Crisis Standards of Care in Colorado

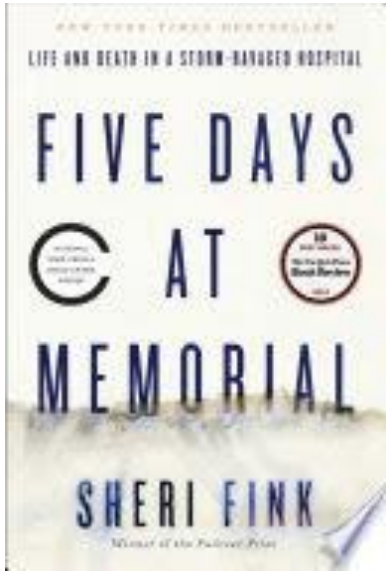
PROJECT UPDATE

MAY 7, 2019

Agenda

- Defining Crisis Standards of Care
- Project Overview
- Current Activities
- Overall Lessons
- Next Steps

Excerpt from Five Days at Memorial



- What if you were in this position?
- What information or tools would you want to have available to you?
- What would help you make this decision?

Emergency Management Principles and Crisis Standards

- **Emergency management** is the managerial function charged with creating the framework within which communities reduce vulnerability to hazards and cope with disasters. (FEMA)
- **Crisis standards of care** is defined as 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. (NAM)

Crisis Standards of Care Guidelines

- Promote best possible medical practice under the circumstances;
- Allow reasonable health care provider discretion;
- Adapt to the ever-changing circumstances of disasters; and
- Emphasize early conservation, adaptation, and substitution of medical resources to avoid having to resort to more extreme measures.

How to do the greatest good….

- Implement incident management and surge capacity plans
- Anticipate resource shortfalls
- Solve the imbalance:
  - Bring in resources
  - Transfer patients
  - Triage resources
- Situational Awareness

When Resource Needs Exceed Ability to Provide

- During certain disasters or man-made incidents, the resources needed to care for medical population will likely exceed those available.
  - Highly Communicable Disease
  - Earthquake
  - Flood
  - Hurricane
  - Supply chain interruption
  - Large scale terrorism
  - Widespread utility failure

Day-to-Day Operations vs. Scarce Resources

- Scarce resource situations can be caused by a number of reasons.
- Examples of potentially scarce resources are:
  - Ventilators and components
  - Oxygen and Oxygen delivery devices
  - Intensive care unit
  - Healthcare Providers
  - Intravenous fluids
  - Medical transportation

Ethics

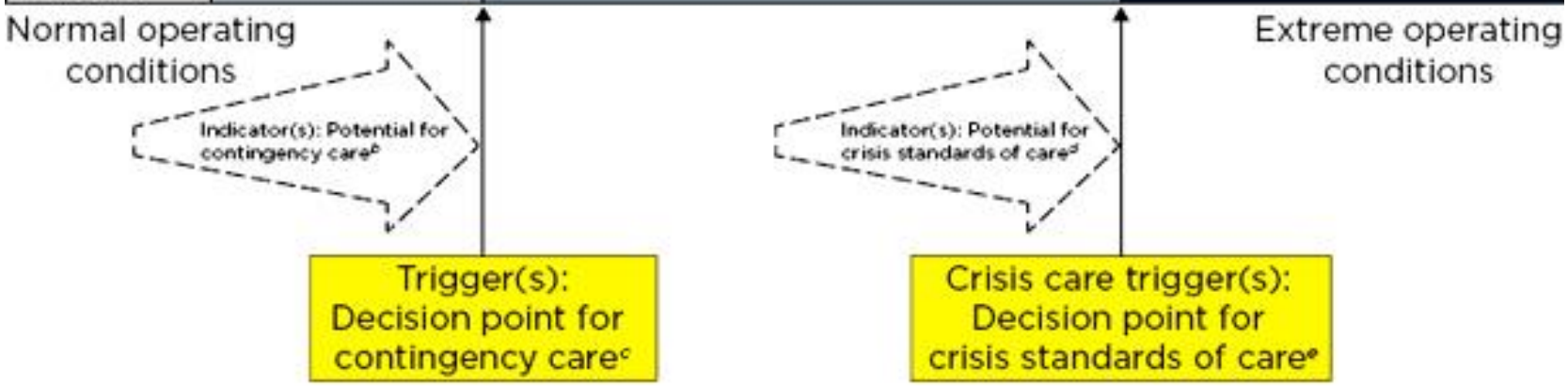
- Moving from concept of autonomy to most good for most people
- Discussion of allocation of resources
- Reversing triage processes
- Transplant example
- Fair innings concept

