Ethics in Medical Emergencies and Pandemics

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Potential Threats

- Epidemic
  - Flu
  - Anthrax
- Natural Disasters
  - Hurricane, Earthquake, Flood
- Manmade Disasters
  - Catastrophic structural failure
- Terrorist attack

Summary

- Triage
- Limited Resources
- Who does Triage at each level of care?
  - Prehospital
  - ER
  - ICU
- How the response changes as events progress
- Katrina case example

Triage

- System first used by military to assess mass casualties.
- Still valuable today for sorting patients.
- Evaluate who needs the most help quickly to survive, who needs help to return rapidly to function, who can wait, and who cannot survive.

Triage Categories

- Red most critical/ life saving treatment needed now.
- Yellow Treatment ASAP can return to battlefield or a stabilized RED pt.
- Green medical treatment/can wait for definitive therapy
- Blue Expectant Comfort care only.

- Who does Triage at each level of care?
  - Prehospital EMTs
  - ER Nurses
  - ICU Doctors

Pandemic Triage

- Limited Resources
  - Vaccines
  - Antibiotics/Antivirals
  - Hospital Beds
  - Staffing (remember that staff will get sick too!)
  - Ventilators (Grandview has about 50)

Value Statements

- Respect for persons
- Truth telling, transparency, and openness.
- Community good as primary goal
- Best estimates of patient survival with low morbidity.
- Stewardship of scarce resources
- Decision making authority shifts from family to Incident commander or designee.
- Fairness.

Emergency Standards of Care

- Also called Altered or Crisis Standards of Care
- Recognizes that patients will not be able to be treated the usual way.
- Recognizes that not all pts will receive treatment.
- Lastly, providers cannot be held liable based on the usual community standards that would apply when an emergency is NOT present.

Emergency Standards of Care

- Examples:
  - Postponing an elective Lap Chole because of the epidemic: is the surgeon liable if the pt then presents with acute cholecystitis?
  - Dialysis pts may receive only 2 treatments per week to increase capacity at functioning dialysis units: is the nephrologist liable if a pt dies from hyperkalemia or CHF between treatments?

Procedural Considerations Systemic

- Community Health care response
  - Community clinics and resource pooling.
  - Stay home (shelter in Place)
  - Stock up on provisions.
- Declaration of emergency status of operations
- Decision Making authority shift.
- Reassessment of procedures and implementation guidelines

Procedural Considerations hospitals

- Admitting criteria change.
- Maximize capacity. Withdrawal for certain patients may be necessary to free up ICU beds.
- Fairness in Triage
- Change of presumption from need based, first come first served service to Triaged level of care.
- Pain and palliative care to those not admitted.
- Family and public access to facility likely to be restricted.

Procedural Considerations Hospitals and Home care

- Privacy and confidentiality try to continue but will need reporting of data to central database to tailor response.
- Outpt and home health care – will it continue?
- Preventive treatment (If available) of essential staff.
- Employed and professional staff obligation to provide treatment.
  - Dayton Facilities require staff to get flu shot or they cannot work.
- Facility obligation to provide safe environment.
  - Check temperature of all staff and patients.

Procedural Considerations

- Staff allocation and roles during emergency may change based on demand. (vents on wards once ICU full)
- Facility support for staff afterwards. (support for PTSD, legal support of staff that followed directives).
- Declaration of End of Emergency. Expect at least 8 weeks of disruption.
- Keep in mind that cities that removed restrictions too soon had big flare ups that pushed back the end of the disaster by months.

