Utah Crisis Standards of Care Guidelines
Version 4b January 2010 [reprint]

Appendix C:
PANDEMIC INFLUENZA
HOSPITAL TRIAGE GUIDELINES

Produced in cooperation with

Support for this program is funded through Healthcare Preparedness Program Grant CFDA#93.889
About the Guidelines

In 2010, the Utah Hospital Association, in cooperation with the Utah Department of Health, issued the Utah Pandemic Influenza Hospital and ICU Triage Guidelines. That document has been merged into the new Utah Crisis Standards of Care Guidelines document package as Appendix C: Pandemic Influenza Hospital Triage Guidelines. These original documents are included as an appendix purely as a reference, as the 2018 UCSCG has updated models and guidance from 2010.

The UCSCG were developed by the Utah Hospital Association (UHA) Crisis Standards of Care Workgroup, as a result of a contract with the Utah Department of Health (UDOH) and the Hospital Preparedness Program Grant CFDA #93.889 U.S. Department of Health and Human Services (HHS), Office of the Assistant Secretary for Preparedness and Response (ASPR). Finally, Appendix B: Burn Crisis Care Guidelines provide specific elements regarding burn surge or MCI events. The 2018 Utah Crisis Standards of Care Guidelines (UCSCG) is to be considered as the guideline for both a pandemic or traumatic disaster situation.

The purpose of this document is to guide the allocation of patient care resources during an overwhelming public health emergency of any kind (pandemic or natural disaster) when demand for services dramatically exceeds the supply of the resources needed. These Guidelines represent a consensus view of the entire Crisis Standards of Care Stakeholder Workgroup. The document will be updated as needed and should be modified by facilities to meet the needs and abilities of each hospital. Application of these guidelines will require and depend on physician judgment at the point of patient care. The views expressed in the publication do not necessarily reflect the official policies of the U.S. Department of Health and Human Services or the Utah Department of Health.

Scope of this Document

When a situation is statewide: These triage guidelines apply to all healthcare professionals, clinics, and facilities in the state of Utah. The guidelines apply to all patients.

When the situation is limited (such as an earthquake) to a specific area of the state, these guidelines will only apply to the medical community affected and the immediate surrounding communities. However, if non-impacted community medical facilities are overwhelmed as a direct result of the event (population displacement, resource shortages, staffing shortages) consideration will be provided to extend the protections on a case-by-case basis.

When activated: Guidelines should be activated in the event of a public health emergency declared by the governor of the State of Utah. Individual healthcare facilities and organizations will manage their responses through their designated emergency operations plans and incident command structures. In turn, local hospitals will communicate with both local and state health department emergency operations centers as well as their regional healthcare coalitions to provide situational awareness and coordination regarding local response efforts and requests.
Activation Algorithm

**Conventional**
Normal bed capacity, occasional limited resources, normal resupply, usual staffing.

**Contingency**
Beyond typical bed capacity, emergency operations in effect. Elective procedures delayed, resources becoming scarce, conservation and substitution procedures in place. Patient/provider ratios expanded, extended scope of practice in place, higher than normal absenteeism.

Communicate with HCC Coordinator, State and Local Health Departments regarding other facilities status, shortages, aid available.

- **Bed Status**
  Still not able to meet demand for care, despite using non patient care areas.

- **Resource Level**
  Many critical resources unavailable (including beds, ventilators, medications)

- **Staff**
  Critical staffing shortage. Staff operating outside normal scope of practice, absenteeism >30%

All resource extenders have been utilized

Facility Incident Command determines necessity to move to Crisis Standards of Care

Communicate with HCC Coordinator, State and Local Health Departments regarding decision and status of surrounding facilities. Has the Governor declared a public health disaster?

With UDOH permission, activate UCSCG
# Table of Contents

| About the Guidelines/Scope of Document | 2 |
| Activation Algorithm                   | 3 |
| Table of Contents                      | 4 |

## Document Packet

- Utah Pandemic Influenza Hospital and ICU Triage Guidelines (Adult)
  Version 4b, January 2010

- Utah Pandemic Influenza Hospital and ICU Triage Guidelines (Pediatric)
  Version 4b, January 2010

- Appendix A – Initial Triage Tool for Pandemic Influenza (Adult and Ped)

- Appendix B – Patient Worksheets
  - B1: Adult Pandemic Influenza Triage Worksheet
  - B2: Pediatric Pandemic Influenza Triage Worksheet

- Appendix C – Patient Handouts/Home Care Instructions
  - C1: For Adult and Pediatric Patients – Caring for Someone with Influenza

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The original 2009-2010 project was made possible through funds from the Centers for Disease Control and Prevention, Public Health Emergency Preparedness Cooperative Agreement, CFDA#93.283.
Utah Pandemic Influenza Hospital and ICU Triage Guidelines for Adults

Prepared by UTAH HOSPITALS AND HEALTH SYSTEMS ASSOCIATION for the Utah Department of Health

Version 4b, January 28, 2010

Purpose:
These guidelines were developed by the Utah Hospitals and Health Systems Association (UHSA) Triage Guidelines Workgroup. The purpose is to guide the allocation of patient care resources during an influenza pandemic or other public health emergency, when demand for services dramatically exceeds supply. Application of these guidelines will require physician judgment at the point of patient care.

Basic premises:
- Graded guidelines should be used to control resources more tightly as the severity of a pandemic 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 triage guidelines apply to all healthcare professionals, clinics, and facilities in the state of Utah.
- The guidelines apply to all patients 14 years and older. Please see Hospital and ICU Triage Guidelines for Pediatrics for patients 13 years and younger.

When activated:
Guidelines should be activated in the event of pandemic influenza or other public health emergency declared by the Governor of the State of Utah.

Hospital and medical staff planning:
- Each hospital should:
  - Establish a peer-based structure for the review of hospital admission, Intensive Care Unit (ICU) admission, and termination of life-sustaining treatment. Consider a team of at least 3 individuals, including an intensivist and 2 or more of the following: the hospital medical director, a nursing supervisor, a board member, an ethicist, a pastoral care representative, and one or more independent physicians.
  - Institute an action team to provide counseling and care coordination and to work with the families of loved ones who have been denied life-sustaining treatment.
  - Medical staff should establish a method of providing peer support and expert consultation to physicians making these decisions.

Contents:

OVERVIEW OF PANDEMIC TRIAGE LEVELS .................... 2

PRE-HOSPITAL SETTINGS .......................................... 2
- Telephone Triage ............................................... 2
- Physician Offices and Clinics ................................. 2
- Long-term Care and Other Institutional Facilities ........ 2

HOSPITAL SETTINGS ............................................. 3
- Hospital Administrative Roles - General ................. 3
- Emergency Department, Hospital, and ICU - Clinical Triage ... 3

ALGORITHM: HOSPITAL AND ICU ADMISSION TRIAGE .... 4

TRIAGE TOOLS AND TABLES .................................... 5
- (a) EXCLUSION CRITERIA for Hospital Admission ........ 5
- (b) Modified Sequential Organ Failure Assessment (MSOFA) .. 5
- (c) INCLUSION CRITERIA for ICU/Ventilator ................ 5
- (d) GLASGOW COMA SCORE (GCS) ...................... 6
- (e) REVISED TRAUMA SCORE (RTS) ..................... 6
- (f) TRIAGE DECISION TABLE FOR BURN VICTIMS ..... 7
- (g) NYHA FUNCTIONAL CLASSIFICATION SYSTEM .... 7
- (h) PUGH SCORE .................................................. 7

DEFINITIONS USED IN THIS DOCUMENT ..................... 8

REFERENCES ......................................................... 8

ACKNOWLEDGMENTS ............................................... 8

APPENDICES (separate files)
Appendix A - Initial Triage Tool for Pandemic Influenza
  (for ADULT and PEDIATRIC patients)
Appendix B - Patient worksheets
  B1: ADULT Pandemic Influenza Triage Worksheet
  B2: PEDIATRIC Pandemic Influenza Triage Worksheet
Appendix C - Patient handouts / Home care instructions
  For ADULT and PEDIATRIC patients expected to recover:
  C1: Caring for Someone with Influenza
# Overview of Pandemic Triage Levels

