Interim Crisis Care Plan
January 2021

Mission: To manage the allocation of scarce resources to maximize survival for the overall patient population and to minimize the adverse outcomes that might occur as a result of changes in usual practice with the ethical tenets of fairness, equity, transparency, proportionality, and accountability.

OBJECTIVES
☐ Identify indicators and triggers for the progression to Crisis Care and recovery
☐ Create an ethically sound process for the allocation of critically limited resources
☐ Outline staffing models during Crisis Care and provisions for emergency privileging of independently licensed practitioners
☐ Assess and re-assess the impact of the incident and resources required to respond to the incident
CRISIS CARE PLAN AUTHORITY
☐ The Governor of California has the authority to allow hospitals to suspend standards of medical practice during an emergency without practitioners and hospitals incurring legal liability. When the Crisis Care Plan is triggered, it is likely that some temporary modifications of regulatory and legal requirements for health care providers and the hospitals at all levels will be necessary (see Appendix 1). ☐ The local authority to activate the Crisis Care Plan will rest with the Hospital Command Center's Incident Commander in consultation with the Chief Medical Officer and input from Hospital Leaders.
CRISIS CARE PLAN PRE-REQUISITES AND TRIGGERS
☐ The following is a partial list of potential triggers that may require activation of the Crisis Care Plan: • Lack of critical equipment or medications a. Mechanical ventilators b. Oxygen c. Antibiotics, antiviral medication or specific antidotes d. Vasopressors or other critical care medications e. Intravenous fluids or blood products f. Operating room equipment and space g. Lack of adequate beds • Lack of critical infrastructure • Lack of security to maintain the safety of healthcare providers and patients • Lack of personal protective equipment • Loss of power • Lack of trained staff • Inadequate staff support (food, housing, water, etc.) • Lack of specialty care such as burn care resources ☐ Indicators and triggers for Crisis Care will be continually monitored to determine the need for continued altered care and rationing of critically limited resources. ☐ The Crisis Care Pre-Implementation Checklist released by the California Hospital Association can be referenced in Appendix 2.

Prior to implementing the Crisis Care Plan, all attempts should be made to acquire scarce critical resources or infrastructure, or to transfer patients to other healthcare facilities that have the appropriate ability to provide care including but not limited to health system resources (see Surge Plan Incident Response Guide > Transfer Center Mutual Aid Process), healthcare coalition partners, the County partners including the Public Health Department, Emergency Medical Services, and the Medical Health Operational Area Coordinator (MHOAC); regional partners, and state resources. When demands exceed state capacity and resources, the state will coordinate with the federal government for resources and assistance.

☐ Implementation of crisis care, including triage of critical care resources, **requires immediate notification** to:

- The local public health department (including local health officer and Medical Health Operational Area Coordinator), AND
- The local CDPH district office via email and phone call to ensure the State is aware of conditions at the facility.

STRATEGIES TO PREVENT CRISIS CARE

The Crisis Care Plan is an extension of the Hospital Surge Incident Response Guide.

Core strategies to mitigate Crisis Care as delineated by CDPH Guidelines are listed below:

- **Prepare:** pre-event actions taken to minimize resource scarcity (e.g. stockpiling of personal protective equipment (PPE), medications or supplies, planning, training).
- **Substitute:** use an equivalent device, drug, or personnel for one that would usually be available (e.g. exchanging morphine for fentanyl).
- **Adapt:** use a device, drug, or personnel that are not equivalent but that will provide sufficient care (e.g. anesthesia machine for mechanical ventilation; licensed practical nurse (LPN) with registered nurse (RN) supervision instead of multiple RNs); explore alternatives to single-use invasive ventilation by gathering data on the utility and safety of non-invasive ventilation and to investigate the efficacy and safety of splitting ventilators)
- **Conserve:** use less of a resource by lowering dosage or changing utilization practices (e.g. minimizing use of oxygen driven nebulizers to conserve oxygen).
- **Re-use:** re-use (after appropriate disinfection/sterilization) items that would normally be single-use items.
- **Re-allocate:** restrict or prioritize use of resources to those patients who are likely to benefit and survive in the immediate short-term or to those with greater need only in times of actual shortage.

CRISIS CARE CROSS-CUTTING STRATEGIES

Examples of other fundamental changes that may be considered in conjunction with implementing a Crisis Care Plan include, but are not limited to:

- Applying principles of field triage and a graded scoring system to determine who gets what kind of care.
- Determining who receives the use of a limited supply of ventilators or other critical care modalities.

- Creating alternate care sites from areas never designed to provide medical care, such as the hospital cafeterias, radiology suites, hospital corridors, in hallways and corridors, hospital atrium, athletic centers or research buildings.
- Changing infection control standards to permit group isolation rather than single person isolation units.
- Changing who provides various kinds of care.
- Changing privacy and confidentiality protection procedures temporarily.
- Emergency Department access may be reserved for immediate-need patients; ambulatory patients may be diverted to alternate care sites where care can still be provided.
- Elective procedures and surgeries may have to be cancelled. Under some circumstances only lifesaving surgeries will be performed, and initial surgical care will aim to stabilize the patient. When more resources become available, additional surgery to fully treat injuries can occur.
- Usual scope of practice standards may not apply. Nurses may take on expanded roles, and physicians may function outside their specialties (See Appendix 3).
- Credentialing of providers may be granted on an emergency or temporary basis (See Appendix 4).
- Additional strategies can be found in Appendix 14.

ETHICAL CONSIDERATIONS DURING CRISIS CARE

Ethical considerations of Crisis Care are highlighted here for full transparency of the Key Points taken from the *SARS-CoV-2 Crisis Care Guidelines* by the California Public Department of Health (CDPH). While these guidelines were created specifically in the setting of a pandemic, the tenets of these guidelines are applicable to other crises. These Key Points guide the difficult decisions required with scarce resource allocation:

- Crisis care is not a separate triage plan. These strategies are extensions of surge-capacity plans.
- Crisis care may occur during long-term events such as pandemics when resource constraints are likely to persist for long periods of time, or during short- term, no-notice events where help will arrive, but too late to solve an acute resource shortfall.
- Healthcare facilities will not have an option to defer caring for patients in a crisis. Demand, guided by ethics, will drive the choices that have to be made.
- Healthcare decisions, including allocation of scarce resources, cannot be based on age, race, disability (including weight-related disabilities and chronic medical conditions), gender, sexual orientation, gender identity, ethnicity (including national origin and language spoken), ability to pay, weight/size, socioeconomic status, insurance status, perceived self-worth, perceived quality of life, immigration status, incarceration status, homelessness, or past or future use of resources.
- If strategies are not planned for ahead of time, they might not be considered and/or will be difficult to implement.
- Strategies should be proportional to the resources available. As more resources arrive, response will return to strategies that are less demand driven (and therefore, back toward contingency and eventually conventional status)

The Crisis Care Plan is designed to produce the best possible care that is possible in a rare, catastrophic event. The Plan is driven by several values that have been recognized as central to a just process. A public health emergency compels transition from individual patient-focused clinical care to a population-oriented public health approach with the goal of providing the best possible outcome for the largest number of impacted people.

Any crisis planning framework should be designed to achieve the following:

1. To create meaningful access for all patients. For example, all patients who are eligible for ICU services during ordinary circumstances remain eligible, and there are no exclusion criteria based on age, disabilities, or other factors, including those listed in Key Points.
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, including those listed in Key Points.
4. To diminish the impact of social inequalities that negatively impact patients' long- term life expectancy by keeping in mind historic disparities and inequalities.

In general, triage decisions must meet the five basic requirements outlined in the IOM/NAM 2012 publication:

- **Fairness and Equity:** process recognized as fair, equitable, evidence based, and responsive to specific needs of individuals and the population focused on a duty of compassion and care, a duty to steward resources, a duty to abide by nondiscrimination laws, and a goal of maintaining the trust of patients and the community.
- **Transparency:** in design and decision-making.
- **Consistency**: in application across populations and among individuals with reasonable modifications for disability.
- **Proportionality**: public and individual requirements must be commensurate with the scale of the emergency and degree of scarce resources (i.e. the restrictions on care should not be more restrictive than the situation requires – and this may require re-evaluation as more resources become available).
- **Accountability**: individuals making the decisions and the facilities and governments to support the processes and the providers.

Additional ethical principles regarding triage of patients and allocation of resources include the following tenets:

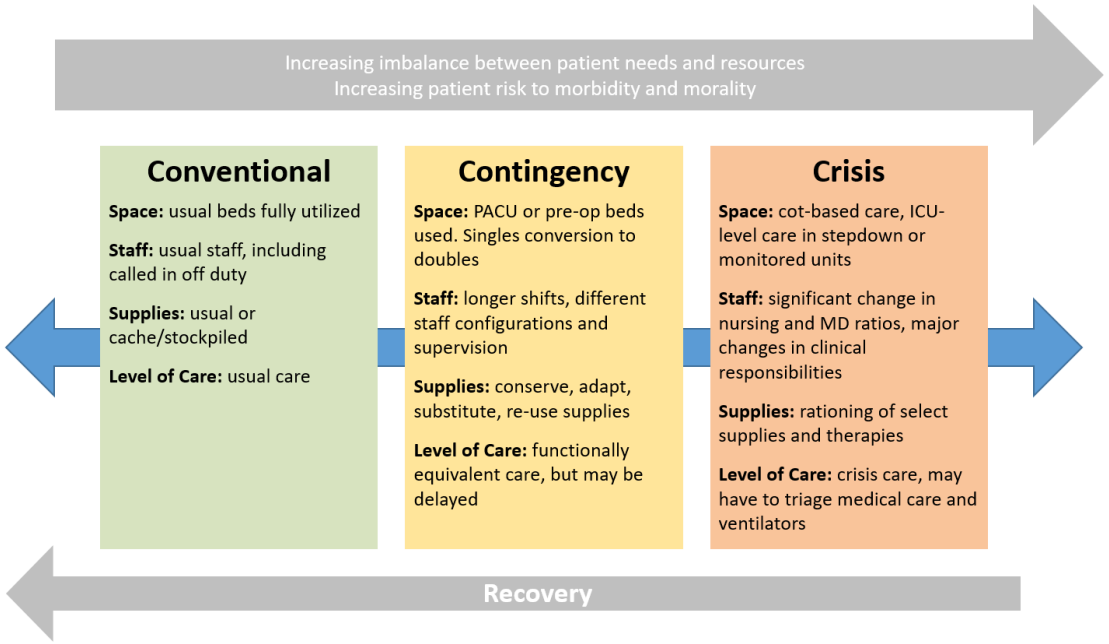
1. Duty to implement distributive justice (socially just allocation of goods)
2. Duty to care: treat people with dignity and respect, and make decisions based on an individualized assessment based on objective medical evidence
3. Duty to plan: steward resources and promote instrumental value
4. Duty to transparency (in planning and implementation)
5. Duty to implement distributive justice (socially just allocation of goods)

Ethical principles as applied to triage raise considerations of moral equality. Triage must respect equality and human dignity in the following ways, among others:

- **Protection and Provision for Vulnerable Populations**: Health systems should take deliberate, active steps to ensure that vulnerable or marginalized populations receive equal access to scarce resources. These should include, among other things; (1) reaching out to organizations and services designed to serve groups with special needs or groups that are particularly vulnerable or disadvantaged; (2) ensuring access for those with disabilities, limited English proficiency (LEP), and other groups with functional needs; (3) mitigating or eliminating, as far as possible, the sense of distrust that some historically or currently disadvantaged people might feel towards the medical system in general or a triage system in particular; and (4) being prepared to participate in regional or statewide plans designed to ensure that the same resources are available and in use at similarly situated facilities – a step that helps mitigate or eliminate disparities of access and distribution among facilities.
- **Disability and Return to Previous State of Health**: Some triage protocols make allocation decisions based not only on overall predicted acute-episode survival but also on quality of life after treatment. Such protocols are sometimes viewed with suspicion by individuals with disabilities who fear that they are seen as having lower quality of life than non-disabled individual and, therefore, that they may be assigned lower triage priority in virtue of their disabilities. To ensure non-discrimination against individuals with disabilities, triage protocols must either not score individuals based on their quality of life after treatment or assess at most how far treatment will return the patient to their own baseline quality of life. Decisions cannot be based on generalized assumptions about a person's disability. The mere fact that a person has diabetes, depression, an intellectual disability, or a mobility impairment, for example, cannot be a basis for denying care or making that person a lower priority to receive treatment. Treatment allocation decisions cannot be made based on misguided assumptions that people with disabilities experience a lower quality of life or that their lives are not worth living.

CRISIS CARE CONTINUUM

The Crisis Care Continuum is a framework to describe changes to patient care during a disaster or crisis. As demand for resources increases, increased resource utilization will result in scarcity. This imbalance necessitates a change in daily practice and normal standards which increases patient risk of morbidity and mortality. Care along this continuum shows a progression from conventional care to contingency care to crisis care and back again (see Fig 1 below).



https://www.cdph.ca.gov/Programs/CHCQ/LCP/Pages/AFL-20-91.aspx

Conventional Care

Standard of care during a hospital surge has been defined as "the degree of skill, diligence, and reasonable exercise of judgment in furtherance of optimizing population outcome during a healthcare surge event that a reasonably prudent person or entity with comparable training experience or capacity would have used under the circumstances." The usual resources and level of care are provided to all patients.

During a surge in patients where resources are not strained, maximizing bed occupancy and calling in additional staff to assist makes it possible to allocate of all appropriate health and medical resources to improve the health status and/or save the life of each individual patient.

However, should a crisis occur, the demand for care provided in accordance with current standards may exceed the Medical Center's resources. Our goal then would be to keep health care systems functioning and to deliver acceptable quality of care to preserve as many lives as possible.

Contingency Care

Contingency care is defined as *functionally equivalent* patient care that differs from daily practice and may incur a small risk to patients. The use of spaces, staff, and supplies may be allocated differently from every day operational practices with the maintenance of care standards. For example, boarding critical care patients in post-anesthesia care areas using less traditional, but appropriate resources.

