COVID 19 Pandemic MN Resource Scarcity/Ethics Update

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For the Good of Us All: Ethically Rationing Health Resources in Minnesota in a Severe Influenza Pandemic

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Ethical Values Guiding COVID-19 Response

This ethical framework for COVID-19 response is grounded in the fundamental ethical commitment that the response to a pandemic will pursue Minnesotans' common good in ways that:

- are accountable, transparent, and worthy of trust;
- promote solidarity and mutual responsibility; and
- respond to needs respectfully, fairly, effectively, and efficiently.

To honor these fundamental value commitments, pandemic response must promote Minnesotans' common good by balancing three ethical objectives:

- protect the population's health by reducing mortality and serious morbidity;
- respect individuals and groups; and
- strive for fairness and protect against systematic unfairness and inequity.

Other Basics

- In Crisis/extreme resource scarcity, healthcare shift of focus is to **Community** priority (vs **Autonomy** when resources are adequate)

- **Prognosis** (survival to hospital discharge) is the established appropriate aspect from which to triage scarce resources. Saving the most lives is the priority we acknowledge as a community.

- Race, ethnicity, gender, gender identity, sexual orientation or preference, religion, citizenship or immigration status, socioeconomic status, or ability to pay **cannot influence triage decisions**

Pressure Points

- Age and disability cannot influence triage in isolation, but may need to be acknowledged if they are directly related to short term prognosis (survival to hospital discharge)

- “first come, first served” is controversial

- Healthcare worker status/prioritization is controversial
  - Currently in MN, PPE and meds prioritized, vents/ICU not

PATIENT CARE
STRATEGIES FOR SCARCE RESOURCE SITUATIONS

DEPARTMENT OF HEALTH

Capacity Definitions:

Conventional capacity – The spaces, staff, and supplies used are *consistent with daily practices* within the institution. These spaces and practices are used during a major mass casualty incident that triggers activation of the facility emergency operations plan.

Contingency capacity – The spaces, staff, and supplies used are not consistent with daily practices, but provide care to a standard that is *functionally equivalent* to usual patient care practices. These spaces or practices may be used temporarily during a major mass casualty incident or on a more sustained basis during a disaster (when the demands of the incident exceed community resources).

Crisis capacity – Adaptive spaces, staff, and supplies are not consistent with usual standards of care, but provide *sufficiency* of care in the setting of a catastrophic disaster (i.e., provide the best possible care to patients given the circumstances and resources available). Crisis capacity activation constitutes a significant adjustment to standards of care (Hick et al, 2009).

This card set is designed to facilitate a structured approach to resource shortfalls at a health care facility. It is a decision support tool and assumes that incident management is implemented and that key personnel are familiar with ethical frameworks and processes that underlie these decisions (for more information see Institute of Medicine 2012 Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response and the Minnesota Pandemic Ethics Project). Each facility will have to determine the most appropriate steps to take to address specific shortages. Pre-event familiarization with the contents of this card set is recommended to aid with event preparedness and anticipation of specific resource shortfalls. The cards do not provide comprehensive guidance, addressing only basic common categories of medical care. Facility personnel may determine additional coping mechanisms for the specific situation in addition to those outlined on these cards.

The content of this card set was developed by the Minnesota Department of Health (MDH) Science Advisory Team in conjunction with many subject matter experts whose input is greatly appreciated. This guidance does not represent the policy of MDH. Facilities and personnel implementing these strategies in crisis situations should assure communication of this to their health care and public health partners to assure the invocation of appropriate legal and regulatory protections in accord with State and Federal laws. This guidance may be updated or changed during an incident by the Science Advisory Team and MDH. The weblinks and resources listed are examples, and may not be the best sources of information available. Their listing does not imply endorsement by MDH. This guidance does not replace the judgement of the clinical staff and consideration of other relevant variables and options during an event.

Basics

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

Prepare - pre-event actions taken to minimize resource scarcity (e.g., stockpiling of medications).