Goals of Crisis Standards of Care

- One of the main goals of crisis standards of care is to save more lives than would be saved by business as usual. Crisis standards of care help conserve and stretch medical resources so they can help as many patients as possible in order to:
  - give critical resources to those who need them and/or will benefit the most;
  - prevent hoarding and overuse of scarce resources;
  - protect at-risk groups against discrimination in access to care; and
  - ensure patients and their families trust that they will receive fair access to the best possible care under the circumstances.

Incident demand/resource imbalance increases →
Risk of morbidity/mortality to patient increases →
← Recovery

	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 reallocation of life-sustaining resources
Standard of care	Usual care	Functionally equivalent care	Crisis standards of care[e]



ALL CLEAR EMERGENCY MANAGEMENT GROUP

Tools and References

- Triage Guidance
  - START Triage
  - JUMPSTART
  - Case Detection and Clinical Management Triage (Adults and Pediatrics)
  - Telephone Triage (Adults and Pediatrics)
  - Guidelines for Mass Emergency Screening (Adults and Pediatrics)
  - Patient Triage for Influenza and Complications (Adults and Pediatrics)
  - Critical Care Triage and Allocation of Ventilators (Adults)
  - Mechanical Ventilator Triage (Adults)

PATIENT CARE
STRATEGIES FOR SCARCE RESOURCE SITUATIONS

MINNESOTA HEALTHCARE SYSTEM PREPAREDNESS PROGRAM

Table of Contents

Core Clinical Strategies for Scarce Resource Situations Core clinical categories are practices and resources that form the basis for medical and critical care.		
Summary Card		Page ii
Oxygen	Section 1	Pages 1-2
Staffing	Section 2	Pages 1-2
Nutritional Support	Section 3	Pages 1-2
Medication Administration	Section 4	Pages 1-2
Hemodynamic Support and IV Fluids	Section 5	Pages 1-2
Mechanical Ventilation / External Oxygenation	Section 6	Pages 1-2
Blood Products	Section 7	Pages 1-2

Resource Reference and Triage Cards Resource cards address the unique system response issues required by specific patient groups during a major incident. Some of this information is specific to the State of Minnesota's resources and processes.		
Renal Replacement Therapy Resource Cards	Section 8	Pages 1-4
Burn Therapy Resource Cards	Section 9	Pages 1-6
Burn Therapy Triage Card	Section 9	Pages 7-8
Pediatrics Resource Cards	Section 10	Pages 1-4
Pediatrics Triage Card	Section 10	Pages 5-6
Palliative Resource Cards	Section 11	Pages 1-10

PATIENT CARE
STRATEGIES FOR SCARCE RESOURCE SITUATIONS

Summary Card

MINNESOTA HEALTHCARE SYSTEM PREPAREDNESS PROGRAM

Potential trigger events:	•Mass Casualty Incident (MCI) •Infrastructure damage/loss •Pandemic/Epidemic	•Supplier shortage •Recall/contamination of product •Isolation of facility due to access problems (flooding, etc)

How to use this card set:

1. Recognize or anticipate resource shortfall
2. Implement appropriate incident management system and plans; assign subject matter experts (technical specialists) to problem
3. Determine degree of shortfall, expected demand, and duration; assess ability to obtain needed resources via local, regional, or national vendors or partners
4. Find category of resource on index
5. Refer to specific recommendations on card
6. Decide which strategies to implement and/or develop additional strategies appropriate for the facility and situation
7. Assure consistent regional approach by informing public health authorities and other facilities if contingency or crisis strategies will continue beyond 24h and no regional options exist for re-supply or patient transfer; activate regional scarce resource coordination plans as appropriate
8. Review strategies every operational period or as availability (supply/demand) changes

Core strategies to be employed (generally in order of preference) during, or in anticipation of a scarce resource situation are:

Prepare - pre-event actions taken to minimize resource scarcity (e.g., stockpiling of medications)
Substitute - use an essentially equivalent device, drug, or personnel for one that would usually be available (e.g., morphine for fentanyl)
Adapt – use a device, drug, or personnel that are not equivalent but that will provide sufficient care (e.g., anesthesia machine for mechanical ventilation)
Conserve – use less of a resource by lowering dosage or changing utilization practices (e.g., minimizing use of oxygen driven nebulizers to conserve oxygen)
Re-use – re-use (after appropriate disinfection / sterilization) items that would normally be single-use items
Re-allocate – restrict or prioritize use of resources to those patients with a better prognosis or greater need

Capacity Definitions:

Conventional capacity – The spaces, staff, and supplies used are *consistent with daily practices* within the institution. These spaces and practices are used during a major mass casualty incident that triggers activation of the facility emergency operations plan.

Contingency capacity – The spaces, staff, and supplies used are not consistent with daily practices, but provide care to a standard that is *functionally equivalent* to usual patient care practices. These spaces or practices may be used temporarily during a major mass casualty incident or on a more sustained basis during a disaster (when the demands of the incident exceed community resources).

Crisis capacity – Adaptive spaces, staff, and supplies are not consistent with usual standards of care, but provide *sufficiency* of care in the setting of a catastrophic disaster (i.e., provide the best possible care to patients given the circumstances and resources available). Crisis capacity activation constitutes a significant adjustment to standards of care (Hick et al, 2009).

This card set is designed to facilitate a structured approach to resource shortfalls at a healthcare facility. It is a decision support tool and assumes that incident management is implemented and that key personnel are familiar with ethical frameworks and processes that underlie these decisions (for more information see Institute of Medicine 2012 Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response http://www.iom.edu/Reports/2012/Crisis-Standards-of-Care-A-Systems-Framework-for-Catastrophic-Disaster-Response.aspx and the Minnesota Pandemic Ethics Project - http://www.health.state.mn.us/divs/idepc/ethics/). Each facility will have to determine the most appropriate steps to take to address specific shortages. Pre-event familiarization with the contents of this card set is recommended to aid with event preparedness and anticipation of specific resource shortfalls. The cards do not provide comprehensive guidance, addressing only basic common categories of medical care. Facility personnel may determine additional coping mechanisms for the specific situation in addition to those outlined on these cards.

The content of this card set was developed by the Minnesota Department of Health (MDH) Science Advisory Team in conjunction with many subject matter experts whose input is greatly appreciated. This guidance does not represent the policy of MDH. Facilities and personnel implementing these strategies in crisis situations should assure communication of this to their healthcare and public health partners to assure the invocation of appropriate legal and regulatory protections in accord with State and Federal laws. This guidance may be updated or changed during an incident by the Science Advisory Team and MDH. The weblinks and resources listed are examples, and may not be the best sources of information available. Their listing does not imply endorsement by MDH. This guidance does not replace the judgement of the clinical staff and consideration of other relevant variables and options during an event.

