

Alaskan Technical Recommendations for Pediatric Medical Triage and Resource Allocation in a Disaster

For Patients Post Nursery Discharge Until 18 Years of Age

Completed by Alaskan health care providers in conjunction with the Medical Emergency Preparedness – Pediatrics (MEP-P) Project
December, 2008

*Adapted from Utah Hospitals and Health Systems Association's
"Pandemic Influenza and ICU Triage Guidelines"*

Purpose:

The purpose of this document is to recommend procedures to Alaskan healthcare facilities to direct pediatric medical resource allocation during pandemic influenza or other public health emergency, when demand for services dramatically exceeds supply.

Basic Premises:

- **A Tiered Triage System** should be used to control resources more tightly as the severity of a pandemic or disaster increases.
- **Priority should be given to patients for whom treatment would most likely be lifesaving** and whose functional outcome would most likely improve with treatment. Such patients should be given priority over those who would likely die even with treatment and those who would likely survive without treatment.

Scope:

These recommendations apply to all healthcare professionals, clinics, and facilities in the state of Alaska.

The recommendations apply to pediatric patients post nursery discharge until 18 years of age.

Activation Trigger:

Recommendations should be used in the event of a public health emergency declared by the governor of the State of Alaska such as pandemic influenza, major earthquake or other disaster which may cause scarcity of medical resources including trained staff, medical equipment such as ventilators and medical supplies or medications.

Hospital and medical staff planning:

- **Each hospital should:**
 - **Establish a peer-based structure** for its hospital's disaster planning.
 - **Familiarize** itself with this state plan.

- **Establish a team to perform this planning** of at least 3 people, including:
 - 1 of the following: A pediatrician, pediatric intensivist, pediatric hospitalist or family medicine physician.
 - **and** 2 or more of the following: hospital Medical Director, nursing supervisor, board member, ethicist, pastoral care representative, and a physician.
 - The pediatric intensivists and pediatric hospitalists at ANMC and PAMC and the PAMC ethicist are available to assist you in this planning. See **Appendix A** for contact information.
- **Institute an action team** to provide counseling and care coordination and to work with the families of loved ones who have been denied care.
- **Facility medical staff** should establish a method of providing peer support and expert consultation to physicians tasked with making these decisions.

Background Information:

See **Appendix B: Ethical Choices in a Medical Emergency: A Pediatrics Perspective** and **Appendix C: Frequently Asked Questions About the Alaskan Pediatric Disaster Triage Plan**

OVERVIEW OF TIERED TRIAGE SYSTEM

Triage Tier 1

Early in pandemic/ incident

- Hospitals recognize the need to surge bed capacities.
- Emergency departments (EDs) are experiencing increased numbers of emergency patients*.
- Note: Skip this level in the event of a severe and rapidly progressing Pandemic or acute disaster.

Triage Tier 2

Pandemic/ incident escalates

- Emergency departments (EDs) are overwhelmed and hospitals have surged to maximum bed capacity.
- There are not enough beds to accommodate all patients needing hospital admission, and not enough ventilators to accommodate all patients with respiratory failure.
- Hospital staff absenteeism is 20-30%.

Triage Tier 3

Worst-case scenario

- Hospitals have already implemented altered standards of care* regarding nurse/ patient ratios

- Hospitals have already expanded capacity by adding patients to already occupied hospital rooms and non-clinical areas such as conference rooms.
- Hospital staff absenteeism is 30-40%.

PRE-HOSPITAL SETTING RECOMMENDATIONS

Mass Casualty Triage

- JumpSTART Triage is recommended for pre-hospital triage during a Mass Casualty Incident (MCI) involving pediatric patients.

Telephone Triage

- **Applies to:** Patients who call for guidance for where to go or how to care for ill family members;
- **Implemented by:** Primary care staff, hospital help lines, community help lines, and health department help lines
 - **ALL Triage Tiers:** Provide initial triage screening, patient instructions and directions for those needing additional care or screening.

Physician Offices and Clinics

- **Applies to:** Patients who appear for care in doctors office, out-patient clinics, or pre-evaluation space for emergency departments;
- **Implemented by:** Physicians, clinic staff, pre-screening staff
 - **Triage Tier 1:** Evaluate patients before sending to hospital ED.
 - **Triage Tier 2-3:** Initiate **EXCLUSION CRITERIA** (pg. 7) for hospital admission to evaluate patients. Do not send patients meeting **EXCLUSION CRITERIA** to hospital for treatment, send home with instructions for home care.

Long Term Care and other Institutional Facilities* (e.g. Mental Health, Correctional, Disabled, etc.)

- **Applies to:** Patients in institutional facilities;
- **Implemented by:** Institutional facility staff
 - **Triage Level 1:** Ensure that all liquid oxygen tanks are at full capacity.
 - Limit visitation to control infection during developing pandemic.
 - **Triage Levels 2-3:** Use **EXCLUSION CRITERIA** (pg. 7) for hospital admission to evaluate patients. Do not transfer patients meeting exclusion criteria to the hospital for treatment.
 - Give palliative* and supportive care in place.

HOSPITAL SETTING RECOMMENDATIONS

Hospital Administration General Recommendations

Triage Tier 1:

1) Preserve bed capacity by:

- Canceling all category 2 and 3 elective surgeries*, and advising all category 1 elective surgery patients of the risk of infection (for pandemic situation)
- Canceling any elective surgery that would require post-operative hospitalization

Note: Use standard operation and triage decision for admission to PICU since there are still adequate resources to accommodate the most critically ill patients

2) Preserve oxygen capacity by:

- Phasing out all hyperbaric medicine treatments
- Ensuring that all liquid oxygen tanks are at full capacity.
- Augmenting oxygen tank numbers when possible.
- Identifying location of community's extra ventilators, ensure they are available and working properly.