Substitute - use an essentially equivalent device, drug, or personnel for one that would usually be available (e.g., morphine for fentanyl).

Adapt – use a device, drug, or personnel that are not equivalent but that will provide sufficient care (e.g., anesthesia machine for mechanical ventilation).

Conserve – use less of a resource by lowering dosage or changing utilization practices (e.g., minimizing use of oxygen driven nebulizers to conserve oxygen).

Re-use – re-use (after appropriate disinfection/sterilization) items that would normally be single-use items.

Re-allocate – restrict or prioritize use of resources to those patients with a better prognosis or greater need.

MECHANICAL VENTILATION

STRATEGIES FOR SCARCE RESOURCE SITUATIONS

MINNESOTA HEALTH CARE PREPAREDNESS PROGRAM

RECOMMENDATIONS	*Strategy*	*Conventional*	*Contingency*	*Crisis*
Increase Hospital Stocks of Ventilators and Ventilator Circuits, ECMO or bypass circuits	*Prepare*			
Access Alternative Sources for Ventilators/specialized equipment • Obtain specialized equipment from vendors, health care partners, regional, state, or Federal stockpiles via usual emergency management processes and provide just-in-time training and quick reference materials for obtained equipment.	*Substitute*			
Decrease Demand for Ventilators • Increase threshold for intubation/ventilation. • Decrease elective procedures that require post-operative intubation. • Decrease elective procedures that utilize anesthesia machines. • Use non-invasive ventilatory support when possible. • Attempt earlier weaning from ventilator.	*Conserve*			
Re-use Ventilator Circuits • Appropriate cleaning must precede sterilization. • If using gas (ethylene oxide) sterilization, allow full 12 hour aeration cycle to avoid accumulation of toxic byproducts on surface. • Use irradiation or other techniques as appropriate.	*Re-use*			
Use Alternative Respiratory Support Technologies • Use transport ventilators with appropriate alarms - especially for stable patients without complex ventilation requirements.	*Adapt*			
• Use anesthesia machines for mechanical ventilation as appropriate/capable. • Use bi-level (BiPAP) equipment to provide mechanical ventilation. • Consider bag-valve ventilation as temporary measure while awaiting definitive solution/equipment (as appropriate to situation – extremely labor intensive and may consume large amounts of oxygen).				
Assign Limited Ventilators to Patients Most Likely to Benefit if No Other Options Are Available ***STEP ONE***: assess patient acuity using SOFA (see next page+) scoring table and/or other parameters appropriate to the situation (agent-specific prognostic indicators, modifications based on agent involved).	*Re-allocate*			

ORGAN SYSTEM	SCORE = 0	1	2	3	4
RESPIRATORY $Pa0_2/Fi0_2$	> 400	≤ 400	≤ 300	≤ 200 with resp. support	≤ 100 with resp. support
HEMATOLOGIC Platelets	> 150	≤ 150	≤ 100	≤ 50	≤ 20
HEPATIC Bilirubin (mg/dl)	< 1.2	1.2 – 1.9	2.0 – 5.9	6 – 11.9	≥ 12
CARDIOVASCULAR Hypotension	None	Mean Arterial Pressure < 70 mmHg	Dopamine ≤ 5 or any Dobutamine	Dopamine > 5 or Epi < 0.1 or Nor-Epi ≤ 0.1	Dopamine > 15 or Epi > 0.1 or Nor-Epi > 0.1
CENTRAL NERVOUS SYSTEM Glasgow Coma Score	15	13 - 14	10 - 12	6 - 9	<6
RENAL Creatinine	<1.2	1.2 - 1.9	2.0 - 3.4	3.5 - 4.9	≥5.0

MECHANICAL VENTILATION/EXTERNAL OXYGENATION

STRATEGIES FOR SCARCE RESOURCE SITUATIONS (cont.)

