The Formation of a Multi-Children’s Hospital Pediatric Disaster Medicine Team

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PST-Ohio

- Children’s Hospitals:
  - History
  - Current Status
- Hurricane Katrina
  - Federal Reviews
  - Expert Reports
  - Ohio’s Response
- Idea for PST-Ohio
- The Journey from Good Idea to Reality
  - Consensus Building
  - Government Relations
  - Political Boundaries
- Partnership w NDMS
- Questions
Our Nation Has Changed

Oklahoma City
September 11, 2001
Hurricane Katrina
Disaster Preparedness

• Disaster Preparedness for Children

  – Starts Locally
    • Schools
    • Churches
    • Pediatricians
    • Hospitals
      – Children’s Hospital’s
Disaster Preparedness for Children

• County/Regional/State Level:
  • Threat Assessment
  • Sheltering Needs
  • Medical Teams/Surge Capacity
  • Bioterrorism Preparedness
National Organizations

- Federal Government
  - HHS-NDMS
    - DMAT
    - DMORT
    - DVET
  - FEMA
- Red Cross
- National Guard
- Medical Reserve Corps
Then Came Katrina
Katrina

- 372,000 Children Displaced
- 162,000 patients treated by DMAT teams
- 6,300 Medical Volunteers to Area
- Large Scale Evacuation of Children’s Hospitals
- Dozens of NICU/PICU Transports
LESSON LEARNED: The Federal response should better integrate the contributions of volunteers and non-governmental organizations into the broader national effort. This integration would be best achieved at the State and local levels, prior to future incidents. In particular, State and local governments must engage NGOs in the planning process, credential their personnel, and provide them the necessary resource support for their involvement in a joint response.
Post Katrina Assessments

Finding: New Orleans hospitals, VAMC, and medical first responders were not adequately prepared for a full evacuation of medical facilities.

Medical care and evacuations suffered from a lack of advance preparations, inadequate communications, and difficulties coordinating efforts.
Medical care and evacuations suffered from a lack of advance preparations, inadequate communications, and difficulties coordinating efforts

- Deployment of medical personnel was reactive, not proactive.
- Poor planning and pre-positioning of medical supplies and equipment led to delays and shortages.
- New Orleans was unprepared to provide evacuations and medical care for its special needs population and dialysis patients, and Louisiana officials lacked a common definition of “special needs.”
- Most hospital and Veterans Affairs Medical Center emergency plans did not offer concrete guidance about if or when evacuations should take place.
- New Orleans hospitals, Veterans Affairs Medical Center, and medical first responders were not adequately prepared for a full evacuation of medical facilities.
- The government did not effectively coordinate private air transport capabilities for the evacuation of medical patients.

- Hospital and Veterans Affairs Medical Center emergency plans did not adequately prepare for communication needs.
- Following Hurricane Katrina, New Orleans Veterans Affairs Medical Center and hospitals’ inability to communicate impeded their ability to ask for help.
- Medical responders did not have adequate communications equipment or operability.
- Evacuation decisions for New Orleans nursing homes were subjective and, in one case, led to preventable deaths.
- Lack of electronic patient medical records contributed to difficulties and delays in medical treatment of evacuees.
- Top officials at the Department at Health and Human Services and the National Disaster Medical System do not share a common understanding of who controls the National Disaster Medical System under Emergency Support Function-8.
- Lack of coordination led to delays in recovering dead bodies.
- Deployment confusion, uncertainty about mission assignments, and government red tape delayed medical care.
"The entire system is broken and we need to fix it before the next major disaster strikes, whether it's another hurricane or, Heaven help us, a terrorist attack," said U.S. Rep. Charlie Melancon, a Louisiana Democrat.
Pediatric Post Katrina Analysis

Children’s Hospitals Meeting the Challenge Together
Lawrence A. McAndrews, FACHE
President and CEO, National Association of Children’s Hospitals and Related Institutions, Alexandria, Virginia
The author has indicated he has no financial relationships relevant to this article to disclose.