3) Improve patient care capacity by:

5) Transitioning space in ICUs to accommodate more patients with respiratory failure.

4) Control infection by:

6) Limiting visitation and enforcing proper infection control hygiene and use of Personal Protective Equipment (PPE)

Triage Tier 2:

1) Preserve bed capacity by:

7) Canceling all elective surgeries* unless necessary to facilitate hospital discharge

8) Evaluating hospitalized category 1 elective surgery* patients for discharge using same criteria as medical patients.

2) Preserve oxygen capacity by:

- Stopping all hyperbaric treatments.

3) Improve patient care capacity by:

- Implementing altered standards of care* regarding nurse/patient ratios and expanding capacity by adding patients to already occupied hospital rooms or non-clinical areas such as conference rooms.

4) Provide emotional support by:

- Initiating pre-established **action team** to provide counseling and care coordination and to work with the families of loved ones who have been denied care.

Triage Tier 3:

1) Preserve bed capacity by:

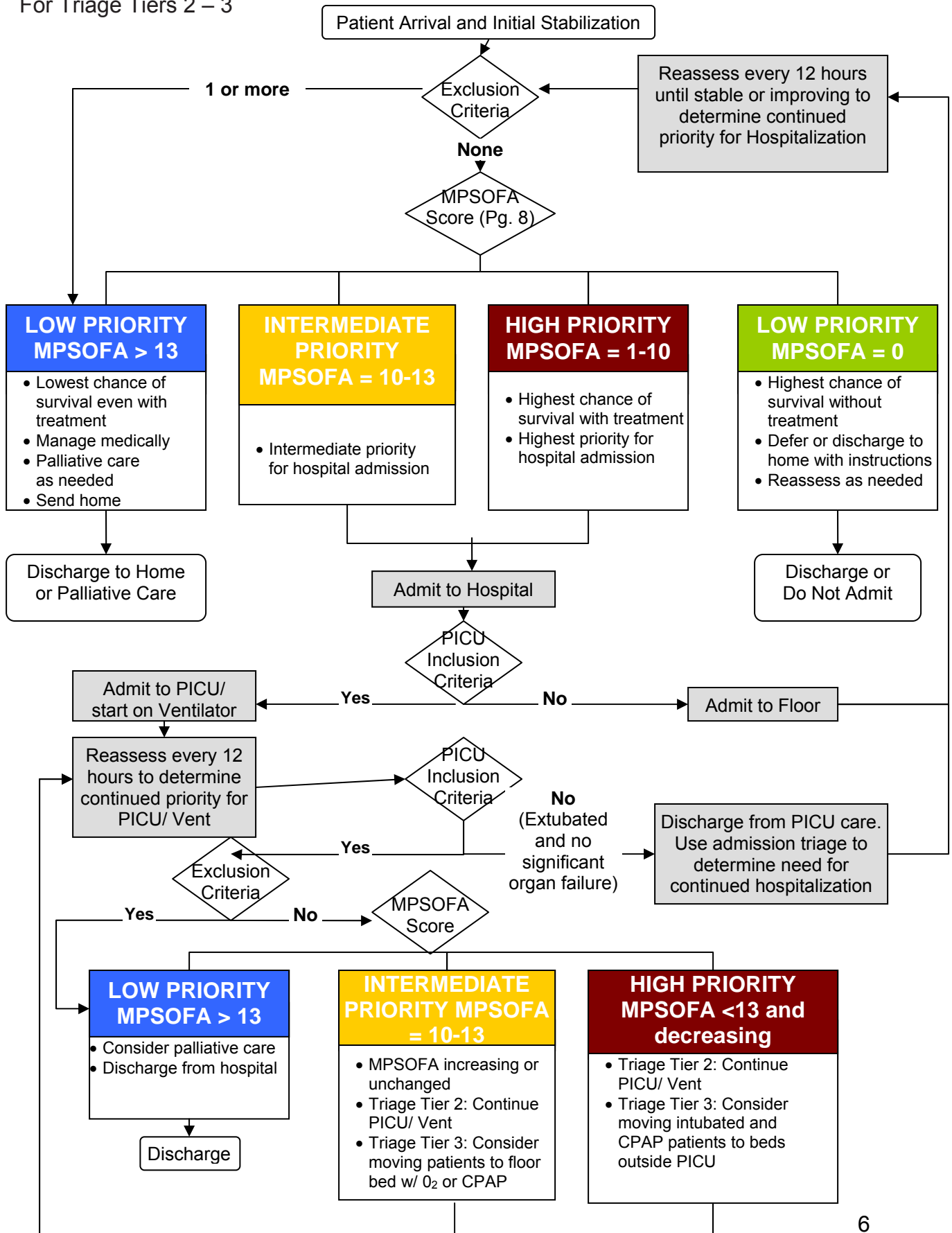
- Limiting surgeries to patients whose clinical conditions are a serious threat to life or limb, or to patients for whom surgery may be needed to facilitate discharge from the hospital.

