Crisis Standards of Care

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Harris County & HCPHES

- Harris County, TX:
  - 3rd most populous county in the nation with **4.3 million people**
  - Spread over **1,778 square miles** (size of Rhode Island)
  - Home to 4th largest city (Houston)
  - Geographically, politically, and demographically diverse
  - Largest medical center in the world

- HCPHES: health department for Harris County with over **700** public health professionals with a budget of **$80 million**
What is Public Health?

“What we as a society do collectively to assure the conditions in which people can be healthy.”

The Future of the Public’s Health in the 21st Century, Institute of Medicine, 2003

Public Health AND Healthcare

<table>
<thead>
<tr>
<th>Public Health</th>
<th>Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focuses on populations</td>
<td>Focuses on the individual</td>
</tr>
<tr>
<td>Emphasizes prevention and health promotion for the whole community</td>
<td>Emphasizes diagnosis, treatment and care for the whole patient</td>
</tr>
<tr>
<td>Employs interventions aimed at the environment, human behavior, lifestyle and medical care</td>
<td>Employs provision of medical care</td>
</tr>
<tr>
<td>Stimulated by threats to the health of populations</td>
<td>Stimulated by needs of patients</td>
</tr>
</tbody>
</table>

“Public Health vs. Medicine,” Harvey Fineburg, MD, PhD, Harvard University School of Public Health, 1999.
The HCPHES Priority Public Health Issues for 2013-2018

HCPHES: Behind the Scenes
Global Issues Constantly on Our Mind

- H1N1: 2009-10
- H5N1: 2005-15
- MERS-CoV: 2013-15
- Dengue: 2013-15
- Measles: 2015
- Unaccompanied Minors: 2014
- Ebola: 2014-15
- Chikungunya: 2014

The HCPHES Priority Public Health Issues for 2013-2018

Select HCPHES Response Events: Never a Dull Moment

- Nation’s first BioWatch hit in Houston (2003)
- Monkey Pox found in exotic pet market (2003)
- Possible Lassa Fever on cargo ship from Africa (2004)
- Crosby Well natural gas explosion (2005)
- Hurricane Katrina Response – Astrodome (2005)
- Hurricane Rita Evacuation (2005)
- Multi-State GI illness investigation – local soccer event (2005)
- Fake Flu Investigation (2005)
- Patient with MDR-TB & travel history (2008)
- Salmonella Saint Paul investigation (2008)
- Hurricane Ike Response (2008)
- nH1N1 18 month response (2009-2010)
- West Nile virus (WNv) response (2012)
- Cyclospora investigation (2013)
- Rabies in Harris County dog (2015)
Why Crisis Standards of Care?

Why NOT Crisis Standards of Care?

Running a “Code”
Foundational Issues: **Legal & Ethical**

- **Legal Issues**
  - Liability risks (and protections) exist during emergencies
  - Liability will need advanced planning to review and address

- **Ethical Considerations**
  - Ethics drives allocation of scarce resources
  - Developed framework should build upon ethical elements, such as fairness, duty to care, etc.

Committee for Establishing Crisis Standards of Care for Use in Disaster Situations

Report released in 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.

## THE CONTINUUM OF CARE: CONVENTIONAL, CONTINGENCY & CRISIS CAPACITIES

<table>
<thead>
<tr>
<th></th>
<th>Change in Standard of Care?</th>
<th>Resource Constrained</th>
<th>Practicing Outside Experience</th>
<th>Focus of Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Patient</td>
</tr>
<tr>
<td>Contingency</td>
<td>Slightly</td>
<td>Slightly</td>
<td>No</td>
<td>Patient</td>
</tr>
<tr>
<td>Crisis</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Population</td>
</tr>
</tbody>
</table>


