

**The State of Pediatric Disaster Education:  
A Comprehensive Review & Analysis Report  
Section 13. EMSC Innovation, Improvement, and Disaster**



This section is part of a comprehensive review and analysis of current issues and trends in pediatric disaster education. The report explores current gaps and opportunities in pediatric disaster education. A Pediatric Disaster Education Concept of Operations is recommended to assure whole community inclusion of children in all phases of the disaster.

**Eastern Great Lakes Pediatric Consortium for Disaster Response: Education Workgroup  
2021**

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## EMSC INNOVATION, IMPROVEMENT, AND DISASTER

### EMSC Innovation, Improvement, and Disaster

EMSC strives to building a culture of Continuous Improvement, following the saying: “You cannot improve what you cannot measure.” The [EII’s Pediatric Readiness Quality Collaborative](#) (PRQC) aligned with improvement principles from the Institute of Healthcare Improvement (IHI) provide key examples of the significant engagement and level of effort it takes to support change and promote competency within an organization.

The 2018 PRQC Collaborative offered four improvement bundles, including a Pediatric Disaster Preparedness Bundle (see chart, below). Seventeen 17 improvement teams participated in the Collaborative, organized in a hub-and-spoke model and partnered with a pediatric regional center in their team’s state.

Bundle Selection	1st Choice (Percent of sites)	2nd Choice (Percent of sites)
1 – Weight in Kilograms	30%	28%
2 – Abnormal Vital Signs	58%	41%
3 – Interfacility Transfer	5%	14%
4 – Pediatric Disaster Preparedness	7%	17%

Key lessons learned from the 2018 PRQC collaborative include:

- It takes up to 4-5 Plan-Do-Study-Act (PDSA) cycles to see improvement; hence, it is important to take the long view. Improvement requires persistence and is not a “one-and-done” effort.
- Physician leadership was critical to soliciting Chief Executive support. Data-driven improvement was challenged by those in charge of allocating time and resources when an immediate return on investment is hard to demonstrate.
- Establishing a sustainable organizational role that is responsible for coordinating pediatric-improvement-specific activities, such as a [Pediatric Emergency Care Coordinator](#) (PECC), was essential to achieving organizational success.<sup>1</sup>

### Connecting Pediatric Disaster Education Novices and Experts

Accessing and evaluating online pediatric disaster guidance and educational resources can be overwhelming for both novice and expert alike. While [PECCs](#) are positioned to be content leaders in the area of pediatric disaster readiness, they need sufficient on-boarding and

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introductions to pediatric disaster SME networks. PECCs are best able to “translate guidance into practice” when they are backed by a stable network of colleagues and pediatric disaster thought leaders. PECCs are positioned to be pediatric disaster leaders and should be virtually connected to support networks associated with EMSC-II, PDCOE, Pediatric Disaster Coalition, and the AAP.

The EMSC-EIIC National Pediatric Quality Collaborative Model and Team Structure is already in place to support the PECC community. In July, 2020 the EIIC launched a new [Knowledge Management](#) (KM) Domain that pulled together a team of pediatric emergency medicine SMEs from three national centers to support the recruitment and onboarding of PECCs.

The EMSC/EIIC knowledge management domain is well positioned to integrate pediatric disaster education and training as part of the overall EIIC pediatric readiness effort. By mobilizing day-to-day PECC’s and onboarding them to pediatric disaster will improve disaster capability for children. PECC’s act as “go-to” people for guidance advocating for children in disaster.

The mission to empower and sustain local and regional pediatric readiness efforts takes a village. The EIIC Knowledge Management Domain fills that novice to expert consultative, education and training gap by creating a cadre of pediatric subject matter experts to promote a multi-discipline collaborative learning environment.

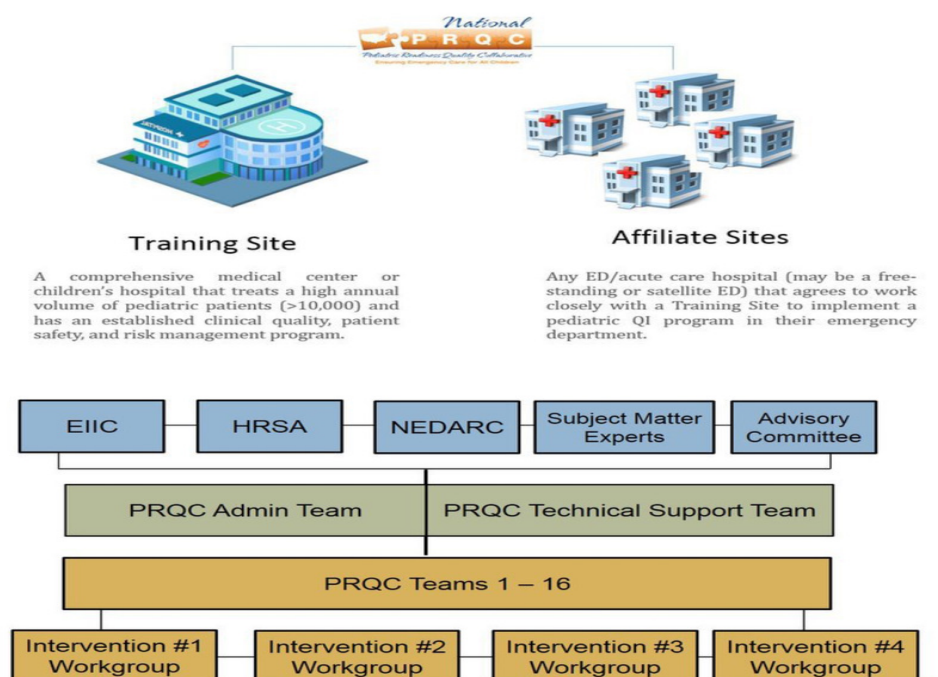
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### EMSC Innovation and Improvement Center (EIIC) and Pediatric Disaster Domain