MINNESOT
PREPAREDI

RECOMMENDATIONS

STEP TWO: Compared to other patient(s) requiring and awaiting external ventilation/oxygenation, does this patient have significant differences in prognosis or resource utilization in one or more categories below that would justify re-allocation of the ventilator/unit? Factors listed in relative order of importance/weight. Injury/epidemiologic factors may have the highest predictive value in some cases and may also affect the predictive ability of the SOFA score.

Criteria	Patient keeps resource		Resource re-allocated
1. Organ system function[a]	Low potential for death (SOFA score ≤ 7)	Intermediate potential for death (SOFA score 8-11)	High potential for death (SOFA score ≥12)
2. Duration of benefit / prognosis	Good prognosis based upon epidemiology of specific disease/ injury. No severe underlying disease.[b]	Indeterminate/intermediate prognosis based upon epidemiology of specific disease/injury Severe underlying disease with poor long-term prognosis and/or ongoing resource demand (e.g., home oxygen dependent, dialysis dependent) and unlikely to survive more than 1-2 years.	Poor prognosis based upon epidemiology of specific disease/injury (e.g., pandemic influenza) Severe underlying disease with poor short-term (e.g., <1 year) prognosis
3. Duration of need	Short duration – flash pulmonary edema, chest trauma, other conditions anticipating < 3 days on ventilator	Moderate duration – e.g., pneumonia in healthy patient (estimate 3-7 days on ventilator)	Long duration – e.g., ARDS, particularly in setting of preexisting lung disease (estimate > 7 days on ventilator)
4. Response to mechanical ventilation	Improving ventilatory parameters over time[c]	Stable ventilatory parameters over time	Worsening ventilatory parameters over time

Current Triage model (not finalized):

- Variables contributing to triage score:
  - SOFA score
  - Duration of vent need
  - Comorbidities (minimal/serious/terminal)
  - More COVID specific prognostic variables are being evaluated

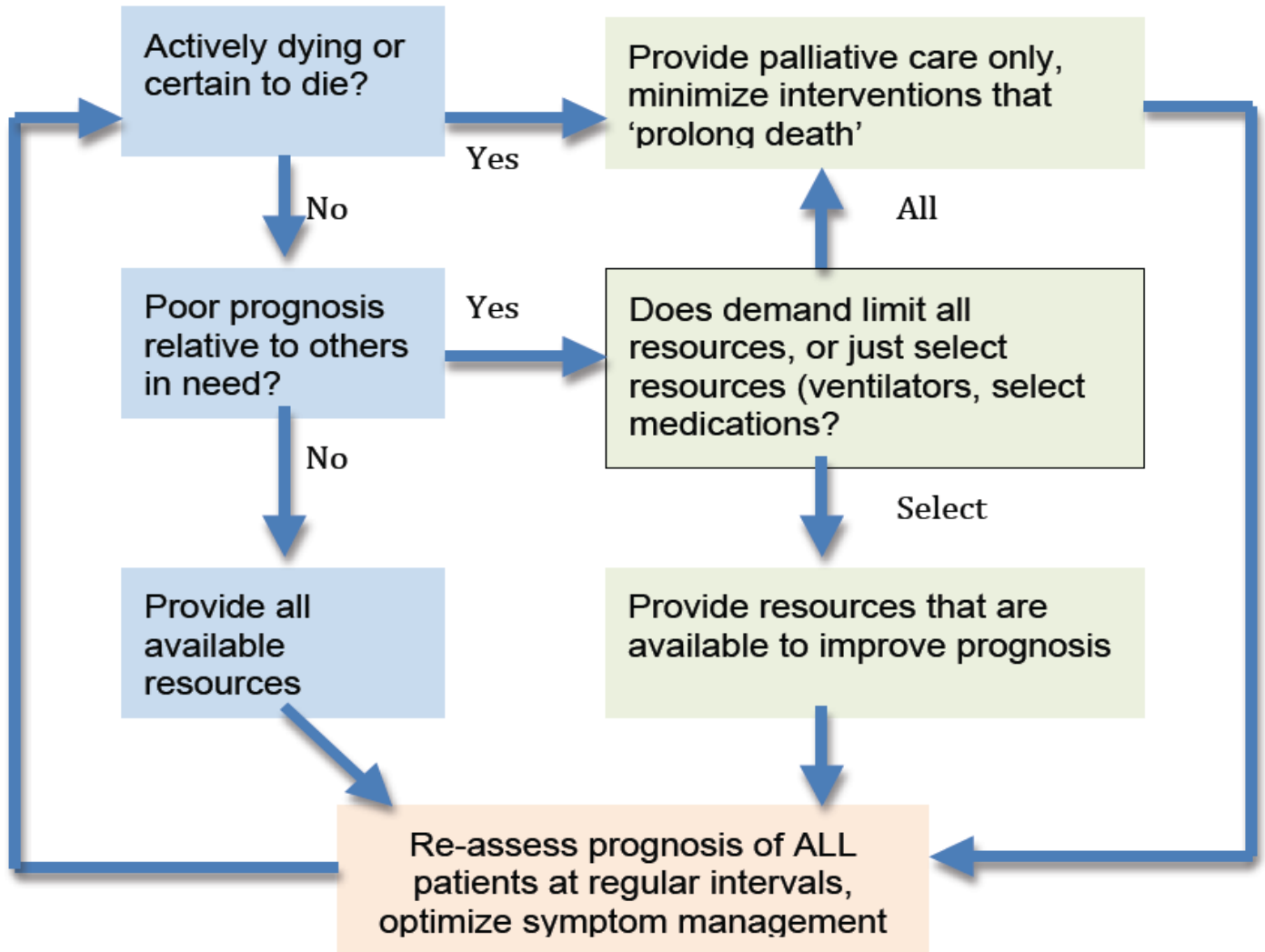
- Triage to MDH cardset categories based on score
  - Green/Yellow/Red are designation colors
  - If inadequate resources for pts with similar prognosis, random process may be needed to determine allocation

