

Introduction: The Illinois EMSC Pediatric Facility Recognition Program was implemented in 1998. The objective was to identify the capability of a hospital to provide optimal pediatric emergency and critical care. Beginning in 2004, steps were taken to integrate pediatric disaster preparedness into the facility recognition process.

Aim: The goal of this study was to identify the impact of the EMSC Pediatric Preparedness Checklist across time in Chicago hospitals undergoing Pediatric Facility Recognition.

Methods: Chicago hospitals were evaluated during the 2012 and 2016 Pediatric Facility Recognition Program. The following components were surveyed as they relate to pediatrics: Overall Emergency Operations Plan (EOP), Surge Capacity, Decontamination, Reunification/Patient Tracking, Security, Evacuation, Mass Casualty Triage/JumpSTART, Children with Special Health Care Needs/Children with Functional Access Needs, Pharmaceutical Preparedness, Recovery, Exercise/Drills/Trainings. Data from 2012 and 2014 checklist categories were compared and p-values were computed utilizing Fisher's Exact Test. A p-value <0.05 was considered statistically significant.

Results: Stockpiling of staging areas or having ready access to resuscitation supplies increased 46% ($p < 0.05$), testing of pediatric surge capacity in previous 24 months decreased 43% ($p < 0.05$), maintaining warmed water source for decontamination decreased 43% ($p < 0.05$), and having familiarity of evacuation procedures in ED, pediatric, and nursery personnel decreased 42% ($p < 0.05$). Although not statistically significant, the training of pediatric staff with JumpSTART triage increased 59%, EOP containing a pediatric reunification process increased by 36%, the presence of specific staff plans to allow care of dependents increased for children (29%), elderly (32%) and pets (35%), integration of a pediatric component into hospital EOP increased by 29%, and identification of an alternate treatment site for children decreased by 25%.

Discussion: Integrating the EMSC Pediatric Preparedness Checklist surveys into the facility recognition process impacts pediatric disaster preparedness and planning, and identifies areas of improvement in hospitals.

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Lessons Learned from an Obstetrics/Newborn/Neonatal Intensive Care Full-Scale Exercise

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Introduction: Children are frequently victims of disasters. However, gaps remain in disaster planning for pediatric patients. The New York City Pediatric Disaster Coalition (NYCPDC) is funded by the New York City Department of Health and Mental Hygiene (DOHMH) to prepare NYC for mass casualty incidents that involve large numbers of children. **Aim:** On April 26, 2018, the NYCPDC conducted a first full-scale exercise with the New York Fire Department (FDNY) testing evacuation, patient tracking, communications, and emergency response of the obstetrics, newborn, and neonatal

units at Staten Island University Hospital North. The goal of the exercise was to evaluate current obstetrics/newborn/neonatal plans and assess the hospital's ability to evacuate patients.

Methods: The exercise planning process included a review of existing obstetrics/newborn/neonatal plans, four group planning meetings, specific area meetings, and plan revisions. The exercise incorporated scenario-driven, operations-based activities, which challenged participants to employ the facility's existing evacuation plans during an emergency.

Results: The exercise assessed the following: communication, emergency operation plans, evacuation, patient tracking, supplies, and staffing. Internal and external evaluators rated exercise performance on a scale of 1–4. Evaluators completed an exercise evaluation guide based on the Master Scenario Event List.

An After Action Report was written based on the information from the exercise evaluation guides, participant feedback forms, hot wash session, and after-action review meeting. Strengths included the meaningful improvement of plans before the exercise (including the fire department) and the overall meeting of exercise objectives.

Discussion: Lessons learned included: addressing gaps in effective internal and external communications, adequate supplies of space, staff, and equipment needed for vertical evacuations in addition to providing staging and alternate care sites with sufficient patient care and electrical power resources. The lessons learned are being utilized to improve existing hospital plans to prepare for future full-scale exercise and or real-time events.

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The Pediatric Disaster Mental Health Intervention: Meeting the Primary Care Special Needs of Children in the Aftermath of Disasters

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Introduction: Effects of a disaster on a community's mental health can persist after the physical effects of the event have passed. The pediatric population is often overrepresented in disasters and prone to serious mental health disorders based on their age and parental/community response. Pediatric primary healthcare providers require the psychosocial skills necessary to work in disaster zones and to care for children in disasters.

Aim: Pediatric Disaster Mental Health Intervention (PDMHI) was initially developed in response to Superstorm Sandy's impact on children and their families in New York City. The objective was to develop training for primary care providers in pediatric disaster mental healthcare and to study its impact on the trainees.

