

PATIENT CARE STRATEGIES FOR SCARCE RESOURCE SITUATIONS



Version 1.0

August 2021 Alaska Department of Health and Social Services, Division of Public Health, Rural and Community Health Systems

Section: <http://dhss.alaska.gov>

Acknowledgement: These protocols are adopted by the Alaska Department of Health and Social Services from the Minnesota Department of Health Emergency Preparedness & Response Patient Care Strategies Protocol for Scarce Resource Situations, version 5.0, April 2019.

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Introduction

In wake of the COVID-19 pandemic, Alaskan clinicians and ethics consultants constructed a draft Crisis Standards of Care Document (CSC). A CSC is activated when hospitals either have or are about to exhaust patient capacity due to a natural disaster, supply shortage, or pandemic. It serves as a guideline for providers faced with reallocation decisions when CSC is activated.

The initial document was adapted from Minnesota Department of Health's CSC. After several equity concerns were raised, the document was revised in 2021

All recommendations for reallocations adhere to the following principles:

- Alaskan medical providers will not consider any medical conditions beyond those causing or exacerbating the immediate medical crisis.
- Static measures based on group generalizations like Disability Adjusted Life Years (DALYS) and Quality Adjusted Life Years (QALYS) are not considered in reallocation decisions.
- All reallocation decisions are made on an individual basis and not based on generalizations of any group.
- Reallocation decisions are dynamic and if patients improve during the process, the decision will be reevaluated.

In addition to these ethical procedures, the State of Alaska remains committed to preventing activation of Crisis Standards of Care, through encouraging emergency preparedness, drills, and effective supply management. Preparedness also included continued cultural sensitivity and inclusion trainings, to have providers aware of their biases and able to manage them before crises occur. The State of Alaska also remains committed to advocating for patient choice when possible and will continue to promote availability of Advanced Directives and MOLST (Medical Orders for Life Sustaining Treatment) for patients with terminal diagnoses.

Table of Contents

<p>Core Clinical Strategies for Scarce Resource Situations Core clinical categories are practices and resources that form the basis for medical and critical care.</p>	<p>Resource Reference and Triage Cards Resource cards address the unique system response issues required by specific patient groups during a major incident.</p>
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Potential trigger events:

How to use this card set:

1. Recognize or anticipate resource shortfall
 - a. Mass Casualty Incident
 - b. Infrastructure Damage/Loss
 - c. Pandemic/Epidemic
 - d. Supplier shortage
 - e. Recall/contamination of product
2. Isolation of facility due to access problems (flooding, etc.). 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 card.
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 24h 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.
9. Cancel Crisis Standard of Care when crisis has passed, and normal facility operations have returned.

Core strategies to be employed (generally in order of preference) during, or in anticipation of a scarce resource situation are:

- **Prepare - pre-event actions taken to minimize resource scarcity (e.g., stockpiling of medications).**
- **Substitute - use essentially equivalent device, drug, or personnel for one that would usually be available (e.g., morphine for fentanyl).**
- **Adapt – use device, drug, or personnel that are not equivalent but that will provide sufficient care (e.g., anesthesia machine for mechanical ventilation).**
- **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 with a better prognosis or greater need.**



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HEMODYNAMIC SUPPORT AND IV FLUIDS
STRATEGIES FOR SCARE RESOURCE SITUATIONS

RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
<p>Intraosseous/Subcutaneous (Hypodermoclysis) Replacement Fluids</p> <ul style="list-style-type: none"> Consider as an option when alternative routes of fluid administration are impossible/unavailable. Intraosseous route preferred over subcutaneous. <p>Intraosseous</p> <ul style="list-style-type: none"> 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 0.5mg/kg slow IV push. <p>Hypodermoclysis</p> <ul style="list-style-type: none"> 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			
<p>Consider Use of Veterinary and Other Alternative Sources for Intravenous Fluids and Administration Sets</p>	Adapt			



