

Mass Critical Guidelines Document for Hospital and ICU Triage Guidelines for **ADULTS & PEDIATRICS**

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PURPOSE:

- To provide an ethically sound, clinically objective, practical, non-discriminatory, and transparent triage guideline for allocation of limited medical resources in the event of a mass critical care situation during which the demand for hospital and critical care services exceeds supply.

Basic premises:

- The overall goal is to **save as many lives as possible**.
- **Non-discrimination:** Each patient will receive medical treatment delivered with respect, care, and compassion and without regard to basis of race, ethnicity, color, national origin, religion, sex, disability, veteran status, age, genetic information, sexual orientation, gender identity, or any other protected characteristic under applicable law. Further, medical treatment should not be allocated under these Guidelines based on the patient's ability to pay, insurance status, socioeconomic status, immigration status, incarceration status, homelessness, past or future use of resources, perceived self-worth, perceived quality of life, or weight/size.
- **Reasonable Accommodation:** Take appropriate steps to accommodate and provide individuals with disabilities meaningful access and an equal opportunity to participate in, or receive the services and benefits under these Guidelines, as required by hospital policy, and in accordance with the Department of Health and Human Services Office of Civil Rights guidance¹. Reasonable accommodation may include, but is not limited to the following:
 - Providing effective communication with individuals who are deaf, hard of hearing, blind, have low vision, or have speech disabilities through the use of qualified interpreters, picture boards, and other means;
 - Providing meaningful access to programs and information to individuals with limited English proficiency through the use of qualified interpreters and through other means;
 - Making emergency messaging available in plain language and in languages prevalent in the affected area(s) and in multiple formats, such as audio, large print, and captioning, and ensuring that websites providing emergency-related information are accessible;
 - Addressing the needs of individuals with disabilities, including individuals with mobility impairments, individuals who use assistive devices, auxiliary aids, or durable medical equipment, individuals with impaired sensory, manual, and speaking skills, and individuals with immunosuppressed conditions including HIV/AIDS in emergency planning;
 - Respecting requests for religious accommodations in treatment and access to clergy or faith practices as practicable.
- **Patient Ventilator/ Equipment:** Hospitals may not re-allocate a personal ventilator (or a ventilator brought by the patient to the facility at admission to continue the patient's personal use).
- **Hospital Policies:** These Guidelines should be read in concert with current hospital policies, procedures, and/or guidelines. Implementing facilities may consider adding direct references to relevant policies.
- **Guideline prerequisites:** These Guidelines should be used only in genuinely extraordinary situations in which the demand for services overwhelms supply and when activated by appropriate governmental and/or institutional authorities.
- **Guideline application:** Whether applied by individual treating clinicians, clinical triage committees, or clinical triage officers, these Guidelines require assessment of each patient's treatment preferences, likelihood of short-term and, if necessary, long-term survival, in either case with treatment.
- **Physician judgment:** Application of these Guidelines is primarily a physician responsibility and must include: 1) an individualized assessment of each patient's treatment preferences and survival likelihood based on best available, relevant, and objective evidence; and 2) as-needed modification and accommodation of these Guidelines and tools based on the individual patient's clinical circumstances including disabilities and/or chronic conditions the individual may have.

¹ For COVID-19 please refer to the Office of Civil Rights, BULLETIN: Civil Rights, HIPAA, and the Coronavirus Disease 2019 (COVID-19), <https://www.hhs.gov/sites/default/files/ocr-bulletin-3-28-20.pdf>. Additionally, implementing facilities may consider adding direct references to relevant policies.

- **Patient treatment preferences:** Patient values and preferences related to life sustaining treatment should be assessed with the patient (or surrogate decision-maker if patient unable to communicate), if feasible. If the patient is unable to communicate and is judged to be terminally or irreversibly ill, patient treatment preferences as expressed in an advance directive (Directive to Physicians/Living Will, Medical Power of Attorney, Out of Hospital DNR unless pregnant) or other clear evidence indicating the patient prefers a “comfort only” treatment approach should be given strong consideration.
- **Short-term likelihood of survival:** This relies on clinician judgement of the patient’s risk of dying during the current acute care hospitalization even with disease modifying treatment or survival to discharge as further informed by SOFA or MSOFA scoring to help make decisions as objectively as possible by applying the same physiologic criteria to every patient. Score trajectory, like other clinical trajectories, is generally more important than any single point in time score. A reasonable modification of SOFA or MSOFA at the bedside is usually a necessary accommodation for patients with a disability and/or various chronic conditions that may impact baseline scoring.
- **Long-term likelihood of survival:** This should be considered only after short-term survival and includes clinician judgment and insights that death is expected within 6 to 12 months even with treatment and further informed from consultations as available with supportive palliative care and/or disease specific specialists, and the use of prognostic tools including but not limited to the Palliative Performance Scale (PPSv2), Karnofsky Performance Status (KPS), BODE Index, Eastern Cooperative Oncology Group (ECOG) score and more.
- **No categorical exclusions:** None of these Guidelines or tools within them are intended to create any categorical exclusions from life sustaining treatment. However, a patient may have an advance directive (Directive to Physicians/Living Will, Medical Power of Attorney, Out of Hospital DNR) or other clear evidence indicating the patient prefers a “comfort only” treatment approach if the patient is, in reasonable medical judgement, terminally ill and unable to express her or his wishes.
- Physicians may not issue blanket Do Not Attempt Resuscitation (“DNAR”) orders for reasons of resource constraint, except as consistent with or allowed by Texas law.
- **Triage priority:** Optimally, intensive treatment should be provided to every patient who meets treatment inclusion criteria, but if demand exceeds supply, then priority should be given to patients who desire life sustaining treatment and for whom treatment most likely will lead to survival to discharge over patients less likely to survive to discharge. If two patients have similar likelihood of short-term survival to discharge but intensive treatment is only available to one, priority may be given to the patient with greater likelihood of long-term survival following discharge, especially survival greater than 6 to 12 months.
- **Guideline application and appeals:** Individual hospitals may select different methods for applying these Guidelines in a manner they feel best allows guideline compliance to save lives, promote transparency, and prevent discrimination. This includes application of these Guidelines by 1) treating clinicians at the bedside (may include emergency medicine, critical care, infectious disease, and/or hospitalist physicians); 2) clinical triage committees; and/or 3) clinical triage officers. Whichever method is used, application monitoring, support for those engaged in application, and an appeals process should be provided. Appeals process means that a member of the clinical treatment team, the patient, or the patient’s surrogate decision-maker may appeal.
- **Application by bedside clinicians:** If a hospital chooses application initially by bedside clinicians, those clinicians will complete the basic assessment of patient preferences, likelihood of short-term and, if needed, long-term survival and then make the triage decision suggested by the triage flow chart and tools and tables. Bedside clinicians may seek consultation from a clinical triage committee or clinical triage officer for assistance in applying these Guidelines. If a member of the clinical team or triage committee learns that a patient, surrogate decision maker Or another member of the clinical team disagrees with a decision made pursuant to these Guidelines, an appeal process should be available to a clinical triage committee or clinical triage officer who will have the authority to make the final decision unless further appeal is requested to a hospital or health care system clinical ethics committee or triage review committee, established specifically for the task of triage review.

