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

Scariest websites on the internet

- www.arcGIS.com

- Contagion Live.
- Breitbart.com

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.

Does the patient have a right to refuse COVID testing?

- *Jacobson v. Massachusetts (SCOTUS 1905),* there is a defensible legal and ethical justification for testing without consent. This case has been cited in current COVID-19 related litigation. Per justice Harlan-- personal liberties can be suspended when "the safety of the general public may demand". "Constitutional liberties, are limited by a fundamental "social compact" and the "government is instituted 'for the common good, for the protection, safety, prosperity and happiness of the people, and not for the profit, honor or private interests of any one man.'" The Court recognized a sphere of protected individual liberties, but insisted that the state had broad powers to encroach on that sphere when "the safety of the general public may demand".
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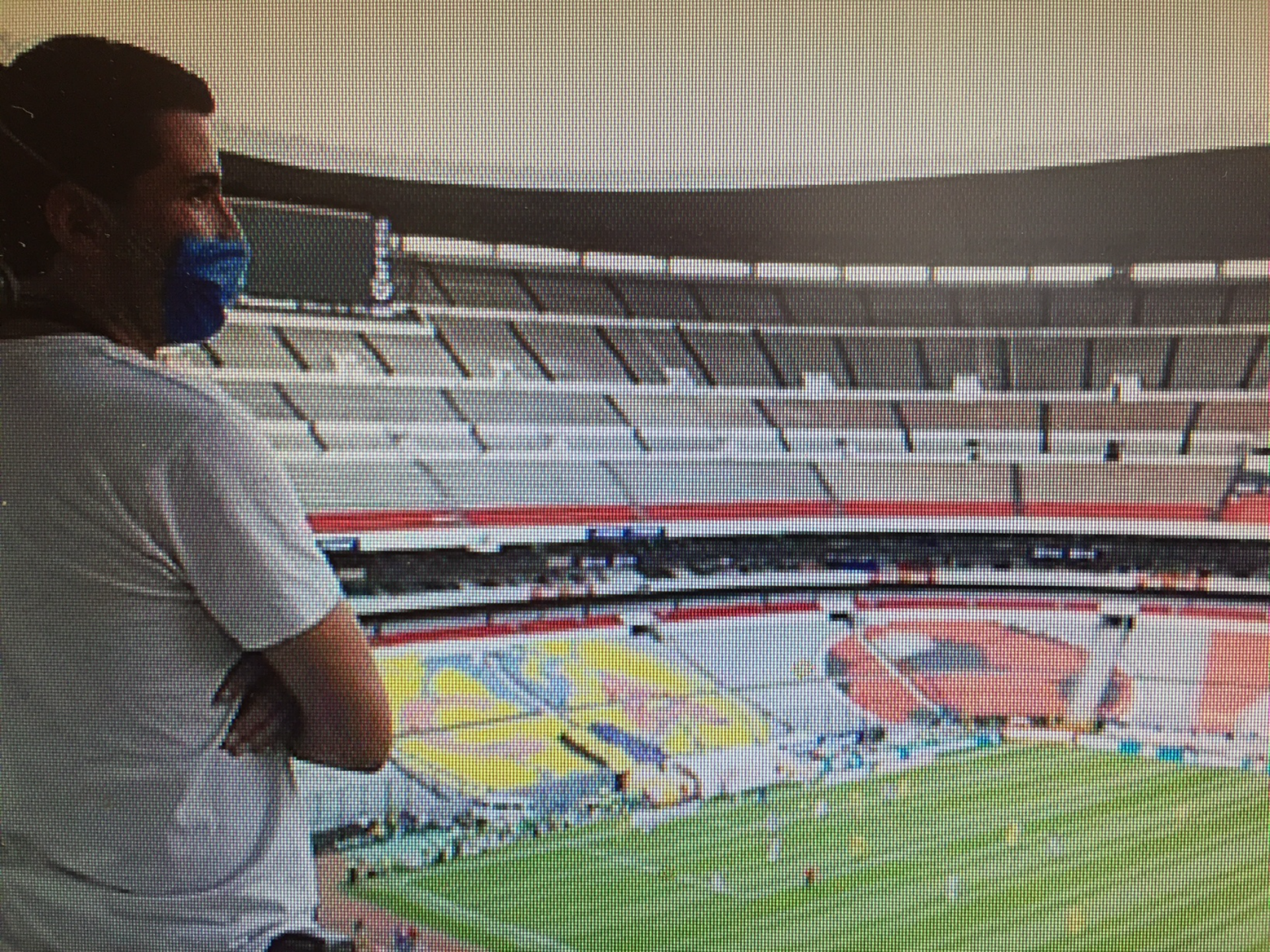
- So requiring a blood or other test before potentially exposing others in the ED is arguably consistent with federal law. Especially in a state where an official emergency has been declared. The case was originally about vaccination, but is now considered important in public health case law.

