ICU Scarcity in Minnesota

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Minnesota Critical Care Ethics and Scarcity Subgroup

- Convened in March 2020

- Ethicists, physicians and others from around the state
  - Group moderated by Chris Chell

- Task: create Minnesota specific triage framework for use under CSC

- Aim:
  - "Save the Most Lives"
  - Be as fair as possible

Current Conditions on the Surge Continuum: What is Most Important?

	Conventional	Contingency	Crisis
Space	Usual patient care space fully utilized	Patient care areas re-purposed (PACU, monitored units for ICU - level care)	Facility damaged /unsafe or non-patient care areas (classrooms, etc) used for patient care
Staff	Usual staff called in and utilized	Staff extension (brief deferrals of non-emergent service, supervision of broader group of patients, change in responsibilities, documentation, etc)	Trained staff unavailable or unable to adequately care for volume of patients even with extension techniques
Supplies	Cached and usual supplies used	Conservation, adaptation, and substitution of supplies with occasional re-use of select supplies	Critical supplies lacking, possible re-allocation of life-sustaining resources
Standard of care	Usual care	Functionally equivalent care	Crisis standards of care

Normal operating conditions

Extreme operating conditions

First Triage "Score"

- Severity of illness, comorbidities, duration of illness

- Allocate Resources in order of highest to lowest Priority in times of scarcity

Green	Priority score
Highest priority	1
YELLOW	Priority score
Second priority	2 to 4
Red	Priority score
Lower priority	5 to 6
(reassess as needed)	
BLUE	Priority Score
Lowest priority	7 to 8

Modification of Score after Retrospective Review

- Not fair: Biased against younger people and possibly against people of color

- Did not save the Most Lives

- Now includes age and excludes End Stage Renal Disease

Score and Priority	Percent of Patients and Mortality
Score 1 to 2 Highest Priority	52% of patients Three-month mortality 5 to 30%
Score 3 to 5 Medium Priority	36% of patients Three-month-mortality 40 to 70%
Score 6 and higher Lowest Priority	13% of patients Three-month-mortality 90 – 100%

How Would it Work? Overall Operational and Ethical Principles

- Optimize and evenly distribute ICU capacity
- Ensure Equitable access to the ICU based on need and likelihood of benefit
- Conserve limited ICU resources while avoiding harmful/inappropriate treatment
- Preserve and Protect Staff

How Would it Work? Logistics

- Statewide agreed upon criteria for need of and likelihood to benefit from ICU care

- Individual systems: implement criteria

- Coordinate with centralized allocation process at state (C4) to:
  - Load level and prioritize patients

- Prioritization done by experienced clinicians NOT currently caring for patients
  - Would likely require "de-prioritization" of some patients

Why was Score Never Used?

US Clinicians' Experiences and Perspectives on Resource Limitation and Patient Care During the COVID-19 Pandemic

Catherine R. Butler, MD, MA; Susan P. Y. Wong, MD, MS; Aaron G. Wightman, MD, MA; Ann M. O'Hare, MD, MA