MECHANICAL VENTILATION

STRATEGIES FOR SCARE RESOURCE SITUATIONS

<i>MECHANICAL VENTILATION RECOMMENDATIONS</i>	<i>Strategy</i>	<i>Conventional</i>	<i>Contingency</i>	<i>Crisis</i>
Increase Hospital Stocks of Ventilators and Ventilator Circuits, ECMO or bypass circuits	Prepare			
Access Alternative Sources for Ventilators/specialized equipment <ul style="list-style-type: none"> Obtain specialized equipment from vendors, health care partners, regional, state, or Federal stockpiles via usual emergency management processes and provide just-in-time training and quick reference materials for obtained equipment. 	Substitute			
Decrease Demand for Ventilators <ul style="list-style-type: none"> Increase threshold for intubation/ventilation based on pre-approved criteria equally applicable to all patients regardless of disability status. Decrease elective procedures that require post-operative intubation. Decrease elective procedures that utilize anesthesia machines. Use non-invasive ventilatory support when possible. Chronic ventilator patients should keep their personal equipment, those ventilators are exempt from reallocation. Attempt earlier weaning from ventilator. 	Conserve			
Re-use Ventilator Circuits <ul style="list-style-type: none"> Appropriate cleaning must precede sterilization. If using gas (ethylene oxide) sterilization, allow full 12-hour aeration cycle to avoid accumulation of toxic byproducts on surface. Use irradiation or other techniques as appropriate. 	Re-use			
Use Alternative Respiratory Support Technologies <ul style="list-style-type: none"> Use transport ventilators with appropriate alarms - especially for stable patients without complex ventilation requirements. Use anesthesia machines for mechanical ventilation as appropriate/capable. Use bi-level (BiPAP) equipment to provide mechanical ventilation. Consider bag-valve ventilation as temporary measure while awaiting definitive solution/equipment (as appropriate to situation - extremely labor intensive and may consume large amounts of oxygen). 	Adapt			



RENAL REPLACEMENT THERAPY

REGIONAL RESOURCE CARD

Category	RENAL REPLACEMENT THERAPY RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Command, Control, Communication, Coordination	<p>General Preparedness Information</p> <p>Disaster dialysis challenges generally result from:</p> <ol style="list-style-type: none"> 1. Lack of clean water sources (each hemodialysis requires about 160 liters ultra-clean water). 2. Relocation of dialysis-dependent patients to a new area (evacuation of nursing homes, flood zones, etc.) 3. Increase in patients requiring dialysis (crush syndrome, unusual infections). <p><u>Outpatient</u></p> <ul style="list-style-type: none"> • Primary outpatient dialysis providers have extensive contingency plans to increase capacity and relocate patients (including toll-free numbers to access dialysis services). <p><u>Inpatient</u></p> <ul style="list-style-type: none"> • Most facilities lease inpatient services via contract with other agencies; some have their own nurses and program – plans should account for contingency use of alternate services/leasing services. <p><u>Patient preparedness</u></p> <ul style="list-style-type: none"> • Patients should have a disaster plan – including specific foods set aside for up to 72h. Note that shelters are unlikely to have foods conducive to renal dietary needs (low sodium, etc.) • Personal planning guidance from the National Kidney Foundation <p>Shortage of Renal Replacement Therapy (RRT) Resources</p> <ul style="list-style-type: none"> • Affected facility should contact involved/affected dialysis provider companies and organizations as expert consultants. 	Prepare			
	Space	<p>Relocated Patients Requiring Outpatient Dialysis</p> <ul style="list-style-type: none"> • Contact usual outpatient provider network to schedule at new facility – refer patients to ‘hotlines’ as needed. <p>Excess Patients Requiring Dialysis</p> <ul style="list-style-type: none"> • Transfer patients to other facilities capable of providing dialysis. • Consider moving patients to facilities with in-house water purification if water quality is an issue for multiple inpatients requiring dialysis. • Consider moving other inpatient or outpatient dialysis staff and equipment to facilities requiring increased dialysis capacity. 	Substitute		
		Adapt			



