

Introduction of Pediatric Acute Care into the Israeli Defense Forces (IDF) Field Hospital

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Study/Objective: The IDF Medical Corps has decades of experience in treating patients in disaster areas. The hospital was recognized as the leader in field medicine and disaster relief, and became the first field hospital to ever achieve a Type 3 rating according to a World Health Organization (WHO) scale.

Background: Worldwide, children are impacted by natural disasters particularly in Developing countries. Children in disasters are often the most affected segment of the population but also the most overlooked. They are more dependent on others for survival. The impacts of hunger following natural disasters can be tremendous, causing lifelong damage to children's development. Natural disasters can be particularly traumatic for young children.

Methods: Operating a field hospital for a population affected by natural disaster is a complex mission. However, pediatric care has its own unique, challenging characteristics. This realization led us to set up a separate special pediatric division which included: Pediatric emergency department, Pediatric ward, Pediatric intensive care unit, Neonatal intensive care unit, and an Ambulatory clinic. The pediatric division provides for the primary and secondary care for pediatric patients including: Emergency medical conditions, Trauma, Diagnosis and treatment of common acute & chronic diseases. The pediatric special team comprised of pediatric emergency medicine specialists, pediatricians, neonatologists, pediatric surgeons, pediatric orthopedic surgeons, pediatric anesthesiologists, nurses, medics, psychologists, and medical clowns.

Results: More than 1,000 pediatric patients were treated by the pediatric teams in previous delegations, hundred of them required surgery. We have implemented unique methods to treat children, protocols for triage, procedural sedation and analgesia, electronic medical record, etc.

Conclusion: We have a duty to learn and share our experience with colleagues worldwide. We hope that our experience will help to promote further knowledge regarding disaster medical response for children, and enhance the development of efficient algorithms and procedures for better preparedness.

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Prepping for Peds: A Collaborative Approach to Improving Regional Pediatric Readiness in Oregon

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Study/Objective: Oregon has many geographic, resource, and training obstacles to providing quality care for critically ill and injured children. There is wide hospital variation in everyday pediatric preparedness and significant vulnerability to disasters affecting children. Together, experts from Oregon's two children's hospitals and Oregon Emergency Medical Services for Children, developed interactive workshops for medical providers covering the care of sick children at both individual and mass-casualty levels.

Background: In 2006, the Institute of Medicine noted that emergency departments "that are unable to meet everyday pediatric care challenges are, by definition, unlikely to be prepared to deliver quality pediatric care in a disaster." This is particularly evident in Oregon, a state challenged by a large geographic area, a high percentage of rural communities with limited resources, and a lack of pediatric medical specialists. Prior surveys have noted many hospitals lack pediatric-focused continuing education and quality improvement, pediatric champions, and disaster plans addressing the needs of children.

Methods: We designed and presented a pediatric emergency education program at community hospitals utilizing lectures, skill stations, telemedicine consults, and high-fidelity manikin case simulations. Secondly, we taught pediatric disaster preparedness workshops covering pediatric triage, weight-based medication administration in emergencies, and disaster planning.

Results: Thus far, 4 pediatric education days and 2 disaster preparedness workshops have been completed throughout Oregon. Participants included physicians, nurses, advanced practitioners, and prehospital providers. Feedback was overwhelmingly positive for both programs, with >80% of participants requesting similar offerings be available every 6-12 months. Participants valued most highly the interactive nature of the workshops (including simulations, equipment review, and case-based triage practice).

Conclusion: Together, these 2 programs represent a successful collaboration to improve pediatric care during everyday conditions and public health emergencies. Educational partnerships can foster relationships between hospitals, expand pediatric skills for individual providers, and improve hospital disaster planning for children.

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Pediatric Critical Care Triage: Allocation of Scarce

Resources

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Study/Objective: 1. Provide an overview of crisis standards of care¹ and current literature recommendations for pediatric critical care triage.² 2. Describe our regional Northwest Healthcare Response Network (NWHRN) and the Disaster Clinical Advisory Committee (DCAC). 3. Understand the unique differences between adult and pediatric patients with regards to allocation of critical care resources. 4. Present our

Pediatric Critical Care Resource Algorithms, Worksheet, and Triage Team Guidelines. 5. Discuss lessons learned and future considerations regarding scarce resource allocation.