What Resources Were Considered?
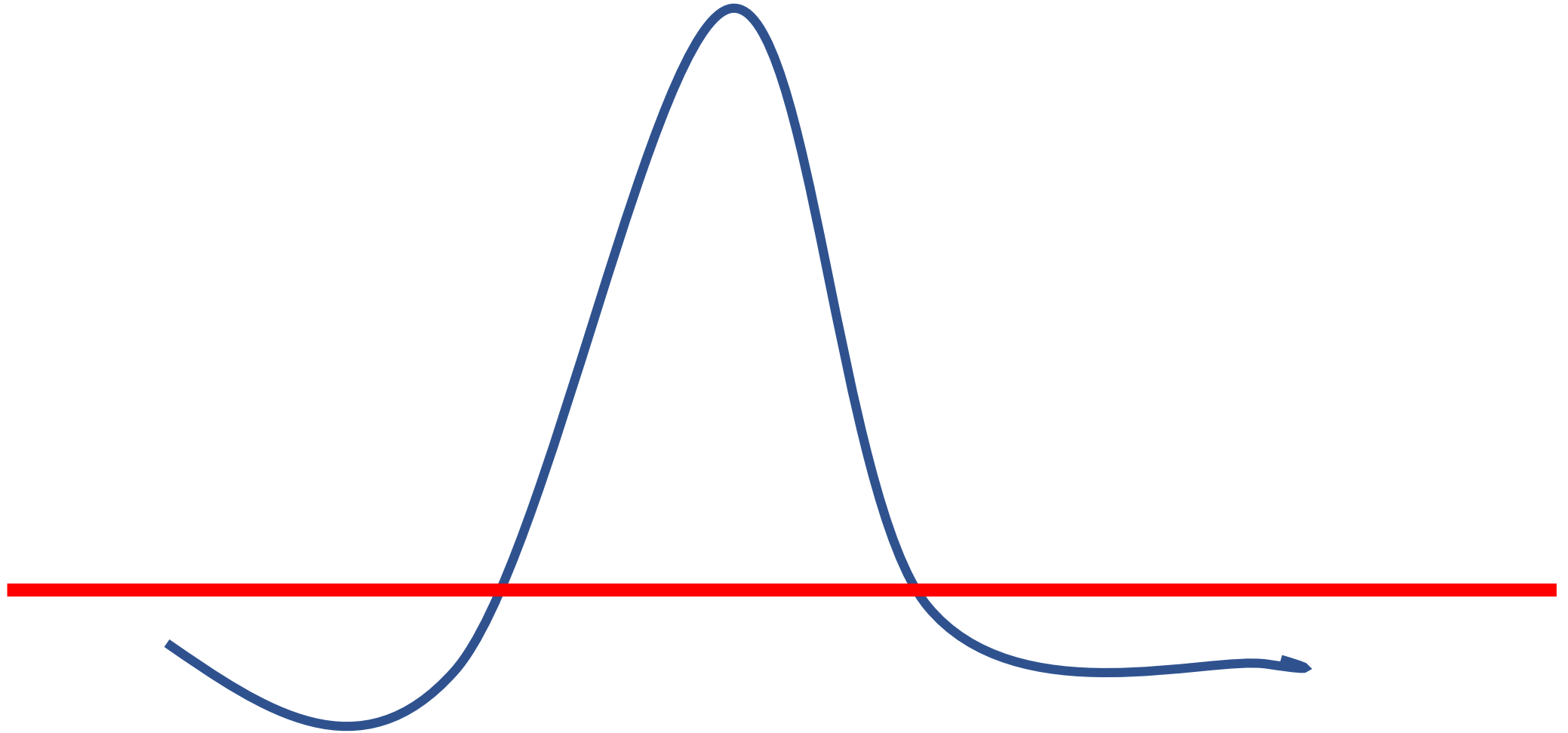
"Fixed" Resources

"Elastic" Resources

Patient Surge as Envisioned: Clear cutoff, profound mismatch, short duration
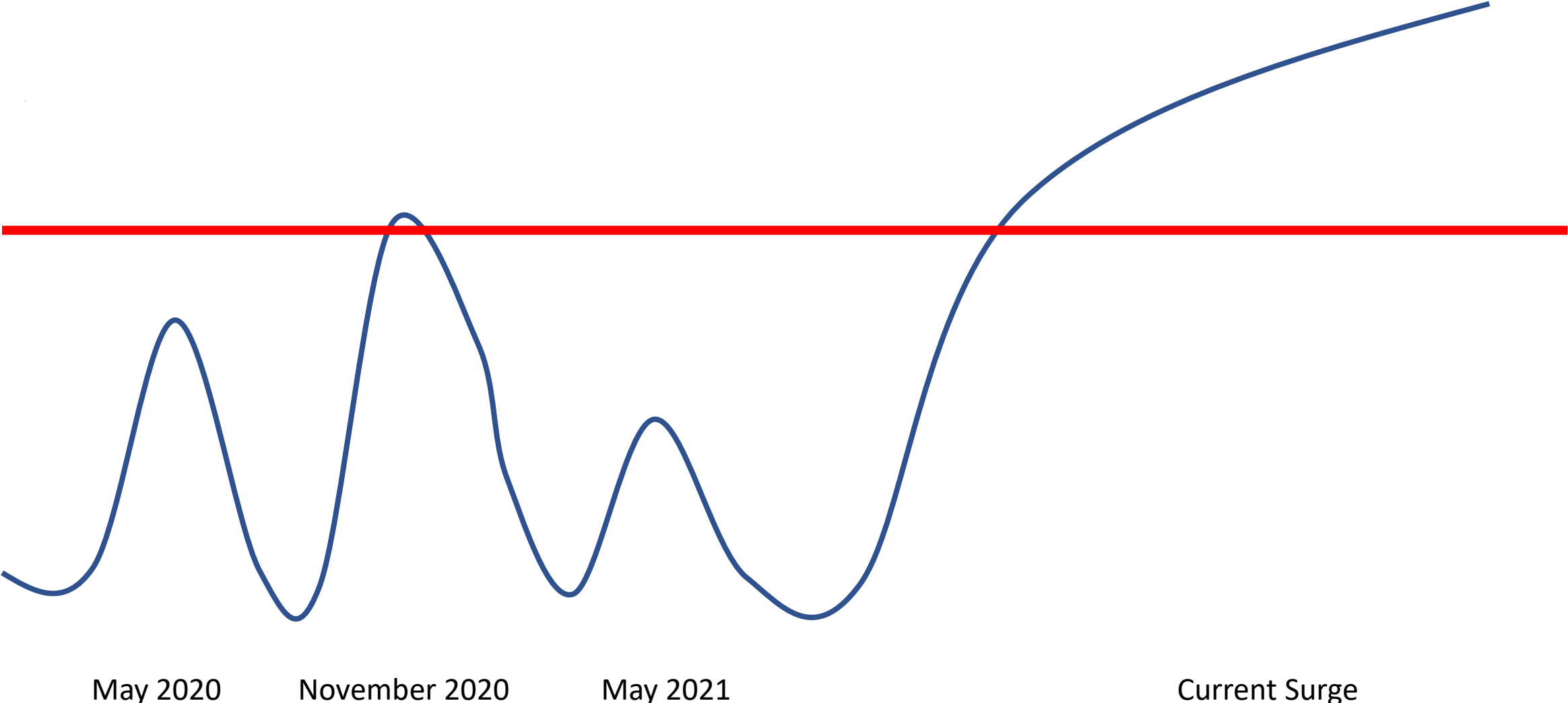
No Clear Data (Yet) that outcomes are "Non-Functional" In Minnesota