Methods: A faculty of experts in pediatric mental health, psychiatry, psychology, and disaster preparedness was convened to develop curriculum. The faculty developed a four-hour intervention to equip healthcare providers with the skills and knowledge necessary to care for pediatric patients with mental health problems stemming from a disaster via evaluation, triage, intervention, and referral.

Results: Three PDMHI training sessions were held. A total of 67 providers were trained. Of these, there were 31 pediatricians, 18 nurses, 8 social workers, 4 psychologists, 2 psychiatrists, and 4 others. Pre- and post-tests measured knowledge before and impact 3 months post-intervention. 62.5% of responding primary care providers made changes to their practice. 92% felt better equipped to identify, treat, and refer patients. 81% would be willing to work in a disaster zone and felt prepared to treat patients with disaster mental health issues.

Discussion: PDMHI covers psychosocial responses to disasters from normal to mental health disorders. Participants gained tools for managing pediatric mental health issues in primary care. Study data showed an increase in the participants perceived knowledge and skills about pediatric disaster mental health, and willingness to participate in future disasters.

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Review of Disaster and Emergency Preparedness Among Summer Camps in the United States: Updates and Challenges

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Introduction: More than 14 million children in the United States attend summer camps yearly, including many special medical needs children. Summer camps are at risk for multiple pediatric casualties during a disaster. The American Camp Association, in the 2017 critical issues report, identified emergency preparedness as the top critical health and safety issue. Camps, compared to school-based settings, face unique challenges when planning for disasters, but research has been challenging because of the lack of access to camp leadership and data.

Aim: Provide a targeted up-to-date synopsis on the current state of disaster preparedness and ongoing collaborative research and technology interventions for improving preparedness among summer camps.

Methods: Researchers partnered with a national health records system (CampDoc.com) and American Academy of Pediatrics disaster experts to review results from a national camp survey. Main themes were identified to assess gaps and develop strategies for improving disaster preparedness.

Results: 169 camps responses were received from national camp leadership. A substantial proportion of camps were missing 4 critical areas of disaster planning: 1) Most lacked online emergency plans (53%), methods to communicate information to parents (25%), or strategies to identify children for evacuation/reunification (40%); 2) Disaster plans failed to account for special/medical needs children (38%); 3) Staff training rates were low for weather (58%), evacuation (46%), and lockdown (36%); 4) Most camps (75%) did not plan with disaster organizations.

Discussion: Collaboration with industry and disaster experts will be key to address the gaps identified. Current research and interventions include the recent release of a communication alert tool allowing camps to send mass text emergency notifications. Additionally, a recent pilot to incorporate disaster plans into the electronic health records platform emphasizing communication, evacuation, and identification of local experts has begun. Efforts to develop a unified disaster tool kit for summer camps remains a challenge.

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Validation of the Pediatric Physiological and Anatomical Triage Score in Pediatric Patients with Burn Injuries

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Introduction: Triage plays an important role in providing suitable care to the largest number of casualties in a disaster setting. We developed the Pediatric Physiological and Anatomical Triage score (PPATS) as a new secondary triage method.

Aim: This study was performed to validate the accuracy of the PPATS in pediatric patients with burn injuries.

Methods: A retrospective review of pediatric patients with burn injuries younger than 15 years old registered in the Japan Trauma Databank from 2004 to 2016 was conducted. The PPATS, which was assigned scores from 0 to 22, was calculated based on vital signs, anatomical abnormalities, and need for life-saving intervention. The PPATS categorized the patients by their priority and defined the intensive care unit (ICU)-indicated patients as those with PPATSs more than 6. This study compared the accuracy of prediction of ICU-indicated patients between the PPATS and Triage Revised Trauma Score (TRTS).

Results: Among 87 pediatric patients, 62 (71%) were admitted to the ICU. The median age was 3 years (interquartile range: 1 to 9 years old). The sensitivity and specificity of the PPATS were 74% and 36%, respectively. The area under the receiver-operating characteristic curve was not different between the PPATS [0.51 (95% confidence interval: -0.51–1.48)] and the TRTS [0.51 (-1.17–1.62), $p=0.57$]. Regression analysis showed a significant association between the PPATS and the Injury Severity Score (ISS) ($r^2=0.39$, $p<0.01$). On the other hand, there is no association between the TRTS and the ISS ($r^2=0.00$, $p=0.79$).

Discussion: The accuracy of the PPATS was not superior to that of current secondary-triage methods. However, the PPATS had the advantage of objectively determining the triage priority ranking based on the severity of the pediatric patients with burn injuries.

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