Pandemic Triage

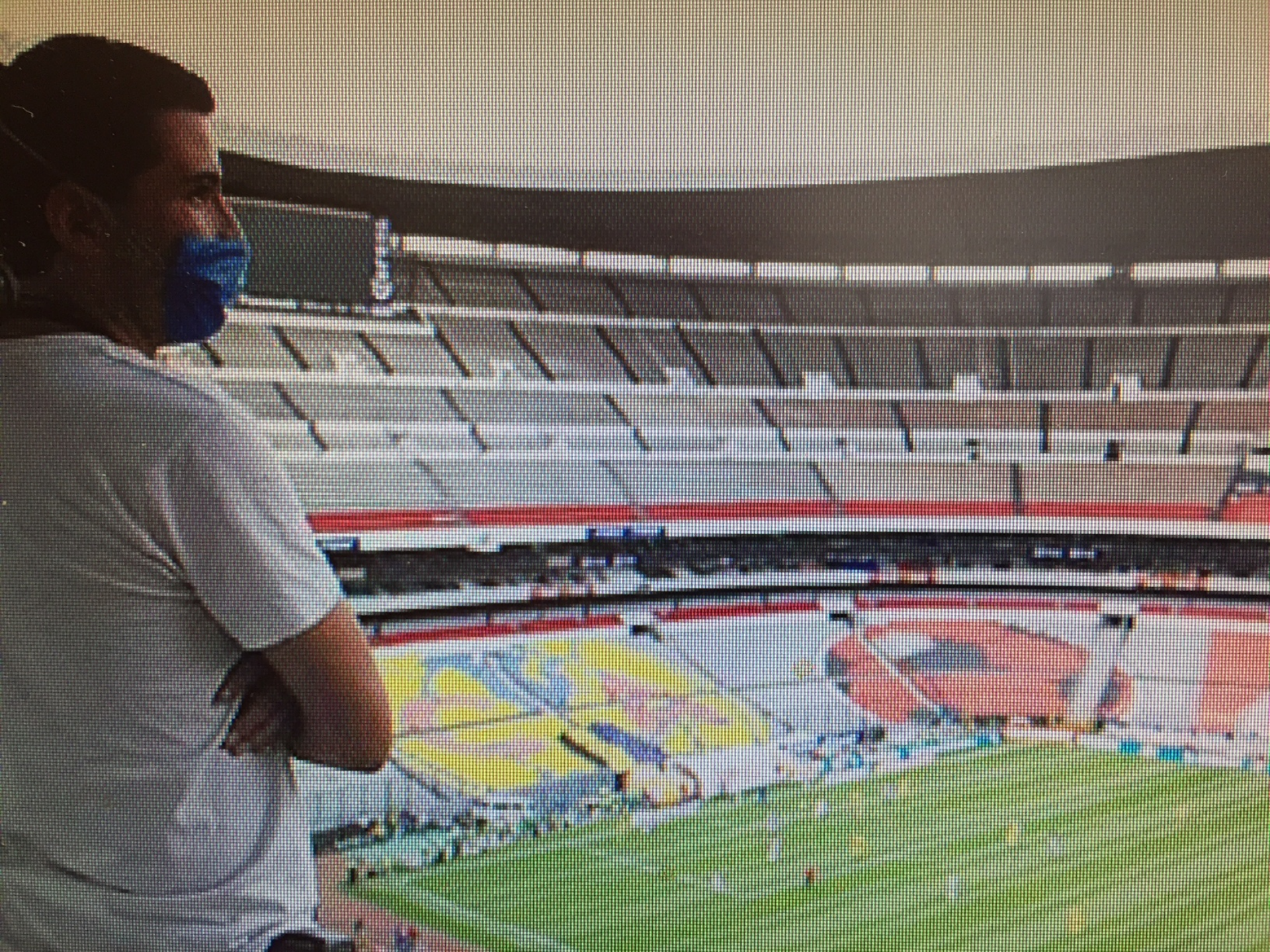
- Each step along the way has protocols for deciding who gets treatment and what kind of treatment is offered.
- Public expectations have to be managed
- Healthcare system must be ready
  - Funded
  - Planning
  - Exercises.

Public Education

- General information already available
  - 3days3ways.org Ready.gov
  - SeattleRedcross.org
  - Commercials about the 1917 Spanish flu epidemic, stating “it will happen again”.
- Just in time info will be broadcast as the pandemic is recognized and spreads.

PreHospital Triage

- Schools and malls will close.
  - Mexico 2009 pandemic: soccer matches continue, with empty stadiums.
- Clinics to be set up in community centers, churches, schools.
- Stores of Vaccines, Amantidine, Theraflu will be distributed as available.