Background: In a disaster situation when resources are scarce, it's agreed that health care providers have a duty to care, but also a duty to steward resources within an ethical framework.³ Operationalizing these ideals is challenging, especially when pediatric critical care itself is limited and specialized. The population of Washington state is 7.1 million, with 22.5% <18 years.⁴ There are only 119 PICU beds in the state, and only 30% are open at any time. During an overwhelming disaster, the number of critically injured and ill children may exceed resources available in spite of conservation and surge strategies. The NWHRN established the DCAC in 2012 to bring regional clinical leaders together to discuss scarce resource allocation.

Methods: Using a modeling tool developed by the US CDC, we estimated the potential pediatric critical care needs during a pandemic. We then gathered data regarding regional pediatric critical care resources, reviewed current literature, discussed conservation and surge strategies, and developed the Pediatric Critical Care Algorithm, Worksheet, and Triage Team Guidelines.

Results: The King/Pierce County Pediatric Critical Care Triage Algorithm and accompanying Worksheet are to be used with the Triage Team Guidelines. These documents are part of a regional Concept of Operations for Scarce Resource Management Plan.

Conclusion: This presentation outlines our process and provides our regional recommendations for pediatric critical care triage, as well as lessons learned and future recommendations.^{1,3} IOM reports Crisis Standards of Care 2009.² Kissoon N. Deliberations and recommendations of the Pediatric Emergency Mass Critical Care Task Force: Executive summary. *Pediatr Crit Care Med.* 2011;12:S103-108. ⁴USA Census.gov est 2015.

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Reunification Toolkit for Community Hospitals: Applying Education Principles to a Real World Problem

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Study/Objective: Our State Pediatric Disaster Coalition (PDC) was tasked with addressing community hospitals' concerns regarding reunification of children and parents/guardians in a disaster.

Background: Our PDC has representation from public agencies to hospitals. Many reunification tools currently exist on the internet. There were many new concepts to introduce to this audience of adult learners, the Cognitive Dimensions Chart (CDC) was applied during the creation of the toolkit.

Methods: A website was created to link key materials together. Regional hospital coordinators within our state could access materials for education and assist community hospitals to coordinate efforts with local agencies for reunification.

Results: Upon completion of this four component reunification toolkit, hospital emergency planners and safety personnel will have improved capability and capacity for pediatric patients that are separated from parents or guardians. A reunification plan is a vital part of a comprehensive hospital disaster. The first component creates awareness of facts and understanding of reunification for children and families through personal stories. The second component, a framework, explains a reunification plan and identifies key partners to conceptualize and apply to their unique situation. The third and cornerstone component, a checklist, with a step-by-step approach to creating a reunification plan. Included in this checklist are web linked resources to create procedures and detailed individualized analysis. Finally, a disaster drill narrative with a patient list and scenario are included to create either a live or simulated drill, to be able to test the new plan and create corrective actions to enhance the plan, and allows the learner to bring all the components together using metacognition.

Conclusion: This is a practical educational project, applied to a real-world problem, to benefit community hospital emergency management and safety personnel, in addition to children and families in our state to address the importance of reunification in disasters.

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Improving Disaster Preparedness for Children and Families: A National Curriculum for Pediatric Emergency Medicine Fellows

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Study/Objective: Disaster Preparedness (DP) training is limited within Pediatric Emergency Medicine (PEM) fellowships.

Background: A survey of PEM fellowship directors revealed that 70% did not incorporate a disaster preparedness curriculum. Disasters can occur in any region and pediatric emergency medicine physicians play a key role in the response. A standard disaster preparedness curriculum is a necessary component of any pediatric emergency medicine fellowship. A nationally-based curriculum has the advantage of providing a common knowledge base for physicians in training that can be expanded and elaborated for individuals and programs.

Methods: PEM experts in disaster preparedness reviewed the curriculum competencies proposed by National Center for Disaster Medicine and Public Health (June 2013), and Entrustable Professional Activities (EPA) for PEM physicians related to disaster preparedness. Comparison of these