Clinical Triage Recommendations for Emergency Department, ICU and other Hospital Departments

- Use **HOSPITAL AND PICU/VENTILATOR ADMISSION TRIAGE ALGORITHM** (pg. 6) to determine who to send home for palliative* care or medical management and who to admit or keep in hospital or PICU. **Note** that the **LOWEST** priority for admission is given to patients with the lowest chance of survival with or without treatment, and to patients with the highest chance of survival without treatment.
- If at all possible, Health Care Providers applying the algorithm should **NOT** be responsible for the care of patients to whom it is applied.
- Physician judgment should be used in applying these guidelines. Other factors to consider when apply triage guidelines include:
 - Whether the patient has access to appropriate care at home
 - Whether the patient is in the 2nd or 3rd trimester of pregnancy
- **Triage Tier 2:**
 - Initiate **HOSPITAL AND PICU/VENTILATOR TRIAGE ALGORITHM** (pg. 6) to determine priority for PICU admission, intubation, and/or mechanical ventilation.
 - Reassess need and qualification for PICU/Ventilator treatment every 12 hours.
- **Triage Tier 3:**
 - Continue to use **HOSPITAL AND PICU/ VENTILATOR TRIAGE ALGORITHM** (pg. 6) to determine priority for PICU, intubation, and/or mechanical ventilation.
 - Triage more **YELLOW** (Intermediate Priority) patients to floor on oxygen or CPAP.
 - Triage more **RED** (High Priority) patients who are intubated and on CPAP to floor.

HOSPITAL and PICU/ VENTILATOR TRIAGE ALGORITHM

For Triage Tiers 2 – 3



TRIAGE TOOLS AND TABLES

Exclusion Criteria For Hospital Admission

The patient is excluded from hospital admission or transfer to critical care if ANY of the following is present:

1. **Known “Do Not Resuscitate” (DNR) status**
2. **Severe and irreversible neurologic event or condition with persistent coma and Glasgow Coma Score (GCS) <5** (Includes traumatic brain injury, severe hemorrhagic stroke, hypoxic ischemic brain injury, and intracranial hemorrhage).
3. **Severe burns** requiring critical care resources and those who would be transferred to an out of state burn center under normal circumstances. If circumstances prohibit out of state transfer, patients with >20% Total Body Surface Area (TBSA) (pg. 9) full thickness burns will only be provided palliative* care. Patients with <20% TBSA burns will be considered for critical care resources based on their MP SOFA score (pg. 8). Severe burns not requiring critical care resources may be cared for at the local facility.
4. **Cardiac arrest** not responsive to 25 minutes of Pediatric Advanced Life Support (PALS) or Basic Life Support (BLS).
5. **Complex disorders** with prognosis for expected lifelong assistance with most basic activities of daily living (i.e. toileting, dressing, feeding, respiration).
6. **Incurable malignant disease**
7. **Irreversible end-stage organ failure**

PICU/Ventilator INCLUSION CRITERIA

To qualify for PICU admission or ventilatory support, the patient must have **NO exclusion criteria AND at least one of the following INCLUSION CRITERIA:**

1. **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
2. **Hypotension[†] with clinical evidence of uncompensated shock[†] refractory to volume resuscitation, and requiring vasopressor or inotrope support that cannot be managed in a ward setting.**

[†]**Hypotension** = Systolic BP <90 mm Hg for patients age >10 years old, or <70 + (2x age in years) for patients ages 1-10, or relative hypotension;

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

Modified Pediatric Sequential Organ Failure Assessment (MPSOFA)

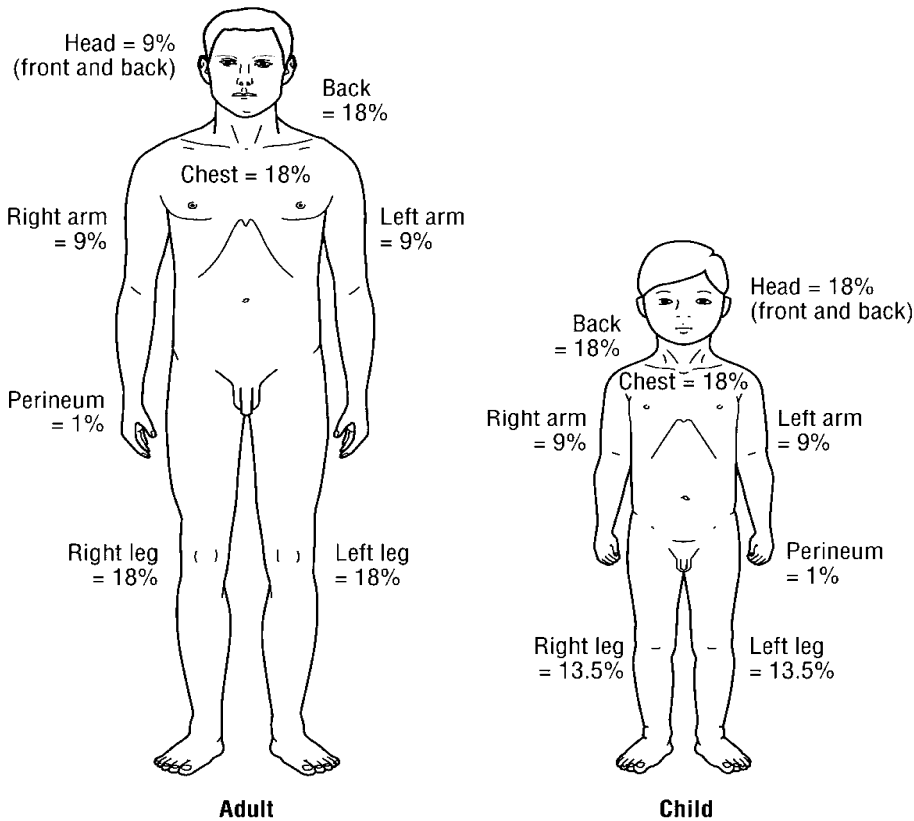
MPSOFA Scoring Guidelines						
Variable	Score 0	Score 1	Score 2	Score 3	Score 4	Row Score
SpO₂/FiO₂ ratio or Nasal cannula or O₂ mask required to keep SpO₂ >90%	SpO ₂ /FiO ₂ > 400 or Room air SpO ₂ >90%	SpO ₂ /FiO ₂ 316-400 or SpO ₂ >90% at 1-3 L/min	SpO ₂ /FiO ₂ 231-315 or SpO ₂ >90% at 4-6 L/min	SpO ₂ /FiO ₂ 151-230 or SpO ₂ >90% at 7-10 L/min	SpO ₂ /FiO ₂ ≤150 or SpO ₂ >90% at >10 L/min	—
Total Bilirubin (mg/dL)	<1.2 or no scleral icterus	1.2-1.9	2.0-5.0 or scleral icterus	6.0 - 11.9 or clinical jaundice	≥12	—
Hypotension	None	MABP <2 Std. Deviations for age Reference: Harriet Lane MABP table	DOP <5	DOP 5-15 or EPI ≤0.1 or NOR-EPI ≤0.1	DOP >15 or EPI >0.1 or NOR-EPI >0.1	—
Glasgow Coma Score (pg. 9)	14-15	11-13	9-10	7-8	<6	—
Lactate (mmol/L)	<2.0	2.0-4.0	4.1-6.0	6.1-8.0	>8.0	—
MPSOFA Score = Total of Row Scores:						