## SAMPLE STRATEGIES TO ADDRESS RESOURCE SHORTAGES

<table>
<thead>
<tr>
<th></th>
<th>Conventional Capacity</th>
<th>Contingency Capacity</th>
<th>Crisis Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare</td>
<td>Stockpile supplies used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substitute</td>
<td>Equivalent medications used (narcotic substitution)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conserve</td>
<td>Oxygen flow rates titrated to minimum required, discontinued for saturations &gt; 95%</td>
<td>Oxygen only for saturations &lt;90%</td>
<td>Oxygen only for respiratory failure</td>
</tr>
<tr>
<td>Adapt</td>
<td>Anesthesia machine for mechanical ventilation</td>
<td>Bag valve manual ventilation</td>
<td></td>
</tr>
<tr>
<td>Reuse</td>
<td>Reuse cervical collars after surface disinfection</td>
<td>Reuse nasogastric tubes and ventilator circuits after appropriate disinfection</td>
<td>Reuse invasive lines after appropriate sterilization</td>
</tr>
<tr>
<td>Reallocate</td>
<td>Reallocate oxygen saturation monitors, cardiac monitors, only to those with critical illness</td>
<td>Reallocate ventilators to those with the best chance of a good outcome</td>
<td></td>
</tr>
</tbody>
</table>
Categorizing Disasters

• Catastrophic Events
  ➢ Sudden onset with little or no notice
  ➢ Examples:
    ➢ Acts of Intent, Mass Casualty Incidents
    ➢ Earthquakes, Tsunamis
    ➢ Hurricanes

• Pervasive Events
  ➢ Slow onset with gradual progression
  ➢ Examples:
    ➢ Floods
    ➢ Wildfires
    ➢ Pandemics

Continuum of Care Spectrum

- Minimal Interventions: Many Patients Benefit
- Maximal Interventions: Fewer Patients Benefit

Electronic Care | Ambulatory Care | Shelter Medical Care | Non-Ambulatory Care (e.g., EMS) | Emergency Care | Surgical/Intensive Care
In a Disaster . . .

You need LOTS of “Space, Staff, Stuff”

You just don’t have enough to go around.

Crisis Standards of Care

2009 Recommendations

1. Develop Consistent State Crisis Standards of Care Protocols with Five Key Elements

2. Seek Community and Provider Engagement

3. Adhere to Ethical Norms during Crisis Standards of Care

4. Provide Necessary Legal Protections for Healthcare Practitioners and Institutions Implementing Crisis Standards of Care

5. Ensure Consistency in Crisis Standards of Care Implementation

6. Ensure Intrastate and Interstate Consistency Among Neighboring Jurisdictions

H1N1

Haiti

Structure of the 2012 Report

• Introduction
  • Introduction, framework, legal issues, cross-cutting themes (ethics, palliative care, and mental health)

• Four discipline-specific volumes
  • State and local, EMS, health care facilities, out-of-hospital care
  • Includes the roles of each stakeholder, relevant CSC operational considerations, and the functions and tasks to develop and implement CSC

• Public Engagement
  • The case for and challenges of public engagement
  • Public engagement toolkit
2012 IOM CSC REPORT: OVER-ARCHING RECOMMENDATION

“Federal, state, tribal, and local governments should develop a systems-based framework for catastrophic disaster response, which must be integrated into existing emergency response plans and programs...”

Conceptualizing a Systems Framework for Catastrophic Disaster Response
CSC Foundational Issues: Government’s Role

- **State government** is ultimately accountable for CSC activities with states having “the political and constitutional mandate to prepare for and coordinate the response to disaster situations throughout their state jurisdictions” (IOM, 2009)
- **Local government** is “uniquely positioned in the organizational structure of states to intersect with both state government partners and the communities in their local jurisdiction(s)” (IOM, 2012)

Public Health

- Government function
- Directly accountable to government
- Can act with public authority
- Limited medical care function
- Mass care responsibilities

Hospitals/Healthcare

- Private
- Not directly accountable to government
- Cannot act with public authority/protections
- Primary medical care function
- Limited mass care responsibilities
Jurisdictional Consistency in CSC Planning & Implementation

- State role essential in promoting consistent planning, response, and recovery activities:
  - Some level of local variation will occur (too much can lead to “forum shopping”, disjointed levels of care, etc.)
  - Consistency does not necessarily mean the same

Crisis Standards of Care: So How We Do This?
There’s a Template for That!