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.

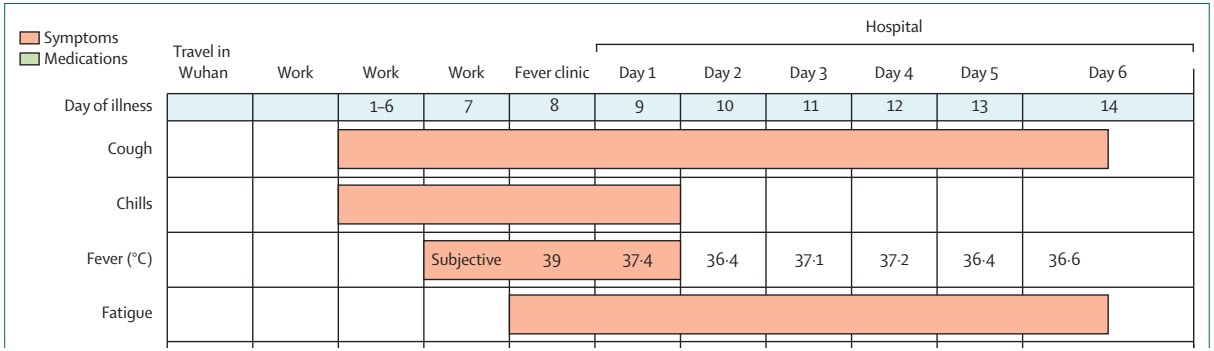


Typical symptom timeline for COVID 19

has subsequently affected 26 countries worldwide. In general, COVID-19 is an acute resolved disease but it can also be deadly, with a 2% case fatality rate. Severe disease onset might result in death due to massive alveolar damage and progressive respiratory failure.[2,3] As of Feb 15, about 66 580 cases have been confirmed and over 1524 deaths. However, no pathology has been reported due to barely accessible autopsy or biopsy.[2,3] Here, we investigated the pathological characteristics of a patient who died from severe infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) by postmortem biopsies. This study is in accordance with regulations issued by the National Health Commission of China and the Helsinki Declaration. Our findings will facilitate understanding of the pathogenesis of COVID-19 and improve clinical strategies against the disease.

history to Wuhan Jan 8–12, and that he had initial symptoms of mild chills and dry cough on Jan 14 (day 1 of illness) but did not see a doctor and kept working until Jan 21 (figure 1). Chest x-ray showed multiple patchy shadows in both lungs (appendix p 2), and a throat swab sample was taken. On Jan 22 (day 9 of illness), the Beijing Centers for Disease Control (CDC) confirmed by reverse real-time PCR assay that the patient had COVID-19.

He was immediately admitted to the isolation ward and received supplemental oxygen through a face mask. He was given interferon alfa-2b (5 million units twice daily, atomisation inhalation) and lopinavir plus ritonavir (500 mg twice daily, orally) as antiviral therapy, and moxifloxacin (0·4 g once daily, intravenously) to prevent secondary infection. Given the serious shortness of breath and hypoxaemia, methylprednisolone (80 mg twice



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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