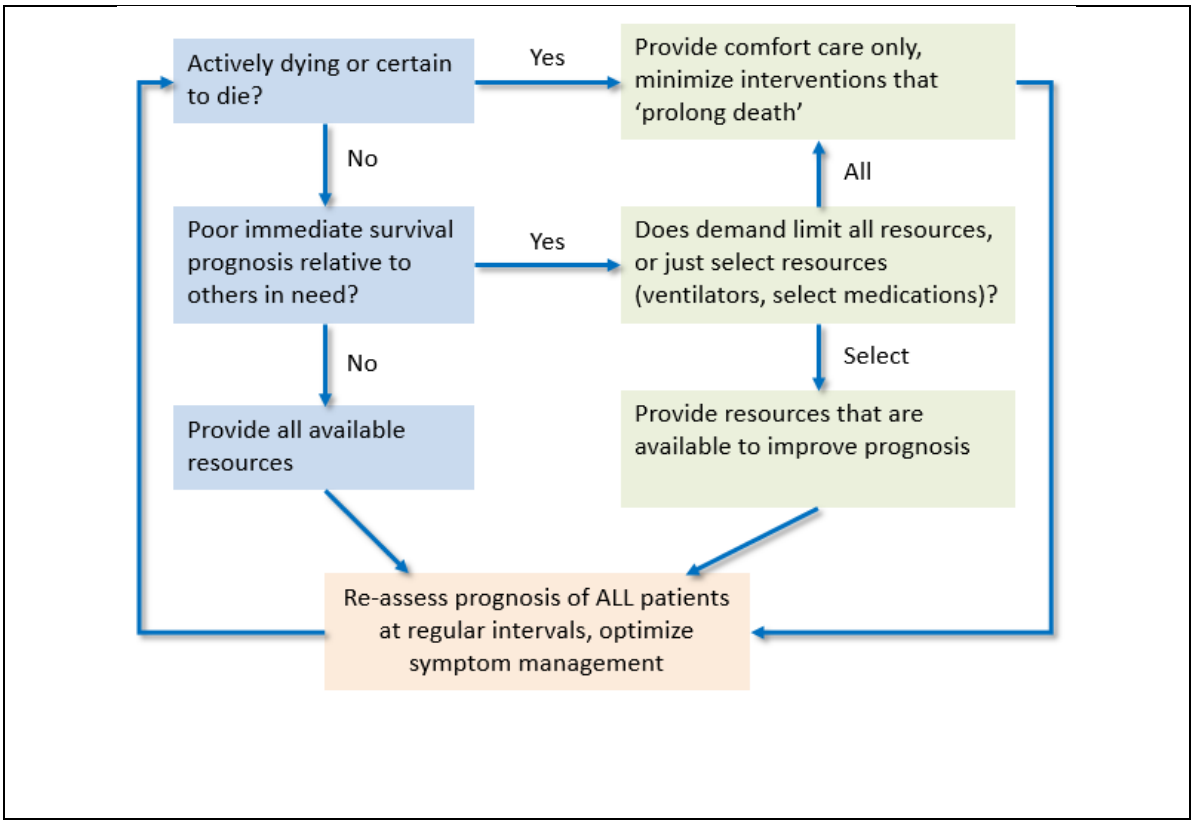
Crisis Care

The term "Crisis Standards of Care" or "Crisis Care" assumes a shift to providing care and allocating scarce equipment, supplies, and personnel in a way that saves the largest number of lives in contrast to the traditional focus on saving individuals. This occurs when demand forces choices that pose a significant risk to patients but is the best that can be offered under the circumstances. For example, cot-based care, severe staffing restrictions, or restrictions on use of certain medications or other resources.

ALLOCATION OF CRITICALLY RESOURCED CARE

- Critically resourced care will be rationed only after all efforts at augmentation have been completely exhausted.
- Limitations on critically resourced care will be proportional to the actual shortfall in resources.
- Rationing of critically limited resources will occur uniformly, be transparent, and abide by objective medical criteria. Rationing should apply equally to withholding and withdrawing life-sustaining treatments based on the principle that withholding and withdrawing care are ethically equivalent.
- Pregnant patients who are eligible for critically resourced care will be triaged to high priority as currently available triage tools do not account for normal physiology of pregnancy.
- Patients not eligible for critically resourced care will continue to receive supportive medical or comfort care.

CDPH provides this basic triage algorithm:



CRISIS CARE TRIAGE OFFICERS AND TEAM

Creation of Crisis Care Triage Teams (CCTT)

In anticipation of the Crisis Care Plan activation, the Chief Medical Officer or designee with input from Hospital Leaders will appoint a group of Crisis Care Triage Officers (CCTOs) and Crisis Care Triage Team (CCTT) Members. This appointment should precede the activation of the Crisis Care Plan to ensure adequate training for the consistent application of the Crisis Care Framework to triage decisions. The CCTO and Crisis Care Triage Team is charged with using the allocation framework detailed in this Plan:

1. Determining priority scores of all patients eligible to receive the critically limited resource.
2. Deciding on the allocation of the scarce resource. For patients already being supported by the scarce resource, the evaluation should include reassessment to evaluate for clinical improvement or worsening at pre- specified intervals, as detailed in this Plan.
3. Documenting all scoring and decisions.

At the discretion of the Chief Medical Officer, an oversight subcommittee to retrospectively review the decisions of the Critical Care Triage Officers may be convened for the purposes of quality improvement.

Crisis Care Triage Team Training and Preparation

CCTO and members of the CCTT will receive advanced training to prepare them for the role, including the following:

1. Application of the allocation framework
2. Communication with clinicians and families about triage and triage decisions
3. Avoidance of implicit and explicit bias, including with regard to age, disability, sex, gender identity, sexual orientation, immigration status, or other factors, including those listed in Key Points.
4. Respect for the rights of all individuals, including those with disabilities
5. Diminishing the impact of social inequalities on health outcomes

Outside of crisis, the CCTT will regularly review training as above and exercise the tenets of this document to ensure consistent application of this framework and quality improvement.

Crisis Care Triage Officer (CCTO)

When the Crisis Care Plan is activated, the CCTO will report directly to the Hospital Command Center's Incident Commander as a Medical Technical Specialist. The CCTO oversees the triage process, assesses all patients, assigns a level of priority for each, communicates with treating physicians, and directs attention to the highest-priority patients. They are expected to make decisions according to the allocation framework described in this Plan, which is designed to benefit populations of patients, even though these decisions may not necessarily be best for some individual patients.

The CCTO has the authority and responsibility to apply the principles and processes of this document to make decisions about which patients should receive the highest priority for receiving critically resourced care. The CCTO is also empowered to make decisions regarding

reallocation of critically limited resources that have previously been allocated to patients, again using the principles and processes in this document. In making these decisions, underlying health conditions should *not* form the basis of the determination regarding the immediate or long-term survivability of the patient.

The CCTO will not participate in direct patient care to enhance objectivity, avoid conflicts of commitments, and minimize psychological moral distress. The CCTO is not expected to examine patients, except under special circumstances where this information may be vital in reaching a triage decision.

The CCTO duties are delineated below:

- ☐ Review available resources at the beginning of each shift with the Operations Section Chief and when there are any significant changes in resource availability.
- ☐ Evaluate all patients requiring critically resourced care daily.
- ☐ Calculate triage score for all eligible patients (see Appendix 5 for Adult Triage Tool and Appendix 6 for Pediatric Triage Tool). These triage tools are not applicable to pregnant patients, who will receive high priority for scarce resources.
- ☐ Apply the framework in this document to prioritize patients for the allocation of critically resourced care, including patients who were not allocated that care previously based on their score.
- ☐ Communicate decisions made to the patient's attending physician.
- ☐ Coordinate with the patient's attending physician and team regarding disclosure of the triage decision to the patient/surrogate.
- ☐ Coordinate with the Palliative Care Unit Leader about the identification and provision of comfort care for patients who will not receive critically resourced care.
- ☐ Ensure the documentation of all patient evaluations and decisions.
- ☐ Consult Ethics for any triage decision appeals (see below).
- ☐ Hand off to oncoming CCTO at the end of your shift.

Crisis Care Triage Team

The CCTO will work closely with a Crisis Care Triage Team (CCTT). The Crisis Care Triage Team includes a nurse with experience in acute care services, even if not currently clinically active, and administrative staff. The CCTT may require additional administrative or informatics support needed to facilitate the responsibility of the CCTO and the Crisis Care Team to gather, document, and communicate decisions.

Staffing and Shift Duration

A group of CCTOs and team members will be appointed. The triage officers and team members will function in shifts lasting no longer than 13 hours (to enable 30 minutes of overlap and handoffs on each end). Therefore, there should be at least two shifts per day to fully staff the triage function. Team decisions and supporting documentation will be reported daily to appropriate hospital leadership and the Incident Commander in the Hospital Command Center.

CRISIS CARE TRIAGE APPEALS

Triage Review Committee

The independent Triage Review Committee will adjudicate appeals to individual triage decisions in a timely fashion. This committee will be made up of at least three individuals who are not members of the care team, recruited from the following groups or offices:

- Chief Medical Officer or designee
- Chief Nursing Officer or designee
- Legal Counsel
- Hospital Ethics Committee or Consult Service
- Off-duty triage officer
- Lay community member (representation consistent with the patient population being served)

Three committee members, including one physician and one non-physician, are needed for a quorum to render a decision, using a simple majority vote. The process can happen by telephone/virtually or in person, and the outcome will be promptly communicated to whoever brought the appeal.

Crisis Care Triage Appeals Process

- Once the triage decision has been communicated with the patient/surrogate, the patient/surrogate has the right to appeal the decision.
- If the patient/surrogate appeals the decision, an Ethics Consultation is placed by the CCTO:
    - Stanford Health Care: pager #16230
    - Stanford Health Care ValleyCare: 816-214-2529 (Maureen Dudgeon)
    - Stanford Children's Health: pager #18537
- The Ethics Consultant will convene the Triage Review Committee
- The Triage Review Committee will recalculate the triage score to ensure that the framework has been appropriately applied and assessed for discrimination.
- The Triage Review Committee will communicate the decision back to the CCTO.
- All reviews will be documented and maintained by the CCTT.
- Triage Review Committee decisions are final.

PALLIATIVE CARE DURING CRISIS CARE

What is Palliative Care?

Palliative Care is the aggressive management of symptoms and relief of suffering. The World Health Organization defines palliative care as "an approach, which improves the quality of life of patients and their families facing life-threatening illness, through the prevention, assessment, and treatment of pain and other physical, psychosocial, and spiritual problems."

While it is important to understand what palliative care is, it is also important to specify what palliative care is not. Palliative care is not abandonment of the patient or reduction or elimination of treatment. Rather, it involves active treatment for symptom management and support to address the comfort of the patients and their families. The aggressive and appropriate treatment of pain and other symptoms is not euthanasia; nor does it "hasten death," recognizing that initial prognostication may change if additional resources become available or if the situation deteriorates.

Palliative Care During Disaster

Priority access to scarce resources, including skilled personnel resources, may be applied or moved based on triage. Thus, services to those expected to die soon will fall more heavily on people who do

not have medical training for high clinical acuity.

A disaster may create sudden large numbers of fatally injured or critically ill short-term survivors. Depending on the event, some victims will last only a few weeks (e.g., pulmonary injury from airborne chemicals) and some may last for months (e.g., pandemic influenza). In many cases, those who survive the onset usually will live for some time—days to months—but will not be "expected to survive" due to the event itself or to the ensuing resource scarcities it creates. Initial identification of those who might fit into the "not expected to survive" category following a catastrophic event may include:

1. Those exposed to the event who are expected to die over the course of weeks (e.g., those with radiation exposure)
2. The "already existing" comfort care population (e.g., those already enrolled in hospice or receiving comfort care in acute care settings)
3. Vulnerable patients (e.g., advanced illness patients in long-term care facilities) whose situation will be worsened due to scarcities associated with the event
4. Patients who are triaged to the supportive or palliative care as a result of their illness/injury or as a result of scarce resources.

Those who are not expected to survive cannot be abandoned or ignored; nor should they overwhelm the hospitals. By including these populations in the Palliative Care Plan of the Crisis Care Plan, hospitals can ensure humane care for all affected by such disasters.

As conventional care progresses to crisis care, the demand for palliative care will increase dramatically. Palliative or comfort care plays an important role by addressing symptom management as well as emotional and spiritual support for patients and families.

Identification and Management of Comfort Care Patients

Patients will be deemed likely to die during disaster and therefore will be triaged not to receive (or not to continue to receive) life-supporting treatment. For these patients, death will be expected within a short period:

1) Patients exposed to the event that are not expected to survive
    a. Via triage at initial admission.
    b. Via triage during their hospital course.
2) Patients who are already receiving comfort care or hospice care.

Prognostication/triage may change if resources become more available or if the situation worsens and resources become even scarcer.

Comfort Care Staffing Model

There are no current standards for staffing models in palliative care during a disaster. Adapting the Alternative Care Site (ACS) model from the AHRQ community planning guide, 50 comfort care patients would be cared for by one physician, one advanced practice provider, 6 nurses (RN/LVNs), one social worker, one chaplain, and 4 volunteers. In the event of a pandemic, team members may be limited to backup staffing from the palliative care departments.

If travel is possible in the disaster, then the recruitment of community-based providers (if available) would free up other clinicians for higher acuity patients. A possible pool for comfort care staffing (a palliative care response team) would include:

1) Community Hospice Agency Staff-nurses, nurse's aides, hospice medical directors, chaplains, volunteers
2) Skilled Nursing Facility (SNF) and Home Care Agency Staff-nurses, medical assistants, geriatricians
3) Volunteers from faith-based organizations, such as churches and synagogues
4) Mental health providers
5) Medical Reserve Corp and Community Emergency Response Teams (CERT)
6) Palliative Care Team members
7) Chaplains
8) Volunteers, specifically the "No One Dies Alone" volunteers - these volunteers are specifically trained to be present with dying patients who have no family or friends with them.
9) Child Life specialists
10) Teachers

Integration of Community-Based Health Care Organizations and Other Groups into Palliative Planning

To mobilize a more concerted and comprehensive effort in the care of patients, hospitals should look to establish collaborative outreaches with a network of community-based organizations in the immediate area around the hospital, including but not limited to home care agencies, hospice agencies, long-term care facilities, County Public Health Department. Healthcare providers and other interested individuals in some of these community-based organizations have particular skills in the care of vulnerable patients with advanced illness which can be applied when altered standards of care must be implemented.

A reserve capacity for providing palliative care during an MCE could come from local palliative assistance teams that will be recruited from a variety of practice settings (e.g., hospices, hospitals, long-term care) and disciplines (e.g., physicians, nurses, social workers, chaplains). These teams are developed in collaboration with groups such as senior centers, churches and synagogues, hospices, long-term care providers, nurses' organizations, senior citizens' organizations (e.g., AARP, the National Hospice and Palliative Care Organization, the American Academy of Hospice and Palliative Medicine), and other regional hospitals and palliative care programs.

We may request support from the Medical Reserve Corp of their County and the Community Emergency Response Teams (CERT) for deployment depending on the nature and scope of an incident. We will also consider extending the credentialing of palliative care disaster volunteers into the existing disaster response Federal/State and local legal/insurance systems in order to expand community capacity through such mechanisms as the Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) and Disaster Medical Assistance Teams (DMAT). These rapid response teams would supplement, not replace, palliative care services.