Closing and Reopening of a Children’s Hospital During a Disaster
Keith Perrin, MD, FAAP
President, Louisiana Chapter, American Academy of Pediatrics, New Orleans, Louisiana
The author has indicated he has no financial relationships relevant to this article to disclose.

Preparing, Improvising, and Caring for Children During Mass Transport After a Disaster
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The authors have indicated they have no financial relationships relevant to this article to disclose.

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Other Important Voices

Future of Emergency Care Series

Emergency Care for Children

Growing Pains

Committee on the Future of Emergency Care in the United States Health System
Board on Health Care Services

INSTITUTE OF MEDICINE OF THE NATIONAL ACADEMIES

- Development of strategies to minimize parent-child separation and improved methods for reuniting separated children with their families.
- **Development of strategies to improve the level of pediatric expertise on Disaster Medical Assistance Teams (DMATs) and other organized disaster response teams.**
- Development of disaster plans that address pediatric surge capacity for both injured and noninjured children.
- Development of and improved access to specific medical and mental health therapies, as well as social services, for children in the event of a disaster.
- Development of policies to ensure that disaster drills include a pediatric mass casualty incident at least once every 2 years.
Children’s Hospitals Rise to the Occasion!

- Texas Children’s
- Miami Children’s
- Arkansas Children’s
- Cook Children’s
- Mercy Children’s
What can Children’s Hospitals Bring to the Party?

• Enthusiastic Volunteers
• Support of Leading Pediatric Experts
• Training in Peds Specific Topics:
  – Physiology
  – Stress Responses
  – Resuscitation
  – Support
    • Psychological
What can Children’s Hospitals Bring to the Party?

Children’s hospitals represent less than 5% of all hospitals in the country, but they:

• Provide 40% of all inpatient care for children, including 50 to 99% of inpatient subspecialty care for children with serious illnesses and conditions, such as heart defects and cancer.

• Are the nation’s safety net for children of low-income families in the communities they serve, devoting on average more than 50% of the care to children assisted by Medicaid.

• Train the majority of pediatricians, the large majority of pediatric subspecialists, and virtually all pediatric research scientists.

• House the nation’s premier pediatric research centers.
10% of Inpatient Days At US Acute Care Hospitals are Attributed to Pediatric Care

18+ Years of Age, Teen Obstetrics, and Normal Newborns 90% (147.5 million days)

Pediatric Days: 10% (15.7 million)

Pediatric Days with Neonatal Diagnoses 45% (7.0 million days)

Pediatric Days with Other Diagnoses 55% (8.7 million days)

Total Days – 163.3 million

a/ Pediatric days includes inpatient discharge data for pediatric cases (under age 18), excluding normal newborns and teen obstetric cases. Source: Lewin Group analysis of NACHRI Grouper Research Inpatient database.
Children’s Hospitals Provide 41% of All Pediatric Inpatient Days

All Pediatric Inpatients Days

- Rural Hospitals 9% (1,377,000)
- Freestanding Children’s Hospitals 18% (2,747,000)
- Joint Children’s Hospitals 23% (3,552,000)
- Major Teaching Hospitals 12% (1,831,346)
- Other Urban Hospitals 38% (6,214,912)

Total Days = 15.7 million

<table>
<thead>
<tr>
<th>Hospital Group</th>
<th>Average Length of Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freestanding Children’s Hospitals</td>
<td>6.7</td>
</tr>
<tr>
<td>Joint Children’s Hospitals</td>
<td>7.4</td>
</tr>
<tr>
<td>Major Teaching Hospitals</td>
<td>6.3</td>
</tr>
<tr>
<td>Other Urban Hospitals</td>
<td>4.7</td>
</tr>
<tr>
<td>Rural Hospitals</td>
<td>2.8</td>
</tr>
</tbody>
</table>

a/ Includes inpatient discharge data for neonatal cases (MDC 15), excluding normal newborns.
Source: Lewin Group analysis of NACHRI Grouper Research Inpatient database.
Neonatal Cases Are More Intensive in Children’s Hospitals a