RENAL REPLACEMENT THERAPY

REGIONAL RESOURCE CARD

Category	RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Supplies	<p>Water Supply</p> <ul style="list-style-type: none"> Quantify water-purifying machines available for bedside dialysis machines. Identify facilities providing high-volume services that purify their own water and pipe to specific rooms in the dialysis unit, intensive care, etc. Identify water-purifying and dialysis machines to be obtained through lease agreements. Plan for alternative water supply in case of evacuation or relocation <p>Water Contamination</p> <ul style="list-style-type: none"> Consider alternate sources of highly purified water. Consider transferring stable inpatients to outpatient dialysis centers for dialysis treatments and vice versa. Consider use of AK National Guard water reserves and purification equipment – but must assure adequate purity for dialysis (potable is NOT sufficiently clean). <p>Power Outage or Shortage</p> <ul style="list-style-type: none"> Consider transferring stable inpatients to outpatient dialysis centers for dialysis treatments and vice versa. Consider transferring inpatients to other hospitals. Consider transfer of outpatients to other facilities for care until issue resolved. <p>Dialysis Catheters, Machines, Reverse Osmosis Machines, and/or Other Supply Shortages</p> <p>Note: Dialysis catheters and tubing are inexpensive, relatively interchangeable, and supplied by several manufacturers.</p> <ul style="list-style-type: none"> Stock adequate dialysis tubing sets and venous access catheters (Quinton, etc.) for at least one month’s usual use. Identify provider network and other sources of supplies and machines. Transfer machines/supplies between outpatient centers and hospitals, or between hospitals. 	Prepare			
		Prepare Substitute Adapt			
		Substitute Adapt			
		Prepare Substitute			
Staff	<p>Dialysis Staff Shortages¹</p> <ul style="list-style-type: none"> Non-dialysis nursing staff to take on “routine” elements of dialysis nursing (e.g., taking VS, monitoring respiratory and hemodynamic status, etc.). Dialysis nursing staff to supervise non-dialysis nursing staff providing some dialysis functions. Outpatient dialysis techs may be used to supervise dialysis runs if provider deficit is critical issue (would be unlikely aside from potentially in pandemic or other situation affecting staff). 	Substitute			
		Adapt			
Special	<p>Community Planning</p> <ul style="list-style-type: none"> Medical needs of re-located renal failure patients are substantial; planning on community level should incorporate their medication and dietary needs during evacuation and sheltering activities. Identify alternative clean water supply in case of evacuation or relocation 	Prepare			
Triage	<p>Insufficient Resources Available for All Patients Requiring Dialysis</p> <ul style="list-style-type: none"> Change dialysis from ‘scheduled’ to ‘as needed’ based on clinical and laboratory findings (particularly hyperkalemia and impairment of respiration) – parameters may change based on demand for resources. Conceivable (but extraordinary, given outpatient dialysis machine resources) situations may occur where resources are insufficient to the point that some patients may not be able to receive dialysis (for example, pandemic when demand nationwide exceeds available resources) – access to dialysis should be considered as part of critical care intervention prioritization (see Mechanical Ventilation Strategies for Scarce Resource Situations). 	Conserve			
		Re-allocate			



RENAL REPLACEMENT THERAPY
REGIONAL RESOURCE CARD

Category	RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Treatment	Crush Syndrome <ul style="list-style-type: none"> Initiate IV hydration and acidosis prevention protocols “in the field” for crush injuries to prevent/treat rhabdomyolysis in hospital settings. 	Conserve			
	Mode of Dialysis <ul style="list-style-type: none"> Restrict to hemodialysis only for inpatient care (avoid continuous renal replacement therapy (CRRT) and peritoneal dialysis (PD) due to duration of machine use (CRRT) and supply issues (PD)). 	Substitute			
	Increased Demand on Resources <ul style="list-style-type: none"> Shorten duration of dialysis for patients that are more likely to tolerate it safely. Patients to utilize their home “kits” of medication (Kayexalate) and follow dietary plans to help increase time between treatments, if necessary. 	Conserve			
Transportation	Transportation Interruptions <ul style="list-style-type: none"> Dialysis patients may require alternate transportation to assure ongoing access to dialysis treatment. Chronic patients should coordinate with their service providers/dialysis clinics first for transportation and other assistance during service/transportation interruptions. Emergency management and/or the health and medical sector may have to supplement contingency transportation to dialysis during ice storms or other interruptions to transportation. 	Prepare Adapt			

¹ See Staffing in the Core Clinical Strategies for Scarce Resource Situations card set.



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PEDIATRICS
REGIONAL RESOURCE CARD