Explanation of Variables

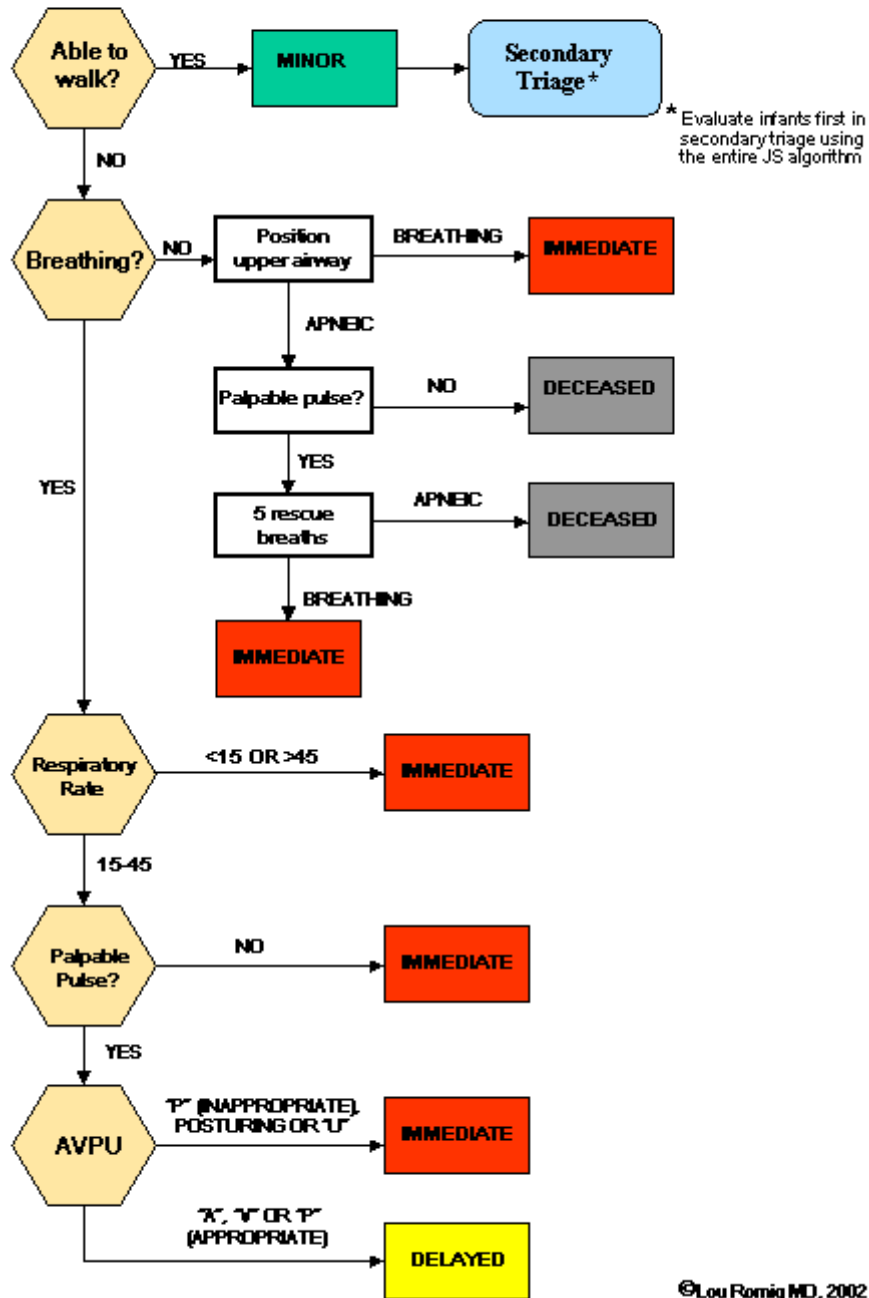
- SpO₂/FiO₂ ratio indicates the level of oxygen in the patient's blood. SpO₂ = Percent oxygen saturation of hemoglobin, expressed as %, e.g. 95%; FiO₂ = Fraction of inspired oxygen, e.g. ambient air is 0.21. Example: SpO₂= 95%, FiO₂= 0.21; SpO₂/FiO₂ ratio = 95/0.21= 452
- Bilirubin is measured by a blood test and indicates liver function.
- Hypotension indicates low blood pressure; scores of 2, 3, and 4 indicate that blood pressure must be maintained by the use of powerful medications that require ICU monitoring, including dopamine (DOP), epinephrine (EPI), and norepinephrine (NOR-EPI). MABP = Mean Arterial Blood Pressure in mm Hg (diastolic + 1/3 (systolic – diastolic))
- The Glasgow coma score is a standardized measure that indicates neurologic function; low score indicates poorer function.
- Lactate is measured by a blood test (Istat CG4+ Cartridge recommended)