All Pediatric Inpatients Days with Neonatal Diagnoses

Total Days = 7.0 million

<table>
<thead>
<tr>
<th>Hospital Group</th>
<th>Average Length of Stay</th>
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</thead>
<tbody>
<tr>
<td>Freestanding Children’s Hospitals</td>
<td>15.0</td>
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<tr>
<td>Joint Children’s Hospitals</td>
<td>10.3</td>
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<tr>
<td>Major Teaching Hospitals</td>
<td>8.2</td>
</tr>
<tr>
<td>Other Urban Hospitals</td>
<td>5.7</td>
</tr>
<tr>
<td>Rural Hospitals</td>
<td>3.1</td>
</tr>
</tbody>
</table>

a/ Includes inpatient discharge data for neonatal cases (MDC 15), excluding normal newborns.
Source: Lewin Group analysis of NACHRI Grouper Research Inpatient database.
Children’s Hospitals Provide 51% of All Pediatric Inpatient Days other than Neonatal Care \(^a\)

All Pediatric Inpatients Days with Non-Neonatal Diagnoses

<table>
<thead>
<tr>
<th>Hospital Group</th>
<th>Average Length of Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freestanding Children’s Hospitals</td>
<td>5.1</td>
</tr>
<tr>
<td>Joint Children’s Hospitals</td>
<td>5.5</td>
</tr>
<tr>
<td>Major Teaching Hospitals</td>
<td>4.2</td>
</tr>
<tr>
<td>Other Urban Hospitals</td>
<td>3.2</td>
</tr>
<tr>
<td>Rural Hospitals</td>
<td>2.6</td>
</tr>
</tbody>
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Total Days = 8.7 million

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\(^a\) Includes inpatient discharge data for pediatric cases, excluding neonatal cases and teen obstetric cases.

Source: Lewin Group analysis of NACHRI Grouper Research Inpatient database.
Attribute 1: Serve Large Volume of Medicaid Beneficiaries Uninsured and Vulnerable Patients.

Distribution of Medicaid Pediatric Days of Care

<table>
<thead>
<tr>
<th>Hospital Group</th>
<th>Proportion of Hospitals</th>
<th>Proportion of Medicaid Pediatric Days of Care</th>
<th>Comparison Ratio: Proportion of Days to Proportion of Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free Standing and Joint Children’s Hospitals</td>
<td>3.3%</td>
<td>37.9%</td>
<td>11.4:1</td>
</tr>
<tr>
<td>Free-Standing Children’s Hospitals</td>
<td>1.1%</td>
<td>15.2%</td>
<td>13.7:1</td>
</tr>
<tr>
<td>Joint Children’s Hospitals</td>
<td>2.2%</td>
<td>22.7%</td>
<td>10.2:1</td>
</tr>
<tr>
<td>Other Community Hospitals</td>
<td>96.7%</td>
<td>62.1%</td>
<td>0.6:1</td>
</tr>
<tr>
<td>Urban Major Teaching Hospitals</td>
<td>4.3%</td>
<td>15.1%</td>
<td>3.5:1</td>
</tr>
<tr>
<td>Other Urban Hospitals</td>
<td>47.1%</td>
<td>36.5%</td>
<td>0.8:1</td>
</tr>
<tr>
<td>Rural Hospitals</td>
<td>45.2%</td>
<td>10.6%</td>
<td>0.2:1</td>
</tr>
<tr>
<td>Total: All Community Hospitals</td>
<td>100.0%</td>
<td>100.0%</td>
<td>1.0:1</td>
</tr>
</tbody>
</table>

a/ Includes inpatient discharge data for pediatric cases (under age 18), excluding normal newborns and teen obstetric cases.
Source: Lewin Group analysis of the NACHRI Grouper Research Inpatient database.
Who is to blame?

“Don’t find a fault. Find a remedy.”
HENRY FORD
American automobile manufacturer
The Journey Begins
Can you put a response team together?

- Katrina Evacuees to Cleveland’s Hopkins
  - Rainbow assembles response team
    - Physicians, RN’s, RT, Child Life, Support
    - Incredible response of volunteers
  - Number of Evacuees’:
    - ZERO!
How Well is Ohio Prepared?