Category	PEDIATRICS RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Staff	<p>Staff:</p> <ul style="list-style-type: none"> Pre-incident pediatric medical/trauma critical care training should be conducted for physician and nursing staff expected to provide emergency care. Consider courses such as Advanced Pediatric Life Support, Pediatric Advanced Life Support. Facility should have list of behavioral health specialists and resources to call to assist with pediatric patients. Staff that do not regularly provide pediatric emergency care but could be called upon in a disaster should receive pre-incident training and orientation to facility equipment. Scenario-based or other training (simulation and other brief, frequent training) is highly recommended. Just-in-time training may be required in certain situations for non-pediatric nursing and physician staff reinforcing key points of pediatric or incident-specific patient care (including pediatric assessment triage, importance of fluid management, urine output parameters, principles of analgesia, etc.) In a major incident, adjust pediatric physician and nurse staffing patterns as needed to provide supervision of key aspects of pediatric care. See Staffing Strategies for Scarce Resource Situations for further consideration; for example, have critical care staff supervise care at a higher level, delegating many bedside duties to other providers. AK HSS may work with in-state and adjacent state experts to set up ‘hotline’ to provide consultation to non-pediatric centers caring for pediatric patients (for example during pandemic). National Disaster Medical System and/or other supplemental staff may be required to work in facilities (see Staffing Strategies for Scarce Resource Situations). 	Prepare			
		Adapt			
		Conserve Adapt Substitute			
Special	<p>Consider availability of resources for:</p> <ul style="list-style-type: none"> Social work/ family support. Psychological support for children, their families, and staff (do not under-estimate the increased stress and psychological impact of a pediatric incident, particularly a mass casualty incident, on health care providers). Psychological First Aid for Disaster Survivors (PDF) Disaster Mental Health for Children (PDF) After a Disaster: Guide for Parents and Caregivers (PDF) More Behavioral Health Resources Discharge support and planning, particularly for rehabilitation and other specialty follow-up. Patient tracking and patient safety, particularly for unaccompanied minors (e.g. banding system to identify children and guardians). Family/caregiver accommodations. 	Prepare			
Triage	<p>Consider early transfer to a facility providing pediatric intensive care services for:</p> <ul style="list-style-type: none"> Progressing respiratory symptoms/hypoxia. Shock, or need for ongoing resuscitation. Critical trauma, including neurotrauma according to usual trauma triage criteria. Patients with concomitant burns should be transferred to Seattle Children’s. Patients with complex underlying medical conditions may require consultation or special triage considerations 	Conserve			



PEDIATRICS
REGIONAL RESOURCE CARD

Category	RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Treatment	<p>Provide stabilizing care (airway, fluid management, analgesia, etc.) – see Pediatric Triage Card for initial priorities</p> <p>Special Considerations:</p> <ul style="list-style-type: none"> • Airway/Breathing and Circulation (ABCs) are still critical – do not deviate from usual trauma/critical care priorities due to size/age/behavior concerns. • Pediatric airways are small; there is little room between partial and complete obstruction. • Age and height-based estimations are NOT always accurate – always be prepared with a range of equipment sizes, especially for airway interventions. • Assess skin color, capillary refill, and heart rate for signs of poor perfusion. Hypotension is a late sign of shock in pediatric patients. • Typically, pediatric patients respond to treatments more quickly than adults. Reassess frequently and alter treatments to fit the response. • Monitor for signs of pain and treat pediatric patients with analgesics via weight-based guidelines, then titrate to effect. Pediatric pain is often inadequately treated. • Hypoglycemia and hypothermia are very common –anticipate, prevent, and correct as necessary. • Monitor IV fluids carefully to control volume delivered in smaller patients (e.g., IV pumps or buretrols). • Double-check medication doses with team members, especially with medication drips as significant errors are common. DO NOT exceed maximum adult dose. • Assessment may be difficult due to age-related and communication-related issues – history from the family/caregivers may be critical. • Do not separate the child from family/guardian if possible. This may include providing protective equipment for family. • Medical alert bracelets and care plans should be sought for all children. 	Prepare			
Transportation	<p>After stabilizing care, assess need for transfer:</p> <ul style="list-style-type: none"> • Plan for oxygen, fluids, and analgesia requirements in transport. • Consider need for airway intervention prior to transport. • Consider plans for caregivers/family transportation. • A mass casualty incident may affect more than one facility requiring coordination with regional health care coalitions to prioritize transportation and manage logistics via Multi-Agency Coordination. • Regional transfer coordination may be required in major disasters – AK HSS Center for Emergency Preparedness & Response will assist regional health care coalitions and involve appropriate State and Federal (NDMS) resources; in certain situations (such as pandemic, major mass casualty incident) patients may have to receive care in non-pediatric centers. • Ensure that targeted medical record information (including name, allergies, medications given, current medications, age, and family contact information) is always with patient. • Arrange transport via medical transport as appropriate – if multiple institutions affected coordinate with regional health care coalition and/or multi-agency coordination system. 	Prepare Adapt			



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PALLIATIVE CARE

REGIONAL RESOURCE CARD

Alaska Health Care Preparedness Program

Resource cards are intended to provide incident-specific tactics and planning information to supplement the general strategy cards. They are organized according to the [‘CO-S-TR’ framework of incident response planning](#).

Orientation to Specialty and Goals:

NOTE:

This card provides a focused description of palliative care management principles in disaster situations. These principles are relevant to all patients, as well as those who may receive palliative care as their only intervention due to demand on the health care system relative to their prognosis.