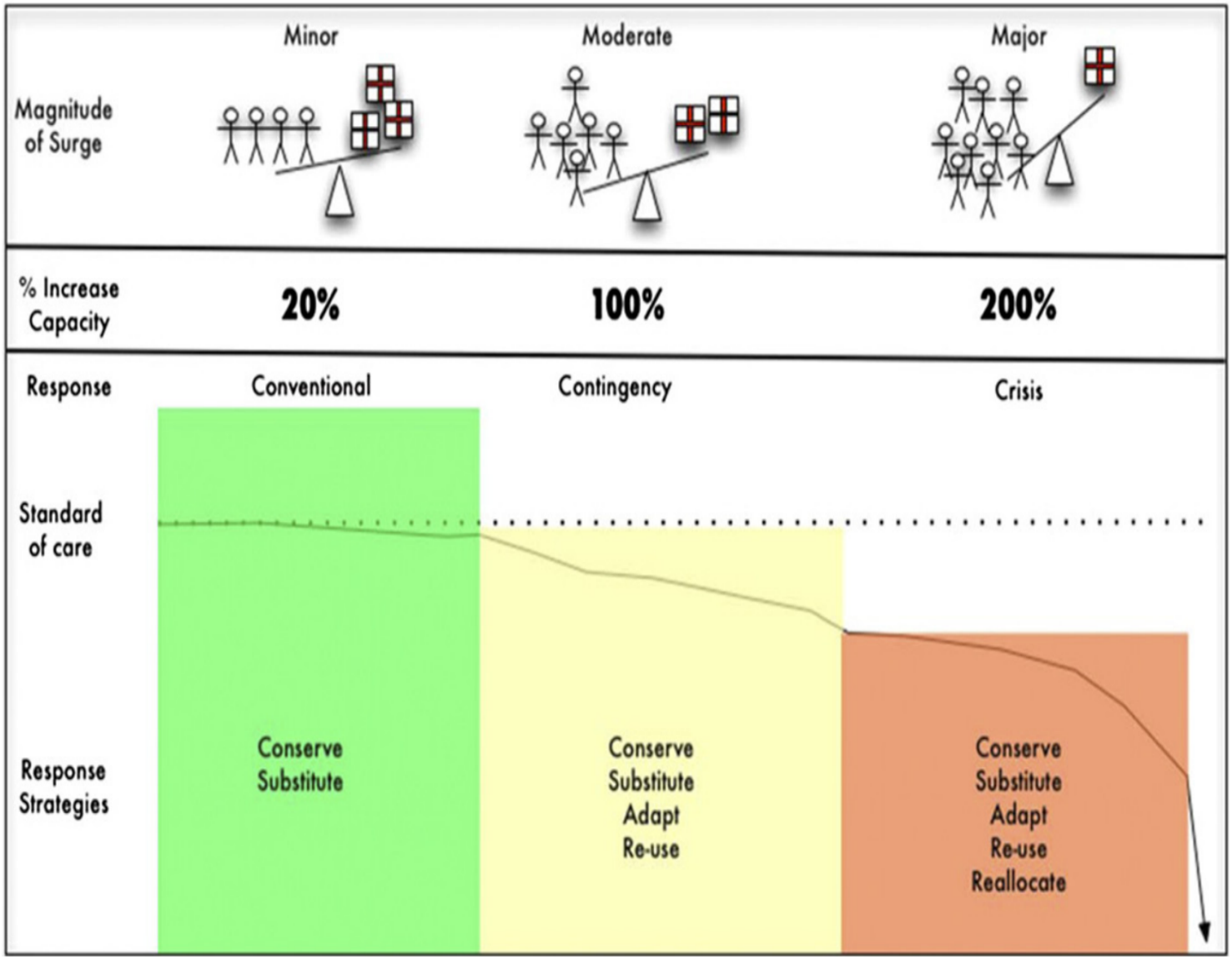
- Protocols for emptying hospital of noncritical patients, cancelling nonurgent procedures.
- What do we do with critical patients on vents in the ICU?

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.

Conventional, contingency, Crisis Capacity

- **Conventional Capacity**: Ordinary use of resources (spaces, staff, and supplies) and standard of care
- **Contingency Capacity**: Disruption of ordinary use of resources and practices, but care provided is functionally equivalent to usual standards
- **Crisis Capacity**: Disruption to standard of care due to inadequate resources, but goal is sufficiency of care (provide the best possible care given the circumstances)



CHEST 2014; 146 (4_Suppl): 8S - 34S

Contingency

- In any medical surge, **the primary goal is to prevent or limit the amount of time in Crisis stage**
- To avoid the Crisis stage, we try to prolong the Contingency stage by:
  - **Conserving**: canceling elective procedures to preserve PPE
  - **Substituting**: telehealth instead of in-person clinic appointments
  - **Adapting**: Cleaning PPE for re-use rather than disposing each time

NW Healthcare Response Network. Scarce Resource Management & Crisis Standards of Care. 2019