Training

Education and training will be competency based, with programming specific to the individual's role in emergency response. Just-in-time training will be provided to educate the caregivers with regard to the care for the dying patient and allow access to specific palliative medical supplies. There is high

potential that some of the non-medical staff will be "deputized" into caring for the dying, similar to the care provided to patients in home hospice setting by their own families.

PALLIATIVE CARE DISASTER TEAM

Palliative Care Unit Leader

A Palliative Care Unit Leader will be appointed by the Operations Section Chief with the primary responsibility of overseeing the provision of palliative care during a crisis such as mass casualty incident or pandemic. This includes but is not limited to the direction of treatment for patients designated to receive supportive or comfort care by the CCTO, creation of Palliative Care Disaster Team or "rapid response" teams, deployment of just-in-time training for the provision of comfort care, and consideration of the creation of a Palliative Care primary service.

- ☐ Ensure provision of palliative care and bereavement services for patients and families.
- ☐ Coordinate with CCTO and Crisis Care Triage Team to identify and treat patients designated to receive comfort care.
- ☐ Ensure provision of just-in-time training for the provision of palliative care as described above (see Appendix 7 and Appendix 8).
- ☐ Facilitate discharge to hospice, whether home or another facility, as indicated.
- ☐ Deploy Palliative Care Surge Plan (see Appendix 9 for Palliative Care Surge Plan) as needed
- ☐ Consider the creation of a Palliative Care Primary Service to deliver care to patients receiving comfort care and support for their families.
    - Consider Comfort Care Staffing Model as discussed above
    - Consider co-location vs scatter-bed of comfort care patients
- ☐ Collaborate with County Public Health Department and local community leaders to provide staff for "rapid response" teams (CERT, MRC, ESAR-VHP, etc) for palliative care delivery in the hospital, if able.
- ☐ Identify and request Alternative Care Sites (see Emerging Infectious Disease and Surge Incident Response Guides) for use by comfort care patients for the delivery of care, as needed
- ☐ Coordinate with Pharmacy for the provision of Palliative Care Medication Packs (see Appendix 10 and Appendix 11) for delivery of care in an Alternative Care Site
- ☐ Serve as a subject matter expert regarding palliative care guidelines and protocols with local and regional first responder and disaster response personnel (e.g. EMS, Fire, Police, public health, community health clinics, local and regional governmental entities).
- ☐ Implement Comfort Care Order Sets (Appendix 12-15).
- ☐ Provide triage training for leaders of Skilled Nursing Facilities to identify patients who should and should not be transferred to the hospital.
- ☐ Coordinate with the Clinical Ethics Service and hospital support systems to establish ethical and psychological support for frontline responders, patients, and their families. If activated, coordinate with the following Hospital Incident Management Team (HIMT) positions:
    - Patient Family Assistance Branch Director under Operations Section Chief
        - Social Services Unit Leader
    - Support Branch Director Under Logistics Section Chief
        - Employee Health and Well-being Unit Leader

HOSPITAL COMMAND CENTER ACTIVITIES
INCIDENT COMMANDER: ☐ Review and revise incident objectives as necessary and conduct briefings with Hospital Incident Management Team. ☐ Ensure all staff have been notified of the situation, response objectives, and critical information. Consider using all relevant communications methods (huddles, email, emergency alert system, Voalte, disaster hotline). ☐ Consider response of Health System to support the incident objectives. ☐ Consider designating multiple Medical Technical Specialists as the incident dictates. ☐ Make requests to University and other partners as needed to support hospital operations. ☐ Begin to plan staffing and response for 12-24 hour period.
LIAISON OFFICER: ☐ Update respective county polling system (e.g., HavBed) after patients have been rapidly discharged and admitted. ☐ Monitor county situational awareness and/or incident management tools (Santa Clara County: EMSystem and WebEOC; San Mateo County and Alameda County: Reddinet) for incident information. Provide regular updates. ☐ Submit resource requests to appropriate jurisdictions: o For Palo Alto this may include: City of Palo Alto Emergency Operations Center (EOC) (non-medical), buddy hospital (El Camino Hospital), and/or the Medical Health Operational Area Coordinator (MHOAC) or Medical / Health Branch of the Santa Clara County Emergency Operations Center (medical) o For Stanford Health Care ValleyCare, this will include the Alameda County EOC or MHOAC ☐ Support the Logistics Section with Disaster Cache supplies as needed.
PUBLIC INFORMATION OFFICER: ☐ Assist in the composition of messaging to regularly communicate with staff. ☐ Monitor social media for incident information, rumors, and hospital involvement. ☐ Set up media staging area (in Palo Alto: Buckey Ball, LPCH Main, or Kaplan Lawn; for SHC-VC: area outside the cafeteria) and direct all media to one location. ☐ Work with Incident Commander to develop media briefings. ☐ Communicate with Communications partners at University and School of Medicine to ensure aligned messaging if either organization is also messaging their constituents about the incident. ☐ Update intranet and/or external website banners and content as incident progresses.

SAFETY OFFICER:

- ☐ Evaluate safety of patients, family, staff, and facility and recommend protective and corrective actions to minimize hazards and risks.
- ☐ Complete **HICS 215a Incident Action Plan Safety Analysis** form.
- ☐ Round in affected areas to ensure safety of response, especially in alternate care areas.
- ☐ Consider using Environmental Health & Safety team of Safety Officers.
- ☐ Evaluate safety of Alternate Care Sites if used.

SECURITY OFFICER:

- ☐ Consider limiting points of access into hospitals, both roadways and entrances. Coordinate changes to traffic flows and/or use of parking structures with the Transportation Services team.
- ☐ Plan staffing and reposition officers as necessary.
- ☐ Display hospital security cameras in Hospital Command Center, as appropriate, for situational awareness.
- ☐ Maintain heightened presence in ED, Critical Care Units, and media staging area.
- ☐ Monitor the hospital for unauthorized media.
- ☐ Consider diverting Marguerite shuttles and other traffic from critical access points.
- ☐ Evaluate need for police response and contracted additional security.

MEDICAL TECHNICAL SPECIALIST (MTS):

- ☐ Advise Incident Commander on response to Crisis Care. In Crisis Care, you may need multiple MTS subject matter experts (SMEs) to fill this role, one of which will be the CCTO. Consider the following SMEs:
  - Medical Ethicist
  - Risk Management
  - Legal Affairs
  - Hospital/Clinic Administrator(s)
  - Physician Leader(s)
  - Other – based on the nature of the underlying incident
- ☐ CCTO will make decisions on the allocation of scarce resources as described above.
- ☐ Facilitate escalations from clinical providers in patient care areas.
- ☐ Consult with Trauma Service and Perioperative regions on their response, if relevant.
- ☐ Consider sending cases to alternate OR areas such as the Ambulatory Surgery Center (875 Blake Wilbur), Redwood City Outpatient Center (450 Broadway), for SHC-VC: 1119 East Stanley Blvd Ambulatory Surgical Center, or affiliated institutions, if relevant to the incident.
- ☐ Ensure all clinical providers are being communicated with regularly.

PLANNING:

- ☐ Establish operational periods, incident objectives and develop the Incident Action Plan, in collaboration with the Incident Commander.
- ☐ Identify triggers for return to Contingency Care and then to Conventional Care
- ☐ Monitor indicators and triggers for changes in the Crisis Care Continuum
- ☐ Appoint Documentation Unit Leader and Situation Status Unit Leader as needed.
- ☐ Report on unit status, census projections, staffing issues, resource issues
- ☐ Work with Operations Section to project needs of the incident and provide to Logistics.
- ☐ Document all activities, ensure Incident Management Team is using **HICS 214. Activity Log** forms.
- ☐ Assist in developing response strategy for next 12-24 hours / operational period(s).

LOGISTICS:

- ☐ Establish a Logistics Coordination Center.
- ☐ **Supply Chain** will establish sources of medical supplies needed during the event. Sources shall include normal suppliers, memorandum of understanding (MOUs) with other agencies, and requests for assistance from government agencies including County, State, or Federal (including the Strategic National Stockpile).
    - The Liaison Officer / OEM can assist with MOUs and outside agencies and will facilitate the resource request process(es) of the pertinent county Emergency Operations Center / the Medical Health Operational Area Coordinator (MHOAC) and/or non-medical supplies from respective city entities (e.g., City of Palo Alto) and/or Stanford University.
- ☐ **Food Services** will establish menu to meet the needs of patients and staff.
- ☐ Food sales to non-hospital staff shall be discontinued if food supplies become limited.
- ☐ **Clinical Engineering** will gather additional medical equipment relevant to the emergency.
- ☐ **Planning, Design and Construction** will assist in redesigning and construction of temporary patient care facilities as needed and requested by Hospital Administration.
- ☐ Establish Labor Pool if directed by Incident Commander.

FINANCE:

- ☐ Activate disaster activity code and work with the Public Information Officer / Communications team to ensure managers receive associated information on how and when to use it to track response expenses.
- ☐ Ensure all managers are tracking employee time.
- ☐ Work with PIOs to disseminate instructions. Use templates in Finance Binder/Box file for messages.

OPERATIONS CHIEFS:

- ☐ Communicate regularly with the CCTO regarding the availability of resources which require allocation.
- ☐ Evaluate bed status of hospital and ensure resources are being used most efficiently and effectively to manage the incident.
- ☐ Implement Crisis Care cross-cutting strategies as dictated by the incident, including adjusting staffing ratios, in alignment with Incident Objectives
- ☐ Consider the present or future needs to increase bed space within units and/or need to activate Alternate Care Areas.
- ☐ Request status updates from units regularly, such as through the Administrative Nursing Supervisor (ANS).
- ☐ Coordinate with Logistics regarding resource availability for patient care.
- ☐ Communicate regularly with support services – Pharmacy, Radiology, Labs, RCS, Guest Services, etc.
- ☐ Delegate supply requests to Logistics Section Chief. SHC and LPCH units can call the Facilities Services Response Center (FSRC – 650-498-4400) with requests. SHC-VC units should call 925-373-8004 with their requests.
- ☐ Establish oversight with units through the designated Unit Leaders (person in charge of unit -- can be Resource Nurse, Manager, Assistant Patient Care Manager) and communicate with them regularly.
- ☐ Conduct huddles and/or bed meetings with Unit Leaders if needed.
- ☐ Instruct units to use Disaster Plans, Status Report Forms and Job Action Sheets appropriate.

INPATIENT BRANCH DIRECTORS:

- ☐ Responsible for inpatient nursing units at the direction of the Operations Section Chief. (Perioperative and Emergency Department have their own Branch Directors.)
- ☐ Ensure that every inpatient unit is following the objectives of the Hospital Command Center.
- ☐ Work with the ANS to communicate with Units and escalate and resolve issues.
- ☐ Project needs, bed status, and staffing with the Planning Section.
- ☐ Request equipment and supplies through the Logistics Section.

AMBULATORY BRANCH DIRECTORS:

- ☐ Clinics can provide any needed and available services as requested by the Incident Commander or Nursing Administration.
- ☐ Anticipate issues with continuing service during incident. Consider supplies, staff, transportation.
- ☐ Communicate with staff at various sites through the clinic manager and service line.
- ☐ In catastrophic incidents, clinics should anticipate operating as "walking wounded" treatment areas for patients who are not seriously injured and who could be treated in an outpatient environment.
- ☐ Consider clinic operations and ensure that they align with incident objectives.
- ☐ Clinics may be requested to transfer personnel, equipment and supplies to another department in response to the emergency. All transferred personnel, equipment and supplies should be documented prior to transfer.

ACCREDITATION, REGULATORY, AND LICENSING
Per CDPH: In the event an emergency or disaster-related occurrence impacts your facility and results in an evacuation, transfer, or discharge of patients, you must contact your local Licensing & Certification District Office. Please follow these guidelines for reporting such occurrences: □ Contact the local L&C district office you customarily work with for your geographic location: o The medical center in Palo Alto reports to the San Jose District Office: 408-277-1784 o The medical center in Pleasanton reports to the East Bay District Office: 510-620-3900 For after-hours contact the State Office of Emergency Services Warning Center at 916-845-8911 and ask that they notify the CDPH Duty Officer.
APPENDICIES:
➢ Appendix 1. Laws and Regulations ➢ Appendix 2. Crisis Care Pre-Implementation Checklist ➢ Appendix 3. Crisis Care Staffing Model ➢ Appendix 4. Granting Disaster Privileges to Volunteer Independently Licensed Practitioners ➢ Appendix 5. Adult Triage Tool ➢ Appendix 6. Pediatric Triage Tool ➢ Appendix 7. Adult Palliative Care COVID Pocket Card ➢ Appendix 8. Palliative Care Communication Card ➢ Appendix 9. Palliative Care Surge Plan ➢ Appendix 10. Adult Palliative Care Medication Pack ➢ Appendix 11. Pediatric Palliative Care Medication Pack ➢ Appendix 12. Adult Palliative Care Order Set ➢ Appendix 13. Pediatric Crisis Comfort Care Order Set ➢ Appendix 14. Patient Care Strategies for Scarce Resource Situations ➢ Appendix 15. Author Credits, Approvals, and Additional References
For comprehensive, explanatory guidance regarding Crisis Care, please refer to the CDPH *SARS-CoV-2 Crisis Care Guidelines*. Refer to the Institute of Medicine's *Crisis Standards of Care: A Systems Framework for Castastrophic Disaster Response* for additional information.

Appendix 1. Laws and Regulations

Below is a list of Laws and Regulations that may impact the Crisis Care Plan

1. Emergency Medical Treatment and Active Labor Act (EMTALA)
2. Health Insurance Portability and Accountability Act (HIPAA)
3. Federal Volunteer Protection Act
4. CA Health and Safety Code 1799.102 (Good Samaritan Law)
5. Work hour restrictions for medical residents
6. Occupational Safety and Health Administration and other workplace regulations
7. Publicly funded health insurance laws (including Medicare, and Medical)
8. Children's Health Insurance Program
9. Laws and regulations governing the use and licensure of drugs and devices
10. The Joint Commission
11. California Hospital Association - Emergency Preparedness summary of potentially applicable laws: "What liability protections exist for hospitals and other healthcare providers during a disaster"

The legal departments of the Hospital Boards will research the legality of and, if found to be legal, assist with drafting policies for the following proposals:

1. *Liability of providers at medical centers for care provided under stress with less than a full complement of resources*. This plan, when activated, may provide an additional framework to support immunity to health care providers from civil liability pursuant to various statutes as noted by CA law.
2. *Scope of practice.* It may be necessary to grant permission to certain professionals on a temporary and emergency basis to function outside their legal scope of practice or above their level of training.
3. *Facility standards.* Standards of care that pertain to space, equipment, and physical facilities may have to be altered such as nursing to patient care ratios and bed allotment.
4. *Patient privacy and confidentiality.* Provisions of HIPAA and other laws and regulations that require signed releases and other measures to ensure privacy and confidentiality of a patient's medical information may have to be altered or suspended.
5. *Documentation of care*. Minimally accepted levels of documentation of care provided to an individual may have to be established, both for purposes of patient care quality and as the basis for reimbursement from third-party payers.