Specialty Description:

Palliative care has a goal of providing the best possible quality of life for people facing the pain and stress of a serious, but not necessarily terminal, medical condition. It can be appropriate for patients of any age and at any stage of an illness - from diagnosis on - and can be provided along with treatments for the medical condition.

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Principles of Palliative Care:

- **Palliative care should be provided to ALL patients.**
- In a subset of patients, it may be the only care that is able to be provided due to the patient’s prognosis and available resources.
- Focuses on human contact and comfort in addition to medical care.
- Increases the physical and mental well-being of the patient.
- Is not abandonment, or euthanasia, and does not aim to hasten death (though in some cases, the doses required to relieve severe symptoms may indirectly contribute to the dying process; however, this meets the ethical criteria for the double-effect principle where indirect harm is permissible in the service of a greater good).
- Relieves symptoms and provides physical comfort measures such as control of pain, nausea, dyspnea, temperature regulation, and positioning.
- Assures respectful care, reassurance, and emotional and social support as possible.
- Cultural Diversity may impact acceptance of palliative care offerings.

Disaster Considerations:

- Symptom support should be maintained in hospital and non-hospital environments – this will involve planning by outpatient entities such as hospice care, pharmacies, medical equipment providers as well as inpatient entities such as palliative care hospital-based programs.
- For existing hospice patients, the spectrum of care should be defined.
- For those designated to receive only palliative care key considerations are:
 - Expected survival - hours, days, or weeks – this helps to guide needs, referrals, and resources.
 - Required interventions - this helps guide location of care and support planning.
 - Basis for designation - if the decision for palliative care is based on the lack of a single resource, there must be a plan for re-assessment if the patient’s condition improves or more resources become available (i.e., would they qualify to receive additional treatment if more resources become available and how are they contacted/monitored) - see triage tree on pg. 11-6.
- Home health and other agencies will need to prioritize services relative to hospice patients during a disaster (as this can have significant impact on patient/family/agency planning).
- Supportive measures should be offered that maintain comfort, but do not prolong the dying process:
 - ◊ If death is inevitable, there may be no point in providing intravenous fluids
 - ◊ **If death is not certain, other forms of support may be very reasonable as other resources become available.**



PALLIATIVE CARE

REGIONAL RESOURCE CARD

Category	PALLIATIVE CARE RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Planning Resources	<p>Planning Resources:</p> <ul style="list-style-type: none"> • General palliative care resources and fact sheets: <ul style="list-style-type: none"> ○ PCNOW Fast Facts and Concepts • General recommendations for home care/family-based care and infectious prevention: <ul style="list-style-type: none"> ○ Home Care Guide: Providing Care • ICU care: <ul style="list-style-type: none"> ○ Improving Palliative Care in the ICU (IPAL-ICU project) • General resources in palliative care and non-pharmacologic intervention: <ul style="list-style-type: none"> ○ American Academy of Hospice and Palliative Medicine ○ Center to Advance Palliative Care. ○ World Health Organization Essential Medicines in Palliative Care. ○ UpToDate—What’s new in Palliative Care. 	Prepare			
Planning/ Communications and Coordination	<p>Key Alaska Organizations:</p> <ul style="list-style-type: none"> • http://palliativecarealaska.com/ • http://anmc.org/services/palliative-care/ • https://alaska.providence.org/locations/anchorage/palliative-care-clinic • http://dhss.alaska.gov/dhcs/Pages/hflc/fac_hospice.aspx 	Prepare			



PALLIATIVE CARE

REGIONAL RESOURCE CARD

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Communications and Coordination	<p>Communications and Coordination:</p> <ul style="list-style-type: none"> Close coordination between hospitals, home care agencies, and public health is required prior to and during disasters in which increased home care and at-home palliative and hospice services are expected. Communications, including printed materials and a mechanism for ongoing situational awareness, are required during contingency and crisis events – this may involve conference calls or other means of keeping stakeholder agencies informed and up to date. In major disasters requiring proactive triage to palliative care only, AK HSS may provide additional guidance and incident-specific resources, which may include a hotline for advice and consultation about palliative care issues. Additional resources for families providing home care would also need to be made available by local and state public health and major health care systems. <p>Communications with Families and Patients:</p> <ul style="list-style-type: none"> Review advance care planning in the context of the current situation – proxy designations, advance directives, Physician Orders for Life-Sustaining Treatment (POLST) forms. Describe palliative support as a quality of life and aggressive symptom management framework that is not related to hastening death or euthanasia, Incorporate relevant cultural variables into palliative care plans. Determine alternate communication platforms if in-person consultation cannot occur. Proactively provide families and patients with up-to-date information on the resources in shortage and any relevant triage criteria/processes being used, as well as any necessary infection prevention measures. Explain the basis of triage decisions and any re-assessment or potential options. Re-frame goals of care with patient and family. Maintain hope despite changes in treatment/goals - factors that often decrease hope include feeling de valued, abandoned, or isolated (“there is nothing more that can be done”), lack of direction and goals, and unrelieved pain and discomfort. 	Prepare Adapt			



