Disaster Training Day: A Systematic Approach

Joan Rolland, RN, MBA, MICN
Sue Montierth, RN, MICN
Steven Chin, MD, FACEP

Presbyterian Intercommunity Hospital,
Whittier, California
Presbyterian Intercommunity Hospital

- 483-bed, nonprofit, stand-alone, regional medical center serving nearly one million residents in Los Angeles and Orange counties.
What We Experience

- 65,000 ED Visits annually
- Designated Disaster Resource Center with Los Angeles County
- History of many disasters: FIRE, FLOOD, EARTHQUAKES, RIOTS AND LA TRAFFIC
Objectives:

- Understand the deficits of classical disaster training
- Describe a practical training model
- Develop an effectiveness metric for disaster training
- Identify future challenges to disaster training
  - Physician training
  - Just-in-time training
  - Staff attrition and support
  - Personal/family preparedness
History of Disaster Drills

- Chaotic
- Not taken seriously
- Staff not well informed
- Staff unsure what to do
- Table top drills not effective
- Poor participation of staff and MD’s
- Lack of hospital wide participation
History of Disaster Drills

- Just another thing that administration wants us to do
- The physicians and staff are too busy taking care of real time patients
- ED can take care of it
- That’s not my job
History of Disaster Drills

- I do not have to worry about it, I’m off that day
- HEICS ??
- HICS??
- NIMS??
Scenario Overview

- A controversial speaker is to give a speech at Whittier College
- As the speaker goes to the podium, an explosion occurs in the auditorium
- Reports of multiple victims
- A second bomb goes off in the triage area and a third bomb goes off in a local intersection
Disaster Drill November 2005

- Scenario Overview
  - It is reported that Anthrax contamination has occurred
  - Victims begin to arrive in the ED
What Happened Next…

- Planned to push and stretch our EOP
- 110 live victims were used
- Victims were sent to in-patient nursing areas
- This was a planned and announced drill
Critique

- HCC – too many people
- Job Action Sheets
- Patient Triage Tag
- Patient Tracking
- Patient Disaster Chart
- Communications
- Evacuation
The hospital tests its emergency management plan.

Planned exercises evaluate the effectiveness of improvements that were made in response to critiques of the previous exercise.
Decision For Training Day

- Training needed for Command Positions and Section Chiefs
- Key staff needed to be pre-assigned and trained in role
- House Supervisors needed focused training
- Managers needed focused training
- Charge Nurses needed focused training
- Front line staff needed focused training
Decision For Training Day

- Previous lecture-style training poorly attended

- *Bartley, et.al. (Prehospital and Disaster Medicine, July 2006) has found:
  - combination of lecture and disaster simulation were suboptimal
  - Despite “exhaustive efforts” nearly half of the study group did not attend the lecture

*Bartley, et.al., What a Disaster?! Assessing Utility of Simulated Disaster Exercise and Educational Process for Improving Hospital Preparedness
Decision For Training Day

- Focused housewide training
- Team approach
- Multidisciplinary
- Use a metric to grade the Nov and the next drill
- Increase enthusiasm, interest
- Food, Prizes, CEU’s and CME
Objectives of Training Day

- Define hospital specific emergency codes
- State what is HICS
- Describe how job responsibilities are defined
- Discuss patient flow through the hospital
Objectives of Training Day

- Identify emergency communication process
- Describe job role when assigned to the ED
Developing Competency

In “Healthcare worker competencies for disaster training,” by Hsu, et. al*. Described the importance of competencies that cross job descriptions

Identified competencies include:
- Recognize critical event and implementing initial action
- Understanding institutional emergency operation plan
- Effective emergency communications
- Understanding the incident command system
- Knowledge of your role in a critical incident

Describes the need for measurable terminal objectives.

*BMC Medical Education, March 2006
PIH Disaster Training Days

Are You Ready?

Being prepared for an impending disaster — whether on the job or at home — is just good common sense. Join us at PIH Disaster Training Days to find out just how prepared you really are. For example:

✓ Do you know what to do first if a disaster were to occur when you’re at work? Or when you’re at home?
✓ Who are the “key PIH players” in a disaster situation?
✓ Do you know what supplies should be in every disaster kit?