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

Total Body Surface Area (TBSA) Estimation Tool for Burn Triage



JumpSTART Pediatric MCI Triage[®]



*Glossary of Terms:

- **Altered Standards of Care:** No standardized definition. Generally, it is the assumption that health care institutions will not be able to provide the customary level of care as a result of resource scarcity caused by a disaster situation. The alternative is to allocate scarce resources to provide the greatest good for the greatest number of people.
- **Emergency Patients:** Those patients whose clinical conditions indicate that they require admission to the hospital and/or surgery within 24 hours.
- **Elective Surgery:**
 - **Category One:** Urgent patients who require surgery within 30 days.
 - **Category Two:** Semi-urgent patients who require surgery within 90 days.
 - **Category Three:** Non-urgent patients who need surgery at some time in the future.
- **Long Term Care Facilities:** A residential program providing 24-hour care, to include: Nursing Homes, Skilled Nursing Facilities, Assisted Living 1 and 2, Residential Care Facilities, and Intermediate Care for the Mentally Retarded (ICFMR) facilities.
- **Palliative Care:** To make a patient comfortable by treating symptoms from an illness and by addressing issues causing physical or emotional pain or suffering.

Contributors:

The MEP-P Project Ethics Workgroup is:

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References:

- Utah Hospitals and Health Systems Association, *Utah Pandemic Influenza Hospital and ICU Triage Guidelines*
DRAFT 12/07/07
- NYS Workgroup on Ventilator Allocation in an Influenza Pandemic, NYS DOH/ NYS Task Force on Life & the Law. *Allocation of Ventilators in an Influenza Pandemic: Planning Document*
Draft for Public Comment March 15, 2007
- Christian MD, Hawryluck L, et al. *Development of a triage protocol for critical care during an influenza pandemic*
CMAJ, 2006; 175(11): 1377-1381
- Grissom CK, Orme JF, Jensen RL, Jephson AR. *A Modified Sequential Organ Failure Assessment (SOFA) Score to Predict Mortality in Critically Ill Patients*. *Critical Care Medicine*, 2007; 9(9); 672-676
- Teasdale G, Jennett B. *Assessment of Coma and Impaired Consciousness: A Practical Scale*.
Lancet, 1974; 2(7872): 81-84

APPENDIX A:

Alaskan Pediatric Personnel Contact Information

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Appendix B:

Ethical Choices in a Medical Emergency: A Pediatrics Perspective

Completed by the Medical Emergency Preparedness – Pediatrics (MEP-P)
Ethics Workgroup

Flu pandemics and natural disasters quickly raise potent ethical questions for any community. This document is focused on one of the central ethical dilemmas faced in such emergencies. How should scarce, life-saving medical resources be distributed?

When there is far more need for medical resources (e.g. ventilators or flu vaccines) than there are resources available, who should receive them? The customary standard of care in medicine is to treat individuals according to their need for medical care. For example, an EMT will give priority to the most injured at the scene of an accident. During large-scale pandemics or emergencies, however, the number of sick may so overwhelm the amount of medical care available that these standards must be altered in order to save the most lives possible. Difficult choices must be made to determine who should receive care or what level of care they will receive. This paper highlights a few preliminary considerations for making such choices, as discussed by the Medical Emergency Preparedness - Pediatrics (MEP-P) ethics group based in Anchorage, Alaska.

This group is specifically concerned with the fate of children in rationing scarce medical resources during disasters. Children are often ignored or only briefly considered by the ethics literature on disaster preparedness.¹ This should be corrected. Children make up roughly 27% of Alaska's population², and their needs deserve consideration. Additionally, children often have specific needs which differ markedly from adult needs, during a medical disaster. Medical staff working with children may require specialized training to help with a ventilator, determine prescription dosing or provide other kinds of pediatric care. They may be isolated from their families and need special emotional support. Also, their immature immune systems may be less likely to survive in some situations, and yet, children can often recover more quickly than adults. How should these factors influence where children fall in the list of those who need medical care in a disaster?

¹ Triage ethics often include considerations of the most “vulnerable” but little analysis of the situation of children in particular. Notable exceptions include Emanuel and Wertheimer, “Who Should Get Influenza Vaccine When Not All Can?” *Science* 321 (May 12, 2006): 854-855. This article has also been inspired by work in the ethics of care. See, for example, Sara Ruddick and Eva Feder Kittay.

² U.S. Census Bureau, 2006. <http://quickfacts.census.gov/qfd/states/02000.html> (accessed June 26, 2008) “Children” are defined here as persons under the age of 18. The percentage of the U.S. population under the age of 18 is roughly 25%.

Is it right to say that children should generally receive more resources than adults or fewer? If we must choose between children in allocating scarce medical resources, what is a fair way to choose? These are among the most important questions that have concerned us during this project.

