Allocation of Scarce Resources: Inova Health System Planning Efforts

Dan Hanfling, MD
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Team Charter:

The purpose of this subcommittee is to focus and develop clinical and administrative guidance on the complex issues related to the allocation of scarce medical resources, and the resulting shift in standards of care that would ensue.

It will focus on the following three areas of concern:

• Develop guiding principles to permit the fair and equitable allocation of scarce resources
  • Develop an educational outreach campaign targeting clinical staff
  • Create a framework for operational decision-making in times of crisis

The guiding principles for this working group process will be derived from ethically based principles and consensus driven agreement.
1. Allocation of Scarce Resources

Objectives:

- Review the subject of catastrophic disaster events that might result in requirement to shift to disaster triage principles
- Review the existing literature in this subject matter
- Establish guiding principles for the allocation of scarce medical resources within the Inova Health System
- Explore the impact this would have on established standards of care
2. Educational Outreach

Objectives:

- Develop an educational plan to result in an awareness of the issues and impact on practice about allocation of scarce resources for clinicians and administrators.

- Develop a plan for the dissemination of these newly developed guiding principles, targeting clinical practitioners who provide hospitals and ambulatory based care.

- Create a public educational strategy that elucidates the Inova Health System approach to these issues, and clarifies the issues of access to scarce resources.
3. Operational Decision Making

Objectives:

• Understand the principles of management by objectives, particularly as implemented in the context of hospital incident command decision-making.

• Create a framework for real-time operational decision-making that will be implemented under existing hospital incident management authorities in the setting of scarce access to resources.
Considering an Ethical Framework
Appropriate criteria

- Likelihood of benefit
- Change in quality of life
- Duration of benefit
- Urgency of need
- Amount of resources required
Considering an Ethical Framework

Inappropriate Criteria

- Patient’s contribution to society
- Perceived obstacles to treatment (education, transportation, language barrier)
- Past use of resources
- Contribution of patient to their problem
- Ability to pay
Surge Capacity Planning

‘Conventional’ Surge Capacity

‘Conventional’ Standard of Care

‘Contingency’ Surge Capacity

‘Contingency’ Standard of Care

‘Crisis’ Surge Capacity

‘Crisis’ Standard of Care

Hanfling D, Institute of Medicine, Altered Standards of Care, Regional presentations, Spring 2009.
<table>
<thead>
<tr>
<th></th>
<th>Altered Standard of Care</th>
<th>Resource Constrained</th>
<th>Practicing Outside Experience</th>
<th>Focus of Care</th>
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</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Patient</td>
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<td>Contingency</td>
<td>Slightly</td>
<td>Slightly</td>
<td>No</td>
<td>Patient</td>
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<tr>
<td>Crisis</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Population</td>
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<td>Sample Strategies to Address Resource Shortages</td>
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<td><strong>Conventional Capacity</strong></td>
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<td><strong>Contingency Capacity</strong></td>
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<td><strong>Crisis Capacity</strong></td>
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<tr>
<td><strong>Prepare</strong></td>
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<td>Stockpile supplies used</td>
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<tr>
<td><strong>Substitute</strong></td>
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<tr>
<td>Equivalent medications used (narcotic substitution)</td>
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<tr>
<td><strong>Conserve</strong></td>
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<tr>
<td>Oxygen flow rates titrated to minimum required, discontinued for saturations &gt; 95%</td>
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<tr>
<td>Oxygen only for saturations &lt;90%</td>
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<tr>
<td>Oxygen only for respiratory failure</td>
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<tr>
<td><strong>Adapt</strong></td>
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<td>Anesthesia machine for mechanical ventilation</td>
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<td>Bag valve manual ventilation</td>
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<td><strong>Reuse</strong></td>
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<tr>
<td>Reuse cervical collars after surface disinfection</td>
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<td>Reuse nasogastric tubes and ventilator circuits after appropriate disinfection</td>
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<td>Reuse invasive lines after appropriate sterilization</td>
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<td><strong>Reallocate</strong></td>
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<td>Reallocate oxygen saturation monitors, cardiac monitors, only to those with critical illness</td>
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<td>Reallocate ventilators to those with the best chance of a good outcome</td>
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**SOURCE:** Adapted from Hick et al. (2009).
Resources that are likely to be scarce in a crisis care environment (from IOM Letter Report, September 2009)

• Ventilators and components
• Oxygen and oxygen delivery devices (ECMO)
• Vascular access devices
• Intensive care unit (ICU) beds
• Healthcare providers, particularly critical care, burn, and surgical/anesthesia staff (nurses and physicians) and respiratory therapists
• Hospitals (due to infrastructure damage or compromise)
• Specialty medications or intravenous fluids (sedatives/analgesics, specific antibiotics, antivirals, etc.)
• Vasopressors/inotropes
• Medical transportation
If triage of mechanical ventilation / critical care becomes necessary assess existing critical care patients according to:

- SOFA Score
- Expected duration of mechanical ventilation
- Any severe, life-limiting underlying disease states
- Other, disease-specific factors

Order patients from most-sick to least sick and re-assess daily or as conditions warrant

New patient requires mechanical ventilation - Assess patient SOFA score, expected duration (rough) of mechanical ventilation, and underlying disease states or other contributing data / prognosticators (as above)

Patient has exclusion criteria?¹

YES

Existing patients that no longer require critical care (improved) or meet exclusion criteria (worsening)?¹

YES

Triage out of critical care area with appropriate transition care for condition and re-assess resource availability

NO

Treatment trial of ventilation if available for new patient, if no ventilator available contrast needs of new patient against existing ‘most-sick’ patient(s) - Compelling reason to re-allocate from currently ventilated patients?

YES

Re-allocate ventilator / resources to new patient, transition care for prior ventilated patient to available support given circumstances including appropriate palliative care

NO

Pre-decisional Draft

DO NOT CIRCULATE
Clinical care committee

Reviews facility/regional situation and examines:

• Alternate care sites—can additional areas of the building or external sites be used for patient care? (should be planned in advance).

• Medical care adaptations—(e.g., use of non-invasive ventilation techniques, changes in medicine administration techniques, use of oral medications and fluids instead of intravenous, etc.).

• Changes in staff responsibilities—to allow specialized staff to redistribute workload (e.g., floor nurses provide basic patient care in the intensive care unit while critical care nurses “float” and troubleshoot) and/or incorporate other healthcare providers, lay providers, or family members where practical (Rubinson et al., 2008b; Rubinson et al., 2005).

• Regional challenges and strategies being used by members of the coalition (with ongoing coordination with the RHCC and, if used, the Regional Disaster Medical Advisory Committee).
Proposed Operational Plan

IN PATIENT SETTING:

Patients presenting to the hospital, and their family members are given verbal and printed information (ideally by the triage nurse in the ED, or for in-patients, by their primary nurse or physician) explaining the situation and, if necessary, explaining specific resources subject to triage or "treatment trials" that may have to be ended in order to provide care to others with higher likelihood of benefit. A mechanism for responding to patient/family questions and concerns should also be detailed in the written guidance.

ED/OUT-PATIENT SETTING:

Screening of patients (and denial of service to patients either too sick or too well to benefit from evaluation/admission) based on guidance disseminated by the clinical care team is implemented.
Proposed Operational Plan

Tertiary triage team

(ideally NOT the physicians directly providing the patient’s care and ideally one critical care physician and one critical care nurse) -- eICU staff

Considers situations in which there are competing patient demands for a scarce resource. The resource should be assigned as follows:

• When two patients have essentially equal claim to the resource, a “first-come, first-served” policy should be used.

• When, according to guidelines or the triage team’s clinical experience, the claim to the resource is clearly not equal, the patient with a more favorable prognosis/prediction shall receive the resource.

• The triage team should ask for and receive whatever patient information is necessary to make a decision, but should NOT consider subjective assessments of the quality of the patient’s life or value to society and, in fact, should ideally be blinded to such information when possible.
Figure 3. Triage team functions.
Proposed Operational Plan

• Whenever a decision is made to reallocate a ventilator or similar critical resource, the treating physician (but, not the family) should be provided with the grounds for the decision (which should be documented for the record at the facility), and a rapid appeals process if there is additional or new information that the treating physician(s) feel would affect the decision.

• Transition care plans should assure the comfort and dignity of those who are no longer receiving full treatment modalities and assure support for the family and care providers.
Tier 1 – Local Hospital is overcapacity – implements EMCC – ICU care provided in non-traditional locations in hospital. Temporizing measures may be implemented (bag-valve ventilation). Internal resources mobilized.

Tier 2 – Regional hospital system CAN redistribute patients and resources in order to meet demand, may involve limited external partners and EMCC with temporizing measures across multiple hospitals

Tier 3 – Regional hospital system CANNOT meet demand. Requests to jurisdiction / state for additional resources and invocation of appropriate emergency declarations / protection from liability for hospitals. EMCC provided across multiple hospitals – regional decision-making about temporizing measures relative to expected resources / demand

External Resources Needed

Situation improves

Adequate resources arrive from state or Federal partners

Resources will not be adequate to meet demand in near future

Regional and hospital decision-making about appropriate standard of care (may include decision NOT to provide critical care services in extreme situation – e.g. severe pandemic – where resources can be better applied elsewhere in the healthcare system). No temporizing measures. Triage and re-allocation of ventilators and other resources – adjusted daily to incident-driven demands vs. supply. Communication with public and caregivers about situation. Ongoing attempts to transfer patients or obtain needed resources.