- **Application by a clinical triage committee or clinical triage officer:** If a hospital chooses application initially by a clinical triage committee or officer, the clinical triage committee or clinical triage officer may obtain information from the bedside clinicians and/or medical record, including information relating to patient preferences, the likelihood of short-term survival and, if necessary, the likelihood of long-term survival. The clinical triage committee or clinical triage officer will then make the triage decision(s) suggested by the triage flow chart and tools. If a member of the clinical treatment team, a patient, or surrogate decision maker informs another member of the clinical treatment team, a member of the clinical triage committee or clinical triage officer, or the Chief Medical Officer, they disagree with the triage decision made pursuant to these Guidelines, an appeal process should be available to a hospital or healthcare system triage review committee or clinical ethics committee, established specifically for the task of triage review, who has the authority to make the final decision.
- Under a declared state of emergency, the governor maintains the authority to supersede healthcare regulations or statutes that may come into conflict with these Guidelines.

New clinical information may emerge over the course of the pandemic, and these Guidelines may be modified accordingly, if feasible. To the extent the federal, state or local government issues laws, regulations or guidelines regarding triage of patients or assignments of ICU beds and ventilators, these Guidelines may be modified to comply with those federal, state or local laws, regulations or guidelines. If an objective, validated pandemic or other mass critical care specific scoring system which predicts survival becomes available, this may be used in place of the scoring system attached included in these Guidelines, provided that align with these basic premises of these Guidelines.

Scope:

These triage guidelines apply to _____ (insert name of hospital) and all healthcare professionals and staff working at the hospital.

These adult Guidelines apply to all patients 14 years and older. Please see Pediatric Guidelines Addendum (page 15) for patients 13 years and younger.

When activated:

These guidelines should be activated in the event the governor declares a pandemic respiratory crisis or other public health emergency that has the potential to overwhelm available intensive care resources and implemented when the hospital and surrounding healthcare community reaches Level 3 Crisis Standard of Care.

During a Crisis Standard of Care, the hospital in conjunction with its medical staff will use these guidelines to allocate scarce resources in a manner that respects the human dignity of each patient and saves as many lives as possible.

Hospital planning:

Individual hospitals have variable characteristics and thus may select different methods for applying these Guidelines in a manner that best allows compliance to save lives, promote transparency, and prevent discrimination.

Each hospital should:

- **Establish a clinical triage committee and/or clinical triage officer.** A clinical triage officer should have expertise in emergency medicine, critical care, or hospital medicine and may have experience in clinical ethics. For a committee, consider a team of at least 3 individuals, at least 2 of whom should be physicians, including an intensivist and 1 or more of the following: the hospital medical director, a nursing supervisor, a board member, a member of the hospital ethics committee, a pastoral care representative, a social worker, and 1 or more additional physicians. If a hospital has decided to vest primary or initial application to the clinical treatment team, then a clinical triage committee may provide either consultation to treating physicians at the bedside, or make treatment decisions in the setting of an appeal of a triage decision made by the clinical treatment team. Alternatively, a hospital may decide to vest primary or initial application to the clinical triage committee and/or clinical triage officer as outlined above.
- **Establish a triage review or clinical ethics committee or officer** to monitor and review 1) clinical treatment team decisions or 2) clinical triage committee or clinical triage officer decisions, and to serve as appeal process when requested by the patient, surrogate decision-maker or the clinical treatment team.