Appendix 2. Crisis Care Pre-Implementation Checklist

The purpose of this checklist is to ensure the facility has gone through all possible contingency planning before enacting crisis care guidelines.

If applicable, has the facility implemented some or all of their surge strategies to include consideration of allocation of scarce resources in the following buckets?

PPE, Supplies, and Equipment:

- ☐ Have you confirmed the numbers of ventilators for patient care that are available meet the needs of available ICU licensed, surge, and ED overflow space?
- ☐ Exhausted all contract options?
- ☐ Submitted resource request through the MHOAC up to the state for resupply?
- ☐ Implemented re-use and extended use practices, as necessary?

Staff:

- ☐ Have you applied for ICU staffing waivers, and exhausted all efforts to augment critical care staffing?
- ☐ Have you defined a process to extend critical care staffing by using noncritical care staff (nursing teams, non-critical care physicians assigned to ICU spaces (Cardiology, Anesthesia, Emergency)?
- ☐ Procure contract and registry staff?
- ☐ Submit staffing waiver(s)?
- ☐ Adoption of other staffing models?
- ☐ Isolation and quarantine guidelines for infected or exposed staff, including CDC and CDPH strategies to maintain staffing during times of staffing shortages?

Space (Internal and External):

- ☐ Have you defined the maximal expansion of surge ICU spaces (PACU, Telemetry, other surge ICU spaces)?
- ☐ Activated traditional internal and external surge space?
- ☐ Repurpose non-patient care spaces as necessary for decompression, both internally and externally?

Operations:

- ☐ Have you identified the triage teams that will over-see and review the allocation of critical care resources (critical care space, utilization of noncritical care staffing, ventilators, therapeutics which demonstrate a survival benefit)?
- ☐ Attempt to transfer as many patients as possible for decompression?
- ☐ Have you defined indicators and triggers for the different levels of surge response in your emergency operations plan (EOP)?
- ☐ Have you defined and implemented staff engagement and training to include COVID-19 pandemic knowledge, competency and proficiency appropriate to the level of the staffing positions?
- ☐ Has the facility established recurring communication, and resource request processes for support from the following:
    - Health system network partners
    - Local Healthcare Coalition partners
    - Local Public Health
    - Local MHOA

Appendix 3. Crisis Care Staffing Model

When the hospital can no longer meet the increased demand for critical care services using its existing critical care practitioners, a two-tiered staffing model comprising noncritical care physicians and nurses may be substituted. Based on recommendations of *The Society of Critical Care Medicine,* a critical care physician may supervise up to four noncritical care physicians who may each manage up to six critically ill patients. A critical care nurse may supervise up to three noncritical care nurses with each caring for up to two patients. In this model, one critical care physician could oversee the care of up to 24 critically-ill patients, and one critical care nurse could oversee the care of up to six critically-ill patients (*Rubinson L, et al. Augmentation of hospital critical care capacity after attacks or epidemics: recommendations of the Working Group on Emergency Mass Critical Care. Crit Care Med 2005; :10 (Suppl*).

An expanded role for students and trainees should be considered in this model and will need to be further elucidated.

Appendix 4. Granting of Disaster Privileges to Volunteer Independently Licensed Practitioners

During disasters, hospitals may grant disaster privileges to volunteer licensed independent practitioners. For this purpose, a disaster is defined as an emergency that, due to its complexity, scope, or duration, threatens the organization's capabilities and requires outside assistance to sustain patient care, safety, or security functions.

The hospitals may grant disaster privileges to volunteer licensed independent practitioners only when the Emergency Operations Plan has been activated in response to a disaster and the hospitals are unable to meet immediate patient needs.

The Chief of Staff, Chief Medical Officer or their designee(s), may grant disaster privileges on a case-by-case basis when the hospital's emergency management plan is activated and the hospital is unable to handle immediate patient care needs

Oversight of the performance of volunteer licensed independent practitioners who are granted disaster privileges will be by direct observation, mentoring, and medical record review.

Before a volunteer practitioner is considered eligible to function as a volunteer licensed independent practitioner, the hospitals will obtain his or her valid government-issued photo identification (for example, a driver's license or passport) and at least one of the following:

- A current picture identification card from a health care organization that clearly identifies professional designation.
- A current license to practice.
- Primary source verification of licensure.
- Identification indicating that the individual is a member of a Disaster Medical Assistance Team (DMAT), the Medical Reserve Corps (MRC), the Emergency System for Advance Registration of Volunteer Health Professionals (ESARVHP), or other recognized state or federal response hospital or group.
- Identification indicating that the individual has been granted authority by a government entity to provide patient care, treatment, or services in disaster circumstances.
- Confirmation by a licensed independent practitioner currently privileged by the hospital or a staff member with personal knowledge of the volunteer practitioner's ability to act as a licensed independent practitioner during a disaster.

Once a practitioner obtains approval for disaster privileges, the receiving hospital will issue appropriate identification. The practitioner will then report to and practice under the auspices of the chairman/designee of the department to which he/she is assigned.

Based on its oversight of each volunteer licensed independent practitioner, the hospitals will determine within 72 hours of the practitioner's arrival if granted disaster privileges should continue.

Primary source verification of licensure occurs as soon as the immediate emergency situation is under control or within 72 hours from the time the volunteer licensed independent practitioner presents him- or herself to the hospitals, whichever comes first. If primary source verification of a volunteer licensed independent practitioner's licensure cannot be completed within 72 hours of the practitioner's arrival due to extraordinary circumstances, the hospitals document all of the following:

1. Reason(s) why it could not be performed within 72 hours of the practitioner's arrival.
2. Evidence of the licensed independent practitioner's demonstrated ability to continue to provide adequate care, treatment, and services.
3. Evidence of the hospital's attempt to perform primary source verification as soon as possible.

If, due to extraordinary circumstances, primary source verification of licensure of the volunteer licensed independent practitioner cannot be completed within 72 hours of the practitioner's arrival, it is performed as soon as possible.

All disaster privileges will immediately terminate once the emergency management plan is no longer activated. However, the hospital may choose to terminate disaster privileges prior to that time. The practitioner must return the temporary ID card to the Medical Staff Office. The medical staff will maintain a list of all volunteer practitioners who received disaster privileges during the emergency management/disaster event.

Appendix 5. Adult Triage Tool

ADULT CRISIS TRIAGE TOOL: COVID-19 PANDEMIC

Pt initials / MRN ____/____	Date form completed ____/____/____

Statement of Intent

- The Crisis Care Plan cannot be implemented without the expressed order of the Incident Commander. The decision to implement Crisis Care Plan is based on resource availability and consultation with physician leaders. This document is a tool to assist with that implementation.
- Every effort will be made to provide compassionate and evidence based care that is responsive to the needs of our patients, while recognizing that this will need to be balanced by our obligation to act as good stewards of scarce resources.
- These standards will be applied equitably across populations without regard to patients' race, age, sex, gender identity, disability, ethnicity, citizenship, religion, wealth, social status, or social connections.
- The tool is not meant to apply to situations in which ventilatory or hemodynamic support would not be medically effective. (Medically INEFFECTIVE care is excluded from triage.)
- The tool applies to all patients whose goals of care align with initiation of life sustaining technologies. Any advanced care directives and POLSTs limiting these interventions will be followed.

1) Inclusion Criteria:

Patient must be age 18 years or older, not pregnant, and have one of the following:

- ❑ **Respiratory failure,** defined as any of the following:
  - Requirement for invasive ventilatory support
  - Refractory hypoxemia ($SpO_2 < 90\%$ on non-rebreather mask or $FIO_2 > 0.85$)
  - Respiratory acidosis ($pH < 7.2$)
  - Clinical evidence of impending respiratory failure
  - Inability to protect or maintain airway

OR

- ❑ **Hypotension** (systolic blood pressure < 90 mm Hg or MAP < 65 mm Hg or relative hypotension) with clinical evidence of shock (lactic acidosis, altered level of consciousness, decreased urine output or other evidence of end-organ failure) refractory to volume resuscitation requiring vasopressor or inotrope support that cannot be managed outside the ICU.

IF ANY OF THE ABOVE ARE PRESENT, PROCEED TO STEP 2

If none of the above present, there is no absolute critical care need: continue medical management, reassess as needed.

2) Is patient intubated? If not intubated, complete to 2a. If already intubated, complete 2b.

2a) If NOT intubated, use this table to calculate modified SOFA score (no resp component):

NOT INTUBATED

Variable	0	1	2	3	4
Platelet count x 10^6	> 150	< 150	< 100	<50	< 20
Bilirubin, mg/dL	<1.2	1.2-1.9	2.0-5.9	6.0-11.9	>12
Hypotension	None	MABP < 70 mmHg	Dop < 5, or Vaso only	Dop > 5, Epi < 0.1, Norepi < 0.1	Dop > 15, Epi > 0.1, Norepi >0.1
Glasgow Coma Score	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	>5

2b) If already intubated and sedated, use this table to calculate modified SOFA (no GCS):

INTUBATED

Variable	0	1	2	3	4
PaO2/FiO2 mmHg*	>400	< 400	< 300	< 200	< 100
Platelet count x 10^6	> 150	< 150	< 100	<50	< 20
Bilirubin, mg/dL	<1.2	1.2-1.9	2.0-5.9	6.0-11.9	>12
Hypotension	None	MABP < 70 mmHg	Dop < 5, or Vaso only	Dop > 5, Epi < 0.1, Norepi < 0.1	Dop > 15, Epi > 0.1, Norepi >0.1
Creatinine, mg/dL	< 1.2	1.2-1.9	2.0-3.4	3.5–4.9	>5

* If no PaO2 available, use SpO2 & FiO2 to determine equivalent PaO2/FiO2 based on table below.

SpO2	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1
80%	148	127	111	98	89	81	74	68	63	59	55	52	49	47	44
81%	151	129	113	101	91	82	76	70	65	60	57	53	50	48	45
82%	155	132	116	103	93	84	77	71	66	62	58	55	52	49	46
83%	158	136	119	106	95	86	79	73	68	63	59	56	53	50	47
84%	162	139	122	108	97	89	81	75	70	65	61	57	54	51	49
85%	167	143	125	111	100	91	83	77	71	67	63	59	56	53	50
86%	171	147	129	114	103	94	86	79	73	69	64	61	57	54	51
87%	177	151	132	118	106	96	88	81	76	71	66	62	59	56	53
88%	182	156	137	121	109	99	91	84	78	73	68	64	61	58	55
89%	189	162	141	126	113	103	94	87	81	75	71	67	63	60	57
90%	196	168	147	130	117	107	98	90	84	78	73	69	65	62	59
91%	203	174	153	136	122	111	102	94	87	81	76	72	68	64	61
92%	213	182	159	142	128	116	106	98	91	85	80	75	71	67	64
93%	223	191	168	149	134	122	112	103	96	89	84	79	74	71	67
94%	236	202	177	157	142	129	118	109	101	94	89	83	79	75	71
95%	252	216	189	168	151	138	126	116	108	101	95	89	84	80	76
96%	273	234	205	182	164	149	136	126	117	109	102	96	91	86	82

Modified SOFA

3) Calculate Priority Score

Points	1	2	3	4
Modified SOFA score	0-6	7-10	11-14	15+
Comorbidities*	…	…	Severe, life-limiting comorbidity, exp survival <1yr	…

Raw scores range from 1-7. Patients with LOWEST scores are highest priority for critical care resources.

*** Examples of Severely Life Limiting Comorbidities**

Examples of Severely Life Limiting Comorbidities (commonly associated with survival < 1 year)
1. Severe dementia with FAST stage 7C plus one episode of aspiration pna, septicemia, pressure ulcers, recurrent fever, etc in the last year 2. Cancer, metastatic and/or aggressive disease with PPS <70%; can be not metastatic but not responding to definitive therapy 3. Heart Disease, NYHA Class IV, already optimally treated and still symptomatic 4. Pulmonary Disease: disabling dyspnea at rest, bed to chair existence, progression of disease and hypoxemia OR hypercapnia >50 5. Cirrhosis: PT >5 or INR > 1,5; albumin <1.5; and major complication (ascites, varices, refractory encephalopathy, etc) 6. Neurodegenerative disease: dyspnea at rest, VC <30% and needs O2 at rest OR rapid deterioration in functional status (Independence to bed bound status) AND critical nutritional impairment 7. Stroke: PPS<40% and poor nutritional status 8. HIV and AIDS: CD4 <25 or viral load >100,000, and at least one major complication (CNS lymphoma, PML, MAC bacteremia and PPX <50%

*There may be circumstances that a patient is deemed to have less than one year of life expectancy based on other well-established evidence..

4) IF THIS IS A <u>REASSESSMENT</u>, ADJUST SCORE:

- ❑ Score improving within past 48 hours? Subtract 1 point from score
- ❑ Score worsening within past 48 hours? Add 1 point to score

5) TOTAL PRIORITY SCORE: Calculate total priority score, then proceed to step 6 to assign triage category.

5) ASSIGN TRIAGE CATEGORY AND REPORT TO TRIAGE OFFICER			
Total Priority Score	**Total Priority Score**	**Triage Category**	**Action**
	≥7	LOW PRIORITY	Lowest priority for critical care Consult ethics and palliative care
	5-6	INTERMEDIATE PRIORITY	Intermediate priority for critical care: escalation of care as resources permit
	≤4	HIGH PRIORITY	Highest priority for critical care
	NO RESPIRATORY FAILURE OR SHOCK	Regular Care	Continue medical management, Reassess as needed

*In case of multiple patients within the same priority category and limited resources, priority will be assigned to the patient(s) with the lowest numeric priority score. In case of an exact tie in numeric priority score between two or more patients, priority will be given to patients without severe life-limiting comorbidities as defined above. If there is still a tie between patients after the above rules have been applied, a random lottery will be used.