ER Triage

- First Cases will be handled as we currently do, until the pandemic is recognized.
- Subsequent cases will be isolated and hospital personnel will be given whatever prophylaxis is available.
- Once the pandemic is recognized, patients will be triaged in waiting room or parking lot, noncritical pts sent home, or to community centers.
- Staff will be monitored for fever, symptoms too.

ICU Triage

- Protocols for emptying hospital of noncritical patients, cancelling nonurgent procedures.
- What do we do with critical patients on vents in the ICU?

ICU Triage

- Once we reach a point of limited resources, or system is breaking down, Hospitals, Intensivists will have to decide who is removed from life support to free up ventilators and ICU beds for Influenza/ pandemic patients.

Factors to Consider

- Age
- Risk of dying from comorbid conditions
- Lifestyle and compliance issues
- Likelihood of responding to treatment
  - Based on Functional status
- Expected outcome of successful treatment
- How much support will be needed and for how long?

Which Patients get the Vent?

- Protocol for this decision is in place.
- Developed by multidisciplinary team for state of Ohio.
- Uses SOFA score (Sequential Organ Failure Assessment)
- Green Yellow Red Blue categories, same as above.

PANDEMIC INFLUENZA CRITICAL CARE TRIAGE ASSESSMENT TOOL

INITIAL ASSESSMENT **DRAFT 1.1, 5/17/07**

Patient Name: _____

Date: _____ Time: _____

Medical Record Number: _____

Assessing Provider(s): _____

Inclusion Criteria – Must have at least one of the following:

1. Requires Invasive Ventilatory Support
   - ☐ Refractory hypoxemia (SpO2 < 90% on non-rebreather mask or FIO2 > 0.85)
   - ☐ Respiratory acidosis (pH < 7.2)
   - ☐ Clinical evidence of impending respiratory failure
   - ☐ Inability to protect or maintain airway
2. Hypotension
   - ☐ Systolic blood pressure < 90 mm Hg or relative hypotension) with clinical evidence of shock refractory to volume resuscitation that requires vasporessor or inotrope support and cannot be managed in a ward setting.

☐**Confirm No Exclusion Criteria Present**

SOFA Score Determination: Circle the variable for each color category. Then write each corresponding variable in the box to the far right. Total at bottom.

	Score				
Variable	0	1	2	3	4
Pa/FIO_2, mm Hg	> 400	≤ 400	≤ 300	≤ 200	≤ 100
Variable	0	1	2	3	4
Platelet count, x 10^6/L	> 150	≤ 150	≤ 100	≤ 50	≤ 20
Variable	0	1	2	3	4
Bilirubin level, mg/dL (µmol/L)	<1.2 (< 20)	1.2-1.9 (20-32)	2.0-5.9 (33-100)	6.0-11.9 (101-203)	> 12 (> 203)
Variable	0	1	2	3	4
Hypotension	None	MABP < 70	Dop ≤ 5	Dop > 5 Epi ≤ 0.1 Norepi ≤ 0.1	Dop > 15 Epi > 0.1 Norepi > 0.1
Variable	0	1	2	3	4
Glasgow Coma Score	15	13-14	10-12	6-9	< 6
Variable	0	1	2	3	4
Creatinine level, mg/dL (µmol/L)	<1.2 (< 106)	1.2-1.9 (106-168)	2.0-3.4 (169- 300)	3.5-4.9 (301-433)	>5 (> 434)

Total Variable: _____

Transfer Total Variable to appropriate row in Table Below:

SOFA Score	Triage Codes	Criteria	Action or priority
	Blue	Exclusion criteria met or SOFA score > 11*	• Manage medically • Provide palliative care as needed • Discharge from critical care
	Red	SOFA score ≥ 7 or single organ failure	Highest priority
	Yellow	SOFA score 8 – 11	Intermediate priority
	Green	No significant organ failure	• Defer or discharge • Reassess as needed

Triage code	Criteria	Action or priority
Blue	Exclusion criteria met or SOFA score > 11*	• Manage medically • Provide palliative care as needed • Discharge from critical care
Red	SOFA score ≤ 7 or single-organ failure	Highest priority
Yellow	SOFA score 8–11	Intermediate priority
Green	No significant organ failure	• Defer or discharge • Reassess as needed

Note: SOFA = Sequential Organ-Failure Assessment.
*If an exclusion criterion is met or the SOFA score is > 11 anytime from the initial assessment to 48 hours afterward, change the triage code to Blue and proceed as indicated.