<table>
<thead>
<tr>
<th>Triage Level 1</th>
<th>Triage Level 2</th>
<th>Triage Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Early in the pandemic</strong></td>
<td><strong>Worsening pandemic</strong></td>
<td><strong>Worst-case scenario</strong></td>
</tr>
<tr>
<td>- Hospitals recognize the need to surge bed capacities.</td>
<td>- Hospitals have surged to maximum bed capacity, and emergency departments are overwhelmed.</td>
<td>- Hospitals have already implemented altered standards of care regarding nurse/patient ratios and have already expanded capacity by adding patients to already occupied hospital rooms.</td>
</tr>
<tr>
<td>- Emergency departments are experiencing increased numbers.</td>
<td>- There are not enough beds to accommodate all patients needing hospital admission, and not enough ventilators to accommodate all patients with respiratory failure.</td>
<td>- Hospital staff absenteeism is 30% to 40%.</td>
</tr>
<tr>
<td>- Note: In the event of a severe and rapidly progressing pandemic, start with Triage Level 2.</td>
<td>- Hospital staff absenteeism is 20% to 30%.</td>
<td></td>
</tr>
</tbody>
</table>

## Pre-Hospital Settings

### Initial Triage

**Applies to:** Patients who appear for care in physician offices or clinics, or in pre-evaluation spaces for emergency departments;  
**Implemented by:** Physicians, clinic staff, pre-screening staff  
**Other uses:** Publish in newspapers, place in websites, etc. for self-use by public.

**ALL Triage Levels:** Use **INITIAL TRIAGE TOOL** *(Appendix A)* to provide initial triage screening, as well as instructions and directions for patients who need additional care or medical screening.

### EMS, Physician Offices, and Clinics

**Applies to:** Patients who present for care or 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

**Triage Level 1:**
- Use **INITIAL TRIAGE TOOL** *(Appendix A)* to evaluate patients before sending to hospital ED or treating in an outpatient facility.

**Triage Levels 2 and 3:**
- Continue to use **INITIAL TRIAGE TOOL** *(Appendix A)*.  
- Initiate **EXCLUSION CRITERIA for Hospital Admission** *(page 5)* to evaluate patients. Do not send patients meeting **EXCLUSION CRITERIA** to the hospital for treatment. Send home with care instructions *(Appendices pending)*.

### Home Care, Long-term Care Facilities, and Other Institutional Facilities (e.g., mental health, correctional, handicapped)

**Applies to:** Patients in institutional facilities  
**Implemented by:** Institutional facility staff

**ALL Triage Levels:**
- Ensure that all liquid oxygen tanks are full.  
- Limit visitation to control infection.

**Triage Levels 2 and 3:**
- Use **EXCLUSION CRITERIA for Hospital Admission** *(page 5)* to evaluate patients. Do not transfer patients meeting exclusion criteria to the hospital for treatment.  
- Give palliative and supportive care in place.
HOSPITAL SETTINGS

Hospital Administrative Roles - General
(refer to page 8 for definitions of elective surgery categories)

Triage Level 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.
   • Canceling any elective surgery that would require postoperative hospitalization.

Note: Use standard operation and triage decision for admission to ICU 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 full.

3) Improve patient care capacity by transitioning space in ICUs to accommodate more patients with respiratory failure.

4) Control infection by limiting visitation (follow hospital infection control plan).

Triage Level 2:
1) Preserve bed capacity by:
   • Canceling all elective surgeries unless necessary to facilitate hospital discharge.
   • 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.

4) Provide emotional support by initiating pre-established action teams to provide counseling and care coordination and to work with the families of loved ones who have been denied life-sustaining treatment.

Triage Level 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.

Emergency Department, Hospital, and ICU - Clinical Triage

Use HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE algorithm and tools (pages 4 and 5) to determine which patients to send home for palliative care or medical management and which patients to admit or keep in hospital or ICU. Note that the lowest priority for admission is given to patients with the lowest chance of survival with or without treatment, and to patients with the highest chance of survival without treatment.

Physician judgment should be used in applying these guidelines. Other factors to consider when applying triage guidelines include:
• Whether the patient is homeless or has someone to care for them at home
• Whether the patient is in the 2nd or 3rd trimester of a pregnancy

Triage Level 2:
• Initiate HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE algorithm (page 4) to determine priority for ICU admission, intubation, and/or mechanical ventilation.
• Reassess need for ICU/ventilator treatment daily after 48-72 hours of ICU care.

Triage Level 3:
• Continue to use HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE algorithm (page 4) to determine priority for ICU, intubation, and/or mechanical ventilation.
• Triage more yellow patients to floor on oxygen or CPAP.
• Triage more red patients who are intubated and on CPAP to floor.

See pages 4 and 5 for triage algorithm and supporting tools.
ALGORITHM: HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE
Applies at Pandemic Triage Levels 2 and 3

Patient arrival and initial stabilization

1 or more 1 or more

EXCLUSION CRITERIA (a)
none

MSOFA score (b)

Reassess daily to determine continued priority for hospitalization

MSOFA >11

LOW PRIORITY
- Lowest chance of survival even with treatment
- Manage medically
- Provide palliative care as needed
- Send home

DISCHARGE TO HOME OR FOR PALLIATIVE CARE

MSOFA 8 TO 11

INTERMEDIATE PRIORITY
- Intermediate priority for hospital admission
- For severe pandemic, highest priority for admission is given to patients triaged to RED

ADMIT to HOSPITAL

ICU INCLUSION CRITERIA (c)

yes

ADMIT to ICU/VENTILATOR

Reassess daily after 48-72 hrs ICU care to determine continued priority for ICU/VENTILATOR

no

MSOFA score (b) *
- Interpret MSOFA results along with physician judgment about patient condition

DISCHARGE OR DO NOT ADMIT

MSOFA = 0

LOW PRIORITY
- Highest chance of survival without treatment
- Deter or discharge to home with instructions
- Reassess as needed

HIGHEST PRIORITY
- Highest chance of survival with treatment
- Highest priority for hospital admission

DISCHARGE FROM CRITICAL CARE. USE HOSPITAL ADMISSION TRIAGE TO DETERMINE CONTINUED NEED FOR HOSPITALIZATION.

MSOFA 1 TO 7

HIGHEST PRIORITY
- Highest chance of survival with treatment
- Highest priority for hospital admission

ADMIT to FLOOR

ICU INCLUSION CRITERIA (c)

Still meet ICU INCLUSION CRITERIA (c)

no (extubated and no significant organ failure)

MSOFA increasing or 8 to 11 unchanged

INTERMEDIATE PRIORITY
- Triage Level 2: Continue ICU/Ventilator
- Triage Level 3: Consider moving patients to floor bed on O₂ or CPAP

no

MSOFA <8 or <11 and decreasing

HIGHEST PRIORITY
- Triage Level 2: Continue ICU/Ventilator
- Triage Level 3: Consider moving patients who are still intubated and on CPAP to beds outside the ICU

LOW PRIORITY
- Consider palliative care
- Discharge from critical care (and hospital)

DISCHARGE
## TRIAGE TOOLS AND TABLES

### (a) 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 chronic neurologic condition with persistent coma or vegetative state.
- **(3)** Acute severe neurologic event with minimal chance of functional neurologic recovery (physician judgment). Includes traumatic brain injury, severe hemoragic stroke, and intracranial hemorrhage.
- **(4)** Severe acute trauma with a REVISED TRAUMA SCORE <2 (see (d) and (e))
  
  GCS: ______
  
  SBP: ______
  
  RR: ______
  
  Revised trauma score: ______

- **(5)** Severe burns with <50% anticipated survival (patients identified as “Low” or worse on the TRIAGE DECISION TABLE FOR BURN VICTIMS (f)). Burns not requiring critical care resources may be cared for at the local facility (e.g., burns that might have been transferred to the University of Utah Medical Center Burn Center under normal circumstances). Score: ______

- **(6)** Cardiac arrest not responsive to ACLS interventions within 20-30 minutes.

- **(7)** Known severe dementia medically treated and requiring assistance with activities of daily living.