Appendix 6. Pediatric Triage Tool

PEDIATRIC CRISIS TRIAGE TOOL: COVID-19 PANDEMIC

Pt initials / MRN: _____/_____	Date form completed ____/____/____

Statement of Intent

- The Crisis Care Plan cannot be implemented without the expressed order of the Incident Commander. The decision to implement Crisis Care Plan is based on resource availability and consultation with physician leaders. This document is a tool to assist with that implementation.
- Every effort will be made to provide compassionate and evidence-based care that is responsive to the needs of our patients, while recognizing that this will need to be balanced by our obligation to act as good stewards of scarce resources.
- These standards will be applied equitably across populations without regard to patients' race, age, sex, disability, ethnicity, citizenship, religion, wealth, social status, or social connections.
- The tool is not meant to apply to situations in which ventilatory support would not be medically effective. (Medically INEFFECTIVE care is excluded from triage.)
- The tool applies to all patients whose goals of care align with initiation of life sustaining technologies. Any advanced care directives and POLSTs limiting these interventions will be followed.

Guide:

1. Inclusion Criteria for Critical Care Support
2. Scoring – use tool according to patient age
   A. Treatment Initiation and Continuation in Pediatric Patients: PELOD-2 for patients > 48 hours of age
   B. Treatment Initiation in Periviable Neonates: NICHD Outcomes Estimator
   C. Treatment Continuation in Neonates: SNAPPE-II
3. Examples of Major Comorbidities and Severely Life Limiting Comorbidities (commonly associated with survival < 1 year)
4. Calculate Points
5. Modifying points
6. Final Triage Score

1. Inclusion Criteria for Critical Care Support:

Patient must be age 17 years or younger, not pregnant, and have one of the following:

❑ **Respiratory failure,** defined as any of the following:

- 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

OR

- ❑ **Hypotension** (systolic blood pressure > 2 standard deviations below normal for age or relative hypotension) with clinical evidence of shock (lactic acidosis, altered level of consciousness, decreased urine output or other evidence of end-organ failure) refractory to volume resuscitation requiring vasopressor or inotrope support that cannot be managed outside the ICU.

IF ANY OF THE ABOVE ARE PRESENT, PROCEED TO STEP 2

If none of the above present, skip to step 7 and assign triage code "Not Indicated"

continue medical management.

2A. Pediatrics: ages >48 hrs to 17 yrs. Use this table to calculate the PELOD-2 Score:

Organ Dysfunctions & Variables	Points by Severity Levels						
	0	1	2	3	4	5	6
Neurologic							
Glasgow Coma Scale	11	5-10			3-4		
Pupillary Reaction	Both reactive					Both fixed	
Cardiovascular							
Lactate (mmol/L)	< 5.0	5.0-10.9			11.0		
Mean Arterial Pressure (mmHg)							
0-<1 month	46		31-45	17-30			16
1-11 months	55		39-54	25-38			24
12-23 months	60		44-59	31-43			30
24-59 months	62		46-61	32-44			31
60-143 months	65		49-64	36-48			35
144 months	67		52-66	38-51			37
Renal							
Creatinine (mg/dL)							
0-<1 month	0.78		0.79				
1-11 months	0.25		0.26				
12-23 months	0.38		0.4				
24-59 months	0.57		0.58				
60-143 months	0.66		0.67				
≥144 months	1.04		1.05				
Respiratory							
PaO2 (mmHg)/FiO2	61		60				
PaCO2 (mmHg)	58	59-94	95				
Invasive Ventilation	No		Yes				
Hematological							
WBC count (x 10^9/L)	> 2		2				

Platelets (x 10^9/L)	? 142	77-141	? 76				

* If no PaO2 available, use SpO2 & FiO2 to determine equivalent PaO2/FiO2 based on table.

***if intubated and sedated, use GCS prior to intubation if available. If not available, award 0 points for GCS score**

SpO2	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1
80%	148	127	111	98	89	81	74	68	63	59	55	52	49	47	44
81%	151	129	113	101	91	82	76	70	65	60	57	53	50	48	45
82%	155	132	116	103	93	84	77	71	66	62	58	55	52	49	46
83%	158	136	119	106	95	86	79	73	68	63	59	56	53	50	47
84%	162	139	122	108	97	89	81	75	70	65	61	57	54	51	49
85%	167	143	125	111	100	91	83	77	71	67	63	59	56	53	50
86%	171	147	129	114	103	94	86	79	73	69	64	61	57	54	51
87%	177	151	132	118	106	96	88	81	76	71	66	62	59	56	53
88%	182	156	137	121	109	99	91	84	78	73	68	64	61	58	55
89%	189	162	141	126	113	103	94	87	81	75	71	67	63	60	57
90%	196	168	147	130	117	107	98	90	84	78	73	69	65	62	59
91%	203	174	153	136	122	111	102	94	87	81	76	72	68	64	61
92%	213	182	159	142	128	116	106	98	91	85	80	75	71	67	64
93%	223	191	168	149	134	122	112	103	96	89	84	79	74	71	67
94%	236	202	177	157	142	129	118	109	101	94	89	83	79	75	71
95%	252	216	189	168	151	138	126	116	108	101	95	89	84	80	76
96%	273	234	205	182	164	149	136	126	117	109	102	96	91	86	82

PELOD-2 Score

2B. Treatment initiation in Periviable Neonates: NICHD

Scoring for neonates 22-25 weeks gestation, use the NICHD Extremely Preterm Birth Outcomes Tool (NICHD-OT) estimated survival for patients receiving active treatment:
- https://www.nichd.nih.gov/research/supported/EPBO/use

As this outcomes tool is based on factors known prior to delivery, this tool may be of assistance in the decision to initiate a trial of intensive care in infants born at extraordinarily preterm gestational age. Survival estimates may range by hospital, and as such, **the best estimate of survival** should be used for scoring purposes. Additional circumstances that influence the likelihood of survival (SGA, prenatal diagnosis of congenital anomalies, etc.) may also factor into the decision to initiate a trial of intensive care.

NICHD-OT Score

2C. Treatment Continuation in Neonates: Score for Neonatal Acute Physiology with Perinatal Extension (SNAPPE)-II

Applies to babies admitted to NICU at < 48 hours of life
Assign score based on data collected in first 12 hours after admission to NICU

		Points
Birth weight (gm)	≥ 1000	0
	750 - 999	10
	< 750	17
SGA < 3rd %ile	No	0
	Yes	12
Apgar score at 5 minutes	≥ 7	0
	< 7	18
PO_2/FiO_2 ratio	≥ 250	0
	100-249	5
	30-99	16
	< 30	28
Mean blood pressure (mm Hg)	≥ 30	0
	20-29	9
	< 20	19
Lowest serum pH	≥ 7.20	0
	7.10-7.19	7
	< 7.10	16
Urine output (mL/kg/hr)	≥ 1.0	0
	0.1-0.9	5
	< 0.1	18
Lowest temperature (°F)	>96.0	0
	95.0-96.0	8
	< 95.0	15
Multiple seizures	No	0
	Yes	19
	Total:	

From Richardson DK et al., SNAP-II and SNAPPE-II: Simplified newborn illness severity and mortality risk scores. J Pediatr 2001;138:92-100

SNAPPE-II Score	

3. Determine if the patient has any Severely Life Limiting Comorbidities commonly associated with survival < 1 year.

This table provides examples only, and is not a definitive list. There may be circumstances that a patient is deemed to have less than one year of life expectancy based on other well-established evidence.

System Involvement	Definition	Clinical Indicators	Details
Neurologic	End-stage neurodegenerative disease	No longer able to participate in rehabilitation	
Cardiac	End-stage heart failure Severe CHD	Ross Class IV not responsive to medical management or candidate for full repair	Symptoms at rest such as tachypnea, retractions, grunting, or diaphoresis
	Severe pulmonary hypertension	Known severe PHTN not responsive to medical management	Growth failure and marked tachypnea or diaphoresis with feeding in infants or marked dyspnea on exertion in children
Pulmonary	End-stage lung disease		End-stage: Disabling dyspnea at rest or bed to chair Baseline hypercapnia PCO_2 >50mmHg Hypoxemia requiring O_2 to maintain SpO_2>92%
Oncologic	Metastatic or aggressive cancer not responding to definitive therapy and/or palliative		Includes palliative chemotherapy and radiation therapy
Hepatic	End-stage liver disease and not a transplant candidate		
Immunologic	End-stage immune failure	CD4<25 ANC<200 not due to recent chemotherapy SCT >40 days not yet engrafted with additional major organ involvement	Major complications: CNS disease, severe systemic infection/sepsis Organ failure: Renal – Creatinine > 2x normal Hepatic – INR > 2x normal not on anticoagulants Hematologic – Anemia Hbg<7, Thrombocytopenia Plt<10

4. Calculate base point score: Range 1-7

Points	1	2	3	4
Pediatrics (48hrs - 17yrs) **PELOD-2**	PELOD-2 <12	PELOD-2 12-13	PELOD-2 14-16	PELOD-2 >16
Neonates (0-<48hrs) **SNAPPE-II**	SNAPPE-II 0-59	SNAPPE-II 60-69	SNAPPE-II 70-79	SNAPPE-II ≥80
Periviable Neonates NICHD (highest estimate of survival range)	NICHD -OT 76-100% predicted survival	NICHD – OT 56-75% predicted survival	NICHD-OT 26-55% predicted survival	NICHD-OT 0-25% predicted survival
Co-morbidities			Severe comorbid conditions; death likely within 1 year	

Raw scores range from 1-7. Patients with LOWEST scores are highest priority for critical care resources.

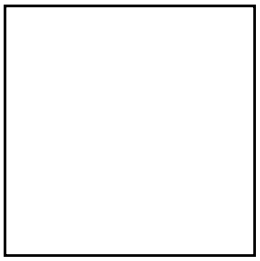
Raw Point Score

5. IF THIS IS A REASSESSMENT, ADJUST SCORE:

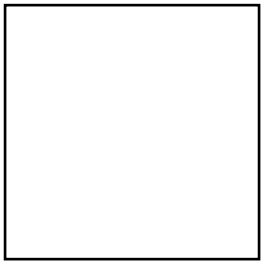
- ❑ Score improving within past 48 hours? Subtract 1 point from score
- ❑ Score worsening within past 48 hours? Add 1 point to score

6. TOTAL POINT SCORE:

Calculate total point score, then proceed to step 7 for triage code.



7. ASSIGN TRIAGE CATEGORY AND REPORT TO TRIAGE OFFICER

Total Priority Score	Total Priority Score	Triage Category	Action
	≥7	LOW PRIORITY	Lowest priority for critical care Consult ethics and palliative care
	5-6	INTERMEDIATE PRIORITY	Intermediate priority for critical care: escalation of care as resources permit
	≤4	HIGH PRIORITY	Highest priority for critical care
	NO RESPIRATORY FAILURE OR SHOCK	Regular Care	Continue medical management, Reassess as needed

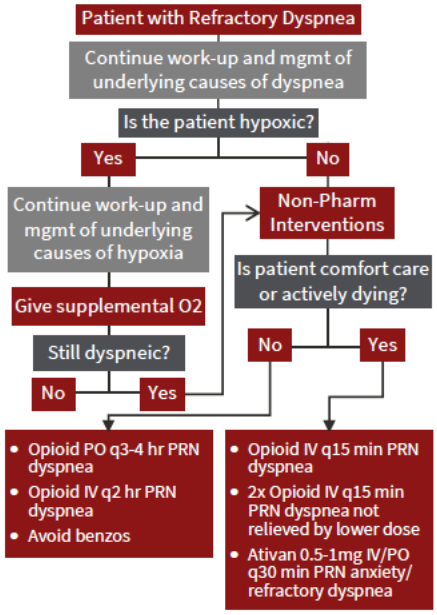
*In case of multiple patients within the same priority category and limited resources, priority will be assigned to the patient(s) with the lowest numeric priority score. In case of an exact tie in numeric priority score between two or more patients, priority will be given to patients without severe life-limiting comorbidities as defined above. If there is still a tie between patients after the above rules have been applied, a random lottery will be used.

Appendix 7. Adult Palliative Care CoVID Pocket Card

Primary Palliative Care for COVID-19

Stanford MEDICINE Palliative Care

Palliative Management of Dyspnea



Non-Pharmacologic Interventions:

- Bring patient upright or to sitting position
- Consider bedside fan if allowed by unit
- Consider mindfulness, mindful breathing

Pharmacologic Interventions:

- Opioids are treatment of choice for refractory dyspnea
- For symptomatic patients, using PRN or bolus dosing is more effective and safe compared to starting an opioid infusion

Dosing Tips:

- For opioid naïve patients
  - PO Morphine 5-10mg
  - PO Oxycodone 2.5-5mg
  - IV/SC Morphine 2-4mg
  - IV/SC Hydromorphone 0.4-0.6mg
- Consider smaller doses for elderly/frail

Opioid Quick Tips

Pharmacodynamics of Opioids:

- **Time to peak effect / Duration of Action**
  - **PO Opioids: 30-60 minutes / 3-4 hours**
  - **IV Opioids: 5-15 minutes / 1-2 hours**
- Time to peak effect is the same for analgesia, relief of dyspnea, and sedation

Other Opioids Principles:

- **If initial dose of IV opioid is ineffective** after 2 doses at least 15 minutes apart, double the dose
- Typically **need 6-8 hours of controlled symptoms to calculate a continuous opioid infusion**
- **If starting a continuous infusion**, should not change more than every 6-hours. Should adjust based on the use of PRNs

Relative Strengths & Conversion Table

Opioid Agent	Oral Dose	IV Dose
Morphine	30	10
Oxycodone	20	—
Dilaudid	7.5	1.5
Fentanyl	—	100mcg*

*For single dose IV push (NOT patch) conversion only

If Using Opioids, Start a Bowel Regimen:

- Goal is 1 BM QD or QOD, no straining
- Start Senna 2 tabs qHS, can increase to 4 tabs BID
- Add Miralax 17gm daily, can increase to BID

Appendix 8. Palliative Care Communication Card

Communication Skills

What They Say	What You Say
Why aren't they testing everybody?	We don't have enough test kits. **I wish it were different.**
How bad is this?	From the information I have now and from my exam, your situation is serious enough that you should be in the hospital. **We will know more in the next day**, and we will update you.
You people are incompetent!	I can see why you are not happy with things. **I am willing to do what is in my power to improve things for you.** What could I do that would help?
I am not sure what my spouse wanted—we never spoke about it.	This is hard. Given their overall condition, if we need to put them on a breathing machine or do CPR, they will not make it. The odds are just against us. **My recommendation is that we accept that they will not live much longer and allow them to pass on peacefully.** I suspect that may be hard to hear. What do you think?
Is my grandfather going to make it?	**I imagine you are scared.** Here's what I can say: because he is 90, and is already dealing with other illnesses, **it is quite possible that he will not make it out of the hospital. Honestly, it is too soon to say for certain.**
Shouldn't I be in an intensive care unit?	Your situation does not meet criteria for the ICU right now. The hospital is using special rules about the ICU because we are trying to use our resources in a way that is fair for everyone. **If this were a year ago, we might be making a different decision. This is an extraordinary time.** I wish I had more resources
Are you just discriminating against her because she is old?	I can see how it might seem like that. No, we are not discriminating. **We are using guidelines that were developed by people in this community to prepare for an event like this.** The guidelines have been developed over years, involving health care professionals, ethicists, and community members so that no one is singled out. I can see that you really care about her.
Can't you get 15 more ventilators from somewhere else?	Right now the hospital is operating over capacity. It is not possible for us to increase our capacity like that overnight. And **I realize that must be disappointing to hear.**
How can you just take them off a ventilator when their life depends on it?	I'm so sorry that her condition has gotten worse, even though we are doing everything. **Because we are in an extraordinary time, we are following special guidelines that apply to everyone.** We cannot continue to provide critical care to patients who are not getting better. This means that we need to accept that she will die, and that we need to take her off the ventilator. I wish things were different.
Are you saying that no one can visit me?	**I know it is hard to not have visitors.** The risk of spreading the virus is so high that I am sorry to say we cannot allow visitors. **They will be in more danger if they come into the hospital.** I wish things were different. You can use your phone, although I realize that is not the same.
How can you not let me in for a visit?	The risk of spreading the virus is so high that I am sorry to say we cannot allow visitors. We can help you be in contact electronically. **I wish I could let you visit, because I know it's important. Sadly, it is not possible now.**

When/How to Call for Help

Palliative Care Inpatient Consult Pager: **26254** (Staffed 24/7)

We are here to help. We've got your back.