ORIGINAL RESEARCH

Association Between Caseload Surge and COVID-19 Survival in 558 U.S. Hospitals, March to August 2020

Sameer S. Kadri, MD, MS; Junfeng Sun, PhD; Alexander Lawandi, MDCM, MSc; Jeffrey R. Strich, MD, MHS; Lindsay M. Busch, MD; Michael Keller, MD; Ahmed Babiker, MBBS; Christina Yek, MD; Seidu Malik, PhD; Janell Krack, PharmD; John P. Dekker, MD, PhD; Alicen B. Spaulding, PhD, MPH; Emily Ricotta, PhD, ScM; John H. Powers III, MD; Chanu Rhee, MD, MPH; Michael Klompas, MD, MPH; Janhavi Athale, MD; Tegan K. Boehmer, PhD; Adi V. Gundlapalli, MD, PhD; William Bentley, MS; S. Deblina Datta, MD; Robert L. Danner, MD; Cumhur Y. Demirkale, PhD*; and Sarah Warner, MPH*

JAMA Network | Open.

Original Investigation | Public Health

Association of Intensive Care Unit Patient Load and Demand With Mortality Rates in US Department of Veterans Affairs Hospitals During the COVID-19 Pandemic

Dawn M. Bravata, MD; Anthony J. Perkins, MS; Laura J. Myers, PhD; Greg Arling, PhD; Ying Zhang, PhD; Alan J. Zillich, PharmD; Lindsey Reese, MD; Andrew Dysangco, MD; Rajiv Agarwal, MD; Jennifer Myers, MSW; Charles Austin, MDiv; Ali Sexson, MBA; Samuel J. Leonard, MS; Sharmistha Dev, MD; Salomeh Keyhani, MD, MPH

No Clear Data (Yet) that Outcomes are "Unfair" in Minnesota

- Anecdotes and data suggest:
  - Urban patients more likely to get ICU beds than rural patients
  - Patients with existing relationships with hospitals more likely to get beds than unattached patients (insurance status, ability to pay?)
  - Rural patients are getting suboptimal care at higher rates than urban patients
- As yet, no clear data on this topic OR on whether this is resulting in poorer outcomes

Rationing Framework In US

- We are comfortable with Implicit Rationing
    - Ability to Pay
    - Insurance Status
    - Demographics
    - Geography
        - Example: Labor and Delivery facilities in rural Minnesota
- Explicit Rationing is very uncomfortable

Adaptive Shift with Respect to Ethical Principles in US

- Within Bioethics: autonomy trumps other bioethical principles of beneficence, non-maleficence, Justice

- In Health Care Ethical Frameworks overall:
  - Would require a shift from patient focused priority to population level priority
  - Some patients' interests would be subordinated for the benefit of the whole

Questions For Us To Consider

- How much excess mortality, unfairness and moral distress is too much before making a shift in framework and approach?

- How much data is required in real time to prove outcomes are substandard before making a shift in framework and approach?

- What values in our society are given higher priority than maximizing population level outcomes and fairness?