Existing Best Practices and Future Potential Strategies During Response
IOM Workshop
June 2013

Jeffrey D. Lipton, MD, MPH, FAAP, FACP, FASHP
Pediatric Disaster Resource and Training Center
Children’s Hospital Los Angeles

Disaster Preparedness, Response & Recovery Considerations for Children & Families
Existing Best Practices and Future Potential Strategies During Response
IOM Workshop
June 2013

Jeffrey S. Upperman, MD, FAAP, FACS, FATHER
Pediatric Disaster Resource and Training Center
Children's Hospital Los Angeles
June 2013

Jeffrey S. Upperman, MD, FAAP, FACS, FATHER
Pediatric Disaster Resource and Training Center
Children's Hospital Los Angeles
HPP in Action

Medical Services
Objectives
1. Describe (my) framework for understanding pediatric emergency preparedness
2. Review pediatric preparedness educational competency concept
3. Share novel training techniques for pediatric disaster training
Objectives

1. Describe (my) framework for understanding pediatric emergency preparedness

2. Review pediatric preparedness educational competency concept

3. Share novel training techniques for pediatric disaster training
4,000 sq miles
2.5 million children
700k in public schools
300 beds
(approx 400 in LA County)

PDRTC
LA County Disaster Network Participation

Basic
- 31 Hospitals participating

Expanded
- 52 Hospitals* participating

Disaster Resource Center
- 13 Hospitals participating

Trauma Surge
- 14 designate Trauma Centers Participating

Community Clinic of Los Angeles County

Source: LAC EMS Agency
Current as of September 2011
* Includes DRC hospitals
4,000 sq miles
2.5 million children
700k in public schools
<table>
<thead>
<tr>
<th>Type</th>
<th>Time</th>
<th>Method</th>
<th>Play</th>
</tr>
</thead>
<tbody>
<tr>
<td>terror</td>
<td>0</td>
<td>PREP, JIT</td>
<td>?</td>
</tr>
<tr>
<td>earthquake</td>
<td>30s</td>
<td>PREP, JIT</td>
<td></td>
</tr>
<tr>
<td>tornado</td>
<td>16m</td>
<td>PREP, JIT</td>
<td></td>
</tr>
<tr>
<td>Viral</td>
<td>?</td>
<td>PREP, JIT</td>
<td>by yourself</td>
</tr>
<tr>
<td>type</td>
<td>time</td>
<td>method</td>
<td>play</td>
</tr>
<tr>
<td>--------------</td>
<td>------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>terror</td>
<td>0</td>
<td>PREP, JIT</td>
<td>?</td>
</tr>
<tr>
<td>earthquake</td>
<td>30s</td>
<td>PREP, JIT</td>
<td></td>
</tr>
<tr>
<td>tornado</td>
<td>16m</td>
<td>PREP, JIT</td>
<td></td>
</tr>
<tr>
<td>Viral</td>
<td>?</td>
<td>PREP, JIT</td>
<td>by yourself</td>
</tr>
<tr>
<td>type</td>
<td>time</td>
<td>method</td>
<td>play</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>terror</td>
<td>0</td>
<td>PREP, JIT</td>
<td>?</td>
</tr>
<tr>
<td>earthquake</td>
<td>30s</td>
<td>PREP, JIT</td>
<td></td>
</tr>
<tr>
<td>tornado</td>
<td>16m</td>
<td>PREP, JIT</td>
<td></td>
</tr>
<tr>
<td>Viral</td>
<td>?</td>
<td>PREP, JIT</td>
<td>by yourself</td>
</tr>
<tr>
<td>type</td>
<td>time</td>
<td>method</td>
<td>play</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>--------------</td>
<td>---------------</td>
</tr>
<tr>
<td>terror</td>
<td>0</td>
<td>PREP, JIT</td>
<td>?</td>
</tr>
<tr>
<td>earthquake</td>
<td>30s</td>
<td>PREP, JIT</td>
<td></td>
</tr>
<tr>
<td>tornado</td>
<td>16m</td>
<td>PREP, JIT</td>
<td></td>
</tr>
<tr>
<td>Viral</td>
<td>?</td>
<td>PREP, JIT</td>
<td>by yourself</td>
</tr>
</tbody>
</table>
by yourself
### Education Framework

<table>
<thead>
<tr>
<th>Type</th>
<th>Time</th>
<th>Method</th>
<th>Play</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terror</td>
<td>0</td>
<td>PREP, JIT</td>
<td>?</td>
</tr>
<tr>
<td>Earthquake</td>
<td>30s</td>
<td>PREP, JIT</td>
<td><img src="image.png" alt="Image" /></td>
</tr>
<tr>
<td>Tornado</td>
<td>16m</td>
<td>PREP, JIT</td>
<td><img src="image.png" alt="Image" /></td>
</tr>
<tr>
<td>Viral</td>
<td>?</td>
<td>PREP, JIT</td>
<td>by yourself</td>
</tr>
</tbody>
</table>

*Note: kids approach*
Competency

care

lead

manage

Competence (or competency) is the ability of an individual to do a job properly.
Competence (or competency) is the ability of an individual to do a job properly.
Competency, care, lead, manage

Competence (or competency) is the ability of an individual to do a job properly.
care
airway patterns PTSD
lead
home vs work
care

and

manage
HICS
Local Plan
Other
Competency

care

lead

manage

Competence (or competency) is the ability of an individual to do a job properly.
guidance→tips→practice→coaching

games

gadgets

reality TV

robots
guidance

Design and evaluation of a disaster preparedness logistics tool.