In addition to typical circumstances and consults, please consult us if:

- COVID-19+/PUI **AND** Established DNI order **AND** increasing O2 requirements (ie approaching 6L NC)
- Patient actively dying or in respiratory distress and not getting comfortable with initial efforts

Additional Resources

www.capc.org/toolkits/covid-19-response-resources/

Download these apps (Google Play or App Store) for more palliative care resources:

VitalTalk Tips (Communication)

Fast Facts (Symptom Management)

Appendix 9. Palliative Care Surge Plan

Capacity	Normal	Contingency	Surge	Surge + Altered Standards
What does it mean?	Spaces, staff, and supplies are consistent with routine daily practices	Spaces, staff, and supplies used are not consistent with daily practices, but provide care to a standard that is functionally equivalent to usual patient care practices.	Adaptive spaces, staff, and supplies are not consistent with usual standards of care but provide sufficiency of care in the setting of a disaster (i.e., provide the best possible care to patients given the circumstances and resources available).	Activates a Crisis Care Triage Team/Triage Officer Triage tool in play to allocate ICU beds and ventilators
How do we know?	Business as usual	This is happening **now**. Modified work due to planning for surge.	Activated by Stanford Virtual Command Center/CORT	Activated by Governor
Role of palliative care	-Routine triggered consults (LVADs, continuity requests) -Regular consults for GoC, symptom management, etc -GIP admissions	Enhanced support to the ICUs, ED and COVID med teams, Onc (daily huddles) No routine triggered consults No GIP (RIP) due to hospice shortstaffing & visitors Co-management for those patients who would be GIP Visit in-person when necessary	Enhanced support to the ICUs, ED and COVID med teams, Onc (daily huddles) Comfort care service as co-managers (putting in orders), then surge to **primary admitting service** for the following: • COVID19 comfort care patients • Non-COVID19 comfort care patients Regular consults covered by redeployed outpatient team members Coaching support to outpatient clinicians	Enhanced support to the ICUs, ED, COVID med teams, Onc (supporting ICU triage conversations and comfort care transitions) **Comfort care service as a primary admitting service** • COVID19 comfort care patients • Non-COVID19 comfort care patients Regular consults covered by redeployed outpatient team members Coaching support to outpatient clinicians

Appendix 10. Adult Palliative Care Medication Pack

Oral morphine concentrated solution 20 mg/ml
Injectable morphine 2mg/ml
Hydromorphone oral tablets 2mg
Hydromorphone injection 2mg/ml
Oral Lorazepam tablets 1mg
Injectable Lorazepam 2mg/ml
Oral haloperidol
Injectable haloperidol
Oral and suppository prochlorperazine
Ondansetron ODT
Oral and suppository acetaminophen
Diphenhydramine 12.5mg/ml
Diphenhydramine 50mg/ml
Phenobarbital injection 130mg/ml
Atropine 1% drops
Glycopyrrolate 0.2mg/ml can be used IV or sublingual
Artificial tears
Subcutaneous butterfly needles and subcutaneous pumps
Tegaderm
Dexamethasone oral 2mg tablets
Dexamethasone IV 4m/ml

Appendix 11. Pediatric Palliative Care Medication Pack

Morphine, oral solution 20mg/ml
Morphine injection 2mg/ml Hydromorphone oral tablets 2mg
Hydromorphone injection 2mg/ml
Dexamethasone oral 2mg tablets
Dexamethasone IV 4m/ml
Ativan tablets 1mg
Ativan injection 2mg/ml
Valium 5mg rectal suppository
Valium 5mg tablets
Valium injection 5mg/ml
Haloperidol tablets 1mg
Haldol IV 5mg/ml
Diphenhydramine 12.5mg/ml
Diphenhydramine 50mg/ml
Phenobarbital injection 130mg/ml
Acetaminophen IV 100mg/ml, oral liquid 32mg/ml and 100mg/ml, 120/325/650 as suppository
Artificial tears
Glycopyrrolate 0.2mg/ml can be used IV or sublingual
Scopolamine patches
Metoclopramide 10mg tablets and 5mg/ml IV injectable
Ondansetron ODT
Sucralfate 100mg/ml suspension
Ranitidine 25 mg/ml IV, 15mg/ml suspension

Appendix 12. Adult Palliative Care Order Set

IP MED COMFORT CARE	
VITAL SIGNS	
□ Discontinue cardiac monitor	DC cardiac monitor, ONCE
□ Discontinue vital signs	Routine, ONCE
□ Discontinue weight	Routine, ONCE
ACTIVITY	
□ Up Ad lib	Routine, ONCE
□ OOB with assistance	Routine, ONCE
□ Aspiration Precautions	Routine
□ Fall risk precautions	Routine
□ Family may stay in room	Family permitted to stay in room with patient past visiting hours, ONCE.
NUTRITION	
□ Feed for pleasure	Feed for pleasure, CONTINUOUS
□ OK for patient to refuse PO	OK for patient to refuse PO and medications, CONTINUOUS

NURSING	
□ Oral care	Every 2 hours and as needed
□ Reposition: For patient who are bedbound	Every 2 hours and as needed
□ Contact Guest Services	Contact Guest Services for programs that would benefit this patient (Music/Art/Massage therapy), PRN
□ Nsg referral to Spiritual Care	Routine, ONCE
IV Access	
□ Saline lock and flush	

MEDICATIONS

Analgesics

PLEASE NOTE: These are starting doses for patients who are not on scheduled opioids. If the patient has been on scheduled opioids, continue current dosing and titrate the basal opioid (basal opioid = scheduled opioid total in 24hrs) up if pain is not controlled by adding the amount of breakthrough medication used in 24hrs to the basal opioid. Manage breakthrough pain with a short-acting opioid at 5-15% of total daily dose. Use nonverbal signs to assess pain such as grimacing or crying out if patient cannot speak.

HYDROMORPHONE IS PREFERRED IN PATIENTS WITH RENAL FAILURE.

□ morphine 20mg/ml oral solution	5-10mg, oral, every 3 hours prn
□ morphine 2mg/ml	1-4mg, Subcutaneous or IV, every 2 hours prn
□ morphine 1mg/ml IV PCA	0.5-4mg/hr, Intravenous, at 0.5-4ml/hr, continuous.
□ hydromorphone 2mg/ml	0.5-1mg, Subcutaneous or IV, every 2 hours prn
□ hydromorphone 2mg oral tablet	2-4mg, oral, every 3 hrs prn

□ dexamethasone 4mg oral tablet	4mg, oral, every 12 hours prn
□ dexamethasone 4mg/ml	4mg, IV, every 12 hours prn
Antihistamines	
□ diphenhydramine (Benadryl) 12.5mg/5ml oral solution	12.5-25mg, oral, every 6 hours prn
□ diphenhydramine (Benadryl) 50mg/ml	12.5-25mg, intravenous, every 6 hours prn
Antiemetics **Choose EITHER prochlorperazine OR metoclopramide.**	I added the either/or statement, to avoid the use of these two counteractive anti-emetics (anti-cholinergic vs a pro-cholinergic).
□ prochlorperazine tablet	5-10mg, oral, every 6 hours, prn
□ prochloperazine 5mg/ml injection	5-10mg, intravenous, every 6 hours, prn
□ prochlorperazine 25mg suppository	25mg, rectal, every 12 hours prn
□ ondansetron 4mg oral disintegrating tablet	4-8mg, oral, every 6 hours prn
□ dexamethasone 4mg oral tablet	4mg, oral, every 12 hours prn
Antianxiety	
□ lorazepam tablet	0.5-1mg, oral, every 4 hours prn
□ lorazepam tablet	0.5-1mg, sublingual, every 4 hours prn
□ lorazepam 2mg/ml syringe	0.5-1mg, IV, every 4 hours prn
Delirium	

□ haloperidol tablet	0.5-1mg, oral, every 6 hours prn
□ haloperidol injection	0.5-1mg, intravenous, every 6 hours prn
Fever Management	
□ acetaminophen tablet	650mg, oral, every 4 hours prn
□ acetaminophen suppository	650mg, rectal, every 4 hours prn
Eye care	
□ hydroxypropyl methylcellulose 0.5% ophthalmic solution	2 drops, both eyes, every hour prn
Excess secretions	
□ atropine (isopto atropine) 1% ophthalmic solution (Ophthalmic drops can be used for sublingual administration)	2 drops, sublingual, every 4 hours prn
□ glycopyrrolate injection	0.1-0.2mg, intravenous, every 4 hours prn
CODE STATUS ORDER SET	
□ DNR	DNR means no efforts are to be made to restore cardiac or pulmonary function following a cardiac or pulmonary arrest.

Appendix 13. Pediatric Crisis Comfort Care Order Set

Patient Name: _____ MRN: _____
Weight: _____ kg Height: _____ cm

Allergies:

- ❒ Reviewed in EPIC and accurate as documented
- ❒ Reviewed in EPIC:
  - add _____
  - cancel _____

Service: _____
Admit to: ☐ Inpatient _____ ☐ Observation (Less than 24 hours)
Orders to start on: _____
Diagnosis: _____

MEDICATIONS

Analgesics (non-narcotic)

1. Acetaminophen oral Susp (Dose: 10-15mg/kg; Max: 60 mg/kg/day, or 3g/day)
   ☐ _____mg ☐ 40mg ☐ 60mg ☐ 80mg ☐ 100mg
   ☐ po q6hr prn pain/fever
   ☐ po q4hr prn pain/fever (max 4 doses/day)

   Dispense # 1 bottle 120ml

2. Acetaminophen tablets (Dose: 10-15mg/kg; Max: 60 mg/kg/day, or 3g)
   ☐ 325mg ☐ 500mg
   ☐ po q6hr prn pain/fever
   ☐ po q4hr prn pain/fever (max 4 doses/day)

   Dispense # 1 bottle: ☐ 325mg tablets ☐ 500mg tablets

3. Acetaminophen rectal suppository (Dose: 10-15mg/kg; Max: 60 mg/kg/day, or 3g/day)
   ☐ 40mg ☐ 60mg ☐ 80mg ☐ 325mg ☐ 500mg
   ☐ rectally q6hr prn pain/fever
   ☐ rectally q4hr prn pain/fever (max 4 doses/day)
   Dispense # 12 x _____ mg suppositories

4. Ibuprofen oral suspension 100mg/5ml (Dose: 5-10mg/kg)
   ☐ _____ mg po q6hr prn pain/discomfort
   ☐ 50mg po q6hr prn pain/discomfort
   ☐ 75mg po q6hr prn pain/discomfort
   ☐ 100mg (5ml) po q6hr prn pain/discomfort
   ☐ 200mg (10ml) po q6hr prn pain/discomfort

Dispense # 1 bottle 120ml

5. Ibuprofen tablets 200mg (Dose: 10mg/kg)
   ☐ 200mg po q6hr prn pain/discomfort
   ☐ 400mg po q6hr prn pain/discomfort

   Dispense #1 bottle 200mg tab

6. Ketorolac (15 or 30 mg/ml vial) (Dose: 0.5 mg/kg, Max dose: 60mg; max 20 doses)
   ☐ _____
   ☐ 15 mg q6 hrs prn pain
   ☐ 30 mg q6hrs prn pain

   Dispense ☐ 15mg ☐ 30mg #20 vials

7. Dexamethasone (Dose 0.1 mg/kg; Max: 10mg)
   Oral solution 1mg/ml
   IV 4mg/ml
   ☐ Dose ____mg ☐ PO ☐ IV ☐ IM x once prn pain

   Dispense:
   ☐ Dexamethasone oral solution (1mg/ml) 10 ml
   ☐ Dexamethasone IV 4mg/ml # 3 vials

Analgesics (opiate)

Note: doses may need to be escalated for refractory end of life care.