- **(8)** Advanced untreatable neuromuscular disease (such as ALS or end-stage MS) requiring assistance with activities of daily living or requiring chronic ventilatory support.

- **(9)** Incurable metastatic malignant disease.

- **(10)** End-stage organ failure meeting the following criteria:
  
  - **Heart:** NEW YORK HEART ASSOCIATION (NYHA) FUNCTIONAL CLASSIFICATION SYSTEM Class III or IV (g). Class: ______
  
  - **Lung** (any of the following):
    
    - Chronic Obstructive Pulmonary Disease (COPD) with Forced Expiratory Volume in one second (FEV) < 25% predicted baseline, Pa02 <55 mm Hg, or severe secondary pulmonary hypertension.
    
    - Cystic fibrosis with post-bronchodilator FEV1 <30% or baseline Pa02 <55 mm Hg.
    
    - Pulmonary fibrosis with VC or TLC < 60% predicted baseline Pa02 <55 mm Hg, or severe secondary pulmonary hypertension.
    
    - Primary pulmonary hypertension with NYHA class III or IV heart failure (g).
    
  - **Liver:** PUGH SCORE >7 (h), when available. Includes bilirubin, albumin, INR, ascites, encephalopathy.
    
    Total score: ______

- **(11)** Age:
  
  - Triage Level 1: >95 years
  
  - Triage Level 2: >90 years
  
  - Triage Level 3: >85 years

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### (b) Modified Sequential Organ Failure Assessment (MSOFA)

The MSOFA requires only one lab value, which can be obtained using bedside point-of-care testing (creatinine obtained through ISTAT). MSOFA has not been validated in children, but is currently under study.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Score 0</th>
<th>Score 1</th>
<th>Score 2</th>
<th>Score 3</th>
<th>Score 4</th>
<th>Score for each row</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sp02/FIO2 ratio* or nasal cannula or mask 0% required to keep Sp02 &gt;90%</td>
<td>Sp02/FIO2 &gt;400 or Sp02 &gt;90%</td>
<td>Sp02/FIO2, 316-400 or Sp02 &gt;90% at 1-3 L/min</td>
<td>Sp02/FIO2, 231-315 or Sp02 &gt;90% at 4-6 L/min</td>
<td>Sp02/FIO2, 151-230 or Sp02 &gt;90% at 7-10 L/min</td>
<td>Sp02/FIO2, 115-150 or Sp02 &gt;90% at &gt;10 L/min</td>
<td></td>
</tr>
<tr>
<td>Jaundice</td>
<td>No &lt;/br&gt; jaundice</td>
<td>jaundice &lt;/br&gt; (jaundice/ &lt;/br&gt; scleral icterus)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypotension†</td>
<td>None</td>
<td>MABP &lt;70 &lt;/br&gt; dap &lt;5</td>
<td>dap 5-15 &lt;/br&gt; or epi ≤0.1 &lt;/br&gt; or noepi ≤0.1</td>
<td>dap &gt;15 &lt;/br&gt; or epi &gt;0.1 &lt;/br&gt; or noepi &gt;0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glasgow Coma Score</td>
<td>15</td>
<td>13-14</td>
<td>10-12</td>
<td>6-9</td>
<td>&lt;6</td>
<td></td>
</tr>
<tr>
<td>Creatinine level, mg/dL (use ISTAT)</td>
<td>&lt;1.2</td>
<td>1.2-1.9</td>
<td>2.0-3.4</td>
<td>3.5-4.9 or urine output &lt;500 ml in 24 hours</td>
<td>&gt;5 or urine output &lt;700 ml in 24 hours</td>
<td></td>
</tr>
</tbody>
</table>

MSOFA score = total scores from all rows:

* Sp02/FIO2 ratio:
  
  \[ Sp02 = \text{Percent saturation of hemoglobin with oxygen as measured by a pulse oximeter} \]
  
  \[ FIO2 = \text{Fraction of inspired oxygen; e.g., ambient air is 0.21} \]
  
  Example: If Sp02=95% and FIO2=0.21, the Sp02/FIO2 ratio is calculated as 95/0.21=452

† Hypotension:
  
  MABP = mean arterial blood pressure in mm Hg (diastolic + 1/3 systolic - diastolic)

  dap = dopamine in micrograms/kg/min

  epi = epinephrine in micrograms/kg/min

  noepi = norepinephrine in micrograms/kg/min

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### (c) ICU/Ventilator INCLUSION CRITERIA

Patient must have NO EXCLUSION CRITERIA (a) and at least one of the following INCLUSION CRITERIA:

- **(1)** Requirement for invasive ventilatory support
  - Refractory hypoxemia (Sp02 <90% on non-rebreather mask or FIO2 >0.85)
  - Respiratory acidosis (pH <7.2)
  - Clinical evidence of impending respiratory failure
  - Inability to protect or maintain airway

- **(2)** Hypotension* with clinical evidence of shock** refractory to volume resuscitation, and requiring vasopressor or inotrope support that cannot be managed in a ward setting.
  - Hypotension = Systolic BP <90 mm Hg or relative hypotension
  - Clinical evidence of shock = altered level of consciousness, decreased urine output, or other evidence of end-stage organ failure

See Appendix B for a Patient Worksheet based on the above Exclusion and Inclusion Criteria.
(d) GLASGOW COMA SCORE (GCS)

The GCS is used as part of the REVISED TRAUMA SCORE (RTS) in determining exclusion criteria for hospital admission in the case of pandemic flu at triage levels 2 and 3.

<table>
<thead>
<tr>
<th>Glasgow Coma Scoring Criteria</th>
<th>Score</th>
<th>Criteria Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Best Eye Response</strong> (4 possible points)</td>
<td>No eye opening</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Eye opens to pain</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Eye opens to verbal command</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Eyes open spontaneously</td>
<td>4</td>
</tr>
<tr>
<td><strong>Best Verbal Response</strong> (5 possible points)</td>
<td>No verbal response</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Incomprehensible sounds</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Inappropriate words</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Confused</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Oriented</td>
<td>5</td>
</tr>
<tr>
<td><strong>Best Motor Response</strong> (6 possible points)</td>
<td>No motor response</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Extension to pain</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Flexion to pain</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Withdraws from pain</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Localizes to pain</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Obey commands</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total Score** (add 3 subscores; range 3 to 15):

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(e) REVISED TRAUMA SCORE (RTS)

Values for the REVISED TRAUMA SCORE (RTS) range from 0 to 7.8408. The RTS is heavily weighted towards the GLASGOW COMA SCORE (GCS) to compensate for major head injury without multisystem injury or major physiological changes. The RTS correlates well with the probability of survival. A Revised Trauma Score of <2 is an exclusion criterion for hospital admission during a pandemic flu at triage levels 2 and 3.

**Revised Trauma Score Calculation**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score</th>
<th>Coded value</th>
<th>Weighting</th>
<th>Adjusted Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glasgow Coma Score</td>
<td>3</td>
<td>0</td>
<td>x 0.9368</td>
<td>1.9504</td>
</tr>
<tr>
<td></td>
<td>4 to 5</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 to 8</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9 to 12</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13 to 16</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systolic Blood Pressure (SBP)</td>
<td>0</td>
<td>0</td>
<td>x 0.7326</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1 to 49</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50 to 75</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>76 to 89</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;89</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory Rate (RR) in breaths per minute (BPM)</td>
<td>0</td>
<td>0</td>
<td>x 0.2908</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1 to 5</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 to 9</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;9</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 to 29</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Revised Trauma Score (add 3 adjusted scores):**
(f) TRIAGE DECISION TABLE FOR BURN VICTIMS

A burn score of “Low” or worse on this table is an exclusion criterion for hospital admission in the case of pandemic flu at triage levels 2 and 3.