Neches R, Ryutov T, Kichkaylo T, Burke RV, Claudius IA, Upperman JS.
University of Southern California, Information Sciences Institute, Marina del Rey, USA.
PEDSS FUNCTIONS

**Context**
- Alert Supervisor about new available data
- Alert Supervisor about new available data
- Alert Supervisor about new available data

**Load**
- Alert Material Manager about new available data
- Alert Supervisor about new available data

**Supplies**
- Determine required supplies, based on the load
- Define/update alternatives
- Analyze required supplies; select replenishment plan

**Summary**
- Finalize and endorse preparedness plan

**Material management**
- View/Comment on required supplies
- Monitor current inventory
- Execute replenishment plan

**Disaster Planner**
- Define/update demographics, estimate/population of the area
- Determine/update potential disasters; prioritize the events
- Determine/update special environmental conditions (e.g., types of buildings, air pollution, etc.)
- Predict/update potential load in the area

**Capabilities**
- Determine ED surge capacity, based on daily census, available personnel, etc.

**Supervisor**
- Determine ED surge capacity
- Analyze and approve predicted load
- Analyze required supplies, select replenishment plan
- Finalize and endorse preparedness plan
games
To Triage a patient, first CLICK on that patient. Try clicking the patient that just entered Triage (once they sit down).
Disaster Olympix: a unique nursing emergency preparedness exercise.

Goodhue CJ, Burke RV, Chambers S, Ferrer RR, Upperman JS.
Department of Pediatric Surgery, and Santiago Chambers, Safety Office, Childrens Hospital Los Angeles, Los Angeles, California 90027, USA. cgoodhue@chla.usc.edu
gadgets
Using robotic telecommunications to triage pediatric disaster victims

Rita V. Barka, Bridget N. Berg, Paul Uw, Inge Morten, Alan Nager, Robert Bechtle, Andrea Penisi, Jeffrey S. Oppenheimer

Department of Pediatric Surgery, Children's Hospital Los Angeles, CA 90033

Department of Critical Care Medicine, Children's Hospital Los Angeles, CA 90033

Department of Emergency Medicine, Children's Hospital Los Angeles, CA 90033

Department of Anesthesiology and Critical Care, Children's Hospital Los Angeles, CA 90033

Department of Trauma, Children's Hospital Los Angeles, CA 90033

Department of Pediatrics, University of Southern California, Los Angeles, CA 90033
Using robotic telecommunications to triage pediatric disaster victims

Rita V. Burke\textsuperscript{a}, Bridget M. Berg\textsuperscript{a}, Paul Vee\textsuperscript{b}, Inge Morton\textsuperscript{c}, Alan Nager\textsuperscript{c}, Robert Neches\textsuperscript{d}, Randall Wetzel\textsuperscript{b}, Jeffrey S. Upperman\textsuperscript{a,e,*}

\textsuperscript{a}Department of Pediatric Surgery, Children's Hospital Los Angeles, Los Angeles, CA 90027, USA
\textsuperscript{b}Department of Critical Care Medicine, Children's Hospital Los Angeles, Los Angeles, CA 90027, USA
\textsuperscript{c}Department of Emergency Medicine, Children's Hospital Los Angeles, Los Angeles, CA 90027, USA
\textsuperscript{d}Office of Assistant Secretary of Defense, Department of Defense, Washington, DC 20301, USA
\textsuperscript{e}Keck School of Medicine, University of Southern California, Los Angeles, CA 90027, USA
Research

Emergency drills and exercises in healthcare organizations: Assessment of pediatric population involvement using after-action reports

Rauldy R. Ferre, PhD; Marilza Ramirez, PhD; MPH; Kor; Sauer, MD; Ellen Jerven, MPH; Jeffrey S. Upperman, MD, FACS, FAAP.

acknowledgments
Summary

1. Lead
2. Innovate
3. Evaluate

thank you
jupperm@chla.usc.edu
thank you

juppermanc@chla.usc.edu
Existing Best Practices and Future Potential Strategies During Response IOM Workshop
June 2013

Jeffrey S. Upperman, MD, FAAP, FACS, FAHER
Pediatric Disaster Resource and Training Center
Children’s Hospital Los Angeles