merely those initially triaged under the crisis standards). The timing of reassessments should be based on evolving understanding of typical disease trajectories and of the severity of the crisis. A multidimensional, individualized assessment should be used to quantify changes in patients' conditions, such as recalculation of severity of illness scores, appraisal of new complications, and treating clinicians' input. Patients showing improvement will continue to receive critical care services until the next assessment. Patients showing substantial clinical deterioration that portends a very low chance for survival will have critical care discontinued. These patients will receive medical care, to the extent available, including intensive symptom management and psychosocial support. If such services are available, this

care could be provided in other non-critical care areas of the hospital, in a designated palliative care facility(s), or the patient's home. Where available, specialist palliative care teams will provide additional support and consultation.

Introduction & Ethical Considerations

As previously stated, the purpose of this policy is to provide guidance for the triage of critically ill patients in the event that a public health emergency creates demand for critical care resources (e.g., ventilators, critical care beds) that outstrips the supply. These triage recommendations should be enacted only if: 1) critical care capacity is, or will shortly be, overwhelmed despite taking all appropriate steps to increase the surge capacity to care for critically ill patients; and 2) a regional-level authority has declared an emergency. This allocation framework is grounded in ethical obligations that include the duty to care, duty to steward resources, distributive and procedural justice, and transparency.

Ethical goals of the allocation framework: Consistent with accepted standards during public health emergencies, a goal of the allocation framework is to achieve benefit for populations of patients, often expressed as doing the greatest good for the greatest number. It should be noted that this goal is different from the traditional focus of medical ethics, which is centered on promoting the wellbeing of individual patients. In addition, the framework is designed to achieve the following:

1. To create meaningful access for all patients. Patients who would meet clinical criteria for ICU services during ordinary circumstances will not be excluded from receiving critical care services based on age, disabilities, or other similar factors, but they will be excluded if they present to the Hospital with one or more of the Hospital Admission Exclusion Criteria reflected in Exhibit A of this policy.
2. To ensure that all patients receive individualized assessments by clinicians, based on the best available objective medical evidence.
3. To ensure that no one is denied care based on stereotypes, assessments of quality of life, or judgments about a person's "worth" based on the presence or absence of disabilities or other factors.

The following sections of this policy describe 1) the creation of triage teams to ensure consistent decision making; 2) allocation criteria for initial allocation of critical care resources; and 3) reassessment criteria to determine whether ongoing provision of scarce critical care resources are justified for individual patients.

Section 1. Creation of triage teams

The purpose of this section is to provide guidance to create triage teams whose responsibility is to implement the allocation framework described in Sections 2 and 3. It is important to emphasize that patients' treating physicians should not make triage decisions. These decisions are grounded in public health ethics, not clinical ethics, and therefore a triage team with expertise in the allocation framework should make allocation decisions. The separation of the triage role from the clinical role is intended to enhance objectivity, avoid conflicts of commitments, and minimize moral distress.

Triage Officer

A group of triage officers should be appointed. Desirable qualities of triage officers include being a physician with established expertise in the management of critically ill patients (generally, critical care and emergency medicine physicians), strong leadership ability, and effective communication and conflict resolution skills. This individual will oversee the triage process, assess all patients, assign levels of priority, communicate with treating physicians, and

direct attention to the highest-priority patients. S/he is expected to make decisions according to the allocation framework described in the attached Exhibit A, which is designed to benefit the greatest number of patients, even though these decisions may not necessarily be best for some individual patients. To optimize effective functioning in a crisis, the triage officer should ideally be well-prepared and trained in advance by means of disaster drills or exercises. The triage officer has the responsibility and authority to apply the principles and processes of this policy to make decisions about which patients will receive the highest priority for receiving critical care. S/he is also empowered to make decisions regarding reallocation of critical care resources that have previously been allocated to patients, again using the principles and processes in this policy. In making these decisions, the triage officer should not use principles or beliefs that are not included in this policy.

So that the burden is fairly distributed, triage officers will be nominated by the chairs/directors of the clinical departments that provide care to critically ill patients. The Chief Executive Officer and the Chief of Staff should approve all nominees. A roster of approved triage officers should be maintained that is large enough to ensure that triage officers will be available on short notice at all times, and that they will have sufficient rest periods between shifts.