<table>
<thead>
<tr>
<th>Age (yrs)</th>
<th>0-10%</th>
<th>11-20%</th>
<th>21-30%</th>
<th>31-40%</th>
<th>41-50%</th>
<th>51-60%</th>
<th>61-70%</th>
<th>71-80%</th>
<th>81-90%</th>
<th>91%+</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1.9</td>
<td>Very high</td>
<td>Very high</td>
<td>Very high</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low/ expectant</td>
</tr>
<tr>
<td>2.0-4.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>5.0-19.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>20.0-29.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>30.0-39.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>40.0-49.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>50.0-59.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low/ expectant</td>
</tr>
<tr>
<td>60.0-69.9</td>
<td>Very high</td>
<td>Very high</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low/ expectant</td>
</tr>
<tr>
<td>70.0+</td>
<td>Very high</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Expectant</td>
<td>Expectant</td>
<td>Expectant</td>
</tr>
</tbody>
</table>

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

(g) NEW YORK HEART ASSOCIATION (NYHA) FUNCTIONAL CLASSIFICATION SYSTEM

The NYHA functional classification system relates symptoms to everyday activities and the patient’s quality of life. NYHA Class III or IV heart failure are exclusion criteria for hospital admission in the case of pandemic flu at triage levels 2 and 3.

<table>
<thead>
<tr>
<th>NYHA Classes</th>
<th>Class</th>
<th>Patient Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I (MMI)</td>
<td>No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitations, or dyspnea.</td>
<td></td>
</tr>
<tr>
<td>Class II (MMII)</td>
<td>Slight limitation of physical activity. Comfortable at rest, but ordinary physical activity results in fatigue, palpitations, or dyspnea.</td>
<td></td>
</tr>
<tr>
<td>Class III (Moderate)</td>
<td>Marked limitation of physical activity. Comfortable at rest, but less than ordinary activity causes fatigue, palpitations, or dyspnea.</td>
<td></td>
</tr>
<tr>
<td>Class IV (Severe)</td>
<td>Unable to carry out physical activity without discomfort. Symptoms of cardiac insufficiency at rest. If any physical activity is undertaken, discomfort is increased.</td>
<td></td>
</tr>
</tbody>
</table>

(h) PUGH SCORE

A total PUGH SCORE ≥7 is an exclusion criterion for hospital admission in the case of pandemic flu at triage levels 2 and 3.

<table>
<thead>
<tr>
<th>Scoring criteria</th>
<th>Criteria</th>
<th>Value</th>
<th>Points</th>
<th>Total for criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Bilirubin</td>
<td>&lt;2 mg/dL</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-3 mg/dL</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>≥3 mg/dL</td>
<td>3</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Serum Albumin</td>
<td>&gt;3.5 g/dL</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.8 - 3.5 g/dL</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;2.8 g/dL</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>INR</td>
<td>&lt;1.70</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.71-2.20</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>≥2.20</td>
<td>3</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Ascites</td>
<td>None</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Controlled medically</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poorly controlled</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Encephalopathy</td>
<td>None</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Controlled medically</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poorly controlled</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Total Pugh Score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Used with permission from www.aboutsf.org.
DEFINITIONS USED IN THIS DOCUMENT

- **Emergency patients:** Those patients whose clinical conditions indicate that they require admission to the hospital and/or surgery within 24 hours.

- **Elective surgery:**
  - **Category 1:** Urgent patients who require surgery within 30 days.
  - **Category 2:** Semi-urgent patients who require surgery within 90 days.
  - **Category 3:** Non-urgent patients who need surgery at some time in the future.

- **Long-term Care Facility:** 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.

REFERENCES

This document was developed following review and partial adaptation of the following articles:


ACKNOWLEDGMENTS

- Brent Wallace, MD, Chief Medical Officer, Intermountain Healthcare — chair
- Andy Pavia, MD, Chief, Division of Pediatric Infectious Disease, University of Utah
- Ben Buchanan, MD, Emergency Physician, Emergency Physicians Integrated Care
- Boaz Markowitz, MD, Assistant Professor, Pulmonary/Critical Care, University of Utah
- Brad Poss, MD, Pediatric Critical Care, University of Utah
- Chris Johnson, RN, Pioneer Valley Hospital
- Colin Grissom, MD, Critical Care Medicine, LDS Hospital
- Colleen Connelly, RN, Emergency Manager, University Health Care
- Deb Wynkoop, MPA, UHA Director of Health Policy
- Edward H. Redd, MD, Deputy Director/Medical Officer, Bear River Health Department
- Gail M. McGuill, RN, MS, Past-President, Utah Organization of Nurse Leaders
- Gary Nelson, PA, Intermountain Health Care
- Jan Buttrey, MBA, UHA Disaster Consultant
- Jay A. Jacobson, MD, MACP, Professor Emeritus, Former Chief, Division of Medical Ethics and Humanities, University of Utah School of Medicine and Intermountain Medical Center
- John A. Gezon, MD, Emergency Dept Medical Director, VA SLC Health Care System
- Peter Talliac, MD, Medical Director, Utah Department of Health, EMS
- Richard J. Sperry, MD, Associate Vice President, Health Sciences, University of Utah
- Robert T. Rolfs, MD, State Epidemiologist — CAPT, USPHS, Utah Dept of Health
- Ronald J. Gebhart, MD, Chief of Staff, VA SLC Health Care System
- Scott D. Williams, MD, Chief Medical Officer, HCA MountainStar Healthcare
- Tamara Lewis, MD, Medical Director, Community Health Prevention, Intermountain Healthcare

Malpractice Liability: In the 2007 legislative session, SB 153 (Malpractice Liability During Pandemic Event) was passed and incorporated into law (53:13-2.6, Utah code annotated 1953). This bill protects healthcare providers, including facilities, from malpractice liability when they respond to a natural disaster, pandemic event, or bioterrorism. Activities that are protected include:
- Implementing measures to control the causes of epidemic, pandemic, communicable diseases, or other conditions significantly affecting public health as necessary to protect the public health;
- Investigating, controlling, and treating suspected bioterrorism or disease in accordance with Title 26, Chapter 23b; or
- Responding to the following: a national, state or local emergency; a public health emergency as defined in Title 26, Chapter 23b, 102; or a declaration of the President of the United States or other federal official requesting public health related activities.

EMTALA: EMTALA provisions may be waived by the Secretary of Health Human Services during a declared public emergency and under the Stafford act. The Secretary can issue the Section 1135 Waiver to waive sanctions for the “transfer of an individual who has not stabilized for both transfers and redirection for a medical screening examination. Waivers are generally limited to a 72-hour period beginning upon implementation of a hospital disaster protocol, unless the Waiver arises out of a public health emergency involving a pandemic. If related to a pandemic, the Waiver terminates upon the first to occur of either the termination of the underlying declaration of a public health emergency or 60 days after being first published. If the waiver terminates because of the latter, the Secretary may extend it for subsequent 60-day periods.

This project was made possible through funds from the Centers for Disease Control and Prevention, Public Health Emergency Preparedness Cooperative Agreement, CFDA#93.283.
Purpose:
These guidelines were developed by the Utah Hospitals and Health Systems Association (UHA) Triage Guidelines Workgroup in conjunction with Primary Children’s Medical Center. The purpose is to guide the allocation of patient care resources during an influenza pandemic or other public health emergency, when demand for services dramatically exceeds supply. Application of these guidelines will require physician judgment at the point of patient care.

Basic premises:
- Graded guidelines should be used to control resources more tightly as the severity of a pandemic increases.
- Priority should be given to patients for whom treatment would most likely be lifesaving. 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 triage guidelines apply to all healthcare professionals, clinics, and facilities in the state of Utah.
- The guidelines apply to all patients 13 years and younger. Please see Hospital and ICU Triage Guidelines for Adults for patients 14 years and older.

When activated:
Guidelines should be activated in the event of pandemic influenza or other public health emergency declared by the Governor of the State of Utah.

Hospital and medical staff planning:
- Each hospital should:
  - Establish a peer-based structure for the review of hospital admission, Intensive Care Unit (ICU) admission, and termination of life-sustaining treatment. Consider a team of at least 3 individuals, including an intensivist and 2 or more of the following: the hospital medical director, a nursing supervisor, a board member, an ethicist, a pastoral care representative, and one or more independent physicians.
  - Institute an action team to provide counseling and care coordination and to work with the families of loved ones who have been denied life-sustaining treatment.
  - Medical staff should establish a method of providing peer support and expert consultation to physicians making these decisions.