Come to PIH Disaster Training Days for:
✓ Disaster Preparedness Information
✓ Refreshments
✓ Giveaways

Join Us in the Blanchard-Haendiges Auditorium on:
Wednesday, April 26, 2006 — 3 to 11 pm
Thursday, April 27, 2006 — 7 am to 12 noon
Thursday, May 4, 2006 — 2 to 11 pm
Training Stations

- Code Definitions
- HICS Structure
- Job Action Sheets
- Disaster box
- Patient tracking/Flow tags
- Receiving a patient
- Communication
- ED Triage
- ED treatment areas
- Code Decon
Code Definitions

- HASC Universal “Emergency Codes”
- Newly created “Code Triage Watch” process
- Initial staff response expectations
HIICS STRUCTURE

- What HIICS is designed to do
- HIICS and NIMS
- Established one common language
- Outlines vital command positions
- Flexible, scalable, adaptable
Job Action Sheets

- Step – by – Step Instructions
- Developed Department Specific JAS
- “One Stop Shopping”
- Everything the staff will need in one location
Disaster Box

- Locked Supply Box for each department
- Emergency Supplies readily available
- Disaster Envelope
  - Department Specific JAS
  - Operating/Bed Status
  - “Cheat Sheets”
Patient Tracking / Flow Tags

- Developed Disaster Charts ready to go
- Patient Flow Tag system
- Criss-cross of victim information to be identified by
  - Name,
  - Triage tag #
  - Disaster victim chart #
Receiving a patient on your unit

- What to do with flow tags
- What the Disaster chart looks like
- Role of in-house Registration
- When to convert to usual operating procedures
Communication

- Alternative Methods
  - Vocera
  - Analog phones
  - Two-way radios
  - Pay phones
  - Ham Radio
  - Reddinet

- Pre-deployment of radios
ED Triage

- Role of the Treatment Unit Leader
- Establishing triage zones
- Receiving patients from the field
- Triage to appropriate treatment area
ED Treatment Areas

- Where the Treatment Areas are located
  - Immediate
  - Delayed
  - Minor

- What is their role if they are asked to report to the ED
Code Decon

- Decontamination Procedures
- Who is the Decon Team
- What the Decon Team does
- Recruit
PIH’s Decontamination Team
Disaster Training Light

- Useful to the staff
- Practical
- LED light
- Motivator
- Status symbol among staff
Results

- We hoped to train 200 - 300
- 950 staff trained
- Measurable improvement shown at the next disaster drill
- Recruited new Decon Team members
- Staff asked to join Disaster Committee
- Staff sent suggestions
Results

- Staff has enthusiastically participated in drills and now takes it seriously
- Executive Administration calls
- 100% compliance with NIMS training in IS100, and IS700
- Asked to do Training Day annually
Effectiveness Metric for Disaster Training

- Comments and critiques provide event specific and anecdotal measures
- Need a consistent tool to measure progress over time
- Helps to focus future training efforts
- Metrics help meet Joint Commission standards
- Metrics developed from the Elements of Performance
## Measuring Effectiveness

<table>
<thead>
<tr>
<th>Score</th>
<th>Weight</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td>Administration notified or Incident Command System (ICS) invoked (event notification, staff notification, command structure, external notification: EP8)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Hospital Command Center functional per system and job descriptions</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Internal communication effective (EP9)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>External communication effective (EMS, OEM, Police, Fire, Public Health, Other Hospitals: EP9)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Resource Mobilization and Allocation including: responders, equipment, supplies, PPE'S, transportation and security: (EP10)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>ED staff participated and able to meet the demands of the event and number of victims (Patient management clinical and support care activities, triage, patient ID and tracking: EP11)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Code called and call-in list invoked, if applicable</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Respiratory, EKG, Radiology, Dietary, EVS, Facilities and/or Materiels responded (EP10)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Additional nursing and medical staff summoned (EP10)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Hospital Lock-down was completed successfully-if applicable</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Community involved: Power Company, Water Dept, EMS, Police or Hazmat</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Entire hospital was taxed (surge capacity plan worked)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>A post-incident critique and debrief was conducted (EP12)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Participation by administration, clinical, physicians and support staff during critique: (EP13)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>A performance improvement plan/list was generated (EP12)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Effectiveness of Improvements made in response to critiques of previous exercise (impact on this exercise): (EP15)</td>
</tr>
</tbody>
</table>