ALL CLEAR EMERGENCY MANAGEMENT GROUP

OXYGEN

STRATEGIES FOR SCARCE RESOURCE SITUATIONS

MINNESOTA HEALTHCARE SYSTEM PREPAREDNESS PROGRAM

RECOMMENDATIONS	*Strategy*	*Conventional*	*Contingency*	*Crisis*
Inhaled Medications • Restrict the use of Small Volume Nebulizers when inhaler substitutes are available. • Restrict continuous nebulization therapy. • Minimize frequency through medication substitution that results in fewer treatments (6h-12h instead of 4h-6h applications).	*Substitute & Conserve*			
High-Flow Applications • Restrict the use of high-flow cannula systems as these can demand 12 to 40 LPM flows. • Restrict the use of simple and partial rebreathing masks to 10 LPM maximum. • Restrict use of Gas Injection Nebulizers as they generally require oxygen flows between 10 LPM and 75 LPM. • Eliminate the use of oxygen-powered venturi suction systems as they may consume 15 to 50 LPM.	*Conserve*			
Air-Oxygen Blenders • Eliminate the low-flow reference bleed occurring with any low-flow metered oxygen blender use. This can amount to an additional 12 LPM. Reserve air-oxygen blender use for mechanical ventilators using high-flow non-metered outlets. (These do not utilize reference bleeds). • Disconnect blenders when not in use.	*Conserve*			
Oxygen Conservation Devices • Use reservoir cannulas at 1/2 the flow setting of standard cannulas. • Replace simple and partial rebreather mask use with reservoir cannulas at flowrates of 6-10 LPM.	*Substitute & Adapt*			
Oxygen Concentrators if Electrical Power Is Present • Use hospital-based or independent home medical equipment supplier oxygen concentrators if available to provide low-flow cannula oxygen for patients and preserve the primary oxygen supply for more critical applications.	*Substitute & Conserve*			
Monitor Use and Revise Clinical Targets • Employ oxygen titration protocols to optimize flow or % to match targets for SPO2 or PaO2. • Minimize overall oxygen use by optimization of flow. • Discontinue oxygen at earliest possible time. **Starting Example** / **Initiate O2** / **O2 Target** Normal Lung Adults / SPO2 <90% / SPO2 90% Infants & Peds / SPO2 <90% / SPO2 90-95% Severe COPD History / SPO2 <85% / SPO2 90% **Note**: Targets may be adjusted further downward depending on resources available, the patient's clinical presentation, or measured PaO2 determination.	*Conserve*			
Expendable Oxygen Appliances • Use terminal sterilization or high-level disinfection procedures for oxygen appliances, small & large-bore tubing, and ventilator circuits. Bleach concentrations of 1:10, high-level chemical disinfection, or irradiation may be suitable. Ethylene oxide gas sterilization is optimal, but requires a 12-hour aeration cycle to prevent ethylene chlorohydrin formation with polyvinyl chloride plastics.	*Re-use*			
Oxygen Re-Allocation • Prioritize patients for oxygen administration during severe resource limitations.	*Re-Allocate*			

Project Overview

- Sponsored by CDPHE
- Develop CSC Plan
  - Build on Pandemic Planning
  - Update with latest guidance
  - Leverage multi-disciplinary workgroup
- Multi-Year Project

CO CSC Workgroup

- Office of Health Equity, CDPHE
- EMS Program, University of Colorado Anschutz Medical Campus
- OEPR, CDPHE
- Colorado Division of Behavioral Health, CDPHE
- Office of the Attorney General
- Rural Health and Hospitals, Colorado Hospital Association
- Office of Legal and Regulatory Compliance, CDPHE
- Disease Control and Environmental Epi, CDPHE
- University of Colorado Hospital
- HCA Physicians Services Group
- HHS Region 8
- Health Facilities and Emergency Medical Services, CDPHE
- EMTS Funding Section, CDPHE
- Center for Bioethics and Humanities, University of Colorado Anschutz Medical Campus

Project Overview

Year One – Information Gathering

- Webinars, Workshops, and Research

Year Two – Development

- Workgroup and stakeholder input

Year Three – Implementation

- Webinars and Exercises

Project Overview

Plan content

- Executive Order required
- Guardrails
- Tools and resources
  - Contingency and Crisis Tools
- Enhances normal reporting and resource management
- State advisory committee guidance

Current Activities - Status

- Plan signed by Governor
- Annex to the CDPHE EOP
- Distribution of plan
- Exercise Series

Current Activities - Exercises

- Virtual and In-person tabletop exercises
- Four Modules
  - Prevention and Identification
    - Gathering information
  - Trigger and Activation
    - Determining the need
  - Management of the Event
    - Operating within CSC
  - Recovery
    - Returning to normal

Current Activities - Exercises

- Define sender and receiver of information
- Guidelines/assistance that CSC could provide
- Information that would help make decisions
- Developing the After Action Report

Overall Lessons – Situational Awareness

- Information
  - Consistent
  - Timely
  - Plentiful
- Communications
  - Need for formalization
  - Discipline silos
  - Opportunity to consolidate streams

Overall Lessons - Implementation

- More education among providers
  - Crisis Standards
  - Emergency Management Process
- Detailed exercise
- Integration into existing agency plans

Next Steps

- Update the plan (signatures and content)
- Exercise at the coalition level
- Exercise at the state level
- Review individual plans and integrate CSC
- Develop “tactics” for situational awareness

CSC Website

https://www.colorado.gov/pacific/cdphe/colorado-crisis-standards-care

Questions?

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