1. Medical Ethics in Disasters – A Focus on Communities

We follow other ethical guidelines in disaster preparedness in saying that wide-scale disasters must refocus the resources of our medical teams.³ Medical professionals are suddenly confronted with a public health crisis during a pandemic or other natural disaster. Such disasters call for a difficult role change for many professionals. Rather than simply being concerned with treating their individual patients, they are asked to think about the hundreds or thousands of people whose lives may be in danger. During wide-scale disasters, however, this shift in focus is essential. As individuals, we will not fare nearly as well unless public health issues are addressed systematically. A flu virus, of course, is not the property of a single individual. Flu viruses often travel from person to person, between, or in rare cases, between persons and members of other species.

In addition, we are usually indebted to the communities that have nurtured, or in some way, supported us. We may also simply believe it is right to care for one another in times of great need, out of a sense of human solidarity. Therefore, from a variety of moral perspectives, it seems right for our medical professionals to shift their attention to the well-being of all of us, as a community, rather than simply focusing on the needs of their individual patients.

The triage criteria we propose rest on the belief that survivability is one of the chief values for our communities during a large-scale disaster.⁴ This means that those with the least chance of survival will be given all of the support and comfort care (palliative care) that the system can afford, but they may not receive as much or potentially any scarce medical resources during a disaster. The MEP-P ethics group has developed a pediatric scoring system using the patient's clinical condition. This system will be used by medical professionals, on our recommendations, to determine the degree of injury or sickness of an individual and whether or not he or she has a fairly good chance of survival. Treatment is assigned on the basis of those chances.

³ See University of Toronto Joint Centre for Bioethics Pandemic Influenza Working Group. *Stand on guard for thee: ethical considerations in preparedness planning for pandemic influenza*. Toronto: University of Toronto Joint Centre for Bioethics; 2005. and Fr. John Tuohey, "A Matrix for Ethical Decision Making in a Pandemic," *Health Progress*. Nov/Dec 2007: 20-25.

⁴ Survivability is a common core value in the ethics literature on pandemics. See, among others, John Hick et. al., "Clinical review: Allocating ventilators during large-scale disasters - problems, planning, and process," *Critical Care*. 11:217 (2007). For an alternative point of view, see Robert Veatch, "Disaster Preparedness and Triage: Justice and the Common Good," *The Mount Sinai Journal of Medicine*. 72:4 (July 2005) 236-241.

Survivability is an ethically justifiable criterion to use during a public health disaster, such as a pandemic or devastating large scale event such as an earthquake. Our communities cannot prosper without the substantial presence of healthy, active individuals. Further, as others have argued, focusing on survivability often makes us good stewards of the limited resources we have in a disaster. We owe it to one another to provide the most benefit to those in need with the medical assets available.

We must briefly acknowledge that the shift to focusing on public health and survivability may be quite difficult for our doctors, nurses, and other medical professionals to make, even in times of disaster. Doctors and nurses see themselves as having duties to particular patients they are caring for, rather than to the whole community. Though medical professionals will still have basic duties towards any patient they encounter during a disaster, they will not be able to put their own patients ahead of others who have a better chance of surviving. Also, according to the triage principles we have proposed, we believe that it will be sometimes necessary for medical professionals to provide only palliative care for some of the sick and injured whom they might be able to save in normal situations.

This position shifts medical resources towards those who have a better chance of surviving. Emotionally, this will be a great strain on health care providers. Those physicians who are actually caring for individuals will not be asked to make such decisions. Other medical professionals not directly involved with the patients will do so for them. Yet, we highly recommend support and training for the medical professionals who will be asked to provide this difficult kind of medical care. It will not be easy for anyone involved.

2. Duties Towards Children

It may be particularly hard for medical professionals to use triage criteria with respect to children during a disaster. Children seem to have a special place in our communities, and more specifically, in our families. It is clear to most that parents have a special duty towards their children. Should we, as a larger community, however, give particular consideration to children?

Before answering this question, we would like to first emphasize that we have not always recognized specific duties towards children as a society. The lack of universal health care for children in this country is only one example. Though the U.S. has a system specifically designed to provide health care to our seniors, no such national system exists for children. In addition, there seem to be good reasons to give children fewer resources than adults, all things considered, in times of disaster. Children's immaturity – both physical and behavioral – does pose certain liabilities during a disaster. As mentioned earlier, children may require more time and energy from medical professionals during a disaster than an adult in a similar situation. Children often require an attendant to monitor their adherence to doctor's orders. They may also need additional assistance from

adult caregivers with compliance and tolerance of their ventilators or other medical equipment or treatment. Though some of these tasks can be performed by non-medically trained individuals, assistants for children will need to be organized, and in the face of a dire emergency, this may seem like an onerous task.

Further, the practice of pediatric medicine requires special training. Those medical professionals who care for children will need supplementary education if they do not already have a background in pediatrics. In addition, infants generally have more immature immune systems than adults. They may be more susceptible to sickness. Finally, children may not be able to help other victims of a disaster to the extent that adults often can. Children may not be as useful in a community's struggle to contend with a disaster. These points may lead one to think that adults should generally receive priority for scarce medical resources in a disaster. We believe that disaster preparedness is a particularly appropriate project to begin re-focusing our communities' values towards children and prevent any possible neglect in this area.

This returns us to an earlier question: should we give particular consideration to children and their needs in a disaster? There may be several reasons to do so. Parents have the primary duty to care for the needs of their children, but during a large-scale disaster, most parents will not be able to fulfill those duties. Most will not be able to provide the medical care their children need. Many will not be able to keep their children free from disease and harm. Parents are dependent on the larger systems of the community to care, in part, for their children.