Contents:
OVERVIEW OF PANDEMIC TRIAGE LEVELS........................................2
PRE-HOSPITAL SETTINGS..........................................................2
  Telephone Triage .............................................................2
  Physician Offices and Clinics .............................................2
  Long-term Care and Other Institutional Facilities .................2
HOSPITAL SETTINGS..............................................................3
  Hospital Administrative Roles - General .........................3
  Emergency Department, Hospital, and ICU - Clinical Triage ...3
ALGORITHM: HOSPITAL AND ICU ADMISSION TRIAGE ..............4
TRIAGE TOOLS AND TABLES ..................................................5
  (a) EXCLUSION CRITERIA for Hospital Admission ...............5
  (b) INCLUSION CRITERIA for ICU/Ventilator .......................5
  (c) GLASGOW COMA SCORE (GCS) ..................................6
  (d) REVISED TRAUMA SCORE (RTS) ...............................6
  (e) TRIAGE DECISION TABLE FOR BURN VICTIMS ............7
DEFINITIONS USED IN THIS DOCUMENT ...............................8
REFERENCES ...............................................................8
ACKNOWLEDGMENTS .........................................................8

APPENDICES (separate files)
Appendix A - Initial Triage Tool for Pandemic Influenza  
  (for ADULT and PEDIATRIC patients)
Appendix B - Patient worksheets
  B1: ADULT Pandemic Influenza Triage Worksheet
  B2: PEDIATRIC Pandemic Influenza Triage Worksheet
Appendix C - Patient handouts / Home care instructions
  For ADULT and PEDIATRIC patients expected to recover:
  C1: Caring for Someone with Influenza
## OVERVIEW OF PANDEMIC TRIAGE LEVELS

<table>
<thead>
<tr>
<th>Triage Level 1</th>
<th>Triage Level 2</th>
<th>Triage Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Early in the pandemic</strong></td>
<td><strong>Worsening pandemic</strong></td>
<td><strong>Worst-case scenario</strong></td>
</tr>
<tr>
<td>- Hospitals recognize the need to surge bed capacities.</td>
<td>- Hospitals have surged to maximum bed capacity, and emergency departments are overwhelmed.</td>
<td>- Hospitals have already implemented altered standards of care regarding nurse/patient ratios and have already expanded capacity by adding patients to already occupied hospital rooms.</td>
</tr>
<tr>
<td>- Emergency departments are experiencing increased numbers.</td>
<td>- There are not enough beds to accommodate all patients needing hospital admission, and not enough ventilators to accommodate all patients with respiratory failure.</td>
<td>- Hospital staff absenteeism is 30% to 40%.</td>
</tr>
<tr>
<td>- Note: In the event of a severe and rapidly progressing pandemic, start with Triage Level 2.</td>
<td>- Hospital staff absenteeism is 20% to 30%.</td>
<td></td>
</tr>
</tbody>
</table>

---

## PRE-HOSPITAL SETTINGS

### Initial Triage

**Applies to:** Patients who appear for care in physician offices or clinics, or in pre-evaluation spaces for emergency departments;  
**Implemented by:** Physicians, clinic staff, pre-screening staff  
**Other uses:** Publish in newspapers, place in websites, etc. for self-use by public.

**ALL Triage Levels:** Use **INITIAL TRIAGE TOOL** *(Appendix A)* to provide initial triage screening, as well as instructions and directions for patients who need additional care or medical screening.

### EMS, Physician Offices, and Clinics

**Applies to:** Patients who present for care or 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

**Triage Level 1:**  
- Use **INITIAL TRIAGE TOOL** *(Appendix A)* to evaluate patients before sending to hospital emergency department or treating in an outpatient facility.

**Triage Levels 2 and 3:**  
- Continue to use **INITIAL TRIAGE TOOL** *(Appendix A)*.  
- Initiate **EXCLUSION CRITERIA for Hospital Admission** *(page 5)* to evaluate patients. Do not send patients meeting **EXCLUSION CRITERIA** to the hospital for treatment. Send home with care instructions *(Appendices pending)*.

### Home Care, Long-term Care Facilities, and Other Institutional Facilities (e.g., mental health, correctional, handicapped)

**Applies to:** Patients in institutional facilities  
**Implemented by:** Institutional facility staff

**ALL Triage Levels:**  
- Ensure that all liquid oxygen tanks are full.  
- Limit visitation to control infection.

**Triage Levels 2 and 3:**  
- Use **EXCLUSION CRITERIA for Hospital Admission** *(page 5)* to evaluate patients. Do not transfer patients meeting exclusion criteria to the hospital for treatment.  
- Give palliative and supportive care in place.
HOSPITAL SETTINGS

Hospital Administrative Roles - General
(refer to page 8 for definitions of elective surgery categories)

Triage Level 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.
   - Canceling any elective surgery that would require postoperative hospitalization.

Note: Use standard operation and triage decision for admission to ICU 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 full.

3) Improve patient care capacity by transitioning space in ICUs to accommodate more patients with respiratory failure.

4) Control infection by limiting visitation (follow hospital infection control plan).

Triage Level 2:
1) Preserve bed capacity by:
   - Canceling all elective surgeries unless necessary to facilitate hospital discharge.
   - 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.

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 life-sustaining treatment.

Triage Level 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.

Emergency Department, Hospital, and ICU - Clinical Triage

Use HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE algorithm and tools (pages 4 and 5) to determine which patients to send home for palliative care or medical management and which patients to admit or keep in hospital or ICU. Note that the lowest priority for admission is given to patients with the lowest chance of survival with or without treatment, and to patients with the highest chance of survival without treatment.

Physician judgment should be used in applying these guidelines.

Triage Level 2:
- Initiate HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE algorithm (page 4) to determine priority for ICU admission, intubation, and/or mechanical ventilation.
- Reassess need for ICU/ventilator treatment daily after 48-72 hours of ICU care.

Triage Level 3:
- Continue to use HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE algorithm (page 4) to determine priority for ICU, intubation, and/or mechanical ventilation.

See pages 4 and 5 for triage algorithm and supporting tools.
ALGORITHM: HOSPITAL AND ICU/VENTILATOR ADMISSION TRIAGE
Applies at Pandemic Triage Levels 2 and 3

Patient arrival and initial stabilization

DISCHARGE to HOME
or for PALLIATIVE CARE

1 or more

EXCLUSION CRITERIA? (a)

none

ADMIT to HOSPITAL

REASSESS DAILY
to determine continued priority for hospitalization

ICU INCLUSION CRITERIA? (b)

no

ADMIT to FLOOR

yes

ICU BED available?

no

ADMIT to ICU/VENTILATOR

yes

Reassess every 48-72 hours
to determine continued priority for ICU/VENTILATOR

Interpret Pediatric Index of Mortality Score (PIM2), if available,
along with physician judgment.

NOTE: If patient’s mortality is estimated to be >80%, consult with triage officer about withdrawal

Still meet ICU INCLUSION CRITERIA? (b)

no (extubated and no significant organ failure)

Discharge from critical care. Use hospital admission triage to determine continued need for hospitalization.

yes
**TRIAGE TOOLS AND TABLES**

(a) **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) Persistent coma or vegetative state.**
- **(3) Severe acute trauma with a REVISED TRAUMA SCORE <2** (see (d) and (e) on following pages).
  
  GCS: _____ SBP:_____ RR:_____
  
  Revised trauma score: ______

- **(4) Severe burns with <50% anticipated survival** (patients identified as “Low” or worse on the TRIAGE DECISION TABLE FOR BURN VICTIMS (f)). Burns not requiring critical care resources may be cared for at the local facility (e.g., burns that might have been transferred to the University of Utah Medical Center Burn Center under normal circumstances).