- For Reallocation:
  - Pts on vent/ICU resources for minimum of 48-72 hours if stable
  - Alternative candidate must have substantially better prognosis

Triage infrastructure

- Incident Command/IC designates triage team
  - Triage Officer/Team: 1-2 clinicians
    - Data gathering team feeds process
    - Blinded to pt specifics as much as possible
    - Critical care knowledge, communication skills
  - Triage Oversight/Secondary Review Committee
    - Multidisciplinary including Equity specialists, leadership
    - Not blinded to pt specific data
    - Addresses appeals (secondary review)
    - Retrospectively reviews larger picture of triage for fairness, larger concerns

Triage Tree


Actively dying or certain to die?
Yes
Provide palliative care only, minimize interventions that 'prolong death'
No
All
Poor prognosis relative to others in need?
Yes
Does demand limit all resources, or just select resources (ventilators, select medications?
No
Select
Provide all available resources
Provide resources that are available to improve prognosis
Re-assess prognosis of ALL patients at regular intervals, optimize symptom management

Misc

- Regional Health Resource Ctr/Hub, MNTrack, MDH helping us all act together
- “Crisis” capacity stage is state level declaration, likely <5-10% of resources available
- Advance Care Planning and Serious Illness Conversations (SIC’s) are of critical importance
  - At HCMC, all pts have chronic illness stage identified at admission, SIC’s recommended if advanced chronic illness and no recent conversation
  - LTC/Geri teams having structured conversations with LTC pts since March
  - MNHPC working toward ePOLST, state registry, further supports

Serious Illness Conversation elements

- Pt and family together
- Disease specific prognosis/”story”
- Values/priorities/goals
- COVID context, transparency about potential challenges and decision frameworks
- Promise of comfort and support always
- Documentation of preferences