- **Establish an appeal process** to review appeals to the decisions made under these Guidelines by a member of the clinical treatment team, patients, and surrogate decision-makers.
- **Communication of triage decisions** may be completed by 1) a member of the clinical treatment team, 2) a member of the clinical treatment team in conjunction with a member of the clinical triage committee, the clinical triage officer, a member of the clinical triage review or clinical ethics committee, or 3) the hospital Chief Medical Officer or designee. Supportive palliative care consultation is strongly encouraged as early as possible, especially when the likelihood of survival to hospital discharge is deemed low and/or when possible withdrawal of non-comfort treatment is being considered.
- **Institute a supportive and/or palliative care team** to provide symptom management, counseling, and care coordination for patients, and support for families of patients who do not receive intensive care unit services.
- Establish a method of providing **peer support and expert consultation** to clinicians making these decisions.

OVERVIEW OF CRISIS OF CARE CONTINUUM

Conventional Standard of Care Level 1

- The conventional standards of care are followed. The hospital may need to call in additional staff, but has sufficient supplies and equipment, either at hand or available to it.
- As the threat of activation of the triage protocol increases, the federal, state or local government may consider cancelling elective surgeries/procedures. If not, the hospital may consider cancellation of elective surgeries/procedures that require a back-up option of hospital admission and/or ventilator support.²
- Note: In the event of a severe and rapidly progressing pandemic, start with Triage Level 2.

Contingency Standard of Care Level 2

- Conventional standards of care may be minimally impacted. The scarce resources at the hospital can expand to accommodate the surge above its baseline capacity through internal and external resources. The hospital may need to repurpose physical space to accommodate patients.

Crisis Standard of Care Level 3

- The hospital has implemented altered standards of care as demand for scarce resources (for example, ICU beds, ICU ventilators and staff) exceeds internal and readily available external resources. The hospital may need to activate its triage committee.
- Hospital staff absenteeism is maybe 20% to 40%.

² Cancellation of surgeries should be done in accordance with the Basic Premises including providing individual patients reasonable accommodations as needed.

HOSPITAL SETTINGS

Hospital Administrative Roles --- General

Crisis Care Continuum

Conventional Standard of Care Level 1:

1. Preserve bed capacity by:
 - Consider delaying/canceling any elective surgery that would require postoperative hospitalization.³
 - Note: Use standard operation and triage decision for admission to ICU because resources are adequate to accommodate the most critically ill patients.
2. Preserve oxygen capacity by:
 - Phasing out all non-acute hyperbaric medicine treatments.
 - Ensuring that all liquid oxygen tanks are full.
3. Improve patient care capacity by transitioning space in ICUs to accommodate more patients with respiratory failure.
 - Control infection by limiting visitation (follow hospital infection control plan), consistent with any federal, state, or local government laws, regulations, or rules.⁴

Contingency Standard of Care Level 2:

1. Preserve bed capacity by:
 - Delaying/canceling category 2 and 3 elective surgeries unless necessary to facilitate hospital discharge.
2. Improve patient care capacity by implementing altered standards of care regarding nurse/patient ratios and expanding capacity by adding patients to occupied hospital rooms.
3. Institute a supportive and/or palliative care team to provide symptom management, counseling and care coordination for patients, and support for families of patients who do not receive intensive care unit services.

Crisis Standard of Care Level 3:

1. Alternative Standard of Care is implemented by hospital and community to allocate scarce resources. The clinical triage committee/clinical triage officer may be activated.
2. Preserve bed capacity by limiting surgeries to patients whose clinical conditions are a serious threat to life or limb, or to patients for whom surgery may be needed to facilitate discharge from the hospital.

³Cancellation of surgeries should be done in accordance with the Basic Premises section including providing individual patients reasonable accommodations as needed.

⁴Limited visitors should be done in accordance with the Basic Premises section including providing individual patients reasonable accommodation and access to necessary support personnel.

Emergency Department, Hospital and ICU --- Clinical Triage

Use **HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE ALGORITHM AND TOOLS** (pages 9-14) to determine which patients should be medically managed and/or receive palliative care at home or in the hospital and which patients to admit to hospital and/or will receive priority for interventions including but not limited to medications, ICU beds, ventilators, ECMO or other scarce resources. Note that the lowest priority for admission is given to patients with the lowest chance of survival with or without treatment, and to patients with the highest chance of survival without treatment.

Physician judgment should be used in applying these guidelines, with individualized assessments of patients based on best available, relevant, and objective medical evidence, and consideration of these Guidelines' Basic Premises noted above. These Guidelines recommend that the clinical triage committee/clinical triage officer receive training on these Guidelines including the Basic Premises, if feasible. An admirable long-term goal for health care organizations is to provide implicit bias and non-discrimination training if feasible.

Crisis Standard of Care Level 3:

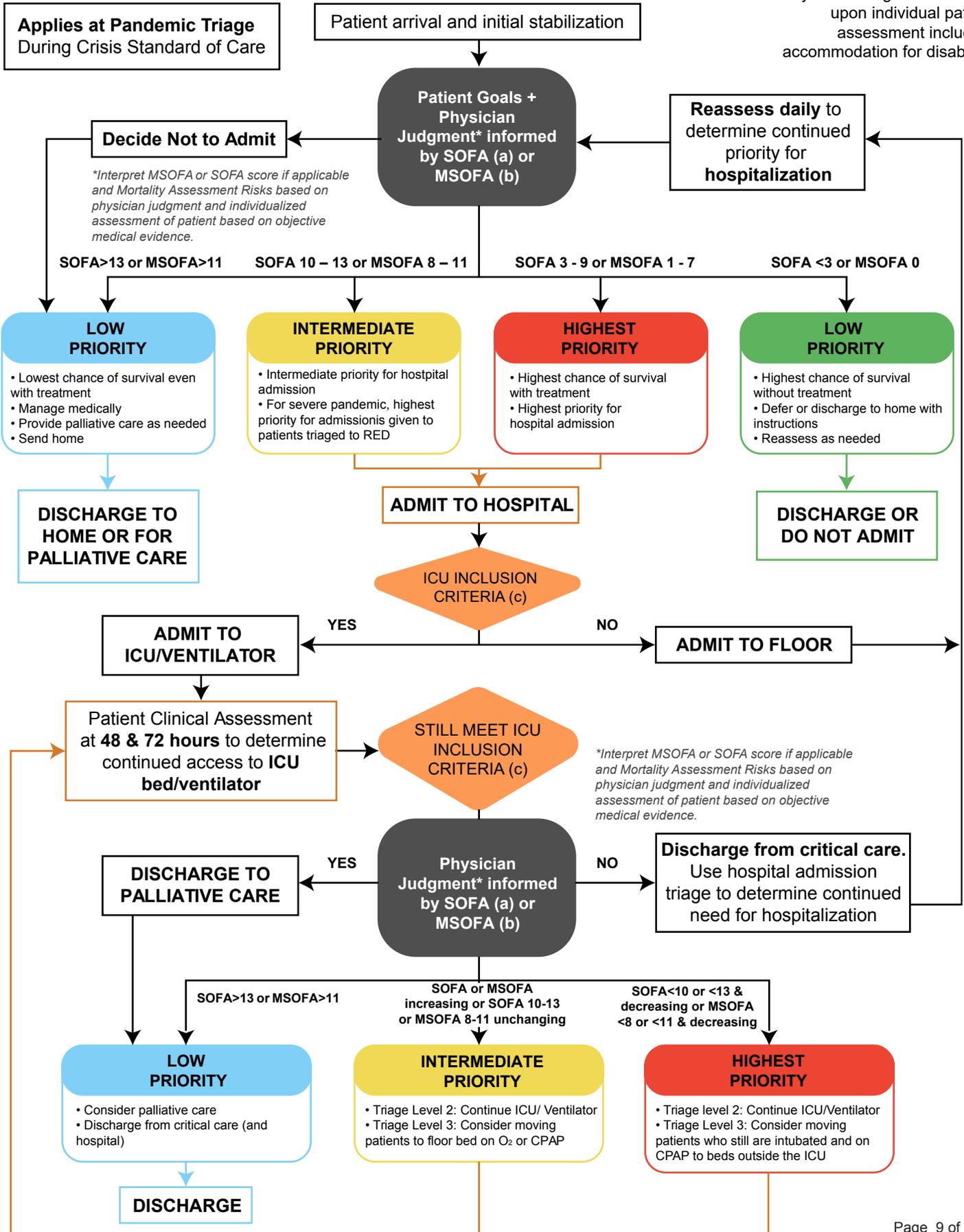
- Initiate HOSPITAL AND ICU/ VENTILATOR ADMISSION TRIAGE algorithm (pages 9-14) to determine priority for ICU admission, intubation and/or mechanical ventilation.
- Reassess need for ICU/ventilator treatment on a regular basis as is needed and feasible.
- Continue to use HOSPITAL AND ICU/ VENTILATOR ADMISSION TRIAGE algorithm (page 9) to determine priority for ICU, intubation and/or mechanical ventilation. The responsible physician and/or clinical triage committee/clinical triage officer should make determinations as frequently as needed, about which patients are at risk of dying during the current acute care hospitalization even with disease modifying treatment as further informed by SOFA or MSOFA scores to prioritize which patients will have access to critical care services if demand exceeds supply of such service. Further, if the above does not allow adequate differentiation between two patients otherwise equally meeting criteria, but such services are limited and Crisis Standard of Care the responsible physician and/or clinical triage committee/clinical triage officer may take into account a reasonable medical judgement that death is expected within 6 to 12 months even with treatment. 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 immediate near-term.
- Triage more **YELLOW** patients to floor on oxygen or CPAP.
- Triage more **RED** patients who are intubated and on CPAP to floor.

See pages 9-14 for triage algorithm and supporting tools for adult criteria.

See pages 15-18 for triage algorithm and supporting tools for pediatric criteria.

ALGORITHM: HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE

*Physician Judgment is based upon individual patient assessment including accommodation for disability.



TRIAGE TOOLS AND TABLES

These Tools and Tables will be used in conjunction with physician/judgment and individualized assessments based on best available, relevant and objective medical evidence.

Given our charge to do the best for the most-saving as many lives as possible with a marked scarcity of resources (including, but not limited to, ICU, beds, personnel, equipment, and/or drugs) there are certain situations where maximally aggressive treatment cannot be provided to every individual. An individualized assessment will be performed based on objective medical evidence to allocate resources for each patient based on the following criteria:

- Those who are too ill to likely survive the acute illness (as evidenced by clinical judgement further informed by the Modified Sequential Organ Failure Assessment (“MSOFA”) or Sequential Organ Failure Assessment (“SOFA”) score). A reasonable modification of MSOFA or SOFA may be a necessary accommodation for patients with a disability (e.g., deafness, cognitive, or mobility limitations). Assessment tools, such as the SOFA, may need reasonable modifications with respect to disabilities not related to their likelihood of surviving treatment. For example, the Glasgow Coma Scale, a tool for measuring acute brain injury severity in the MSOFA, adds points to the MSOFA score when a patient cannot articulate intelligible words or has difficulty with purposeful movement. For patients with pre-existing speech disabilities or disabilities that effect motor movement, this may result in a higher MSOFA score even in instances where the patient’s disability is not relevant to short-term mortality risk. Similarly, individuals who use personal ventilators or oxygen may score higher as a result of their typical usage and this may also result in a higher MSOFA score even where this would not be relevant to short-term mortality risk.
- Those whose underlying medical issues will not lead to survival to discharge from the acute care hospitalization even with disease modifying treatment so high that it is not reasonable to allocate critical care resources to them in a crisis situation, based on survival probability and an individualized assessment.
- If the above two (2) factors do not allow adequate differentiation between two patients otherwise equally meeting criteria, but such services are limited and Crisis Standard of Care the responsible physician and/or clinical triage committee/clinical triage officer may take into account a reasonable medical judgement that death is expected within 6 to 12 months even with treatment.