System change relies on leadership; the [Emergency Medical Services for Children Innovation and Improvement Center](#) (EIIC) program's recent pivot to address the need for systemic change has been piloted as part of the [PDPQC](#). This is an important step in achieving regional pediatric disaster capability and building a critical pool of PECCs and pediatric disaster champions who can advocate both within their organizations and local jurisdictions.

#### Team Structure



In 2019, the EIIC partnered with the [Eastern Great Lakes Pediatric Consortium for Disaster Response](#) to conduct a free Pediatric Disaster Preparedness Quality Collaborative. The collaborative's mission was to enhance the ability of hospitals to receive and treat children in response to a disaster. All types of hospitals were recruited for the collaborative regardless of their location, patient volume, inpatient capabilities, or pediatric expertise. Institutions were asked to identify at least 1 pediatric champion who could commit 1-2 hours per week for a total of 20 weeks, or 40 hours total. Hospital leadership was required to sign a letter of commitment to promote executive support. Approximately 90 individuals from 39 hospitals across 16 states, Puerto Rico, and Ontario (Canada) participated in the collaborative.

An all-hazards approach to disaster preparedness began with a set of questions (environmental scan) to assess participant's overall pediatric disaster preparedness. Participants were then guided through a series of 9, 2-week modules broadly grouped into 3 focus areas: a) internal coordination, b) regional coalition building, and c) patient tracking and family reunification.

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Each focus area was introduced during a Learning Session conducted via teleconference that was led by a national pediatric disaster preparedness expert. Each module had corresponding activities designed to support important disaster related relationships within the community, such as regional children's hospitals, EMS agencies, public health, and emergency managers.

Many of the collaborative participants and SMEs were integral members of their hospital's emergency operations. For this reason, EIC project leads chose to delay the collaborative's launch from April to July 2020, in response to COVID-19 surges. Throughout the collaborative participants, were continually challenged to find sufficient time to devote to EIC collaborative activities, given that they were frequently called upon to help solve the ever-changing challenges of the real-world pandemic. The pandemic also challenged their ability to engage hospital stakeholders in the collaborative effort.

Other participants—despite having an interest in pediatrics or pediatric expertise—were not positioned within their hospital to be well-versed in hospital disaster resources or external disaster-related relationships (e.g., engagement with their regional healthcare coalition). This was especially true for participants at large, well-resourced hospitals and those in large hospital networks; in these facilities, it was often difficult to identify specific individuals who were responsible for various disaster preparedness components. This challenge was further compounded by the high rate of staff furloughs and turnover during the COVID-19 pandemic. Similarly, individuals at these large institutions or networks felt less empowered to affect change than they might otherwise have been.

As was continually noted through the EIC-led quality improvement collaboratives, leadership engagement is one—if not *the*—primary driver of change within a hospital. Thus, while the pandemic presented unique challenges for the participants, it also brought disaster planning to forefront of hospital priorities. Many participants reported high levels of support and engagement from frontline staff, adult counterparts, ED management team, ancillary services, and quality teams. Engagement included hospitals that established a pediatric disaster committee or developed a strong relationship with the pediatric outreach coordinator (or similar individual) at their local children's hospital/pediatric center.

Although challenged by the COVID-19 pandemic, the participants found the collaborative useful to identify gaps in the inclusion of pediatric considerations in their hospital disaster plan; they also found the resources provided and access to subject matter expertise to be valuable. In fact, the participants requested an additional “bonus” pediatric patient tracking and family reunification virtual tabletop exercise to test and receive SME input on their patient-tracking and family-reunification plans. At the time that this white paper was being prepared, EIC reported that 25 hospitals and more than 100 individuals had registered for this virtual exercise.

To sustain the collaborative's efforts, EIC plans to convert the disaster domain modules and learning sessions into an online, self-paced program that will be accessible free-of-cost on the EIC's website. Quarterly office hours with national pediatric disaster planning subject matter

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experts are also planned to support the online participants as is an annual virtual tabletop exercise. The material from this collaborative will also serve as part of the basis for a national pediatric disaster preparedness assessment (similar to the [National Pediatric Readiness Assessment](#)) to be rolled out nationally in 2023.