Triage Team

In addition to the triage officer, the triage team should also consist of a nurse with acute care (e.g., critical care or emergency medicine) experience (even if no longer clinically active), and an administrative support person who will coordinate and arrange for data-gathering activities, documentation and record keeping, and assistance liaising with the Incident Command Center and bed management department. The administrative support person must be provided with appropriate computer and IT support to maintain updated databases of patient priority levels and scarce resource usage (total numbers, location, and type). The role of triage team members is to provide information to the triage officer and to help facilitate and support her/his decision-making process. A representative from hospital administration (i.e., Executive Team member(s)) should also be linked to the team, in order to supervise maintenance of accurate records of triage scores, to serve as a liaison with hospital leadership and to support the team in procuring resources, removing barriers and solving problems.

The triage officer and team members should function in shifts of twelve hours. Therefore, there should be two shifts per day to fully staff the triage function. Team decisions and supporting documentation should be reported daily to appropriate hospital leadership and incident command. A triage command center will be established in the Medical Staff Conference Room (located across the hallway from the hospital cafeteria entrance door) and will be equipped with telecommunication devices; computers; printer(s); fax machine(s); electronic dashboards to track patients, medical equipment, beds and supplies; and any other resources needed by the triage teams.

Physicians and staff assigned to triage teams will be compensated by Kaweah Delta for the shift hours they work in the triage command center (or elsewhere if deployed by the triage officer and in active engagement with the triage team) at the hourly compensation rates they normally receive when performing their usual work duties.

Triage Mechanism

The triage officer and her/his team will use the allocation framework, as detailed in Exhibit A of this policy, to determine priority scores of all patients eligible to receive the scarce critical care resource. A decision to admit any patient to an ICU or ICCU unit will be made by the triage officer. For patients already being supported by the scarce resource, the evaluation will include reassessment to evaluate for clinical improvement or worsening at pre-specified intervals, as also detailed in Exhibit A of this policy. The triage officer will review the comprehensive list of

priority scores for all patients and will communicate with the clinical teams immediately after a decision is made regarding allocation or reallocation of a critical care resource.

Communication of triage decisions to patients and families

Although the *authority* for triage decisions rests with the triage officer, there are several potential strategies to *disclose* triage decisions to patients and families. Communicating triage decisions to patients and/or their next of kin is a required component of a fair allocation process that provides respect for persons. The triage officer should first inform the affected patient's attending physician about the triage decision. Those two physicians should collaboratively determine the best approach to inform the individual patient and family. Options for who should communicate the decision include: 1) solely the attending physician; 2) solely the triage officer; or 3) a collaborative effort between the attending physician and triage officer. The best approach will depend on a variety of case-specific factors, including the dynamics of the individual doctor-patient-family relationship and the preferences of the attending physician. If the attending physician is comfortable with undertaking the disclosure, this approach is useful because the communication regarding triage will bridge naturally to a conveyance of prognosis, which is a responsibility of bedside physicians, and because it may limit the number of clinicians exposed to a circulating pathogen. The third (collaborative) approach is useful because it may lessen moral distress for individual clinicians and may augment trust in the process, but these benefits must be balanced against the risk of greater clinician exposure. Under this approach, the attending physician would first explain the severity of the patient's condition in an emotionally-supportive way, and then the triage officer would explain the implications of those facts in terms of the triage decision. The triage officer would also emphasize that the triage decision was not made by the attending physician but is instead one that arose from the extraordinary emergency circumstances, and reflects a public health decision. Regardless of who communicates the decision, it may be useful to explain the medical factors that informed the decision, as well as the factors that were not relevant (e.g., race, ethnicity, gender, insurance status, perceptions of social worth, immigration status, among others). If resources permit, palliative care clinicians or social workers should be present or available to provide ongoing emotional support to the patient and family.

Appeals process for individual triage decisions

It is possible that patients, families, or clinicians will challenge individual triage decisions. Procedural fairness requires the availability of an appeals mechanism to resolve such disputes. On practical grounds, different appeals mechanisms are needed for the initial decision to allocate a scarce resource among individuals, none of whom are currently using the resource, and the decision whether to withdraw a scarce resource from a patient who is not clearly benefiting from that resource. This is because initial triage decisions for patients awaiting the critical care resource will likely be made in highly time-pressured circumstances. Therefore, an appeal will need to be adjudicated in real time to be operationally feasible. For the initial triage decision, the only permissible appeals are those based on a claim that an error was made by the triage team in the calculation of the priority score or use/non-use of a tiebreaker (as detailed in Exhibit A). The process of evaluating the appeal should include the triage team verifying the accuracy of the priority score calculation by recalculating it. The treating clinician or triage officer should be prepared to explain the calculation to the patient, family, or other appealing individual(s) on request.