- **Increase doses by 10-25% for moderate refractory pain**
- **Increase dose by 50-100% for severe refractory pain**

******CII medication orders for outpatient use must be written on tamper resistant controlled substance prescription***

1. Morphine oral solution (2mg/ml)*** Dose: 0.05-0.15 mg/kg
   ☐ 0.25mg orally q4hr prn pain
   ☐ 0.5mg orally q4hr prn pain
   ☐ 1 mg orally q4hr prn pain
   ☐ 2 mg orally q4hr prn pain
   ☐ _____mg orally q4hr prn pain

   Dispense 2mg/ml oral solution ☐ 15ml ☐ 30ml

2. Morphine IV*** Dose 0.05-0.1mg/kg
   ☐ 0.25mg IV q4hr prn pain

☐ 0.5mg IV q4hr prn pain
☐ 1mg IV q4hr prn pain
☐ 2 mg IV q4hr prn pain
☐ _____mg IV q4hr prn pain

Dispense 2mg/ml syringes ☐ #10 syringes ☐ #20 syringes

3. Hydromorphone IV*** Dose: 0.015mg/kg
   ☐ 0.05mg mg IV q4hr prn severe pain
   ☐ 0.1mg IV q4hr prn severe pain
   ☐ 0.2mg IV q4hr prn severe pain
   ☐ 0.4mg IV q4hr prn severe pain
   ☐ _____mg IV q4hr prn severe pain

   Dispense 2mg/ml vials: ☐ 10 vials #_____ ☐ 20 vials #_____

4. Oxycodone oral*** 0.015-0.15mg/kg
   ☐ 0.25mg po q6hr prn severe pain
   ☐ 0.5mg po q6hr prn severe pain
   ☐ 1mg po q6hr prn severe pain
   ☐ 2 mg po q6hr prn severe pain
   ☐ ____mg q6hr prn severe pain

   Dispense oral solution 1mg/ml #20 ml

Anxiolysis

1. Lorazepam 2mg/ml (Dose: 0.01-0.05 mg/kg/dose)

☐ 0.25mg q6hr prn ☐ IM ☐ IV ☐ PO	☐ anxiolysis
☐ 0.5mg q6hr prn ☐ IM ☐ IV ☐ PO	☐ anxiolysis
☐ 1mg q6hr prn ☐ IM ☐ IV ☐ PO	☐ anxiolysis
☐ 2mg q6hr prn ☐ IM ☐ IV ☐ PO	☐ anxiolysis
☐ _____mg q6hr prn ☐ IM ☐ IV ☐ PO	☐ anxiolysis

   Dispense # 15 vials 2mg/ml vials

2. Diazepam (Dose: 0.1-0.2 mg/kg/dose)
   Oral solution 1mg/ml
   Tablets 2mg or 5 mg
   IV 5mg/ml
   Diastat: 2.5mg or 10mg or 20mg (AcuDial delivery system)

☐ _____mg	☐ PO ☐ IM ☐ IV ☐ PR
☐ 0.5 mg	☐ PO ☐ IM ☐ IV ☐ PR
☐ 1 mg	☐ PO ☐ IM ☐ IV ☐ PR
☐ 2.5 mg	☐ PO ☐ IM ☐ IV ☐ PR

☐ 2mg ☐ PO ☐ IM ☐ IV ☐ PR
☐ 5 mg ☐ PO ☐ IM ☐ IV ☐ PR
☐ 10 mg ☐ PO ☐ IM ☐ IV ☐ PR

Dispense:
☐ Diazempam IV 10mg/2ml # 10 syringes/vials
☐ Diazepam oral solution 1mg/ml # 1 bottle
☐ Diazepam tablets ☐ 2mg ☐ 5mg #10 tablets

3. Clonidine (Dose: 0.002 mg/kg)
Oral suspension 0.01 mg/ml (prepared by pharmacy)
IV 100 mcg/ml (can be taken PO)
Tab 0.1mg extended release tab
☐ _____mg prn anxiety
☐ 0.1 mg prn anxiety
Dispense
☐ Oral solution: 10 ml
☐ Tablets: 5 tabs
☐ IV: 1 vial 100 mcg/ml with TB syringe

Anti-seizure

4. Phenobarbital IV
☐ Loading dose: 15-20mg /kg = _____mg IV x 1 dose
☐ Maintenance dose: 3mg/kg = _____mg IV q12h

Dispense 130mg/ml vials # 8 vials

5. Lorazepam (Dose: 0.05-0.1mg/kg)

☐ _____mg ☐ IM ☐ IV ☐ PO q6hr prn	☐ seizures ☐ agitation	
☐ 0.25mg ☐ IM ☐ IV ☐ PO q6hr prn	☐ seizures ☐ agitation	
☐ 0.5mg ☐ IM ☐ IV ☐ PO q6hr prn	☐ seizures ☐ agitation	
☐ 1 mg ☐ IM ☐ IV ☐ PO q6hr prn	☐ seizures ☐ agitation	
☐ 2mg ☐ IM ☐ IV ☐ PO q6hr prn	☐ seizures ☐ agitation	
☐ 4mg ☐ IM ☐ IV ☐ PO q6hr prn	☐ seizures ☐ agitation	

Dispense Lorazepam (2mg/ml vials) #15 - 1ml vials

6. Diazepam (Dose: 0.1-0.3mg/kg)
☐ _____mg ☐ IM ☐ IV ☐ PR x 1 dose prn seizures;
may repeat in in 5-10 minutes if seizures continued
☐ 0.5 mg ☐ IM ☐ IV ☐ PR x 1 dose prn seizures;
may repeat in in 5-10 minutes if seizures continue
☐ 1 mg ☐ IM ☐ IV ☐ PR x 1 dose prn seizures;

may repeat in in 5-10 minutes if seizures continue
☐ 2.5 mg ☐ IM ☐ IV ☐ PR x 1 dose prn seizures;
may repeat in in 5-10 minutes if seizures continue
☐ 5 mg ☐ IM ☐ IV ☐ PR x 1 dose prn seizures;
may repeat in in 5-10 minutes if seizures continued
☐ 10 mg ☐ IM ☐ IV ☐ PR x 1 dose prn seizures;
may repeat in in 5-10 minutes if seizures continued

Dispense Diazepam 10mg/2ml # 10 syringes/vials

Gastrointestinal

1. Famotidine IV 10 mg/ml
(Dose Under 1 yr: 0.5 mg/kg) (Dose Over 1 yr: 0.5-1mg/kg)
☐ _____mg IV two times daily
☐ 10mg IV two times daily
☐ 20mg IV two times daily

Dispense 10mg/mL # 2 vials

2. Famotidine oral solution 75mg/5ml
(Dose Under 1 yr: 0.5 mg/kg) (Dose Over 1 yr: 0.5-1mg/kg)
☐ _____mg po twice daily
☐ 10 mg PO twice daily
☐ 20 mg PO twice daily

Dispense oral solution (75mg/5ml) # 15ml

3. Famotidine oral tablet 20mg (Dose: 0.5mg/kg)
☐ 20 mg PO twice daily
☐ 40 mg PO twice daily

Dispense 20mg tabs #12

4. Ondansetron IV 2mg/ml (Dose: 0.1mg/kg)
☐ 0.1mg/kg = _____mg IV three times a day prn nausea/vomiting
For doses > 0.5mg, Round to nearest 0.5mg dose
Max 4mg, for Refractory Nausea may repeat for max 8mg

Dispense IV (2mg/ml) # 10 vials

5. Ondansetron oral solution 0.8mg/ml (Dose: 0.1mg/kg)
☐ 0.1mg/kg = _____mg po three times a day prn nausea/vomiting
For doses > 0.5mg, Round to nearest 0.5mg dose
Max 4mg, for Refractory Nausea may repeat for max 8mg
Dispense oral solution 4mg/5ml x 15ml

6. Ondansetron 4mg ODT (Dose 0.1mg/kg)
   ☐ 2 mg po three times a day prn nausea / vomiting
   ☐ 4 mg po three times a day prn nausea / vomiting

   Dispense:
   ☐ 4mg ODT or tablets #10
   ☐ 8mg ODT or tablets #10

6. Dexamethasone (Dose 0.1 mg/kg)
   Oral solution 1mg/ml
   Dexamethasone IV 4mg/ml
   ☐ ____mg (maximum 10mg) ☐ PO ☐ IV ☐ IM x 1 dose

   Dispense:
   ☐ Dexamethasone oral solution (1mg/ml) _____ml
   ☐ Dexamethasone IV 4mg/ml x # _____ vials

7. Metoclopramide IV 5mg/ml (Dose: 0.1 mg/kg mg/kg)
   Do not use until all other available antiemetic medications have been utilized
   ☐ 5mg for Refractory nausea/vomiting
   ☐ 10mg Refractory nausea/vomiting
   ☐ _____ mg Refractory nausea/vomiting
   Dispense 2 vials

8. Glycopyrrolate (Dose: 0.2mg/ml)
   Indication: for control of secretions
   (May use injectable for oral use)
   Oral Dose: 40-100 mcg/kg
   ☐ _____mcg PO ☐ 3 times a day ☐ 4 times a day

   IV/IM Dose: 4-10 mcg/kg
   ☐ _____mcg ☐ IV ☐ IM every 4 hours

   Dispense 5 ml vials # ____

9. Sucralfate oral suspension (Dose: 10-20mg/kg)
   Indication: oral sores, pain, ulcers, esophagitis

   ☐ _____mg ☐ 50mg ☐ 100mg ☐ 200mg orally q6hr

   Dispense oral suspension 100mg/ml #60ml

10. Sucralfate tabs (Dose: 10-20mg/kg)
    Indication: oral sores, pain, ulcers, esophagitis
    ☐ 500mg po q6hr

☐ 1gm po q6hr

Dispense 500mg tabs # 25 tabs

Miscellaneous

1. Artificial Tears
   ☐ 1 drop to each eye q6hr
   Dispense 15ml bottle x1

2. Haloperidol vial (Dose: 0.05mg/kg)
   ❒ ____mg ☐ IM ☐ IV
   ❒ 8hr prn agitation
   ❒ 1mg q IM q IV q8hr prn agitation
   ❒ 2 mg q IM q IV q8hr prn agitation

   Dispense #10 vials (5mg/ml vial)

3. Diphenhydramine (Dose: 0.5 – 1 mg/kg)
   Indication: allergy,
   ☐ 12.5mg ☐ po ☐ IV q6hr prn agitation
   ☐ 25mg ☐ po ☐ IV q6hr prn agitation
   ☐ 50 mg ☐ po ☐ IV q6hr prn agitation
   ☐ _____mg ☐ po ☐ IV q6hr prn agitation

   Dispense:
   ☐ oral solution 12.5/5ml #1 bottle - 120ml
   ☐ 50mg/ml vials #____

4. Diphenhydramine (Dose: 1mg/kg)
   ☐ 25mg ☐ po ☐ IV q6hr prn agitation
   ☐ 50mg ☐ IM ☐ IV q6hr prn agitation

   Dispense:
   ☐ 25mg caps x 20
   ☐ 50mg/ml vials x 20

INTRAVENOUS FLUIDS

☐ D5 _____ NS to run at _____ mL/hr
☐ D10 _____ NS to run at _____ mL/hr

Appendix 14. Patient Care Strategies for Scarce Resource Situations

These strategies were outlined in the CDPH SARS-CoV-2 Crisis Care Guidelines.

How to use this Appendix:

1. Recognize or anticipate resource shortfall.
2. Implement appropriate incident management system and plans; assign subject matter experts (technical specialists) to problem.
3. Determine degree of shortfall, expected demand, and duration; assess ability to obtain needed resources via local, regional, or national vendors or partners.
4. Find category of resource on index.
5. Refer to specific recommendations on the pages below.
6. Decide which strategies to implement and/or develop additional strategies appropriate for the facility and situation.
7. Assure consistent regional approach by informing public health authorities and other facilities if contingency or crisis strategies will continue beyond 24 hours and no regional options exist for re-supply or patient transfer; activate regional scarce resource coordination plans as appropriate.
8. Review strategies every operational period or as availability (supply/demand) changes.

STRATEGIES FOR SCARCE RESOURCE SITUATIONS

RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Inhaled Medications • Restrict the use of oxygen-driven nebulizers when inhalers or air-driven substitutes are available. • Minimize frequency through medication substitution that results in fewer treatments (6 - 12 hour instead of 4 - 6 hour applications).	*Substitute & Conserve*			
High-Flow Applications • Restrict the use of high-flow cannula systems as these can demand flow rates in excess of 40 liters per minute (LPM). • Restrict the use of simple and partial rebreathing masks to 10 LPM maximum. • Restrict use of Gas Injection Nebulizers as they generally require oxygen flows between 10 LPM and 75 LPM. • Eliminate the use of oxygen-powered venturi suction systems as they may consume 15 to 50 LPM. • Place patients on ventilators as soon as possible to avoid prolonged use of bag-valve ventilation at high oxygen flow rates	*Conserve*			
Air-Oxygen Blenders Eliminate the low-flow reference bleed occurring with any low-flow metered oxygen blender use. This can amount to an additional 12 LPM. Reserve air-oxygen blender use for mechanical ventilators using high-flow non-metered outlets. (These do not utilize reference bleeds). • Disconnect blenders when not in use.	*Conserve*			
Oxygen Conservation Devices • Use reservoir cannulas at 1/2 the flow setting of standard cannulas. • Replace simple and partial rebreather mask use with reservoir cannulas at flowrates of 6-10 LPM.	*Substitute & Adapt*			
Oxygen Concentrators if Electrical Power Is Present • Use hospital-based or independent home medical equipment supplier oxygen concentrators if available to provide low-flow cannula oxygen for patients and preserve the primary oxygen supply for more critical applications.	*Substitute & Conserve*			
Monitor Use and Revise Clinical Targets • Employ oxygen titration protocols to optimize flow or % to match targets for SpO2 or PaO2. • Minimize overall oxygen use by optimization of flow. • Discontinue oxygen at earliest possible time. **Starting Example** / **Initiate O_2** / **O_2 Target** Normal Lung Adults / SpO_2 <90% / SpO_2 90% Infant & Peds / SpO_2 <90% / SpO_2 90-95% Severe COPD History / SpO_2 <85% / SpO_2 90% Note: Targets may be adjusted further downward depending on resources available, the patient's Presentation, or measured PaO_2	*Conserve*			
Expendable Oxygen Appliances • Use terminal sterilization or high-level disinfection procedures for oxygen appliances, small & large-bore tubing, and ventilator circuits. Bleach concentrations of 1:10, high-level chemical disinfection, or irradiation may be suitable. Ethylene oxide gas sterilization is optimal but requires a 12-hour aeration cycle to prevent ethylene chlorohydrin formation with polyvinyl chloride plastics.	*Re-use*			
Oxygen Re-Allocation • Prioritize patients for oxygen administration during severe resource limitations.	*Re-Allocate*			

Resource: Consideration for Oxygen Therapy in Disasters This ASPR TRACIE fact sheet provides information on the types of oxygen therapy and the type of oxygen supplies generally available, as well as various oxygen storage methods.