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

Update to the Pittsburgh triage protocol

- “Long-term life expectancy is explicitly rejected as a criterion.
- All patients- even those with a poor near-term prognosis- remain candidates for ICU care/ventilators.
- In terms of prognosis, it treats as equal all patients who are not in the late stages of a severe condition; so a patient with a life expectancy of 7 years has equal priority as a patient with a life expectancy of 65 years. This feature rankles many who feel we are not giving enough weight to maximizing life-years saved, but we think it is fair because of the concerns you raised about social inequality leading to different long-term life expectancies among otherwise similar patients. We made this design choice to incorporate the kind “fairness weight” you advocated in the op-ed.
- Patients expected to die in the near term are given a lower priority, but this approach mirrors how we prioritize patients for organ transplantation, where duration of benefit is considered. The Department of Health and Human Services oversees organ allocation and has endorsed using duration of benefit as a consideration. Moreover, giving some consideration to duration of benefit avoids creating a triage framework in which a patient who will die in a few weeks or months from an end-stage condition has the same priority as someone who would live for many years if they received treatment. Few people would advocate that these patients should receive equal priority.
- Compared to the SOFA-only approach, our framework would yield more overall life-years saved for persons with disabilities and those whose life expectancy is shortened from structural racism, because the vast majority of these patients are not near the end of their lives.”
-

Arguments against using SOFA criteria

- Some argue:
- The psychosocial factors include social determinants of health and disease. These psychosocial factors are a function of factors that are impermissible to consider in a triage policy, including disability as well as social inequities. Saving life-years is ethically supportable only if one ignores this line of reasoning, a mistake that the Pittsburgh approach makes, as does the Annals paper on which it is based. Not to mention recent Emanuel et al. paper.
- First come- First Served also would be ethically impermissible as it favors those with better access to care, also impacted by social inequalities.
- However: If we do not include any consideration of a patients prognosis in the triage process, we are left with no triage, and Everyone dies. Although this is the fairest outcome, it is not the outcome we are hoping to achieve.

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.

Ethical priorities

Usual standards of care

- Respect for pt autonomy
- Maximize benefit to each of your patients
- Fidelity/allegiance to each patient
- Not all who could benefit receive treatment (due to lack of access/insurance)

Public Health Crisis/ Crisis Standards of Care

- Respect for common good, not individual autonomy
- Less autonomy for practitioners
- Maximize benefit to the greatest number of people
- Allocate scarce resources responsibly
- Not all who could benefit receive treatment (due to scarcity)

VITAL talk

- I need help talking with patients & families about this…
- Find exact words to use at VitalTalk
- https://www.vitaltalk.org/guides/covid-19-communication-skills/

What happens when we run out of staff, ICU beds, or ventilators?

- We will receive guidance from Incident Command and Network or possibly even GDAHA Leadership
- Triage teams throughout the region will go into effect when we reach crisis capacity
- **Resources will be shared within the region**
  - so if there's no bed at Grandview or Miami Valley hospital, we'll look to for beds at other hospitals, and other hospitals will do the same

Triage Teams

Treating clinicians will NOT be asked to make allocation decisions for their patients. That responsibility falls to Triage Teams.

Once in crisis capacity, triage teams will be tasked with deciding which patients will be allocated scarce ICU beds and equipment like ventilators and ECMO machines.

Triage Team

Your hospital has already created Triage Teams who will coordinate with Incident Command at all of our hospitals. Teams consist of

- 2-3 senior clinicians (doctors & nurses) in critical care, emergency medicine, trauma surgery & a designated lead triage officer
- 1 medical ethicist
- Specialists called as needed (burn, pediatrics, etc.)

Fairness & Oversight

Who oversees the Triage Teams?

- Hospital & Hospital System Triage team decisions reviewed by Triage Team Oversight Committee
  - Ensures fairness, consistency, equity
- Oversight committee reviews all triage team decisions periodically for consistency & appropriate use of clinical considerations

Should healthcare professionals/ first responders have preferential access to scarce medical resources?

Yes

- they are owed care since they have cared for others and risked their health/lives doing so (compensatory justice; reciprocity)
- Healthcare providers have instrumental value – saving them saves others

No

- triage algorithms should be used consistently for all patients – a carve-out for anyone is unfair;
- instrumental value makes sense if there are effective treatments, which does not currently apply to COVID-19;
- those ill enough to need ICU level care often face poor chances of survival and are unlikely to return quickly to patient care;
- compensatory justice is achieved through preferential access to vaccines, effective treatments.

Should HC workers get preference?

- Triage will proceed first, then if there is a tie (multiple patients in red category), healthcare workers/first responders and children will get preference.
- Using “life Cycle” considerations

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

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