- **(5) Cardiac arrest not responsive to PALS interventions within 20-30 minutes.**

- **(6) Short anticipated duration of benefit,** e.g., underlying condition with >80% mortality rate at 18-24 months:
  
  - **a)** Known chromosomal abnormalities such as Trisomy 13 or 18
  - **b)** Known metabolic diseases such as Zellweger syndrome
  - **c)** Spinal muscular atrophy (SMA) type 1
  - **d)** Progressive neuromuscular disorder, e.g., muscular dystrophy and myopathy, with inability to sit unaided or ambulate when such abilities would be developmentally appropriate based on age
  - **e)** Cystic fibrosis with post-bronchodilator FEV \(_1\) <30% or baseline PaO\(_2\) <55 mm Hg
  - **f)** Severe end-stage pulmonary hypertension

**OTHER CONSIDERATIONS:**

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

(b) **ICU/Ventilator INCLUSION CRITERIA**

- Applies to all patients except those infants not yet discharged from the NICU
- Patients must have NO EXCLUSION CRITERIA (a) 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 shock**
    
    - Refractory to volume resuscitation, and requiring vasopressor or inotrope support that cannot be managed in a ward setting
    
    * Hypotension = Systolic BP < 90 mm Hg for patients age > 10 years old, < 70 + (2 x age in years) for patients ages 1 to 10, < 60 for infants < 1 year old, or relative hypotension
    
    ** Clinical evidence of shock = altered level of consciousness, decreased urine output, or other evidence of end-stage organ failure
(c) GLASGOW COMA SCORE (GCS)

The GCS is used as part of the REVISED TRAUMA SCORE (RTS) in determining exclusion criteria for hospital admission in the case of pandemic flu at triage levels 2 and 3.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Adults and Children</th>
<th>Infants and Young Toddlers</th>
<th>Score</th>
<th>Criteria Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Best Eye Response</strong> (4 possible points)</td>
<td>No eye opening</td>
<td>No eye opening</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eye opens to pain</td>
<td>Eye opens to pain</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eye opens to verbal command</td>
<td>Eye opens to speech</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eyes open spontaneously</td>
<td>Eyes open spontaneously</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Best Verbal Response</strong> (5 possible points)</td>
<td>No verbal response</td>
<td>No verbal response</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incomprehensible sounds</td>
<td>Infant moans to pain</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inappropriate words</td>
<td>Infant cries to pain</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Confused</td>
<td>Infant is irritable and continually cries</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oriented</td>
<td>Infant coos or babbles (normal activity)</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Best Motor Response</strong> (6 possible points)</td>
<td>No motor response</td>
<td>No motor response</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extension to pain</td>
<td>Extension to pain</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flexion to pain</td>
<td>Abnormal flexion to pain</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Withdraws from pain</td>
<td>Withdraws from pain</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Localizes to pain</td>
<td>Withdraws from touch</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Obey commands</td>
<td>Moves spontaneously or purposefully</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

**Total Score** (add 3 subscores; range 3 to 15):

(d) REVISED TRAUMA SCORE (RTS)

Values for the REVISED TRAUMA SCORE (RTS) range from 0 to 7.8408. The RTS is heavily weighted towards the GLASGOW COMA SCORE (GCS) to compensate for major head injury without multisystem injury or major physiological changes. The RTS correlates well with the probability of survival. A Revised Trauma Score of <2 is an exclusion criterion for hospital admission during a pandemic flu at triage levels 2 and 3.

**Survival Probability based on Revised Trauma Score**

<table>
<thead>
<tr>
<th>Revised Trauma Score Value</th>
<th>Probability of Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>2</td>
<td>0.3</td>
</tr>
<tr>
<td>3</td>
<td>0.4</td>
</tr>
<tr>
<td>4</td>
<td>0.5</td>
</tr>
<tr>
<td>5</td>
<td>0.6</td>
</tr>
<tr>
<td>6</td>
<td>0.7</td>
</tr>
<tr>
<td>7</td>
<td>0.8</td>
</tr>
<tr>
<td>7.84</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Revised Trauma Score Calculation**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score</th>
<th>Coded value</th>
<th>Weighting</th>
<th>Adjusted Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Glasgow Coma Score</strong></td>
<td>3</td>
<td>0</td>
<td>x 0.9368</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 to 5</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 to 8</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9 to 12</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13 to 16</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Systolic Blood Pressure (SBP)</strong></td>
<td>0</td>
<td>0</td>
<td>x 0.7326</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 to 49</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50 to 75</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>76 to 89</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;89</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Respiratory Rate (RR) in breaths per minute (BPM)</strong></td>
<td>0</td>
<td>0</td>
<td>x 0.2908</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 to 5</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 to 9</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;29</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 to 29</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Revised Trauma Score** (add 3 adjusted scores):
(e) TRIAGE DECISION TABLE FOR BURN VICTIMS

A burn score of “Low” or worse on this table is an exclusion criterion for hospital admission in the case of pandemic flu at triage levels 2 and 3.

<table>
<thead>
<tr>
<th>Age (yrs)</th>
<th>0-10%</th>
<th>11-20%</th>
<th>21-30%</th>
<th>31-40%</th>
<th>41-50%</th>
<th>51-60%</th>
<th>61-70%</th>
<th>71-80%</th>
<th>81-90%</th>
<th>91%+</th>
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<tr>
<td>0-1.9</td>
<td>Very high</td>
<td>Very high</td>
<td>Very high</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low/ expectant</td>
</tr>
<tr>
<td>2.0-4.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>5.0-19.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>20.0-29.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>30.0-39.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>40.0-49.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>50.0-59.9</td>
<td>Outpatient</td>
<td>Very high</td>
<td>Very high</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low/ expectant</td>
<td>Low/ expectant</td>
</tr>
<tr>
<td>60.0-69.9</td>
<td>Very high</td>
<td>Very high</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low/ expectant</td>
<td>Low/ expectant</td>
<td>Low/ expectant</td>
</tr>
<tr>
<td>70.0+</td>
<td>Very high</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low/ expectant</td>
<td>Expectant</td>
<td>Expectant</td>
<td>Expectant</td>
<td>Expectant</td>
</tr>
</tbody>
</table>

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

- **Emergency patients:** Those patients whose clinical conditions indicate that they require admission to the hospital and/or surgery within 24 hours.

- **Elective surgery:**
  - **Category 1:** Urgent patients who require surgery within 30 days.
  - **Category 2:** Semi-urgent patients who require surgery within 90 days.
  - **Category 3:** Non-urgent patients who need surgery at some time in the future.

- **Long-term Care Facility:** 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.

REFERENCES

This document was developed following review and partial adaptation of the following articles:


ACKNOWLEDGMENTS

**Utah Health Association Triage Workgroup:**

- Brent Wallace, MD, Chief Medical Officer, Intermountain Healthcare – chair
- Andy Pavia, MD, Chief, Division of Pediatric Infectious Disease, University of Utah
- Ben Buchanan, MD, Emergency Physician, Emergency Physicians Integrated Care
- Boaz Markewitz, MD, Assistant Professor, Pulmonary/Critical Care, University of Utah
- Brad Poss, MD, Pediatric Critical Care, University of Utah
- Chris Johnson, RN, Pioneer Valley Hospital
- Colin Grissom, MD, Critical Care Medicine, LDS Hospital
- Colleen Connelly, RN, Emergency Manager, University Health Care
- Deb Wynkoop, MPA, UHA, Director of Health Policy
- Edward H. Redd, MD, Deputy Director/Medical Officer, Bear River Health Department
- Gail M. McGuill, RN, MS, Past-President, Utah Organization of Nurse Leaders
- Gary Nelson, PA, Intermountain Health Care
- Jan Buttrey, MBA, UHA Disaster Consultant
- Jay A. Jacobson, MD, MACP, Professor Emeritus, Former Chief, Division of Medical Ethics and Humanities, University of Utah School of Medicine and Intermountain Medical Center
- John A. Gezon, MD, Emergency Dept Medical Director, VA SLC Health Care System
- Peter Talliac, MD, Medical Director, Utah Department of Health, EMS
- Richard J. Sperry, MD, Associate Vice President, Health Sciences, University of Utah
- Robert T. Rolfs, MD, State Epidemiologist –CAPT, USPHS, Utah Dept of Health
- Ronald J. Gebhart, MD, Chief of Staff, VA SLC Health Care System
- Scott D. Williams, MD, Chief Medical Officer, HCA MountainStar Healthcare
- Tamara Lewis, MD, Medical Director, Community Health Prevention, Intermountain Healthcare

**Primary Children’s Medical Center Pandemic Influenza Ethics Workgroup:**

- Armand Antonmaria, MD, Pediatric Hospitalist, University of Utah
- Brad Poss, MD, Pediatric Critical Care, University of Utah
- Jeanne Depaulis, Assistant Administrator Professional Services, Primary Children’s Medical Center
- Jill Sweeney, MD, Pediatric Critical Care Fellow, University of Utah
- Joanna Beachy, MD, Neonatology, University of Utah
- Joe Mott, Chief Executive Officer, Primary Children’s Medical Center
- Mike Creason, Assistant Administrator Facility Management, Primary Children’s Medical Center
- Nancy Mecham, Emergency Department, Primary Children’s Medical Center
- Orley Bills, Palliative Care Social Worker, Primary Children’s Medical Center
- Katy Jo Stevens, Administrative Director of Family Support Services, Primary Children’s Medical Center
- Ethics Committee, Primary Children’s Medical Center
- Family Advisory Committee, Primary Children’s Medical Center

This project was made possible through funds from the Centers for Disease Control and Prevention, Public Health Emergency Preparedness Cooperative Agreement, CFDA#93.283.
Appendix A. INITIAL TRIAGE for Pandemic Influenza

Purpose: Initial triage is intended to help patients who are concerned about influenza determine whether or not they should seek medical help.