CPR in context of COVID-19

Interim Guidance for Basic and Advanced Life Support in Adults, Children, and Neonates With Suspected or Confirmed COVID-19: From the Emergency Cardiovascular Care Committee and Get With the Guidelines-Resuscitation Adult and Pediatric Task Forces of the American Heart Association in Collaboration with the American Academy of Pediatrics, American Association for Respiratory Care, American College of Emergency Physicians, The Society of Critical Care Anesthesiologists, and American Society of Anesthesiologists: Supporting Organizations: American Association of Critical Care Nurses and National EMS Physicians

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Ahead of Print • DOI: 10.1161/CIRCULATIONAHA.120.047463 • Publication Date (Web): 09 Apr 2020

Consider the appropriateness of starting and continuing resuscitation.

- Rationale: Cardiopulmonary resuscitation is a high-intensity team effort that diverts rescuer attention away from other patients.[13] In the context of COVID-19, the risk to the clinical team is increased and resources can be profoundly more limited, particularly in regions that are experiencing a high burden of disease. While the outcomes for cardiac arrest in COVID-19 are as of yet unknown, the mortality for critically ill COVID-19 patients is high and rises with increasing age and comorbidities, particularly cardiovascular disease.[2, 5-8] Therefore, it is reasonable to consider age, comorbidities, and severity of illness in determining the appropriateness of resuscitation and balance the likelihood of success against the risk to rescuers and patients from whom resources are being diverted. [14]
- Strategies:

- Strategies:
  12. Address goals of care with COVID-19 patients (or proxy) in anticipation of the potential need for increased levels of care.
  13. Healthcare systems and EMS agencies should institute policies to guide front-line providers in determining the appropriateness of starting and terminating CPR for patients with COVID-19, taking into account patient risk factors to estimate the likelihood of survival. Risk stratification and policies should be communicated to patients (or proxy) during goals of care discussions.
  14. There is insufficient data to support extracorporeal cardiopulmonary resuscitation (E-CPR) for COVID-19 patients.

Currently in MN

- Discussion is ongoing related to developing guidance regarding whether CPR should be attempted in specific circumstances during COVID pandemic.

- Specific circumstances which warrant consideration of not attempting CPR (my opinion):
  - Pt with terminal stage chronic illness who has serious COVID infection
  - Pt with prolonged ICU course and declining/dying despite maximal treatment
  - PPE or staff scarcity situations

- Moral Distress and healthcare worker anxiety is a significant issue, and should be acknowledged related to this and other aspects of care (also my opinion).

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Ethical Framework for May 2020 Allocation of Remdesivir in the COVID-19 Pandemic

UPDATED MAY 15, 2020

RDV specifics

- Allocated by state to organizations/hospitals based on # of hospitalized/acutely ill COVID + pts

- Tiers of prioritization
  - **High**: vent < 5 days or on HFO2/BIPAP
  - **Medium**: Hypoxic on supplemental oxygen, CXR infiltrates, RR >30
  - **Low**: end stage/hospice appropriate chronic illness

- Track usage/allocation, review for quality/Equity

Remdesivir thus far..

- Very good state and health system collaboration using best science available (prep work over past 3 months made this go well).
    - Outstanding Ethics work to quickly develop actionable guidance and adjust with good clinician input
- Adequate drug to treat most if not all patients eligible for it so far
- Has given health systems opportunity to further develop resource scarcity response/structures.
- Uplifting for patients/families in general
    - A number have refused at HCMC, which was surprising

Summary

- Most of what we do has been affected by COVID; we are all facing things that are new and can be frightening
- MN has prepared for this; we have good history, good people and strong teams working on this
- Triage of scarce resources may challenge our community
  - we are up to the challenge if we stay together
  - I have hope that this will actually unify/strengthen our community
  - (my opinion): transparency is incredibly important; we're doing our best with this
- Be curious, be engaged, help us get this right

To see the world,

things dangerous to come to.

To see behind walls, to draw closer.

To find each other and to feel.

That is the purpose of Life.