(a) Sequential Organ Failure Chart (SOFA)

SOFA Scoring Guidelines						
Variable	Score 0	Score 1	Score 2	Score 3	Score 4	Score for each row
PaO ₂ /FiO ₂	>400	≤ 400	≤300	≤200	≤100	
Platelets, x10 ³ /μL	<150	101-150	51-100	21-50	≤20	
Bilirubin, mg/dL	<1.2	1.2-1.9	2.0-5.9	6.0-11.9	>12	
Hypotension ¹	None	MAP<70	Dop≤5, or any dobutamine	Dop 5-15, or Epi≤0.1, or Norepi≤0.1	Dop>15, or Epi>0.1 or Norepi>0.1	
Glasgow Coma Score ²	15	13-14	10-12	6-9	<6	
Creatinine, mg/dL	1.2	1.2-1.9	2.0-3.4	3.5-4.9 or urine output <500 mL in 24 hours	>5 or urine output <200 mL in 24 hours	
SOFA score = total scores from all rows:						

1. Dopamine (Dop), Epinephrine (Epi), and Norepinephrine (Norepi) does in μg/kg/min
2. If patient is chemically sedated, use last known or estimated GCS prior to sedation. Adapted from Up to Date and Ferreira FL, Bota DP, Bross A, Melot C, Vincent JL. Serial evaluation of the SOFA score to predict outcome in critically ill patients. JAMA 2001; 286(14): 1754-1758.

A reasonable modification of MSOFA or SOFA may be a necessary accommodation for patients with a disability (e.g. deafness, cognitive or mobility limitations).

*SpO₂/FIO₂ ratio:
 SpO₂ = Percent saturation of hemoglobin with oxygen as measured by a pulse oximeter and expressed as % (e.g., 95%); FIO₂ = Fraction of inspired oxygen; e.g., ambient air is 0.21 Example: if SpO₂ = 95% and FIO₂ = 0.21, the SpO₂/FIO₂ ratio is calculated as 95/0.21 = 452 †

Hypotension:
 MABP = mean arterial blood pressure in mm Hg [diastolic + 1/3(systolic - diastolic)]
 dop= dopamine in micrograms/kg/min
 epi = epinephrine in micrograms/kg/min
 norepi = norepinephrine in micrograms/kg/min

(b) Modified Sequential Organ Failure Assessment (MSOFA) Score:

MSOFA Scoring Guidelines						
Variable	Score 0	Score 1	Score 2	Score 3	Score 4	Score for each row
SpO2/FIO2 ratio* or nasal cannula or mask O2 required to keep SpO2 >90%	SpO2/FIO2 >400 or room air SpO2 >90%	SpO2/FIO2 316-400 or SpO2 >90% at 1-3 L/ min	SpO2/FIO2 231-315 or SpO2 >90% at 4-6 L/ min	SpO2/FIO2 151-230 or SpO2 >90% at 7-10 L/ min	SpO2/FIO2 <150 or SpO2 >90% at >10 L/ min	
Jaundice	no scleral icterus			clinical jaundice/ scleral icterus		
Hypotension†	None	MABP <70	dop <5	dop 5-15 or epi <0.1 or norepi <0.1	dop >15 or epi >0.1 or norepi >0.1	
Glasgow Coma Score	15	13-14	10-12	6-9	<6	
Creatinine level, mg/dL (use ISTAT)	1.2	1.2-1.9	2.0-3.4	3.5-4.9 or urine output <500 mL in 24 hours	>5 or urine output <200 mL in 24 hours	
MSOFA score = total scores from all rows:						

(c) ICU/Ventilator INCLUSION CRITERIA:

Patient have at least one of the following **INCLUSION CRITERIA:**

1. Requirement for invasive ventilatory support

- Refractory hypoxemia (SpO₂ <90% on non-rebreather mask or FIO₂ >0.85)
- Respiratory acidosis (pH <7.2)
- Clinical evidence of impending respiratory failure
- Inability to protect or maintain airway

2. Hypotension* with clinical evidence of shock refractory to volume resuscitation, and requiring vasopressor or inotrope support that cannot be managed in a ward setting.**

- *Hypotension = Systolic BP <90 mm Hg or relative hypotension.
- **Clinical evidence of shock = altered level of consciousness, decreased urine output or other evidence of end-stage organ failure.