[Note: 90% is passing or considered a successful EM exercise]
<table>
<thead>
<tr>
<th>Score</th>
<th>Weight</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td>Administration notified or Incident Command System (ICS) invoked (event notification, staff notification, command structure, external notification: EP8)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Hospital Command Center functional per system and job descriptions</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Internal communication effective (EP9)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>External communication effective (EMS, OEM, Police, Fire, Public Health, Other Hospitals: EP9)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Resource Mobilization and Allocation including: responders, equipment, supplies, PPE’S, transportation and security: (EP10)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>ED staff participated and able to meet the demands of the event and number of victims (Patient management clinical and support care activities, triage, patient ID and tracking: EP11)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Code called and call-in list invoked, if applicable</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Respiratory, EKG, Radiology, Dietary, EVS, Facilities and/or Materiels responded (EP10)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Additional nursing and medical staff summoned (EP10)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Hospital Lock-down was completed successfully-if applicable</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Community involved: Power Company, Water Dept, EMS, Police or Hazmat</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Entire hospital was taxed (surge capacity plan worked)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>A post-incident critique and debrief was conducted (EP12)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Participation by administration, clinical, physicians and support staff during critique: (EP13)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>A performance improvement plan/list was generated (EP12)</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Effectiveness of Improvements made in response to critiques of previous exercise (impact on this exercise): (EP15)</td>
</tr>
<tr>
<td>160</td>
<td></td>
<td>[Note: 90% is passing or considered a successful EM exercise]</td>
</tr>
</tbody>
</table>
Disaster Training Day

Emergency Management Effectiveness against Target

<table>
<thead>
<tr>
<th>Date</th>
<th>Score</th>
<th>Target (90% of 160)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Nov-2005</td>
<td>90</td>
<td>144</td>
</tr>
<tr>
<td>22-Jun-2006</td>
<td>130</td>
<td>144</td>
</tr>
<tr>
<td>9-Nov-2006</td>
<td>144</td>
<td>144</td>
</tr>
</tbody>
</table>
Future Challenges to Disaster Training

- Physician training
- Just in time training
- Staff attrition and support
- Personal and family preparedness
Challenges to training physicians

- Competing priorities
- Multiple scheduling issues
- Different specialties
- Varying interest
- Independent attending staff
Standard training solutions

- “Mandatory” participation
- Lectures and CME presentations
- ED Section meetings
- General Staff presentations
Alternative Training Solutions

- **Augmented self-study:**
  - Question and Answer format
  - Email or “blast”-fax
  - Reinforcement at time of drill
  - Online training

- **Enforced repetition:**
  - Visual reminders: small amount, frequently
  - Standing agenda item on medical staff clinical departments
Multimodal learning

- Styles of Learning:
  - Visual
  - Auditory
  - Kinesthetic

- Use all forms to reinforce
Just in Time Training

Tools
- Question and Answer sheet
- Clinical Guideline “Cheat” Sheet
- Mentoring: pairing with experience

Drills
- Announced and staffed drills
- Assigned Shadows
Just in Time Training: “Evacuation”

- ICU on 3rd Floor
- Seismically active area
- Seismically susceptible structure
- How do you get the patients down the stairs?
Just in Time Training: “Evacuation”

- Drill at shift change so adequate staff to care for patients
- During disaster drill, order to evacuate given.
- Staff given printed instructions by proctor and 5 minute practicum using live victim on floor
- Basic skill taught and tested
Post-Disaster Staff Attrition

- May lose 30% or more of staff
- Staff may have to leave the hospital
- Staff may be unable to return to the hospital
- Multiple factorial, but frequently involves concern for safety and welfare of their family and significant others
- Would anyone return?
PIH Staff Disaster Survey

Do you have family care responsibilities that would prevent you from reporting to work?