• Introduction
  • Introduction, framework, legal issues, cross-cutting themes (ethics, palliative care, and mental health)

• Four discipline-specific volumes (WITH TEMPLATES)
  • State/local government, EMS, health care facilities, out-of-hospital care
  • Includes the roles of each stakeholder, relevant CSC operational considerations, and the functions and tasks to develop and implement CSC

• Public Engagement
  • The case for and challenges of public engagement
  • Public engagement toolkit

State & Local Templates

Function 3. Command and Control, Communications, and Coordination

Command and Control | Notes and Resources
--- | ---
Task 1: State EMA (with, as applicable, support of the state health department as the lead state agency for CSC) implements/expands the incident command system (ICS) consistent with event-driven demands and activates the state emergency operations center (EOC) at a level appropriate to the situation. The state EMA provides recommendations, as needed, to local EMAs on activation of the EOCs and response plans (see Chapter 6).

Task 2: State EMA and the state health department ensure that command staff:
• are trained in CSC plan components and response;
• understand their roles, as well as the roles of local, regional, state, and federal stakeholders, in the state CSC response;
• are well versed in incident action planning during longer-term events;
• have access to appropriate resources (e.g., job aids) to guide decision making; and
• understand the role of the SDMAC and any regional medical coordination centers or regional DMACs, as well as the means by which information is received by or communicated to these bodies.
The HCPHES Priority Public Health Issues for 2013-2018

**Crisis Standards of Care: A Toolkit for Indicators and Triggers (2013)** - Indicators and triggers inform decision making along the continuum

(for clarity, this illustration focuses on the transitions towards crisis care)
The HCPHES Priority Public Health Issues for 2013-2018:

Indicators & Triggers Example Table

<table>
<thead>
<tr>
<th>Indicator Category</th>
<th>Contingency Care</th>
<th>Crisis Care</th>
<th>Return Toward Conventional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveillance data</td>
<td>Indicators:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Increased patient encounters by emergency medical services (EMS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Increased emergency department and/or hospital census</td>
<td></td>
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<tr>
<td></td>
<td>- Reports of increased cases of influenza</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Reports of an earthquake with potential of additional aftershocks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Triggers:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Significant increase in patient care encounters with similar signs and symptoms or high patient acuity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Significantly increased data registry entries from state or regional electronic prehospital patient care record systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tactics</td>
<td>Advising local health officials (or as applicable, base station or online medical direction) of the observed increase in activity or increased incidence of patients with similar signs and symptoms</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Establish incident command for EMS and advise the emergency care system stakeholders of the action command</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Provide incident command with frequent reports and ongoing trends using surveillance data</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engage regional and state surveillance systems to follow trends and exposure of the mass casualty incident or pandemic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engage mutual aid partners as required</td>
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**Indicators:**
- Patient care demands exceed the available EMS resources, including mutual aid
- Patient care demands exceed the available hospital resources
- Confirmation of increased virulence of the strain of influenza
- Surveillance data are impacted due to overwhelmed health care providers, public health, or collapse of data entry systems
- The incidence of illness and injury continues to escalate despite mitigation measures

**Crisis Triggers:**
- Multiple hospitals closed to EMS
- Mutual aid partners not able to answer calls involving potential threat

**Tactics:**
- Utilize alternative avenues of data collection and submission (verbal, paper, or electronic reports)
- Continue to advise local health officials (or as applicable, base station or online medical direction) of the observed increase in activity or increased incidence of patients with similar signs and symptoms
- Work with mutual aid agencies to revise and/or implement call trace

Public Engagement

Building Community Resiliency through the Lens of Catastrophic Disaster Planning
CSC Planning and Public/Provider Engagement