STRATEGIES FOR SCARCE RESOURCE SITUATIONS

RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Staff and Supply Planning • Assure facility has process and supporting policies for disaster credentialing and privileging - including degree of supervision required, clinical scope of practice, mentoring and orientation, electronic medical record access, and verification of credentials. • Encourage employee preparedness planning (www.ready.gov and other resources). • Cache adequate personal protective equipment (PPE) and support supplies. • Educate staff on institutional disaster response. • Educate staff on community, regional, and state disaster plans and resources. • Develop facility plans addressing staff's family / pets or staff shelter needs.	*Prepare*			
Focus Staff *Time* on Core Clinical Duties • Minimize meetings and relieve administrative responsibilities not related to event. • Implement efficient medical documentation methods appropriate to the incident. • Cohort patients to conserve PPE and reduce staff PPE donning/doffing time and frequency.	*Conserve*			
Use Supplemental Staff • Bring in equally trained staff (burn or critical care nurses, Disaster Medical Assistance Team, other health system or Federal sources). • Equally trained staff from administrative positions (nurse managers). • Adjust personnel work schedules (longer but less frequent shifts, etc.) if this will not result in skill/PPE compliance deterioration. • Use family members/lay volunteers to provide basic patient hygiene and feeding if infection control strategies allow for it - releasing staff for other duties.	*Substitute* *Adapt*			
Focus Staff *Expertise* on Core Clinical Needs • Personnel with specific critical skills (ventilator, burn management) should concentrate on those skills; specify job duties that can be safely performed by other medical professionals. • Have specialty staff oversee larger numbers of less-specialized staff and patients (e.g., a critical care nurse oversees the intensive care issues of 9 patients while 3 medical/surgical nurses provide basic nursing care to 3 patients each). • Limit use of laboratory, radiographic, and other studies, to allow staff reassignment and resource conservation. • Limit availability/indications for non-critical laboratory, radiographic, and other studies. • Reduce documentation requirements. • Restrict or cease elective appointments, surgeries, procedures, and screening tests.	*Conserve*			
Use Alternative Personnel to Minimize Changes to Standard of Care • Use less trained personnel with appropriate mentoring and just-in-time education (e.g., health care trainees or other health care workers, Medical Reserve Corps, retirees). • Use less trained personnel to take over portions of skilled staff workload for which they have been trained. • Provide just-in-time training for specific skills. • Divert credentialed staff from routine to emergency duties including in-hospital or assisting public health at external clinics/screening/dispensing sites.	*Adapt*			

STRATEGIES FOR SCARCE RESOURCE SITUATIONS

RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Food • Maintain hospital supply of inexpensive, simple to prepare, long-shelf life foodstuffs as contingency for at least 96 hours without resupply, with additional supplies according to hazard vulnerability analysis (e.g., grains, beans, powdered milk, powdered protein products, pasta, and rice). Access existing or devise new emergency/disaster menu plans. • Maintain hospital supply of at least 30 days of enteral and parenteral nutrition components and consider additional supplies based on institution-specific needs. Review vendor agreements and their contingencies for delivery and production, including alternate vendors. • Note: A 30-day supply based on usual use may be significantly shortened by the demand of a disaster. Infant feeding: Support breastfeeding; use local women, infants, and children (WIC) agencies to provide telephone lactation support; assure adequate stocks of formula for those babies who need it.	*Prepare*			
Water • Stock bottled water sufficient for drinking needs for at least 96 hours if feasible (for staff, patients and family/visitors), or assure access to drinking water apart from usual supply. Potential water sources include food and beverage distributors. • Consider weight and dispensing issues if using 5-gallon bottles. • Ensure there is a mechanism in place to verify tap water is safe to drink.	*Prepare*			
Staff/Family • Plan to feed additional staff, patients, and family members of staff/patients in select situations (ice storm as an example of a short-term incident, an epidemic as an example of a long-term incident). Consider having staff bring own food if practical and safe to do so.	*Prepare*			
Planning • Work with stakeholders to encourage home users of enteral and parenteral nutrition to have contingency plans and alternate delivery options. Home users of enteral nutrition typically receive delivery of 30-day supply and home users of parenteral nutrition typically receive a weekly supply. Anticipate receiving supply requests from home users during periods of shortage. Work with vendors regarding their plans for continuity of services and delivery. • Identify alternate sources of food supplies for the facility should prime vendors be unavailable (including restaurants - which may be closed during epidemics). Consider additional food supplies at hospitals that do not have food service management accounts. • Determine if policy on family provision of food to patients is in place, and what modifications might be needed or permitted in a disaster.	*Prepare*			
• Liberalize diets and provide basic nutrients orally, if possible. Total parenteral nutrition (TPN) use should be limited and prioritized for neonatal and critically ill patients. • Non-clinical personnel serve meals and may assist preparation.	*Substitute*			
• Follow or modify current facility guidelines for provision of food/feeding by family members of patients. • Anticipate and have a plan for the receipt of food donations. If donated food is accepted, it should be non-perishable, prepackaged, and preferably in single serving portions.	*Adapt*			
• Collaborate with pharmacy and nutrition services to identify patients appropriate to receive parenteral nutrition support vs. enteral nutrition. Access premixed TPN and partial parenteral nutrition (PPN) solutions from vendor if unable to compound. Refer to Centers for Disease Control (CDC) fact sheets and American Society for Parenteral and Enteral Nutrition (ASPEN) Guidelines. Substitute oral supplements for enteral nutrition products if needed.	*Substitute & Adapt*			
• Eliminate or modify special diets temporarily. • Use blenderized food and fluids for enteral feedings rather than enteral nutrition products if shortages occur.	*Adapt*			

STRATEGIES FOR SCARCE RESOURCE SITUATIONS

RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Cache/Increase Supply Levels* • Patients should have at least 30-day supply of home medications and obtain 90-day supply if pandemic, epidemic, or evacuation is imminent. Examine formulary to determine commonly used medications and classes that will be in immediate/ high demand. This may involve coordination with pharmacies. **Analgesia**: • Morphine, other narcotic and non-narcotic (non-steroidals, acetaminophen) class - injectable and oral **Sedation**: • Particularly benzodiazepine (lorazepam, midazolam, diazepam) injectables, ketamine, and ant i- psychotic agents. **Anti-infective**: • Narrow and broad-spectrum antibiotics for pneumonia, skin infections, open fractures, sepsis (e.g.: cephalosporins, quinolones, tetracyclines, macrolides, clindamycin, penam class and extended spectrum penicillins, etc.), select antivirals. **Pulmonary**: • Metered dose inhalers (albuterol, inhaled steroids), oral steroids (dexamethasone, prednisone). **Behavioral Health**: • Haloperidol, other injectable and oral anti-psychotics, common anti-depressants, anxiolytics. **Other**: • Sodium bicarbonate, paralytics, induction agents (etomidate, propofol), proparacaine/tetracaine, atropine, prali-doxime, epinephrine , local anesthetics, antiemetics , insulin, common oral anti-hypertensive, diabetes medications, tetanus vaccine and tranexamic acid, anti-epileptics (IV and oral), hypertonic saline, and antidiarrheals • Increase supply levels or cache critical medications - particularly for low-cost items and analgesics. Key examples include:	*Prepare*			
Use Equivalent Medications • Obtain medications from alternate supply sources (pharmaceutical distributors, pharmacy caches). **Pulmonary**: • Metered dose inhalers instead of nebulized medications. **Analgesia/ Sedation**: • Consider other medications (e.g. benzodiazepines, dexmedetomidine etc.) for propofol substitution (and other agents in short supply) • ICU analgesia/ sedation drips Morphine 4-10mg IV load then 2mg/h and titrate e/re-bolus as needed usual 3-20m g/h); lorazepam 2-8mg or midazolam 1-5mg IV load then 2-8mg/h drip. **Anti -infective**: • Examples: cephalosporins, gentamicin, clindamycin substitute for unavailable broad-spectrum antibiotic • Target therapy as soon as possible based upon organism identified. **Other**: • Beta blockers, diuretics, calcium channel blockers, ace inhibitors, anti-depressants, anti-infectives. • Explore options to compound or obtain from compounding pharmacies.	*Substitute* *Substitute*			
Reduce Use During High Demand Restrict use of certain classes if limited stocks likely to run out (restrict use of prophylactic/empiric antibiotics after low risk wounds, etc.) Decrease dose; consider using smaller doses of medications in high demand/likely to run out (reduce doses of medications allowing blood pressure or glucose to run higher to ensure supply of medications adequate for anticipated duration of shortage). • Allow use of personal medications (inhalers, oral medications) in hospital. • Do without - consider impact if medications not taken during shortage (statins, etc.).	*Conserve*			

STRATEGIES FOR SCARCE RESOURCE SITUATIONS

RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Modify Medication Administration • Emphasize oral, nasogastric, subcutaneous routes of medication administration. • Administer medications by gravity drip rather than IV pump if needed: *IV drip rate calculation - drops/minute= amount to be infused x drip set/time (minutes) (drip set= qtts/mL - 60, 10, etc.).* • Rule of 6: pt wgt (kg) x 6 = mg drug to add to 100ml fluid = 1mcg/kg/min for each 1 ml/hour NOTE: For examples, see http://www.dosagehelp.com/iv_rate_drop.html	*Adapt*			
• Consider use of select medications beyond expiration date**, especially tablets/capsules • Consider use of veterinary medications when alternative treatments are not available**	*Adapt*			
Restrict Allocation of Select Medications • Allocate limited stocks of medications with consideration of regional/state guidance and available epidemiological information (e.g., anti-viral medications such as oseltamivir).	*Re-Allocate*			
• Determine patient priority to receive medications in limited stock.	*Re-Allocate*			

*Resources:
- ASPR TRACIE Hospital Disaster Pharmacy Calculator. This tool estimates the number of patients that should be planned for based on the size of the emergency department and the role of the hospital.
- ASPR TRACIE Factsheet: Drug Shortages and Disasters. This factsheet can help health care providers prepare for and respond to drug shortages that may arise during and after a disaster.

** Legal protection such as Food and Drug Administration approval or waiver required.

STRATEGIES FOR SCARCE RESOURCE SITUATIONS

RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Cache Additional Intravenous (IV) Cannulas, Tubing, Fluids, Medications, and Administration Supplies	*Prepare*			
Use Scheduled Dosing and Drip Dosing When Possible • Reserve IV pump use for critical medications such as sedatives and hemodynamic support.	*Conserve*			
Minimize Invasive Monitoring • Substitute other assessments (e.g., clinical signs, ultrasound) of central venous pressure (CVP). • When required, assess CVP intermittently via manual methods using bedside saline manometer or transducer moved between multiple patients as needed, or by height of blood column in CVP line held vertically while patient supine.	*Substitute & Conserve*			
Emphasize Oral Hydration Instead of IV Hydration When Possible Utilize appropriate oral rehydration solution: Oral rehydration solution: 1 liter water (5 cups) + 1 tsp salt+ 8 tsp sugar, add flavor (e.g., ½ cup orange juice, other) as needed. Rehydration for moderate dehydration 50-100mL/kg over 2-4 hours Pediatric hydration: Pediatric maintenance fluids: • 4 ml /kg/h for first 10kg of body weight (40 ml/h for 1st 10 kg) • 2 ml /kg/h for second 10kg of body weight (20 ml/h for 2nd 10kg = 60 ml/h for 20kg child) • 1 ml /kg/h for each kg over 20kg (example - 40 kg child= 60 ml/h plus 20 ml/h = 80 ml/h) Supplement for each diarrhea or emesis NOTE: Clinical (urine output, etc.) and laboratory (BUN, urine specific gravity) assessments and electrolyte correction are key components of fluid therapy and are not specifically addressed by these recommendations. NOTE: For further information and examples, see Rehydration Project: http:// rehydrate.org/	*Substitute*			
Provide Nasogastric Hydration Instead of IV Hydration When Practical • Patients with impediments to oral hydration may be successfully hydrated and maintained with nasogastric (NG) tubes. • For fluid support, 8-12F (pediatric: infant 3.5F, < 2yrs 5F) tubes are better tolerated than standard size tubes.	*Substitute*			
Substitute Epinephrine for Other Vasopressor Agents • For hemodynamically unstable patients who are adequately volume-resuscitated, consider adding 6mg epinephrine (6ml of 1:1000) to 1000ml NS on minidrip tubing and titrate to target blood pressure. • Epinephrine 1:1000 (1mg/ml) multi-dose vials available for drip use.	*Substitute*			
Re-use CVP, NG, and Other Supplies After Appropriate Sterilization/Disinfection • Cleaning for all devices should precede high-level disinfection or sterilization. • High-level disinfection for at least twenty minutes for devices in contact with body surfaces (including mucous membranes); glutaraldehyde, hydrogen peroxide 6%, or bleach (5.25%) diluted 1:20 (2500 ppm) are acceptable solutions. NOTE: chlorine levels reduced if stored in polyethylene containers - double the bleach concentration to compensate) . • Sterilize devices in contact with bloodstream (e.g., ethylene oxide sterilization for CVP catheters).	*Re-use*		(disinfection - NG, etc)	(steriliza- tion - central line, etc)

STRATEGIES FOR SCARCE RESOURCE SITUATIONS

RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Intraosseous/Subcutaneous (Hypodermoclysis) Replacement Fluids • Consider as an option when alternative routes of fluid administration are impossible / unavailable. • Intraosseous route preferred over subcutaneous. Intraosseous • Intraosseous infusion is not generally recommended for hydration purposes but may be used until alternative routes are available. Intraosseous infusion requires pump or pressure bag. Rate of fluid delivery is often limited by pain of pressure within the marrow cavity. This may be reduced by pre-medication with lidocaine 0.5 mg / kg slow IV push. Hypodermoclysis Cannot correct more than moderate dehydration via this technique. Many medications cannot be administered subcutaneously. Common infusion sites: pectoral chest, abdomen, thighs, upper arms. Common fluids: normal saline (NS), D5NS, D5 1/ 2 NS (Can add up to 20-40 mEq potassium if needed.) Insert 21/24 gauge needle into subcutaneous tissue at a 45 degree angle, adjust drip rate to 1-2 ml per minute. (May use 2 sites simultaneously if needed.) Maximal volume about 3 liters / day; requires site rotation. Local swelling can be reduced with massage to area. Hyaluronidase 150 units / liter facilitates fluid absorption but not required; may not decrease occurrence of local edema	*Substitute*			
Consider Use of Veterinary and Other Alternative Sources for Intravenous Fluids and Administration Sets	*Adapt*			

Appendix 15. Author Credits, Approvals, and Additional References

This Interim Crisis Care Plan is an amalgamation of the existing Office of Emergency Management Crisis Standards of Care Plan document written by Eric A. Weiss in 2007, triage tools created by our Critical Care Leaders with input from our Medical Ethicists in the ICU Task Force in Spring 2020, the CDPH *SARS-CoV-2 Crisis Care Guidelines* which was released in June 2020, and comments/edits made by physician leaders in meetings on December 22, 2020.

Lead Authors:
Alyssa Burgart, MD
Anna Lin, MD

Approvals:
Stephanie Chao, MD
Bernard Dannenberg, MD
Alexis Davis, MD
Yasser El-Sayed, MD
Julie Good, MD, DABMA
Stephanie Harman, MD
Daniel Imler, MD
Moon Lee, MD, MPH
Dennis Lund, MD
Deirdre Lyell, MD
David Magnus, PhD
Meredith Masters, MD
Chirag Pandya, MD
Angela Rogers, MD
Niraj Sehgal, MD, MPH
David Spain, MD
Katherine Steffen, MD
Felice Su, MD
Holly Tabor, PhD
Ann Weinacker, MD
Jennifer Wilson, MD, MS
John Yee, MD

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