Crisis Standards of Care
A Community Conversation

North Texas Mass Critical Care Task Force
Introduction

- Health care professionals in North Texas function well under normal circumstances.
- But what would happen in the event of a mass disaster when demand for service might exceed availability of service?
- How might health care professionals provide safe, timely, effective, and fair patient-centered care to the largest number of patients in times of mass disaster?
A 4-county task force of physicians, other health care professionals, and community leaders has been studying this problem for the past several years.

Based upon that study, the North Texas Mass Critical Care Guidelines, Version 1.0 have been approved by the county medical societies, health departments, and hospitals in the 4 county region. The guidelines have also been endorsed by the Texas Department of State Health Services.

The following slides provide basic background to the problem of mass critical care and a brief overview of how health care professionals in North Texas will ensure the greatest number of patients are equitably served with maximum survival in the event of a medical crisis that overwhelms available medical resources.
“Disaster” Defined

What do disasters have in common?

- People’s needs exceed available resources
- Help cannot arrive fast enough

How do disasters differ?

- Some are long-lasting and widespread (flu pandemic)
- Others are sudden and geographically limited (earthquake, terrorist attack)
Think about Hurricane Katrina

- Hospitals themselves were devastated
- Help couldn’t arrive fast enough
- Patients had to be treated in other locations and even other cities.
- Thankfully, this was geographically limited.
What about Pandemic Flu?
What might that look like in North Texas?
Pandemic Flu Planning Assumptions*

- Clinical disease attack rate of 20 - 30% or higher in the overall population.
- 50% of ill will seek medical care.
- 40% medical absenteeism during peak of severe pandemic.
- Anticipated mortality rate could range from:
  - 0.02% (2010 H1N1) to 2.5% (1918 Spanish flu)
    - 1918 Pandemic in the US: 28% of the populations suffered and 675,000 died!
    - 50 million died world wide from Spanish flu.

* HHS Pandemic Flu Planning Assumptions: http://www.pandemicflu.gov/plan/pandplan.html
CDC Flu Surge Projections
(Dallas County, 8 week outbreak, 25% attack rate)

- 3600 additional hospitalizations/month (range 1250 – 4900)
- 650 additional deaths/month (range 325 – 1200)
  - Note that Dallas County has about 350-400 deaths/month
Resources available to respond*

- Staffed non-ICU beds: 4814
- Staffed ICU beds: 559
- Estimated ventilators: 452
- Most ICU beds and ventilators are occupied on any given day even without a pandemic
- In a severe (1918-like) flu pandemic it is estimated we may only have 50% of the ventilators for which there is demand.

* Dallas County Hospital Resources - DSHS and informal survey of local hospitals
Practical and Ethical Challenges!

Who will get access to scarce medical resources?
Who decides? How might they decide?

Guidelines should be developed before disaster strikes!

Extreme Crisis
- Hurricane
- Flu Pandemic
- Earthquake
- Bioterrorism

Scarce Medical Resources
- Blood
- Ventilators
- Drugs
- Vaccines
- Staff
When there isn’t enough to save everyone... how might guidelines work?

- First-come, first-served?
- The socially well connected?
- Those who pay the most?
- Other groups?
  - The old OR the young?
  - Healthcare workers and other emergency responders?
- Those most likely to die?
- Those most likely to benefit?
What is the ethical foundation of the draft Guidelines?

• All patients will be treated based upon the ability of the patient to benefit.
• Denial of medical treatment based upon social status, ability to pay, race, or other non-medical factors is prohibited!
What is the practical foundation of the draft Guidelines?

- **Ability to benefit** involves medical judgment.
- The judgment must be determined by specific, objective, medical criteria and tools such as the **Sequential Organ Failure Assessment (SOFA)**.
SOFA Scoring

- Probability of survival tool
- Simple number score: 0 - 24 where 0 is best and 24 is worst prognosis
- Good evidence base in the peer reviewed literature
- Points added based on objective measures of function in six key organs and systems: lungs, liver, brain, kidneys, blood clotting, and blood pressure
# SOFA Scoring