Christian MD. Development of a triage protocol for care during pandemic. CMAJ 2006 Nov:175(11) 1377-81.

Reverse Side

Clinical evidence of shock is defined as altered level of consciousness, decreased urine output or other evidence of end-organ failure.

Abbreviation Key: PaO2 = partial of arterial oxygen; FIO2 = fraction of inspired oxygen; MABP = mean arterial blood pressure, in mm Hg.
Dop (dopamine), epi (epinephrine), and norepi (norepinephrine) doses in g/kg per min.
FEV1 = forced expiratory volume in 1 second
FIO2 = fraction of inspired oxygen
PaO2 = partial pressure of arterial oxygen
SpO2 = oxygen saturation measured by pulse oximetry
TLC = total lung capacity
VC = vital capacity

Exclusion Criteria

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

- Severe trauma
- Severe burns of patient with any two of the following:
  - Age > 60 years
  - > 40% of total body surface area affected
  - Inhalation injury
- Cardiac arrest
  - Unwitnessed cardiac arrest
  - Witnessed cardiac arrest, not responsive to electrical therapy (defibrillation or pacing)
  - Recurrent cardiac arrest
- Advanced, untreatable neuromuscular disease
- Terminal metastatic malignant disease
- Advanced and irreversible immunocompromise
  - Acquired Immune System Disease
    - HIV Disease with both severe wasting (i.e., > 10% below ideal body weight) and CD4+ count < 100
  - Congenital Immune System Disease
- Severe and irreversible neurologic event or condition
- End-stage organ failure meeting the following criteria:
  - Heart
    - NYHA class III or IV heart failure
  - Lungs
    - COPD with FEV1 < 25% predicted, baseline, PaO2 < 55 mmHg or 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 secondary pulmonary hypertension
    - Primary pulmonary hypertension with NYHA class III or IV heart failure, right atrial pressure > 10 mm Hg, or mean pulmonary arterial pressure > 50 mm Hg
  - Liver
    - Child-Pugh score ≥ 7

Follow up Triage/ reassessment

- We will be using the same criteria for 24 and 72 (or 48 and 120) hour follow up, with some modifications.

Triage code	Criteria	Action or priority
Blue	Exclusion criteria met or SOFA score > 11 or SOFA score < 8 with no change†	• Provide palliative care • Discharge from critical care
Red	SOFA < 11 and decreasing progressively	Highest priority
Yellow	SOFA < 8 with minimal decrease (< 3-point decrease in past 72 h)	Intermediate priority
Green	No longer dependant on ventilator	• Discharge from critical care

Triage Liability

- Triage is fast and brutal in mass casualty situation.
- There can be no appeal process due to the urgent nature of the process.
- People will feel wronged/cheated if they or their loved one is not treated first.
- Triage officer must be protected from lawsuits.

Triage Liability

- The triage officer will be protected from liability under the Good Samaritan laws, assuming they are acting in accordance with their training and using protocols.
- There will be a retrospective review process to evaluate how reproducible the decisions are.

Triage Review

- Retrospective Triage Review

Case	Date	Time	MedRec or Triage Number	Assessing Provider Number	Any Exclusion Criteria	SOFA Score	Requires Ventilatory Support				Hypotension	Record Review
							Hypoxemia	Acidosis	Clinical Impending Failure	Inability to Protect airway	SBP <90mm Hg or shock	Note any exceptions

Summary

- There is protection under the law for medical professionals working in extraordinary conditions.
- There are plans in place for dealing with medical disasters.

Uniformlaws.org 2016

References:

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