Deans Lecture Series
May 10, 2023

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COVID-19 Pandemic: Crisis Standards of Care

- Critical Care Working group (CCWG) formed as an operational working group of the Minnesota State HealthCare Coalition (SHCC)
- Intensivist leadership from nine largest health systems
  - 67% of all Minnesota ICU beds and most (all) tertiary care beds
  - Intensivists, ethic and palliative care specialists, and representatives from MCEC (Minnesota COVID Ethics Collaborative)
- Helped establish the Minnesota Critical Care Coordination Center (C4) which helped identify and facilitate transfer for patients requiring an ICU bed
Crisis Standards of Care (CSC): Plans, Plans, Plans

- CCWG members worked together (Spring 2020)* to establish triage processes
  - Established triage officers and/or teams to triage ICU admissions if CSC encountered
  - Established processes for how to determine patient “priority”
    - Required a degree of infrastructure and personnel investment
  - Worked to establish standards for how to implement CSC consistently across Minnesota

*CHEST 2014; 146 (4_Suppl): e61S - e74S
*CHEST 2008; 133:51S–66S
<table>
<thead>
<tr>
<th></th>
<th>Conventional</th>
<th>Contingency</th>
<th>Crisis</th>
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<tbody>
<tr>
<td><strong>Space</strong></td>
<td>Usual patient care spaces maximized</td>
<td>Patient care areas re-purposed (PACU, monitored units for ICU-level care)</td>
<td>Non-traditional areas used for critical care or facility damage does not permit usual critical care</td>
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<td><strong>Staff</strong></td>
<td>Additional staff called in as needed</td>
<td>Staff extension (supervision of larger number of patients, changes in responsibilities, documentation, etc’)</td>
<td>Insufficient ICU trained staff available/unable to care for volume of patients, care team model required &amp; expanded scope</td>
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<tr>
<td><strong>Supplies</strong></td>
<td>Cached/on-hand supplies</td>
<td>Conservation, adaptation and substitution of supplies with selected re-use of supplies when safe</td>
<td>Critical supplies lacking, possible allocation/reallocation or lifesaving resources</td>
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<td><strong>Standard of care</strong></td>
<td>Usual care</td>
<td>Minimal impact on usual patient care practices</td>
<td>Not consistent with usual standards of care (Mass Critical Care)</td>
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<td><strong>ICU expansion goal</strong></td>
<td>X 1.2 usual capacity (20%)</td>
<td>X 2 usual capacity (100%)</td>
<td>X 3 usual capacity (200%)</td>
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<td><strong>Resources</strong></td>
<td>Local</td>
<td>Regional/State</td>
<td>National</td>
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**Operating Conditions**

- **Normal**
- **Morbidity and Incident demands**
- **Increasing**

**Extreme**
Surge ICU bed spaces in use
Adapted staffing plans implemented
Non-emergent surgeries or procedures restricted
Use of PICU beds for appropriate adults age < 25-30
Tele-ICU services added or augmented
Staff shortages
Adapted staffing plans implemented
Surge ICU bed spaces in use
C4 ICU bed availability for transfers

Contingency to Crisis

Conventional
Average ICU occupancy by COVID-19 and non-COVID-19 in all hospitals August 2020 - March 2022

Data Courtesy Minnesota Department of Health
CSC: What actually happened?

• Prioritization vs Reallocation
  • Prioritization: everyone gets Critical Care, with priority established for who are admitted to ICU beds most urgently
    • Most patients waited in ED’s for ICU beds
  • Reallocation: those most likely to benefit from ICU care receive it; others determined medically to be unlikely (much less likely, usually after a trial of therapy) to benefit have care taken away to be given to those more likely to benefit
    • Little scientific data available for decision making for either
CSC: What actually happened

- Prioritization- Decisions had to be made (and were) as to who received the ICU Resource
  - Some organizations had formal triage officers and/or teams to help determine prioritization
  - Most prioritization were decisions made by on-call Intensivists
  - Tertiary care systems (at times) declined accepting patients from outside their own systems
- Reallocation- No executive government support to implement
  - Reallocation did not occur
- Prior to the pandemic these were (are) considered ethically equivalent process
  - In practice: they were diametric opposites
CSC: What actually happened?

- Who had the best chance of receiving care
  - Urban versus Rural
- CSC frameworks largely fell apart
- Recommendations
  - Triage officers or teams not directly involved in patient care to make decisions
  - Scientific data to help determine effective prioritization strategies
  - Mechanisms to maintain contingency care and avoid CSC as the top priority

*CHEST 2022; 161(2):429-447*