Range 0 - 24: 0 is best, 24 is worst

## Sequential Organ Failure Assessment (SOFA) score

<table>
<thead>
<tr>
<th>Variable</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>PaO2/FiO2 mmHg</td>
<td>&gt;400</td>
<td>≤ 400</td>
<td>≤ 300</td>
<td>≤ 200</td>
<td>≤ 100</td>
</tr>
<tr>
<td>Platelets, x 10^3/μL (x 10^6/L)</td>
<td>&gt;150 (&gt;150)</td>
<td>≤ 150 (&lt;150)</td>
<td>≤ 100 (&lt;100)</td>
<td>≤50 (&lt;50)</td>
<td>≤ 20 (&lt;20)</td>
</tr>
<tr>
<td>Bilirubin, mg/dL (μmol/L)</td>
<td>&lt;1.2 (&lt;20)</td>
<td>1.2-1.9 (20 – 32)</td>
<td>2.0-5.9 (33 – 100)</td>
<td>6.0-11.9 (101 – 203)</td>
<td>&gt;12 (&gt; 203)</td>
</tr>
<tr>
<td>Hypotension</td>
<td>None</td>
<td>MABP &lt; 70 mmHg</td>
<td>Dop ≤ 5</td>
<td>Dop &gt; 5, Epi ≤ 0.1, Norepi &lt; 0.1</td>
<td>Dop &gt; 15, Epi &gt; 0.1, Norepi &gt;0.1</td>
</tr>
<tr>
<td>Glasgow Coma Score</td>
<td>15</td>
<td>13 - 14</td>
<td>10 - 12</td>
<td>6 - 9</td>
<td>&lt;6</td>
</tr>
<tr>
<td>Creatinine, mg/dL (μmol/L)</td>
<td>&lt; 1.2 (&lt;106)</td>
<td>1.2-1.9 (106 – 168)</td>
<td>2.0-3.4 (169 - 300)</td>
<td>3.5–4.9 (301 – 433)</td>
<td>&gt;5 ( &gt; 434)</td>
</tr>
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SOFA Score Categories

- **Blue**: Patients with very poor expected outcomes even if life-saving resources are used.
- **Red**: Patients who require life-saving resources and are most likely to recover by receiving those resources.
- **Yellow**: Patients who require life-saving resources and are less likely than patients in the Red category to recover by receiving those resources.
- **Green**: Patients who do not require life-saving resources to recover.
# SOFA Score and Critical Care Triage

<table>
<thead>
<tr>
<th>Color Code</th>
<th>Criteria</th>
<th>Priority/Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>Exclusion Criteria* or SOFA &gt; 11*</td>
<td>Medical Mgmt +/- Palliate &amp; d/c</td>
</tr>
<tr>
<td>Red</td>
<td>SOFA ≤ 7 or Single Organ Failure</td>
<td>Highest</td>
</tr>
<tr>
<td>Yellow</td>
<td>SOFA 8 - 11</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Green</td>
<td>No significant organ failure</td>
<td>Defer or d/c, Reassess as needed</td>
</tr>
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*If exclusion criteria or SOFA > 11 occurs at any time from the initial assessment to 48 hours change triage code to Blue and palliate. d/c = discharge
Who will be affected by Mass Critical Care Guidelines?

- Everyone!
- Rich, poor, young, old, health care professionals, first responders (police/fire/paramedics), office workers, laborers, retired persons – Everyone!
Why have Crisis Standards of Care?

- To maximize survival by ensuring that critical resources go to those most likely to benefit
- To minimize discrimination against vulnerable groups
- To prevent hoarding and overuse of limited resources
- To conserve limited resources so more people can get the care they need
- So all people can trust that they will have fair access to the best possible care under crisis circumstances
Foster Community Conversations that:

- Explain and endorse the approved crisis standards of care guidelines reflecting our community values and priorities, and

- Listen for community concerns that might come up about the guidelines and help relay those concerns to the North Texas Mass Critical Care Task Force.
QUESTIONS AND COMMENTS
North Texas Mass Critical Care Task Force - the following organizations have contributed to or explicitly endorsed the NTX MCC plan:

- Baylor Health Care System
- Carter BloodCare
- Children’s Medical Center Dallas
- City of Dallas
- Collin County Homeland Security Department
- Collin County Medical Society
- Cook Children’s Health Care System
- Dallas County Commissioners Court
- Dallas County Health and Human Services
- Dallas County Medical Society
- Dallas Regional Chamber
- Denton County Medical Society
- Dallas-Fort Worth Hospital Council
- Dallas Independent School District
- Emergency Physicians Advisory Board
- Faith Community Representative, Dallas Area Interfaith
- Faith Community Representative, SMU/Perkins School of Theology
- HCA North Texas Division
- John Peter Smith Hospital
- Legal Community Representative, Dallas Bar Association – Health Law Section
- Legal Community Representative,
- SMU/Dedman School of Law
- Medical City Dallas Hospital
- MedStar Mobile Healthcare
- Methodist Health System
- North Central Texas Trauma Regional Advisory Council
- Parkland Health and Hospital System
- Tarrant County Medical Society
- Tarrant County Public Health Department
- Texas Health Resources
- UT Southwestern Medical Center