Further, children are the most vulnerable members of our communities. We may have a responsibility to care for them on that ground alone. Children sometimes cannot speak to their own needs and preferences. They frequently need others to make choices for them. In addition, children are usually unable to defend themselves in the face of physical threats. They need our care, and we should attempt to meet that need, given their great dependence on adults. In addition, it may weaken the relationships of trust and responsibility in our society if we do not attempt to care for our most vulnerable members.

Last, but not least, children are essential to the regeneration and flourishing of our societies. Children typically outlive their parents, and with children go our communities' cultural and technical knowledge. Further, children offer new perspectives on the habits and values we take for granted. They are one of the most dependable sources of novelty in any community. For these reasons, it is in the interests of our communities to provide medical support for our children, even in times of extreme emergency.

We recommend that children be considered equally with adults in the process of triaging scarce medical resources. This means that if a child has a comparable survival rate to an adult, given his or her clinical triage scores, then he or she should receive a comparable level of medical care, if at all possible.

There are certainly costs in our communities ensuring as much care as possible for children who have reasonable chances to survive. Children offer many benefits to our society. They also have an advantage over adults in survival rates. Their young bodies can more quickly recover from illness. Children tend to have the uncanny ability to “bounce back”. Perhaps just as important from an ethical perspective, however, are our duties to children as extremely vulnerable members of our societies.

Part of the triage plan proposed by this group contains criteria by which some children will be given palliative care, if appropriate, rather than life-saving medical treatment. Again, such criteria are necessary only when medical supplies are extremely scarce. There simply will not be enough medical resources to go around. One of our most intensive discussions as a group has centered on the fate of children with very difficult disorders that will require a lifetime of intensive, daily care. *We chose the following language to describe such cases: those children with “...a prognosis for expected lifelong assistance with most basic activities of daily living (i.e. toileting, dressing, feeding, respiration)...” will not be provided scarce life-saving medical treatment during a disaster scenario.*⁵ All children require care of one form or another. We do not believe, however, that in a large-scale disaster, we will have the ability to provide the extensive resources necessary to treat the small number of these medically intensive patients when so many others will need the limited medical resources.

Our reasons for this proposal rest heavily on the ethical values discussed earlier. We have an obligation to use the few medical resources available to provide the greatest benefit that is ethically feasible. Medical professionals are dedicated to saving lives and furthering the health and well-being of our communities. Part of our calculation, then, must involve an estimate of how many children medical staff can save in a given disaster. We believe this is a value we can all agree on. Those children who require substantially more resources than others during a disaster, as described above, (and even after the disaster, in a resources-bare community), cannot receive scarce life-saving medical resources, given these values. Further, children who suffer from such disorders may have a lower chance of survival than children who do not. This point supports the same conclusion.

Our recommendations for the ethics of medically treating children during a disaster comes at the end of considerable discussion among doctors, nurses, and other medical professionals across several hospitals in and around Anchorage, as well as ethicists from a variety of backgrounds.

Yet, there is much more to do. We look forward to expanding these conversations to include other medical professionals across the state of Alaska, and most importantly, the public. Guidelines for disaster preparedness touch at the heart of our values as a community. We hope that further conversations about these issues, though difficult, will help us reflect on our priorities and

commitments and enable us to better meet our future public health challenges together.

5 “Alaskan Technical Recommendations for Pediatric Medical Triage and Resource Allocation in a Disaster For Patients Post Nursery Discharge Until 18 Years of Age,” pg. 7, completed by Alaskan health care providers in conjunction with the Medical Emergency Preparedness – Pediatrics (MEP-P) Project.

Appendix C:

Frequently Asked Questions

About the Alaskan Pediatric Disaster Triage Plan

Q: What is a Triage Plan?

A: The State of Alaska is planning for the possibility of a severe disaster such as a major earthquake or a pandemic flu which may overwhelm the medical resources in the state. If the medical equipment, medications and personnel are not able to meet all the needs of sick Alaskans, the triage plan will direct the medical personnel in their decision making about who will receive medical care and who will have to wait for care or not receive any care other than attention to their comfort. By developing the plan ahead of time, when the crisis occurs the difficult decisions about who can receive care will be as fair as possible.

Q: Why is there a special triage plan for Pediatrics?

A: Children are often forgotten in planning for disasters. Alaska wants to be sure the special needs of children will be attended to when a disaster occurs. The state is planning separately for triage strategies for adults. Children require different skills and resources to treat their injuries and illnesses. They can get sicker faster and heal quicker. Determining which children are most likely to benefit from treatment during an emergency situation requires a different set of criteria than those used for adults. In order to assure a fair allotment of resources to children during a crisis, a separate triage plan will be used.

Q: Who created the Pediatric Triage Plan?

A: The Triage Plan is the result of lengthy discussions by a panel of medical ethicists, pediatricians, pediatric intensive care physicians, other health care providers (such as respiratory therapists), and state officials. The Plan is a recommendation to the hospitals throughout the state which are developing their own disaster plans.

Q: What is the Triage score based on?

A: Research in adults has shown that it is possible to predict the likelihood of a patient surviving an illness or injury is based on how well or poorly their major organs are working. A score based on specific clinical information (such as blood

pressure and level of consciousness) and lab information (such as blood oxygen level) is used to predict who is likely to survive. The score was modified to use it for children because they have different normal numbers (such as different blood pressures) depending on their age. They also show the seriousness of their organ damage differently, so different lab data are being used than those used for adults.