(d) Continuous Clinical Assessment:

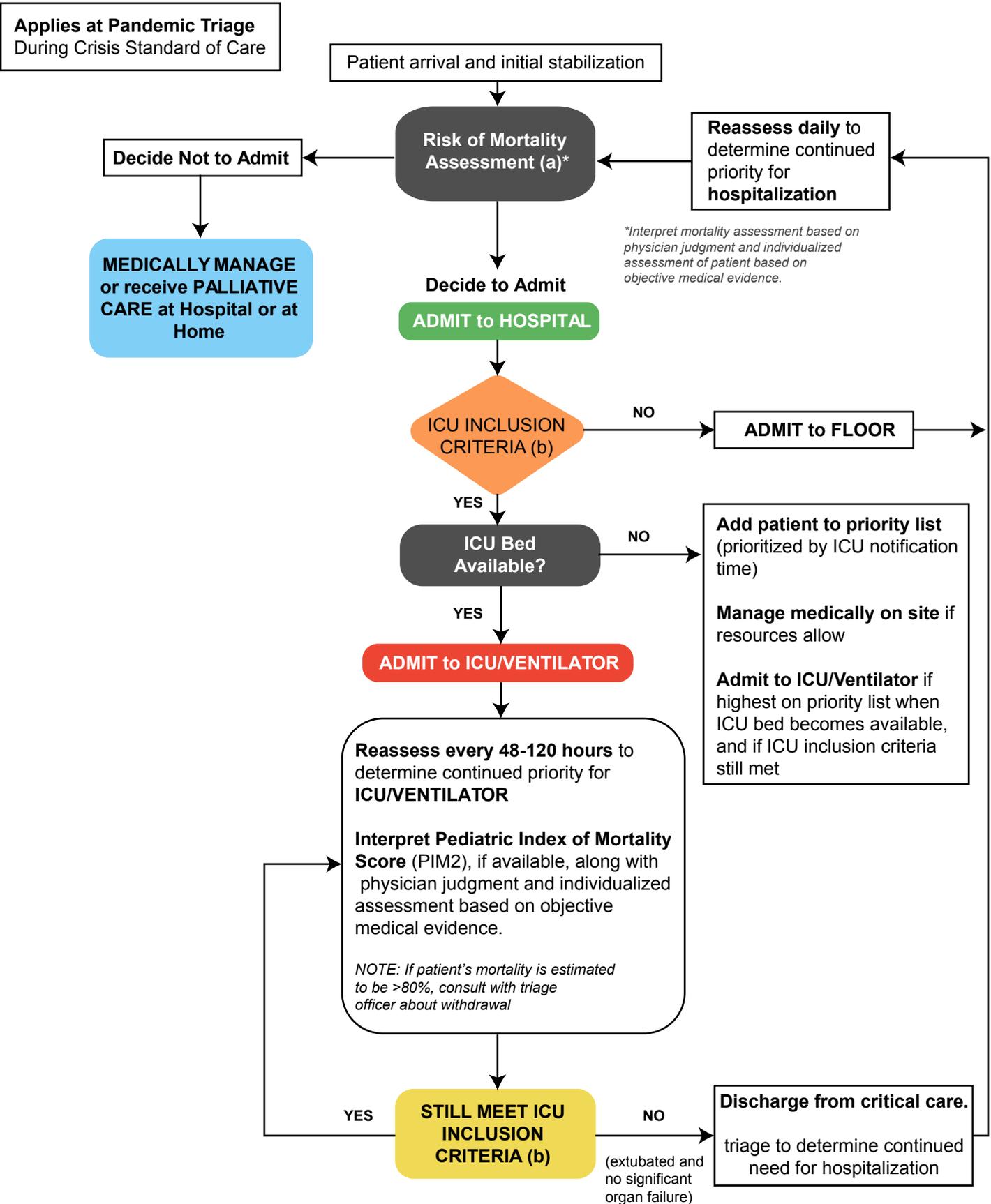
All patients who are allocated critical care services will be allowed a therapeutic trial of a duration to be determined by the clinical characteristics of the disease. Patients should generally be given an initial 48 to 72-hour trial. Although patients should generally be given the full duration of the initial 48 to 72-hour trial, if patients experience a precipitous decline, the clinical triage committee/clinical triage officer may make a decision before the completion of the specified trial length that the patient is no longer eligible for critical care treatment. Patients who have not declined will continue receiving the scarce resources they have been allocated 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 compared to baseline) as evidenced by worsening MSOFA or SOFA scores (or overall clinical judgment if MSOFA or SOFA score not available) will be eligible to have critical care interventions withdrawn. Clinical assessments will be conducted based on the criteria outlined above, including the calculation of the MSOFA or SOFA score, appraisal of new complications, and an individualized assessment of the patient based on physician judgment.

(e) Glasgow Coma Score (GCS):

The GCS is used as part of the MSOFA and SOFA scores. Any decisions made based on the Glasgow Clinical Scale will consider the base line responsiveness of a person with a disability to the extent this information is readily available and modify the result accordingly.

Glasgow Coma Scoring Criteria				
Criteria	Adults and Children	Infants and Young Toddlers	Score	Criteria Score
Best Eye Response (4 possible points)	No eye opening	No eye opening	1	
	Eye opens to pain	Eye opens to pain	2	
	Eye opens to verbal command	Eye opens to speech	3	
	Eyes open spontaneously	Eyes open spontaneously	4	
Best Verbal Response (5 possible points)	No verbal response	No verbal response	1	
	Incomprehensible sounds	Infant moans to pain	2	
	Inappropriate words	Infant cries to pain	3	
	Confused	Infant is irritable and continually cries	4	
	Oriented	Infant coos or babbles (normal activity)	5	
Best Motor Response (6 possible points)	No motor response	No motor response	1	
	Extension to pain	Extension to pain	2	
	Flexion to pain	Abnormal flexion to pain	3	
	Withdraws from pain	Withdraws from pain	4	
	Localizes to pain	Withdraws from touch	5	
	Obeys commands	Moves spontaneously or purposefully	6	
Total Score (add 3 subscores; range 3 to 15):				

ALGORITHM: HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE



TRIAGE TOOLS AND TABLES

These Tools and Tables will be used in conjunction with physician/judgment and individualized assessments based on best available, relevant and objective medical evidence.