<table>
<thead>
<tr>
<th>Family Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>200</td>
</tr>
<tr>
<td>400</td>
</tr>
</tbody>
</table>

- yes: 370 (56%)
- no: 296 (44%)
If yes, would on-sit family care at the hospital allow you to report to work?

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>304</td>
<td>122</td>
</tr>
<tr>
<td></td>
<td>71%</td>
<td>29%</td>
</tr>
</tbody>
</table>
PIH Staff Disaster Survey

How many family members would you need to be able to provide care for here at the hospital?

<table>
<thead>
<tr>
<th>Family Members Needing Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 3</td>
</tr>
<tr>
<td>258</td>
</tr>
</tbody>
</table>

68% 32%
PIH Staff Disaster Survey

Do you have pet care responsibilities that would prevent you from reporting to work?

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>count</td>
<td>222</td>
<td>409</td>
</tr>
</tbody>
</table>

- 35% of the respondents answered yes.
- 65% of the respondents answered no.
PIH Staff Disaster Survey

- If yes, would on-site pet care at the hospital allow you to report?

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>181</td>
<td>162</td>
<td></td>
</tr>
</tbody>
</table>
PIH Staff Disaster Survey

- How many days of emergency food and water do you have on hand?

<table>
<thead>
<tr>
<th>Days</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>17%</td>
<td>110</td>
</tr>
<tr>
<td>3 days</td>
<td>39%</td>
<td>254</td>
</tr>
<tr>
<td>5 days</td>
<td>24%</td>
<td>155</td>
</tr>
<tr>
<td>7 days</td>
<td>16%</td>
<td>102</td>
</tr>
<tr>
<td>&gt;14 days</td>
<td>4%</td>
<td>29</td>
</tr>
</tbody>
</table>
PIH Staff Disaster Survey

How many miles do you commute to work?

<table>
<thead>
<tr>
<th>Commute Mile to Work</th>
<th>1 to 5</th>
<th>6 to 10</th>
<th>11 to 15</th>
<th>&gt;15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>238</td>
<td>145</td>
<td>83</td>
<td>121</td>
</tr>
</tbody>
</table>

41% of staff commute 1 to 5 miles, 25% commute 6 to 10 miles, 14% commute 11 to 15 miles, and 20% commute >15 miles.
PIH Staff Disaster Survey Results

- Need to have a system of family support
- Must include:
  - Communications plan
  - Home preparedness/readiness
  - On-site support
  - Transportation considerations
Disaster Personal Preparedness

1. Create an emergency communications plan:
   - Pre-determined out-of-state contact

2. Establish a meeting place, if you can’t go home

3. Assemble a disaster supply kit:
   - Food, water, first aid, clothing, etc.
   - Flashlight, battery powered radio, cell phone/battery
   - Cash, copies of important documents

4. Check on school’s or business’s emergency plans of your family

(adapted from TERRORISM: Preparing for the Unexpected, American Red Cross)
Personal Disaster Kits Considerations

- **Home Kit**
  - Minimum of 3 day’s supplies…consider 14 days
  - Bulk water
  - Canned and freeze dried food
  - MRE’s: military Meals Ready to Eat

- **Car Kit**
  - Walking shoes, jacket, blanket
  - Baby wipes, hand sanitizer, Ziploc bags, tissues, first aid kit
  - “Lifeboat” water packets and rations

- **Desk Kit**
  - Light stick or flashlight
  - Dusk mask and space blanket
  - Triangular bandage with safety pins
  - Water packet and candy bar
  - Pry bar, especially if you don’t have any windows
Conclusions:

- Use your prior drills to prioritize your training
- Create a practical focused training model beyond the disaster drill
- Use an effectiveness metric to assess your progress
- Develop a staff preparedness and support program to minimize staff attrition
The True Measures

- All of Administration coming in at 0400 for a drill
- The staff wanting to be involved
- Disaster management becoming part of daily operations!
QUESTIONS ??

jrolland@pih.net
schinmd@compuserve.com