Q: Who is covered by the Pediatric Triage Plan?

A: These recommendations cover any infant or child up to 18 years of age except those newborns who have not yet been discharged from the hospital following their birth. Newborns, particularly premature newborns, have different criteria for survivability. The recommendations for triaging newborns are still under discussion.

Q: Are the panel's recommendations final?

A: No. The proposed Triage Plan will be revised based on public comment and additional information garnered from clinicians, healthcare facilities, and the community. There are no perfect answers in response to the immense challenges posed by a severe emergency. For this reason, the proposed policy is being published and input and advice is being requested.

Q: How would the Triage Plan be triggered?

A: When a disaster occurs or a pandemic seems to be developing, hospitals will take steps to improve their ability to serve those affected by the emergency. For instance, they would cancel elective surgeries and work for early discharge of patients. When the medical facilities in any area of the state are overwhelmed by the demands for care such that they are past their capacity to care for all the injured or ill, despite their efforts to decrease the need for care, the governor will be requested to declare that the emergency requires the use of the triage plan. The Triage Plan will be used only during a public health emergency. A public health emergency is declared only by the Governor of the state of Alaska.

Q: What are Altered Standards of Care?

A: In an emergency identified by the governor, where demand for medical services exceeds the surge capacity of the medical community, the level of services and care for all patients will be below the usual standards. Personnel and supplies will not be available to provide all the usual care expected from medical services. Examples of a reduced level of care could include fewer and shorter visits from nurses and doctors, less monitoring, less lab work, less or no adjunct therapies such as speech and occupational therapy, longer wait times for surgery and other procedures, delayed response from emergency services, or no hospitalization for monitoring and observation for lesser problems such as a possible concussion.

Q: Who will make the decision about which patients receive care and which won't receive care?

A: Each hospital will be responsible for designating a physician or, ideally, a group of physicians and medical providers to make the decision. The provider(s)

in this group should not be responsible for care of the patients in question so that there will not be a conflict of interest for the provider(s).

Q: What criteria will the triage plan use for deciding who will get immediate care, comfort care only, or no care?

A: When resources are stretched beyond capacity and demand for personal and life sustaining equipment is greater than supply, the triage plan will attempt to allot the resources to those patients who have significant need but also have a significant chance of survival. The plan will exclude those who are not very ill or injured and those who are unlikely to survive their illness/injury. It will also limit access to care for those who were known prior to the emergency to have a fatal illness with a prognosis for a very limited life span. The goal is to have the most children possible survive the crisis.

Q: How can we be sure that the triage plan will be fair?

A: The Plan is specific about the criteria for exclusion from care. These criteria are to be universally applied and are based on clinical objective criteria. A physician not involved in treating the patients will use clinical criteria to decide who will receive care. In some instances, children already receiving care may become more ill so that they are not expected to survive and then care will need to be withdrawn in order that someone more likely to survive may be treated. That difficult decision cannot be left to the treating physician who feels responsible for the patient. It can also not be left to the family who would get to have a voice in that decision under ordinary circumstances. IN NO CIRCUMSTANCE will a decision be based on non-clinical factors such as race, ethnicity, socio-economic status, perceived quality of life, or ability to pay. Age alone will not be a factor for exclusion, though some very young infants may be thought to have a low probability of survival due to complications of their prematurity and will therefore not receive intensive care.

Q: Will the patients who are sick because of the emergency be treated any different than other patients by the triage plan?

A: No. All patients will be treated as equally eligible for care based on their needs and likelihood of surviving.

Q: What will be done for very ill patients who do not qualify for life sustaining treatments?

A: Palliative care will play a crucial role in providing comfort to patients who may die as a result of the emergency. Every effort will be made to partner with palliative care services and hospices to provide pain and symptom relief for the patient and emotional and bereavement support for the family.

Q: If my child does not qualify for treatment, can I take them out of state for treatment?

A: In an emergency situation, it is anticipated that all the usual air and ground transportation for moving sick patients will be tied up moving those who will be treated. Families will not be prevented from trying to make their own

arrangements to seek help elsewhere. If the emergency is a pandemic which is developing but has not yet overwhelmed facilities in other states, patients who are known to have ongoing medical needs which may not be able to be served during an Alaskan medical crisis will be encouraged to relocate until the crisis is past. Those patients and families should understand, however, that a world-wide pandemic is likely to overtake other locations and the restrictions on care may be similar to the restrictions on care in Alaska.

Q: Have other states made similar recommendations for resource allocation during disasters?

A: A number of states have drafted recommendations for general resource allocation during a disaster, most notably New York, Utah and Minnesota. Canadian groups have also contributed to the discussion. However, Alaska appears to be the first to specifically address the differing needs of children. It is possible that a set of Federal U.S. guidelines on this topic will eventually be created.

Q: Will there be an appeals process for allocation decisions?

A: Ideally some review of the allocation decisions during an emergency situation would be desirable. It is likely, however, that professional resources will already be stretched beyond the need. Ongoing review, perhaps every 24 hours, of the allocation process and its application, without individual case review, may be all that is possible under the circumstances. We specifically invite public comment on this issue.

Q: Will healthcare facilities and providers be shielded from liability if they follow this policy and deny support to some patients?

A: This proposed plan would establish a standard of care that healthcare facilities and providers would be expected to follow. This should provide some liability protection, though it is not a guarantee. Full protection can only be provided by legislation that covers individuals and facilities that follow the guideline. This has not yet been addressed at the legislative level.