“State, local, and tribal governments should partner with and work to ensure strong public engagement of community and provider stakeholders, with particular attention given to the needs of vulnerable populations and those with medical special needs . . .” (IOM, 2009)

Public Engagement: Goals

1. **Inform** community members about the potential need for CSC

2. **Receive** community perspectives on how scarce medical resources should be allocated in a CSC type scenario

   **Ultimate goal: to help ensure**
   
   Developed guidelines reflect community values and priorities
Public Engagement: IOM Tool Kit

- Includes tools for engaging the lay public in discussions about what values should underlie the allocation of scarce medical resources in disasters
  - Sample agenda, content slides, facilitator scripts and strategies, surveys, scenarios, data collection templates, survey questions, and more...

- Model process and set of tools for “community conversations” based on:
  - Experience of various jurisdictions, including Seattle/King County (Washington), Harris County (Texas), Minnesota
  - Two pilots in Boston and Lawrence, Massachusetts

- Developed for state and local jurisdictions to tailor and adapt to their needs

- Toolkit addresses important questions such as:
  - When is the best point in the process to conduct CSC-related sessions?
  - How to engage community partners? How to reflect community’s diversity?
  - What is the appropriate length of a public engagement session?
  - How to make program materials understandable?
  - What skills and background do facilitators need?
  - How will data be collected and analyzed?
  - Is it “research” or “deliberative democracy”?

IOM Toolkit: Sample Survey Questions

1. It is better to save the most lives—even if it means that some people won’t get all of the medical care they would get under normal conditions.
   - 1 Strongly Agree
   - 2 Agree
   - 3 Disagree
   - 4 Strongly Disagree

2. More medical care should go to save younger patients because they have the most years to live.
   - 1 Strongly Agree
   - 2 Agree
   - 3 Disagree
   - 4 Strongly Disagree

3. Health care providers should be allowed to perform services different from their usual duties if that might save more patients.
   - 1 Strongly Agree
   - 2 Agree
   - 3 Disagree
   - 4 Strongly Disagree

4. The sick and injured should be treated first—come, first-served—whether or not they are likely to survive.
   - 1 Strongly Agree
   - 2 Agree
   - 3 Disagree
   - 4 Strongly Disagree
Taking It On The Road: Examples of Engagement

HCPHES 2011 Public Engagement Sessions (10 Total)
Other Engagement Projects of Note

IOM 2011 Antivirals Public Engagement Project

Ohio Dept. of Health - 2013


Seattle-King County Public Engagement Project -2009

Engagement & Education: CHEST 2014

Figure 2 – Example of key issues and phases of the public engagement process in Harris County, Texas, 2013.
So What Have We Learned?

1. Emergencies are *unpredictable* – mid-course corrections essential
2. Keys to successful responses are true **collaboration, coordination, & communication**
3. Engaging the **community** pre-, during, and post-emergency is crucial


Kashmir EQ: 90,000 dead
Port-au-Prince Earthquake – 2010

Haiti EQ: 200,000 dead

Ebola – 2014/2015
“The Edge of the Unknown”
What Lies Ahead?

Source: http://rolfebautista.blogspot.com/2010/06/429-edge-of-unknown.html

CSC Alignment with HPP and PHEP Capabilities

Healthcare Preparedness Capabilities
National Guidance for Healthcare System Preparedness
January 2012

Capability 10: Medical Surge

Function 4: Develop Crisis Standards of Care guidance
Supported resources:

Public Health Preparedness Capabilities:
National Standards for State and Local Planning
March 2011

HCPHES
The HCPHES Priority Public Health Issues
For 2013-2018
Take Home Message: CSC Planning Should Happen Now!

- When planned for in advance, medical surge efforts can be implemented in a more systematic and deliberative manner.
- Ultimately public health response and healthcare response system = overall health surge response.
- ALL sectors play a crucial role in ensuring a successful surge response.
- CSC reports provide guidance and practical steps on moving forward.

Crisis Standards of Care planning makes “common sense”

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Institute of Medicine
Questions?

Thank you

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