PALLIATIVE CARE

REGIONAL RESOURCE CARD

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Space	<p>Inpatient Space: In crisis situations there may be many patients that are receiving palliative care only – cohorted spaces may be an option for these patients. These areas should be:</p> <ul style="list-style-type: none"> • Comfortable – the maximal physical comfort should be provided to patients and families and the environment and equipment should be as comfortable as possible given the resources available. • Private – as much privacy as possible should be planned for the patients and families. <p>Outpatient Space: Facilities should have plans in place with home health care agencies as well as plans for family provision of palliative care. This may include:</p> <ul style="list-style-type: none"> • Home care/hospice agencies should prioritize services to those with the most limited support or more intensive support needs during a disaster (e.g., prioritize services to those requiring intravenous fluids or medications, oxygen, or other high-intensity therapies - if these can be maintained during the disaster). • Phone banks and other indirect support services for families and patients. <p>Transitions:</p> <ul style="list-style-type: none"> • When inpatients are receiving palliative care as their only treatment, they must be cared for in a space appropriate to their remaining life expectancy (i.e., patients with hours to live would not be moved, and patients with days or weeks remaining would be moved to another inpatient area or to home/outpatient care). • Access to pre-printed information for families guiding them in the provision of comfort care including: <ul style="list-style-type: none"> ○ Analgesia and other medication dosing per physician or other instructions. ○ General information about prevention of decubitus ulcers and maintenance of comfort. ○ The dying process, what to expect, and what to plan for. ○ Resources that the family can use in case of questions or problems. • Assure that appropriate infection prevention precautions are accounted for (e.g. droplet precautions). 	<p>Adapt</p> <p>Conserve Adapt</p> <p>Substitute Adapt Conserve</p>			
Supplies	<p>Supplies: There is no substitute for pre-event stockpiling of medications to treat key symptoms. Every disaster will require significant quantities of analgesics. The availability of adequate pain and symptom relief should be a key area of disaster planning.</p> <p>Inpatient and Outpatient: Anticipate the need for additional stocks of medications to provide analgesia and symptom relief for all patients. Inexpensive but critical medications to stockpile include:</p> <ul style="list-style-type: none"> • Oral non-opioid analgesics (also valuable as anti-pyretics) • Opioid analgesics • Benzodiazepines • Anti-psychotics • Anti-emetics • Steroids • Diuretics <p>Outpatient pharmacies should anticipate the need for increased supplies of these agents and support palliative care dosing of these agents that may be more than usual recommendations.</p> <ul style="list-style-type: none"> • Avoid stockpiling or hoarding in the setting of increased demand. 	<p>Prepare</p>			



PALLIATIVE CARE

REGIONAL RESOURCE CARD

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Staff	<p>Staff:</p> <ul style="list-style-type: none"> Physician and nursing staff expected to provide disaster palliative care should receive pre-incident palliative care training. Staff that do not regularly provide palliative care, but could be called upon in a disaster, should receive pre-incident training and orientation to facility resources. The facility should identify subject matter experts within their facility/area and obtain their input into palliative care planning. During a response, these experts can provide input on strategies and tactics, as well as provide overall clinical guidance and expertise. Faith-based and other community resources for non-clinical support may be critical assets for those receiving care at home. Spiritual resources should be made available to both patient and family if desired and feasible. Just-in-time training should be provided to nursing and physician staff as required to acquaint them with palliative care priorities, medication dosing, and other issues. Hospice agencies should have plans to adjust staff roles and triage services provided in response to increased demand. In case palliative care areas are activated, support these areas with staff that are comfortable with medication administration that can be supervised by staff with more experience. Precise recommendations on staffing are difficult as the needs of the patients can vary greatly, but every attempt should be made to provide adequate personnel to meet the comfort needs of patients – this may involve tiered use of professional and non-professional staff. Additional staff may have to be drawn from other institutions or fields, or from the Medical Reserve Corps (e.g., to provide broader support to homecare). These staff will also require just-in-time training Regionally, palliative care teams that can support a facility in crisis or support additional outpatient care may be advantageous. 	Prepare			
		Conserve Adapt Substitute			
		Conserve Adapt Substitute			
Special	<p>Special:</p> <p>When triage to ‘palliative care only’ in disasters is not by patient choice, management of expectations and transitions is critical to the physical and mental well-being of patient, family, and providers.</p> <ul style="list-style-type: none"> Consider availability of resources for: <ul style="list-style-type: none"> Social work/family resources. Spiritual support. Psychological support for patients and their families. Discharge and/or death support and planning. Family/caregiver accommodations. <p>Psychological support for staff.</p>	Prepare			