Given our charge to do the best for the most saving as many lives as possible with a marked scarcity of resources (including, but not limited to, ICU, beds, personnel, equipment, and/or drugs) there are certain situations where maximally aggressive treatment cannot be provided to every individual. These individuals include:

- Those who are too ill to likely survive the acute illness
- Those whose underlying medical issues make their imminence of mortality so high that it is not reasonable to allocate critical care resources to them in a crisis situation, based on survival probability and an individualized assessment rather than a categorical exclusion.

(a) Assessment of Risk of Mortality:

Examples of underlying issues that would result in significant risk of mortality and could be considered in an individualized assessment of a patient are:

1. **Persistent coma or vegetative state.**
2. **Severe acute trauma with a REVISED TRAUMA SCORE <2 [see (d) and (e) on following pages].**
GCS: _____ SBP: _____ RR: _____
Revised trauma score: _____
3. **Severe burns with <50% anticipated survival** [patients identified as “Low” or worse on the TRIAGE DECISION TABLE FOR BURN VICTIMS (f)]. Burns not requiring critical care resources may be cared for at the local facility.
4. **Cardiac arrest not responsive to PALS interventions within 20-30 minutes.**
5. **Any other conditions resulting in imminent or near imminent mortality even with aggressive therapy.***

**This phrase encompasses other possibilities because the list above is merely a guide and does not list every medical condition that would result in imminent or near imminent mortality.*

Other Considerations:

- Resuscitation of extremely premature infants with anticipated mortality rates greater than 80% should not be offered. See http://www.nichd.nih.gov/about/org/cdbpm/pp/prog_epbo/.
- The use of ECMO will be decided on an individual basis by the Chief Medical Officer (with input from attending physician, nursing supervisor and ECMO representative) based on prognosis, suspected duration of ECMO run, and availability of personnel and other resources. Patients should have an estimated survival of >70% with an estimated ECMO run of <7 10 days.

(b) ICU/Ventilator Inclusion Criteria:

- Applies to all patients except those infants not yet discharged from the NICU.
- Patients must have at least one of the following INCLUSION CRITERIA:
 1. **Requirement for invasive ventilatory support:**
 - Refractory hypoxemia (SpO₂ < 90% on non-rebreather mask or FIO₂ > 0.85)
 - Respiratory acidosis (pH < 7.2)
 - Clinical evidence of impending respiratory failure
 - Inability to protect or maintain airway

2. Hypotension* with clinical evidence of shock refractory to volume resuscitation, and requiring vasopressor or inotrope support that cannot be managed in a ward setting.**

*Hypotension = Systolic BP < 90 mm Hg for patients age > 10 years old, < 70 + (2 x age in years) for patients ages 1 to 10, < 60 for infants < 1 year old, or relative hypotension.

**Clinical evidence of shock = altered level of consciousness, decreased urine output or other evidence of end-stage organ failure.

(c) Continuous Clinical Assessment:

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 disease. Patients should generally be given an initial 48-hour trial and be reviewed again at 120 hours. After the first 120 hours, patient should be generally be reviewed at least every 48 hours. Although patients should generally be given the full duration of the initial 48-hour trial, if patients experience a precipitous decline, the Triage Committee may make a decision before the completion of the specified trial length that the patient is no longer eligible for critical care treatment. Patients showing improvement will continue receiving the scarce resources they have been allocated 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 PIM2 scores and/or overall clinical judgment will be eligible to have critical care withdrawn. Clinical assessments will be conducted based on the criteria outlined above, including the PIM2 score, appraisal of new complications, and an individualized assessment of the patient based on physician judgment.

(d) Glasgow Coma Score (GCS):

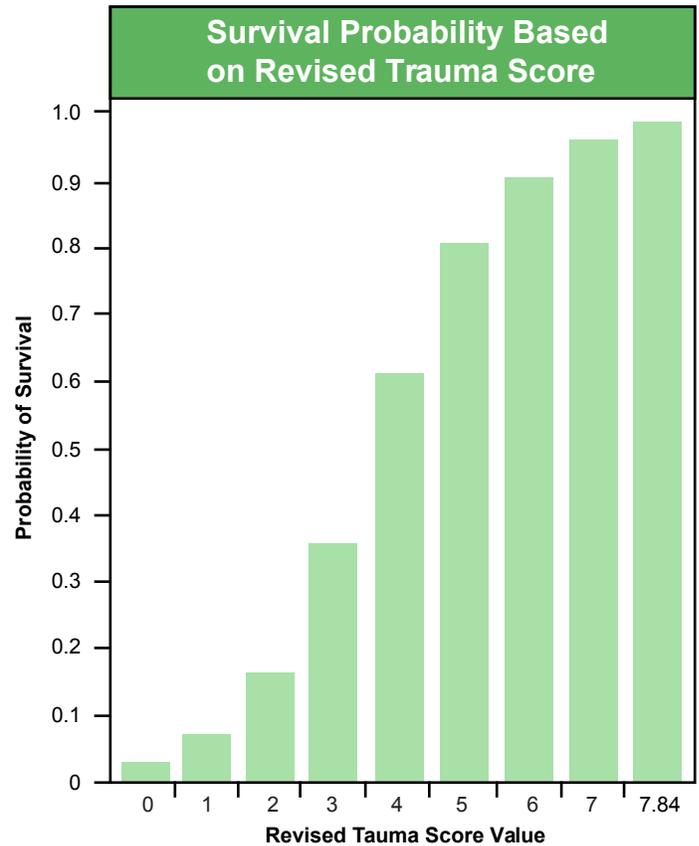
The GCS is used as part of the REVISED TRAUMA SCORE (RTS).