• Collaborative relationships exist among:
  – American Academy of Pediatrics, Ohio Chapter
  – Ohio Children’s Hospitals Association
  – Ohio Department of Health
  – Ohio Hospital Association
Ohio Has Disaster Medical Assistance Teams

- Federal response team
  - Dayton Ohio
  - Youngstown Ohio
- Function
- Members
- Deployment
- National Pediatric Expertise:
  - Two pediatric specialty teams (PST)
    - PST-1 Boston Children’s
    - PST-2 Atlanta
DMAT Roles:

- Volunteers
- DMATs
- VA/DoD
- US Public Health Service
- Medical Reserve Corps
- ARC Shelter
- Federal Medical Stations
- NDMS Hospitals
- Basic First Aid
- Pre-hospital Care
- Outpatient Care
- Nursing Home Care
- Emergency Departments
- Hospital Inpatient Care
- ICU/Trauma Critical Care
Ohio’s Unique Position

• Existing preparedness infrastructure with pediatrics as focus
• Six children’s hospitals
  – Relationships exist
• Geographic and political importance
• Goal to create new federal pediatric specialty team: PST - OHIO
PST-Ohio: Step 1

- June 2006 meeting in Cleveland
  - All six children’s hospital represented
  - Review of national trends
  - Boston experience outlined
  - Dr Michael Shannon—PST 1

  - Consensus of need for PST-Ohio
Step 2: Cultivate Collaborators

- FEMA/NDMS
- Ohio Department of Health (ODH)
- American Academy of Pediatrics, Ohio Chapter
- Ohio Hospital Association (OHA)
- Ohio Children’s Hospital Association (OCHA)/NACHRI
Step 3: Lobby and figure out who your advocates are:
As the United States continues to re-evaluate its disaster preparedness, the needs of children in both bioterrorism attacks and natural disasters need to be addressed at all levels. In the wake of Hurricane Katrina, where the Nation was faced not only with large numbers of displaced and dehydrated children but also with the large scale evacuation of children's hospitals, the creation of a more robust pediatric specialty team response should be examined. The teams stationed in Boston and Atlanta are examples of how high quality pediatric care can be taken into the disaster field using Pediatric Specialty Teams (PST's). One example of a new program in formation is PST–Ohio. This group combines the talents of Ohio's network of 7 children's hospitals and offers a potential model of PST's across the Nation by combining the resources of several children's hospitals to form a team so that not one hospital in particular has to shoulder the burden of staffing changes during deployment, drawing of talent across many specialties, and allowing rapid deployment of a regional asset.

As the National Disaster Medical System is transferred to HHS, the committee encourages the development of pediatric specialty teams to help augment the current Disaster Medical Assistance Team (DMAT) infrastructure.
Step 4: Begin to assemble the team

• Approval from hospitals’ administration

• Educate and *recruit* pediatric expertise

• Goal is 15-30 members from each hospital

• Membership to include:
  – Nurses
  – Physicians
  – Respiratory Therapists
  – Security
  – Pharmacists
  – Paramedics
  – Social Workers
  – Child Life Specialists
  – Communication Staff
  – Support Staff
Step 5: Figure out what role will be

- Free Standing PST Team
- Umbrella of DMAT Team
- State Asset able to be federalized
- ??????????
Goal of PST-Ohio

- Nationally Deployable Asset
- Augment current NDMS teams with depth and breadth of pediatric expertise
  - Pediatric emergency medicine staff
  - Pediatric and neonatal intensive care staff
  - Pediatric specific support
    - Child life specialists
    - Psychologists
    - Pharmacy
Progress to date:

• Volunteers
  – Rainbow 80+
  – Columbus 75+
  – Dayton 70+
  – Cincinnati 50+
  – Akron (In process)
  – Toledo (In process)
Work in Progress: Future Challenges

- FUNDING!!
- Team Coordination
- Education
- Infrastructure and Materials
- National vs State Asset
Step 6: Make sure you are on the right track
Questions

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