PALLIATIVE CARE

REGIONAL RESOURCE CARD

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Triage	<p>Triage:</p> <ul style="list-style-type: none"> The need for palliative care should be anticipated in all disaster scenarios. Triage decisions may be required in minutes (multiple victims), over hours (many trauma victims), or over days or weeks (pandemic). When the volume of patients and current level of resources will require prioritizing some patients to palliative care only, triage criteria should be developed whenever possible, and a formal triage team put in place (proactive measures may not be possible in the early phase of an incident but should be implemented as soon as possible). Location for palliative care should be optimized given the constraints of the incident – patients may be triaged to home, to other facilities, to inpatient units, or to other locations. Triage is dynamic. As resources allow, it is critical to re-triage patients so that they may receive resources that have become available. Predicted prognosis does not equate with actual outcome in many cases. (See triage tree below). <p>Triage Tree - Resource-dependent palliative care considerations</p> <pre> graph TD A[Actively Dying or certain to die?] -- Yes --> B[Provide palliative care only; minimize interventions that 'prolong death'] A -- No --> C[Poor Prognosis to others in need?] C -- Yes --> D[Does demand limit all resources or just select resources (ventilators, select medications)] C -- No --> E[Provide all available resources, including symptom management] D -- All --> B D -- Select --> F[Provide resources that are available to improve prognosis] B --> G[Re-assess prognosis of ALL patients at regular intervals; optimize symptom management] F --> G E --> G </pre>	<p>Conserve</p> <p>Re-allocate</p> <p>Adapt</p>			



PALLIATIVE CARE

REGIONAL RESOURCE CARD

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Treatment	<p>Treatment: Opioid Management Principles for Disaster Situations continued:</p> <ul style="list-style-type: none"> • Opioids typically do not have ceiling effects for analgesia. Limitations are usually related to side effects or intolerances. • Patients with sustained-release opioid needs usually require short-acting opioid for breakthrough pain as well as for dose-finding for long-acting opioid dose adjustments. Short-acting breakthrough dose should typically be 10 -15 % of total 24 hour daily requirement of the sustained-release opioid. • When dosing with opioids, remember common side effects and treat accordingly (e.g., constipation, nau- sea, pruritis, confusion, sedation). Respiratory depression is a rare event related to opioid dosing and usu- ally occurs in the context of multiple drug class utilization, and other underlying chronic clinical conditions. • Fentanyl transdermal patches require good adipose stores to be effective, as the real physiologic reservoir is underlying adipose tissue. If patients are thin, think of other opioid options. • Best opioids to consider in the face of renal insufficiency include methadone, fentanyl, and dilaudid. • Breakthrough dose: 1/3ot½ of the 12 hour dose or 10-15 % of the 24 hour dose (if >3 breakthrough doses per 24 hr. period consistently required, consider retitration of dose). • Titrating dosage, may use the following guideline: (Pain scores from 1-10 with 10 being worst imaginable): <ul style="list-style-type: none"> Pain > 7 Increase does by 50% to 100% Pain 4 – 7 Increase dose by 25% to 50% Pain < 4 Increase dose by 25% if indicated/desired • Once a patient has 2 or fewer breakthrough doses and a steady state of medication has been reached, then a continuous release equianalgesic opioid may be initiated. Always start with an instant release before switching to continuous release. Note that continuous release opioids do not have mg/mg equivalence - e.g. a patient requiring 60mg of morphine elixir each day would not be started on 60 mg of MS Contin as an equivalent dose. • Switch from fixed combination acetaminophen/opioids to a single entity opioid when acetaminophen dose > 3000 - 4000 mg/day or as weight appropriate. • Avoid fixed dose combination analgesics in pediatric patients when possible to allow more effective titration and avoid excess acetaminophen dosing. • Consider use of methadone where available particularly for outpatient management of pain. 	<p>Prepare</p> <p>Adapt</p>			
Tracking	<p>Tracking:</p> <ul style="list-style-type: none"> • Assure that patients referred to home care (formally or informally) are tracked by public health and the appropriate agencies. 	<p>Prepare</p>			



