Hard Lessons about Effectively Managing Extreme Scarcity During a Pandemic

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Chinese Taipei has reported thirty-five deaths associated with pandemic (H1N1) 2009.
A substantial change in usual healthcare operations and the level of care it is possible to deliver, which is made necessary by a pervasive (e.g., pandemic influenza) or catastrophic (e.g., earthquake, hurricane) disaster.
Major Disasters Since 2009

- H1N1 Fall 2009
- Haiti Earthquake Jan 2010
- Joplin, MO Tornado May 2011
- NY/NJ Superstorm Sandy Sept 2012
- West Africa Ebola 2014/15
- Houston, TX Hurricane Harvey August 2017
- Puerto Rico Hurricane Maria September 2017
- California Wildfires 2018

Slide from Dan Hanfling, MD
NASEM CSC Workshop, November 2019
Crisis Standards of Care and COVID-19: What Did We Learn? How Do We Ensure Equity? What Should We Do?

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Equity – Politics – Nomenclature – Surge Integration – Coordination/Sharing ACS – Clinician Roles – Triage Process – Supply Chain – Staff Shortages
Political Reluctance to Formally Activate CSC

“There were widespread shortages of critical equipment and supplies, including ventilators, respiratory supplies, oxygen cylinders, intravenous pumps, and personal protective equipment,” but...

- There was a “culture of secrecy regarding the severity of the crisis” – neither “political nor government leaders wanted to admit to being in a crisis standards situation [and] CSC-related documents were treated as secret and not shared with frontline clinicians.”
- “No CSC declaration was formally made by the state, city, or any hospital.”

“Decisions had to be made that could not wait for administrators to accept or conceive of the extremity of the situation.”
Importance of Establishing Uniform Standards

Establishing statewide standards of care ensures that all hospitals are providing the same level of care and patients are not treated by different standards.

“ADHS is officially activating crisis standards of care in Arizona with the recognition that an individual hospital’s status may fall within the continuum of contingency and crisis standards of care...”

“The plan is intended to guide statewide activation and implementation of CSC during catastrophic public health emergencies and is not intended to be an emergency plan for individual agencies or organizations.”

“a severe shortage of staffing and available beds in the northern area of the state caused by a massive increase in patients with COVID-19 who require hospitalization.”

The designation includes just 10 hospitals and healthcare systems in the Idaho panhandle and in north-central Idaho.
Incident demand/resource imbalance increases
Risk of morbidity/mortality to patient increases
Recovery

<table>
<thead>
<tr>
<th>Conventional</th>
<th>Contingency</th>
<th>Crisis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space</td>
<td>Usual patient care space fully utilized</td>
<td>Patient care areas re-purposed (PACU, monitored units for ICU-level care)</td>
</tr>
<tr>
<td>Staff</td>
<td>Usual staff called in and utilized</td>
<td>Staff extension (brief deferrals of non-emergent service, supervision of broader group of patients, change in responsibilities, documentation, etc.)</td>
</tr>
<tr>
<td>Supplies</td>
<td>Cached and usual supplies used</td>
<td>Conservation, adaptation, and substitution of supplies with occasional re-use of select supplies</td>
</tr>
<tr>
<td>Standard of care</td>
<td>Usual care</td>
<td>Functionally equivalent care</td>
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</tbody>
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Normal operating conditions

Trigger(s): Decision point for contingency care

Crisis care trigger(s): Decision point for crisis standards of care*

FIGURE 1 | Examples of Graduated Changes Across the Care Continuum

SOURCE: Developed by authors.

NOTE: Examples only. Does not represent all potential adjustments. Increasing risk for poor patient outcome as changes implemented from top to bottom. Regional agreement on what constitutes ‘significant risk’ and therefore crisis conditions is needed to facilitate communications, resource distribution, and guide response strategy.