Glasgow Coma Scoring Criteria				
Criteria	Adults and Children	Infants and Young Toddlers	Score	Criteria Score
Best Eye Response (4 possible points)	No eye opening	No eye opening	1	
	Eye opens to pain	Eye opens to pain	2	
	Eye opens to verbal command	Eye opens to speech	3	
	Eyes open spontaneously	Eyes open spontaneously	4	
Best Verbal Response (5 possible points)	No verbal response	No verbal response	1	
	Incomprehensible sounds	Infant moans to pain	2	
	Inappropriate words	Infant cries to pain	3	
	Confused	Infant is irritable and continually cries	4	
	Oriented	Infant coos or babbles (normal activity)	5	
Best Motor Response (6 possible points)	No motor response	No motor response	1	
	Extension to pain	Extension to pain	2	
	Flexion to pain	Abnormal flexion to pain	3	
	Withdraws from pain	Withdraws from pain	4	
	Localizes to pain	Withdraws from touch	5	
	Obeys commands	Moves spontaneously or purposefully	6	
Total Score (add 3 subscores; range 3 to 15):				

(e) Revised Trauma Score (RTS):

Values for the REVISED TRAUMA SCORE (RTS) range from 0 to 7.8408. The RTS is heavily weighted toward the GLASGOW COMA SCORE (GCS) to compensate for major head injury without multisystem injury or major physiological changes. The RTS correlates well with the probability of survival.

Revised Trauma Score Calculation				
Criteria	Score	Coded value	Weighting	Adjusted Score
Glasgow Coma Score	3	0	x 0.9368	
	4 to 5	1		
	6 to 8	2		
	9 to 12	3		
	13 to 15	4		
Best Verbal Systolic Blood Pressure (SBP)	0	0	x 0.7326	
	1 to 49	1		
	50 to 75	2		
	76-89	3		
	>89	4		
Respiratory Rate (RR) in breaths per minute (BPM)	0	0	x 0.2908	
	1 to 5	1		
	6 to 9	2		
	>29	3		
	10 to 29	4		
Revised Trauma Score (add 3 adjusted scores):				



(f) Triage Decision Table for Burn Victims

Age (yrs)	Burn Size (% total body surface area)									
	0-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91%+
0 – 1.9	Very high	Very high	Very high	High	Medium	Medium	Medium	Low	Low	Low/expectant
2.0 – 4.9	Outpatient	Very high	Very high	High	High	High	Medium	Medium	Low	Low
5.0 – 19.9	Outpatient	Very high	Very high	High	High	High	Medium	Medium	Medium	Low
20.0 – 29.9	Outpatient	Very high	Very high	High	High	Medium	Medium	Medium	Low	Low
30.0 – 39.9	Outpatient	Very high	Very high	High	Medium	Medium	Medium	Medium	Low	Low
40.0 – 49.9	Outpatient	Very high	Very high	Medium	Medium	Medium	Medium	Low	Low	Low
50.0 – 59.9	Outpatient	Very high	Very high	Medium	Medium	Medium	Low	Low	Low/expectant	Low/expectant
60.0 – 69.9	Very high	Very high	Medium	Medium	Low	Low	Low	Low/expectant	Low/expectant	Low/expectant
70.0+	Very high	Medium	Medium	Low	Low	Low/expectant	Expectant	Expectant	Expectant	Expectant

Outpatient: Survival and good outcome expected, without requiring initial admission; **Very high:** Survival and good outcome expected with limited/short-term initial admission and resource allocation (straightforward resuscitation, LOS <14–21 days, 1-2 surgical procedures); **High:** Survival and good outcome expected (survival >90%) with aggressive and comprehensive resource allocation, including aggressive fluid resuscitation, admission >14–21 days, multiple surgeries, prolonged rehabilitation; **Medium:** Survival 50–90% and/or aggressive care and comprehensive resource allocation required, including aggressive resuscitation, initial admission >14–21 days, multiple surgeries and prolonged rehabilitation; **Low:** Survival <50% even with long-term aggressive treatment and resource allocation; **Expectant:** Predicted survival <10% even with unlimited aggressive treatment.

DEFINITIONS USED IN THIS DOCUMENT

- **Emergency patients:** Those patients whose clinical conditions indicate that they require admission to the hospital and/or surgery within 24 hours.
- The federal, state or local government or a government agency may determine when and the type of elective surgeries that can be scheduled while an emergency declaration is in place.

If a government or governmental agency has not made this determination, **elective surgery means:**

- **Category 1:** Urgent patients who require surgery within 30 days.
- **Category 2:** Semi-urgent patients who require surgery within 90 days.
- **Category 3:** Non-urgent patients who need surgery at some time in the future.
- **Palliative care:** In the setting of an overwhelming medical crisis, palliative care helps improve patient symptoms such as shortness of breath, pain and anxiety. Palliative care teams also support patient and family spiritual and/or emotional pain

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- Hick JL, O’Laughlin DT. Concept of operations for triage of mechanical ventilation in an epidemic. *Acad Emerg Med*. 2006;13(2):223–229.
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- North Texas Mass Critical Care Guidelines Document for Pediatrics - Version 1.0 – January 2014.