PALLIATIVE CARE

REGIONAL RESOURCE CARD

Alaska Health Care Preparedness Program

Symptom	Pharmacologic Options	Additional Strategies
Pain	See 'WHO ladder' on page 11- 7	Integrative therapies, acupuncture, hypnosis, interventional techniques, music therapy, heat/cold therapy, supportive caring
Dyspnea	Opioids and oxygen are standard therapy, additional agents of benefit may include benzodiazepines, bronchodilators, and nebulized furosemide (20 mg IV solution with 3 mL normal saline every 4 hours as needed)	Treat underlying cause, oxygen, direct air from fan onto face; integrative therapies, hypnosis.
Nausea	Serotonin antagonists (ondansetron), substance P antagonists (aprepitant), dopamine antagonists (prochlorperazine), butyrophenones (haloperidol), corticosteroids, benzodiazepines, atypical antipsychotics (olanzapine), cannabinoids, antihistamines (meclizine), anticholinergics (scopolamine), substituted benzamide (metoclopramide)	Treat underlying cause; consider interventional options depending on underlying cause (e.g., small bowel obstruction consider nasogastric tube), integrative therapies, hypnosis, acupuncture, music therapy, supportive caring. Consider constipation as possible etiology if on chronic opioids.
Anxiety	Benzodiazepines, atypical antipsychotics, cannabinoids, anti-depressants	Treat underlying cause, spiritual support, supportive caring, integrative therapies, hypnosis, relaxation techniques, music therapy
Agitation/Delirium	Haloperidol, atypical antipsychotics, sedatives	Provide quiet, dark environment, hydration, support sleep hygiene, minimize stimulation, consider calming soft music Identify specific underlying cause if possible: <ul style="list-style-type: none"> • Benzodiazepine paradoxical agitation - consider discontinuing • Opioid neurotoxicity - consider opioid rotation • Steroid psychosis - consider dose change or elimination • Opioid withdrawal - consider tapering doses
Constipation	Docusate sodium, sennosides, polyethylene glycol, lactulose, magnesium citrate, bisacodyl, glycerine, enemas	Treat underlying conditions, hydration, consider subcutaneous methylnaltrexone for chronic opioid-induced constipation – ensure no mechanical obstruction re: risk of perforation (risk higher in patients on steroids)
Diarrhea	Loperamide 2 mg tablets if not contraindicated. Other interventions according to cause.	Determine underlying cause and potential therapies
Secretion control	Sublingual atropine; 1% eye drops 2-3 drops every 3-4 hours as needed; glycopyrolate (IV 0.4 mg every 4-6 hours, oral 2 mg every 8 hours or appropriate weight-based dose); scopolamine patch	Education for family regarding: death rattle, reposition in bed, very gentle suction +/-, mouth care
Skin breakdown/protection		Treat underlying cause, gentle repositioning, supportive pads, air mattress, specialty beds
Active dying	Aggressive supportive care depending on needs. Do not 'prolong dying process' with on-going therapies such as transfusions, IV fluids, artificial nutrition, anti-biotics. Stop medications that have no bearing on symptom support management. Focus on the 'patient as person' – not on clinical indicators. Oxygen does not offer symptom benefit for actively dying patients and oxygen delivery devices can be uncomfortable and cause sensations of claustrophobia.	Supportive care of family, education about dying process, spiritual support, psychosocial support, company, listening, storytelling, silence, companionship. Discontinue monitors and vital signs documentation.



DOSE CONVERSION TABLE FOR SELECTED OPIOIDS

(Consider dose reduction between opioid in view of incomplete cross tolerance)

Hydromorphone IV (mg/day)	Hydromorphone PO (mg/day)	Morphine IV (mg/day)	Morphine PO (mg/day)	Fentanyl* Transdermal (mcg/hr)	Oxycodone PO (mg/day)
2.5	12.5	17	50	25	30
5	25	33	100	50	65
7.5	37.5	50	150	75	100
10	50	67	200	100	130
12.5	62.5	83	250	125	165
15	75	100	300	150	200
17.5	87.5	117	350	175	230
20	100	133	400	200	265
22.5	112.5	150	450	225	300
25	125	167	500	250	330
27.5	137.5	183	550	275	360
30	150	200	600	300	400

* Transdermal Fentanyl absorption and response may vary depending on amount of adipose tissue present (i.e. better absorbed in patients with more adipose tissue, worse absorption in thin patients). Also, consider dose reduction (e.g. 25%) if transitioning from transdermal patch to oral opioid equivalent.



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