ASK these initial questions
1. Within the past 10 days, has the patient been exposed to someone with influenza?
2. Did the patient get sick fairly quickly, over 1-2 days?
3. Does the patient have a fever over 101° F or 38° C?
4. Does the patient have a sore throat?
5. Does the patient have a cough?
6. Does the patient have severe muscle aches?

YES to 4 or more of the above

YES to 3 or less of the above

Patient is NOT likely to have influenza and should contact his/her usual source of medical care.

Patient IS likely to have influenza.
CONTINUE with the following questions

1. Is the patient struggling to breathe or breathing very rapidly?
2. Is the breathing very shallow, slow, or weak? (respiratory suppression)
3. Are the lips, tongue, or face blue? (cyanosis)
4. Has it been more than 12 hours since the patient last urinated? (dehydration)
5. Is the patient too weak to walk to the bathroom or not moving around in bed AND/OR is the skin pale and cool to the touch? (shock)

YES to ANY of the above

NO to ALL of the above

Patient should be evaluated by a private physician, urgent care facility, or hospital triage area.

- Advise patient to be evaluated if any of the above occurs in the near future.
- Reassure patient that the illness is not severe and can be treated at home.
- Provide information about self-care. Options include verbal instructions, website, print media.
- If available, offer Tamiflu if within 48 hours of illness onset.
Appendix B1. ADULT PATIENT WORKSHEET for Pandemic Influenza Triage

STEP 1: If any of the following are present, DO NOT ADMIT. Transfer to palliative care.

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 chronic neurologic condition with persistent coma or vegetative state.
- (3) Acute severe neurologic event with minimal chance of functional neurologic recovery (physician judgment). Includes traumatic brain injury, severe hemorrhagic stroke, and intracranial hemorrhage.
- (4) Severe acute trauma with a REVISED TRAUMA SCORE <2 (see (d) and (e)).
  
  GCS: ___
  SBP: ___
  RR: ___
  
  Revised trauma score: ___

- (5) Severe burns with <50% anticipated survival (patients identified as “Low” or worse on the TRIAGE DECISION TABLE FOR BURN VICTIMS). Burns not requiring critical care resources may be cared for at the local facility (e.g., burns that might have been transferred to the University of Utah Medical Center Burn Center under normal circumstances). Score: ___ ___

- (6) Cardiac arrest not responsive to ACLS interventions within 20-30 minutes.
- (7) Known severe dementia medically treated and requiring assistance with daily living.
- (8) Advanced untreatable neuromuscular disease (such as ALS or end-stage MS) requiring assistance with daily living or requiring chronic ventilatory support.
- (9) Incurable metastatic malignant disease.
- (10) End-stage organ failure meeting the following criteria:
  - Heart: NEW YORK HEART ASSOCIATION (NYHA) FUNCTIONAL CLASSIFICATION SYSTEM Class III or IV (g). Class:
  - Lung (any of the following):
    - Chronic Obstructive Pulmonary Disease (COPD) with Forced Expiratory Volume in one second (FEV₁) < 25% predicted baseline, PaO₂ < 55 mm Hg, or severe secondary pulmonary hypertension.
    - Cystic fibrosis with post-bronchodilator FEV₁ < 30% or baseline PaO₂ < 55 mm Hg.
    - Pulmonary fibrosis with VC or TLC < 60% predicted, baseline PaO₂ < 55 mm Hg, or severe secondary pulmonary hypertension.
    - Primary pulmonary hypertension with NYHA class III or IV heart failure (q), right atrial pressure > 10 mm Hg, or mean pulmonary arterial pressure > 50 mm Hg.
  - Liver: PUGH SCORE > 7 (h), when available. Includes bilirubin, albumin, INR, ascites, encephalopathy.
  
  Total score: ___
- (11) Age:
  - Triage Level 1: > 95 years
  - Triage Level 2: > 90 years
  - Triage Level 3: > 85 years

STEP 2: Modified Sequential Organ Failure Assessment (MSOFA)

The MSOFA requires only one lab value, which can be obtained using bedside point-of-care testing (creatinine obtained through ISTAT).

**MSOFA scoring guidelines**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Score 0</th>
<th>Score 1</th>
<th>Score 2</th>
<th>Score 3</th>
<th>Score 4</th>
<th>Score for each row</th>
</tr>
</thead>
<tbody>
<tr>
<td>SpO₂/FI O₂ ratio*</td>
<td>SpO₂/FI O₂ &gt; 90% at 2-3 L/min</td>
<td>SpO₂/FI O₂ &gt; 90% at 4-6 L/min</td>
<td>SpO₂/FI O₂ &gt; 90% at 7-10 L/min</td>
<td>SpO₂/FI O₂ &gt; 90% at 11-15 L/min</td>
<td>SpO₂/FI O₂ ≥ 150 L/min</td>
<td>SpO₂/FI O₂ ≥ 10% at 10 L/min</td>
</tr>
</tbody>
</table>

* 

**Jaundice**

- no scleral icterus
- clinical jaundice/scleral icterus

**Hypotension†**

- None
- MABP < 70
- dop < 5
- dop 5-15
- epi ≤ 0.1
- norepi ≥ 0.1
- epi > 15
- norepi > 0.1

**Glasgow Coma Score**

- 15
- 13-14
- 10-12
- 6-9
- < 6

**Creatinine level, mg/dL**

(Use ISTAT)

- < 1.2
- 1.2-1.9
- 2.0-3.4
- 3.5-4.9
- urine output < 500 mL in 24 hours
- > 5
- urine output > 200 mL in 24 hours

**MSOFA score = total scores from all rows:** ___

*SpO₂/FI O₂ ratio:*

  - SpO₂ = Percent saturation of hemoglobin with oxygen as measured by a pulse oximeter and expressed as % (e.g., 95%); FI O₂ = fraction of inspired oxygen; e.g., ambient air is 0.21
  - Example: if SpO₂ = 85% and FI O₂ = 0.21, the SpO₂/FI O₂ ratio is calculated as 0.21

† Hypotension:

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

STEP 3: Determine admission priority based on MSOFA

- Score > 11: Unlikely to survive. Discharge to palliative care.
- Score 8-11: Intermediate priority for hospital admission.
- Score 1-8: Highest priority for hospital admission.
- Score 0: Lowest priority for hospital admission. Likely to survive without treatment. Discharge to home

STEP 4: Record disposition

Disposition: __________________________

Signature: __________________________

Date and time: ________________________

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Public Health and Healthcare Preparedness

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Appendix B2. PEDIATRIC PATIENT WORKSHEET for Pandemic Influenza Triage

**STEP 1:** If any of the following are present, DO NOT ADMIT. Transfer to palliative care.

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) Persistent coma or vegetative state.
- (3) Severe acute trauma with a REVISED TRAUMA SCORE <2 (see (d) and (e) on following pages).

GCS: ____ SBP: ____ RR: ____
Revised trauma score: ____

- (4) Severe burns with <50% anticipated survival (patients identified as “Low” or worse on the TRIAGE DECISION TABLE FOR BURN VICTIMS (f)). Burns not requiring critical care resources may be cared for at the local facility (e.g., burns that might have been transferred to the University of Utah Medical Center Burn Center under normal circumstances).