#### Summary & Recommendations

There are enormous untapped opportunities to expand the National Pediatric Quality Collaborative Model and Team Structure to connect local, regional, and state private/public stakeholders across disciplines. It is recommended that ongoing partnerships with the ASPR's Pediatric Disaster Centers of Excellence be established to foster a larger community of pediatric disaster and emergency care champions.

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*Illustrations and Graphics that are not referenced are provided via courtesy of Microsoft Word Stock Images & Opensource Online Photos*

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### **Appendix A. Education Workgroup Members & Sites**

Deanna Dahl Grove, MD (EGLPCDR Grant Co-PI)  
Professor of Pediatrics, Pediatric Emergency Medicine  
University Hospital Rainbow Babies & Children's Hospital

Patricia Frost RN, PHN, MS, PNP (Lead)  
National Pediatric Disaster Coalition

Amie Janeth Barda PhD  
Data Scientist, Department of Pediatrics  
University Hospital Rainbow Babies & Children's Hospital

Stuart Bradin, DO, FAAP, FACEP  
Associate Professor of Pediatrics  
Assistant Medical Director of Pediatric Patients - Survival Flight  
CS Mott Children's Hospital

Julie Bulson DNP, MPA, RN, NE-BC  
Director, Business Assurance  
Spectrum Health/Helen DeVos Children's Hospital

Kimberly Burkhart, PhD  
Assistant Professor  
University Hospitals Rainbow Babies and Children's Hospital

Cullen Clark, MD  
Attending Physician, Emergency Medicine  
Nationwide Children's Hospital  
Assistant Professor of Clinical Pediatrics  
Ohio State University College of Medicine

Nellie Coghlin MSN, APRN, PPCNP-BC  
Nurse Practitioner, Pediatric Specialties  
University Hospitals Rainbow Babies and Children's Hospital

Michael Dingeldein, MD  
Pediatric Trauma Director, Department of Pediatric Surgery  
University Hospitals Rainbow Babies and Children's Hospital  
Assistant Professor  
Case Western Reserve University School of Medicine



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## **EMSC INNOVATION, IMPROVEMENT, AND DISASTER**

Larry Flint MD, FAAP  
AAP Education Council

Richard Grossberg MD  
Center for Comprehensive Care, Pediatric Neurodevelopmental Disabilities  
University Hospitals Rainbow Babies and Children's Hospital

Brent Kaziny, MD  
Director, Disaster Preparedness Domain  
National EMS for Children Innovation and Improvement Center  
Medical Director of Emergency Management  
Texas Children's Hospital  
Assistant Professor  
Baylor College of Medicine

Michelle Moegling RN, BSN, CPN,  
Coordinator, Rainbow Community Pediatric Emergency Services  
University Hospitals Rainbow Babies and Children's Hospital

Sandra Nasca  
EHC Functional and Access Needs Representative  
National EMS for Children Innovation and Improvement Center

April Parish, BS  
Project Manager, RI Emergency Medicine  
Nationwide Children's Hospital

Meredith Rodriguez PhD, CCRC  
Senior Project Manager  
National EMS for Children Innovation and Improvement Center

Ron Ruffing, MD, MPH, MSP  
Chief, Division of Pediatric Emergency Medicine  
Children's Hospital of Michigan

Daniel Scherzer, MD  
Division of Emergency Medicine, Simulation Program  
Associate Medical Director, Trauma Executive Board Member  
Nationwide Children's Hospital  
Professor of Clinical Pediatrics  
The Ohio State University College of Medicine



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## **EMSC INNOVATION, IMPROVEMENT, AND DISASTER**

Rachel Stanley MD, MHSA  
Division Chief, Emergency Medicine  
Nationwide Children's Hospital

Jennifer Talley  
Special Needs Project Manager  
National EMS for Children Innovation and Improvement Center

Nathan Timm, MD, FAAP  
Medical Director, Office of Emergency Preparedness and Response, Division of Emergency  
Medicine  
Cincinnati Children's Hospital Medical Center  
Professor, Department of Pediatrics  
University of Cincinnati College of Medicine

Regina Yaskey, MD, FAAP  
Attending Physician, Division of Pediatric Emergency Medicine, Department of Pediatrics  
University Hospitals Rainbow Babies and Children's Hospital  
Assistant Professor  
Case Western Reserve University School of Medicine

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<sup>1</sup> Ketterhagen, MD, et.al. (2018) National survey of institutional pediatric disaster preparedness. American Journal of Disaster Medicine, [S.l.], v. 13, n. 3, p. 153-160, july 2018. ISSN 1932-149X. Available at: <<https://www.wmpllc.org/ojs/index.php/ajdm/article/view/2280>>. Date accessed: 05 nov. 2020. doi:<https://doi.org/10.5055/ajdm.2018.0296>.