Decisions to withdraw a scarce resource such as mechanical ventilation from a patient who is already receiving it may cause heightened moral concern. Furthermore, such decisions depend on more clinical judgment than initial allocation decisions. Therefore, there should be a more robust process for appealing decisions to withdraw or reallocate critical care beds or services. Elements of this appeals process should include:

- The individuals (the patient, patient's family, patient's attending or consulting physician, or a member of the patient's care team (i.e., nurse, respiratory therapist, physician resident, etc.) appealing the triage decision should explain to the triage officer the grounds for their appeal. Appeals based in an objection to the overall allocation framework should not be granted.
- The triage team should explain the grounds for the triage decision that was made.
- Appeals based in considerations other than disagreement with the allocation framework should immediately be brought to a Triage Review Committee that is independent of the triage officer/team and of the patient's care team (see below for recommended composition of this body).
- The appeals process must occur quickly enough that the appeals process does not harm patients who are in the queue for scarce critical care resources currently being used by the patient who is the subject of the appeal.
- The decision of the Triage Review Committee will be final.
- Periodically, the Triage Review Committee should retrospectively evaluate whether the review process is consistent with effective, fair, and timely application of the allocation framework.

The Triage Review Committee should be made up of at least three individuals, recruited from the following groups or offices: Chief of Staff or designee, Chief Nursing Officer or other Nursing leadership, one or more members of Kaweah Delta's Ethics Committee, and/or an off-duty triage officer. Three committee members are needed for a quorum to render a decision, using a simple majority vote. The process can happen by telephone or in person, and the outcome will be promptly communicated to whomever brought the appeal. In certain circumstances, Kaweah Delta's outside legal counsel may be consulted by the Triage Review Committee as needed.

Section 2. Allocation process for ICU admission/ventilation

The purpose of this section is to provide a general overview of the allocation framework that should be used to make initial triage decisions for patients who present with illnesses that typically require critical care resources (i.e., illnesses that cannot be managed on a medical/surgical unit). Exhibit A—"Hospital and ICU/Ventilator Admission Triage" describes and illustrates the detail decision-making algorithm of the allocation framework and this policy. The scoring system reflected in Exhibit A applies to all patients presenting with critical illness, not merely those with the disease or disorders that have caused the public health emergency. For example, in the setting of a severe pandemic, those patients with respiratory failure from illnesses not caused by the pandemic illness will also be subject to the allocation framework. This process involves two steps, detailed below:

1. Calculating each patient's priority score based on the multi-principle allocation framework; and,
2. Determining each day how many priority groups will receive access to critical care interventions.

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

STEP 1: Determine if the patient has one or more Hospital Admission Exclusion Criteria.

Patients that present to the Hospital with one or more of the Hospital Admission Exclusion Criteria described in Exhibit A hereto will be ineligible to receive critical care services and will be discharged home or transferred to a palliative care facility. While patients presenting with these exclusion criteria would be eligible for critical care services in **usual circumstances**, they will not be eligible for hospital admission during a formally-declared public health emergency. These ineligible patients will not be scored as described in Step 2.

STEP 2: Calculate each patient's priority score using an allocation framework.

The allocation framework described and illustrated in Exhibit A ensures meaningful access for all patients and individualized patient assessments based on objective medical knowledge. Patients who are more likely to survive with intensive care are prioritized over patients who are less likely to survive with intensive care. As reflected in Exhibit A, the Sequential Organ Failure Assessment (SOFA) score is used to determine patients' prognoses for hospital survival. Points are assigned according to the patient's SOFA score. Lower scores indicate higher likelihood of benefiting from critical care, and priority will be given to those with lower scores.

Other scoring considerations:

In the event one or more patients have identical SOFA scores within the Intermediate or Highest Priority Category and there is insufficient capacity to provide all of them with critical care services, consideration may be given to other criteria in deciding who receives critical care services and who does not, including:

- 1) Giving heightened priority to those who have had the least chance to live through life's stages (i.e., younger patients). Life-cycle considerations could be based on the following categories: age 14-40, age 41-60; age 61-75; older than age 75. The ethical justification for incorporating the life-cycle principle is that it is a valuable goal to give individuals equal opportunity to pass through the stages of life—childhood, young adulthood, middle age, and old age. The justification for this principle does not rely on considerations of one's intrinsic worth or social utility. Rather, younger individuals receive priority because they have had the least opportunity to live through life's stages. Evidence suggests that, when individuals are asked to consider situations of absolute scarcity of life-sustaining resources, most believe younger patients should be prioritized over older ones.
- 2) Giving heightened priority to those who are central to the public health response (individuals who perform tasks that are vital to the public health response, including those whose work directly in supporting the provision of acute care to others). The specifics of how to operationalize this consideration will depend on the exact nature of the public health emergency. This category should be broadly construed to include those individuals who play a critical role in the chain of treating patients and maintaining social order. However, it would not be appropriate to prioritize front-line physicians and not prioritize other front-line clinicians (e.g., nurses and respiratory therapists) and other key personnel (e.g., maintenance staff that disinfect hospital rooms).