- (5) Cardiac arrest not responsive to PALS interventions within 20-30 minutes.

- (6) Short anticipated duration of benefit, e.g., underlying condition with >80% mortality rate at 18-24 months:
  - a) Known chromosomal abnormalities such as Trisomy 13 or 18
  - b) Known metabolic diseases such as Zellweger syndrome
  - c) Spinal muscular atrophy (SMA) type 1
  - d) Progressive neuromuscular disorder, e.g., muscular dystrophy and myopathy, with inability to sit unaided or ambulate when such abilities would be developmentally appropriate based on age
  - e) Cystic fibrosis with post-bronchodilator FEV₁ <30% or baseline PaO₂ <55 mm Hg
  - f) Severe end-stage pulmonary hypertension

**OTHER CONSIDERATIONS:**

- Resuscitation of extremely premature infants with anticipated mortality rates greater than 80% should not be offered. See http://www.nichd.nih.gov/about/org/cdbpm/pp/prog_epbo/

- The use of ECMO will be decided on an individual basis by the Chief Medical Officer (with input from attending physician, nursing supervisor, and ECMO representative) based on prognosis, suspected duration of ECMO run, and availability of personnel and other resources. Patients should have an estimated survival of >70% with an estimated ECMO run of <7-10 days.

**STEP 2:** Determine if patient meets ICU/Ventilator INCLUSION CRITERIA.

Patients must have NO EXCLUSION CRITERIA (1) and at least one of the following INCLUSION CRITERIA:

- (1) Requirement for invasive ventilatory support
  - Refractory hypoaxia (SpO₂ < 90% on non-rebreather mask or FiO₂ > 0.85)
  - Respiratory acidosis (pH < 7.2)
  - Clinical evidence of impending respiratory failure
  - Inability to protect or maintain airway

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

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

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

**STEP 3:** Determine admission priority.

- Unlikely to survive. Discharge to palliative care.
- Hospital treatment is likely to be life-saving.
  - Admit to Floor
  - Admit to ICU if room available
- Lowest priority for hospital admission. Likely to survive without treatment. Discharge to home.

**STEP 4:** Record disposition

Disposition: ____________________________

Signature: ____________________________

Date and time: ____________________________
During this influenza ("flu") outbreak, some people will need care at a hospital. **But many influenza patients must be cared for at home.** This handout will help you care for an influenza patient — a friend or family member — at home. **Follow these instructions carefully, as well as any others the doctor gives you.**

**Protect yourself and prevent the spread of flu.**
- Wash your hands often — especially after touching things that have been used or touched by the patient.
- Wear a mask when you’re with the patient.
- Cover your coughs and sneezes with your elbow.
- **Keep a trashcan near the patient’s bed, and line it with a plastic bag.** Toss every used tissue, straw, etc. Seal the plastic bag before emptying it into the garbage.
- Take care of yourself. Get plenty of rest and exercise, and make healthy food choices.

**Keep the patient comfortable.**
- Let the patient sleep or rest as much as they like. This will help the patient recover.
- Treat aches and fever with medication (see below). Sponging the patient’s body with lukewarm (wrist-temperature) water may lower the patient’s temperature, but only for a brief time. Do not sponge with alcohol.

**Give medication as directed.**
- For pain and fever, give ibuprofen (Advil or Motrin) or acetaminophen (Tylenol) regularly, as instructed on the bottle or box. Do not give aspirin to children or teenagers because it can cause Reye’s syndrome, a life-threatening illness.
- For flu or any other medical condition the patient has, follow the doctor’s advice carefully. If you have any questions about medication, contact the patient’s doctor.

**Prevent dehydration.**
Our bodies need fluids to function well. But sickness can lead to dehydration (lack of fluid in the body). To prevent this, do the following:
- Unless the patient is vomiting (throwing up), offer small amounts of liquids frequently throughout the day. Do this even if the patient doesn’t feel thirsty and especially if the patient has a fever. (A person with a fever needs more fluids than usual.) Here are some targets for patients of different ages:
  - For young children, give 1 ½ ounces of liquid per pound of body weight every day (multiply 1.5 times the weight of the child). For example, a toddler weighing 30 pounds needs 45 ounces of liquid a day (30 x 1.5 = 45).
  - For older children and adults, give at least 1 ½ to 2 ½ quarts of liquid per day — 3 to 5 eight-ounce cups or 2 to 3 twelve-ounce cans or bottles.
- If the patient isn’t eating solid foods, offer liquids that contain sugars and salts. For example, offer broth or soups, sports drinks like Gatorade® mixed with water (aim for half water, half sports drink), Pedialyte® or Lytren® drinks, and any soda that is NOT diet and does NOT have a lot of caffeine.
- Pay attention to how much the patient urinates (pees). (Dehydration causes people to urinate less often and the urine to have a dark yellow color.) An infant should have at least 3 wet diapers in 24 hours. An adult should urinate at least every 8 to 12 hours. If the patient is not meeting these targets, offer frequent sips and spoonfuls of liquids for a 4-hour period, and watch for signs of dehydration (see “Call the doctor” at the end of this handout).

**Limit food and drink to a patient who is vomiting (throwing up).** Follow this procedure:
- For 1 hour after a patient vomits, don’t give any liquid or food. Let the stomach rest.
- Next, offer a very small amount of clear liquid such as water, weak tea, ginger ale, or broth. Start with 1 to 3 teaspoons of clear liquid every 10 minutes (or give the patient an ice cube to suck on). If the person vomits, let the stomach rest for an hour, then try again with small, frequent amounts of clear liquid.
- When there is no vomiting, gradually increase the amount of liquid offered, and add liquids that contain sugars and salts. After 6 to 8 hours of a liquid diet without vomiting, add foods that are easy to digest, such as saltine crackers, dry toast, mashed potatoes or rice. Gradually, return to a regular diet.
Note: Continue to breastfeed a baby who is vomiting. Let the baby nurse more often — for 4 to 5 minutes every 30 to 45 minutes or so. You can also give the baby small amounts (½ ounce or less) of Pedialyte or Lytren every 10 minutes in a bottle.

**Keep a daily record of symptoms**

If the patient should need further medical attention, detailed information will be helpful to the doctor. Write down the following information every day:

- **Temperature.** Using an oral or ear thermometer, take the patient’s temperature at least once a day (more often if symptoms change). Write down the reading along with the date and time.

- **Skin condition.** Once a day — more often if symptoms change — note the patient’s skin color (pink, pale or bluish) or whether there is a rash.

- **How much liquid the patient drinks.** Write down the approximate number of ounces taken in during the day and through the night.

- **Urination.** Record how many times the patient goes to the bathroom each day and the color of the urine (clear to light yellow, dark yellow, orange, brown, or red).

- **Medications given.** For every medication you give the patient, write down what you gave, how much you gave, and the time you gave it.

- **Symptoms.** Write down any changes in these common flu symptoms:
  - Fever (often high — should go away as the patient gets better)
  - Headache
  - Tiredness (can be extreme)
  - Cough
  - Sore throat
  - Runny or stuffy nose
  - Body aches
  - Nausea and vomiting
  - Diarrhea (more common in children than adults)

**Call the doctor if you notice any of the following:**

- **Signs of dehydration that continue** even after 4 hours of increased liquids as described in the “Prevent dehydration” section. Signs of dehydration include:
  - Weakness or unresponsiveness
  - Dry mouth and tongue, decreased saliva (spit)
  - Dry eyes (and no tears if crying)
  - Sunken eyes
  - Urinating less than 3 times in 24 hours

- **Worsening symptoms** (especially if the patient seems worse after appearing to improve)

- **An infant younger than 2 months old** has a fever, is feeding poorly, or has fewer than 3 wet diapers in a 24 hour period.

**Call 911 or take the patient to the hospital emergency room if you notice any of these complications:**

- Difficulty breathing, fast breathing, or bluish color to the skin or lips
- Coughing up blood
- Difficulty responding or communicating, confusion
- Convulsions (seizures)