STEP 3: Make daily determinations of how many priority groups can receive the scarce resource. Hospital leaders and triage officers should make determinations twice daily, or more frequently if needed, about what priority scores will result in access to critical care services. These determinations should be based on real-time knowledge of the degree of scarcity of the critical care resources, as well as information about the predicted volume of new cases that will be presenting for care over the near-term (several days). For example, if there is clear evidence that there is imminent shortage of critical care resources (i.e., few ventilators available and large numbers of new patients daily), only patients with the highest priority should receive scarce critical care resources. As scarcity subsides, patients with progressively lower priority (higher scores) should have access to critical care interventions.

There are at least two reasonable approaches to group patients: 1) according to their raw SOFA score; and 2) by creating three priority categories based on patients' raw priority scores (e.g., high priority, intermediate priority, and low priority). Using the SOFA scale avoids creating arbitrary cut-points on what is a continuous scale and allows all the information to be used from the priority score. Using priority categories is consistent with standard practices in disaster medicine and avoids allowing marginal differences in scores on an allocation framework that has not been extensively tested to be the determinative factor in allocation decisions. Both approaches are reasonable and are permitted by this policy. The best choice depends on the specific conditions of the public health emergency and should be decided by the administrative and medical staff leaders of the institution.

Appropriate clinical care of patients who cannot receive critical care. Patients who are admitted to the hospital (did not meet one or more Hospital Admission Exclusion Criteria) but were not triaged to receive critical care/ventilation services will receive medical care that includes intensive symptom management and psychosocial support. They should be reassessed daily to determine if changes in resource availability or their clinical status warrant provision of critical care services. Where available, specialist palliative care teams will be available for consultation. Where palliative care specialists are not available, the treating clinical teams should provide primary palliative care.

Section 3. Reassessment for ongoing provision of critical care/ventilation

The purpose of this section is to describe the process the triage committee should use to conduct reassessments on patients who are receiving critical care services, in order to determine whether s/he continues with the treatment.

Ethical goal of reassessments of patients who are receiving critical care services. The ethical justification for such reassessment is that, in a public health emergency when there are not enough critical care resources for all, the goal of maximizing population outcomes would be jeopardized if patients who were determined to be unlikely to survive were allowed indefinite use of scarce critical care services. In addition, periodic reassessments lessen the chance that arbitrary considerations, such as when an individual develops critical illness, unduly affect patients' access to treatment.

Approach to reassessment

All patients who are allocated critical care services will be allowed a therapeutic trial of a duration to be determined by the clinical characteristics of the pandemic disease. The decision about trial duration will ideally be made as early in the public health emergency as possible, when data becomes available about the natural history of the disease. Trial duration will also need to be tailored for other non-pandemic diseases and patient contexts, given the concern that patients with certain disabilities may need longer trials to determine benefit. The trial duration should be modified as appropriate if subsequent data emerge about the clinical course of the pandemic illness.

The triage committee will conduct periodic reassessments of patients receiving critical care/ventilation. A multidimensional assessment should be used to quantify changes in patients' conditions, such as recalculation of severity of illness scores, appraisal of new complications, and treating clinicians' input. Patients showing improvement will continue with critical care/ventilation until the next assessment. If there are patients in the queue for critical care services, then patients who upon reassessment show substantial clinical deterioration as evidenced by worsening SOFA scores or overall clinical judgment should have critical care withdrawn, including discontinuation of mechanical ventilation, after this decision is disclosed to the patient and/or family. Although patients should generally be given the full duration of a trial,

if patients experience a precipitous decline (e.g., refractory shock and DIC) or a highly-morbid complication (e.g., massive stroke) which portends a very poor prognosis, the triage team may make a decision before the completion of the specified trial length that the patient is no longer eligible for critical care treatment

Appropriate clinical care of patients who cannot receive critical care.

Patients who are no longer eligible for critical care treatment because they now meet one or more Hospital Admission Exclusion Criteria, have a reassessed SOFA score that no longer supports hospital admission, or no longer meet ICU inclusion criteria (all of which are defined and illustrated in [EXHIBIT A Kaweah Delta Mass Critical Care Guidelines Document - Hospital and ICU Triage Guideline for Adults--GKH Final--042120.docx](#) hereto), should be transferred to a medical/surgical unit within the hospital (if such resources are available), discharged home, or transferred to a palliative care facility (if one is available).

Please click the icon on the upper right of the document to view Exhibit A.

