

**STATE PARTNERSHIPS ARE EMSC STATE PROGRAMS IN 58 STATES AND TERRITORIES HELPING TAILOR THE EMS FOR CHILDREN MISSION AND GOALS TO LOCAL COMMUNITIES AND THE STATE IN WHICH IT RESIDES**

OUTCOMES
<p>Increased the number of pre-hospital agencies that have pediatric medical communication support. This drives quicker and appropriate interventions, reduces healthcare waste and encourages evidence based practice. Improving online medical control usage has improved health status.</p>
<p>EMS protocols enhance accuracy and timeliness in care. They should be evidence-based and specifically address the unique needs of children addressing behavioral, anatomic, and physiologic differences. Pediatric specific protocols have guided providers in their clinical practice and minimized unwanted variation in care within EMS agencies.</p>
<p>Every ambulance that either responds to 9-1-1 calls or transports patients between hospitals must have equipment to care for patients of all ages, including infants, children, and adolescents. Appropriate pediatric equipment has improved health outcomes in children requiring emergent care.</p>
<p>Critically ill children in the majority of EDs (most of which see fewer than 15 children/day) are an infrequent occurrence. Those EDs often lack a dedicated champion to ensure sustained readiness to act, making maintenance of high level of pediatric readiness difficult. Every ED must be ready to care for a child (eg. training, equipment and supplies). On a community or statewide level, programs to identify pediatric ready sites have been linked to decreased mortality (e.g. CA, IL, AZ).</p>
<p>Though systems are often in place to guide EMS, hospitals, and the public about the capability of EDs to care for traumatic injuries as a whole, these systems may not always differentiate the pediatric-specific capability of individual EDs to care for children with traumatic injuries (the leading cause of death in children &gt;1 year of age in the US). Statewide or regional systems that define the pediatric trauma capabilities of EDs is essential to decreasing morbidity and mortality in children.</p>
<p>When an ED/hospital lacks the necessary resources to care for a child, the child should be transferred to the closest appropriate facility with minimal delays during critical times of the management of an illness or injury. Having transfer guidelines that define the process for selecting the appropriate facility, ensuring appropriate staffing of the transport service to match the needs of the child, and having a plan to transfer the patient record can assure higher quality of care, thus better health outcomes.</p>

### TARGETED ISSUES GRANTS: SUPPORT INNOVATIVE PROJECTS THAT ADVANCE BEST PRACTICES AND SCIENCE ACROSS THE EMS CONTINUUM. SOME OF THOSE INNOVATIONS ARE ILLUSTRATED BELOW:

- EMS:** Proper field triage can help local EMS providers transport children to the best place for care to improve health outcomes for local communities. Identified differences in outcomes based on field triage results. Proper field triage can help local EMS providers take children to the best place for care to improve health outcomes for local communities.
- ED Pain Management:** Standardization of pain management in the ED for sickle cell pain may improve outcomes. (Opiates are commonly used for pain management.)
- EMS Pain Management:** Factors predicting appropriate opiate usage in the prehospital setting were described.
- Evidence-based Protocols:** Emergency helicopter transport providers can be trained with a pediatric respiratory curriculum.
- EMS Protocols and Guidelines:** A standardized method for creating prehospital protocols for tailoring to the needs of communities and states for health care delivery was created.
- Simulation and Training:** Simulation based training for prehospital personnel can provide optimal care (e.g. training for optimal medication delivery) for children with seizures. This can bring higher levels of skills to communities with limited pediatric exposure.
- Trauma Systems:** Demonstrated the impact of pediatric trauma center on children's survival.
- CPR:** Identified ways to strategies to improve outcomes from resuscitation.
- Behavioral Health:** Demonstrated the value of an online tool on preventing posttraumatic stress in children after medical events. Improved understanding of how parents support their children after a traumatic event. Defined cohorts of children at higher risk of mental illness following medical events.

### STATE PARTNERSHIP REGIONALIZATION OF CARE PROGRAM: SUPPORTS INNOVATION TO IMPROVE CARE TO AREAS/GEOGRAPHIES THAT HAVE LIMITED ACCESS TO HIGH QUALITY CARE. PERMITS SYSTEMS OF CARE THAT WILL ALLOW COMMUNITIES AND STATES BETTER ACCESS TO QUALITY CARE. SAMPLE PROGRAMS:

- Arizona:** Identified barriers for rural children attempting to access high quality care including mental health services that regionalization of care can address. Pediatric verification system for ER preparedness in Arizona reduced mortality.
- California:** Validated a tool to improve triage of children by nurses, leading to improved outcomes. Identified areas of reducing cost of emergency care for children without compromising quality. Assessed the use of telemedicine in pediatric emergency care; telemedicine can improve care and reduce cost of care. Children in rural areas particularly benefit from telemedicine applications thus empowering communities (and states) to have access to better quality of care they could not independently achieve.

EXAMPLES OF PROGRAM SUCCESSES

**PEDIATRIC EMERGENCY CARE APPLIED RESEARCH NETWORK: SUPPORTS RESEARCH TO BRIDGE GAPS IN PEDIATRIC EMERGENCY CARE ACROSS THE PREHOSPITAL/HOSPITAL/HOME CONTINUUM. INNOVATIONS:**

**Mental health:** Rapidly screen children who might not otherwise have access to mental health services by providing effective tools for ER based screening.

**Opioid/substance abuse:** Development/testing of rapid screening tools to assess adolescents at risk for substance abuse in non-traditional settings (ER).

**Safety:** Identification of strategies to help make ER's safer for children in order to reduce errors and decrease mortality and morbidity.

**Seizures:** Many drugs are used to stop seizures in emergency crises. PECARN has defined the effectiveness of specific drugs for stopping seizure applicable to both the ED and prehospital settings.

**Sepsis:** Sepsis carries a high risk of mortality and morbidity. PECARN is identifying unique and cutting edge strategies to rapidly identify children with and without bacterial infection (distinguishing those more at risk for sepsis).

**Traumatic Brain Injury:** Ionizing radiation such as that delivered with xrays and CT scans has been linked to childhood cancer deaths. PECARN has designed strategies and screening tools to define which children who have sustained trauma would benefit most from diagnostic tests.

**EMS FOR CHILDREN INNOVATION AND IMPROVEMENT CENTER (EIIC) & FORMER NATIONAL RESOURCE CENTER**

**Behavioral Health:** Supports the development of policy and clinical standards for care delivery for mental health emergencies in children (including autistic spectrum disorders, mental health screening, suicide and the agitated patients). The need to address and create a national strategy for mental health emergencies in children is critical and EMSC has helped support the integration of the behavioral health screening and interventions in a non-traditional setting (the EMSC continuum).

**Disaster Preparedness:** United the EMSC State Partnership programs to pediatric practitioners via American Academy of Pediatrics State Chapters and the AAP Disaster Preparedness Advisory Council, the Emergency Nurses Association and the American College of Emergency Physician in the coming years. A virtual network of resources will arm the nation with improved access to life saving strategies.

**Trauma:** The EIIC is working with members of the American College of Surgeons and the Committee on Trauma to combine separate similar efforts to ensure the inclusion of evidence based information for children is included in trauma guidelines. Educational programs have been offered to all levels of learners along the EMSC continuum across the nation utilizing a national Learning Management System.

**Septic Shock:** The EIIC has partnered with multiple professional societies collaborating on evidence based pathways for emergency care settings. This has enhanced support of septic shock QI collaboratives, the most recent having decreased mortality from septic shock.

For more information: <https://www.emsctimprovement.center> ; click onto *Impact and Outcomes of the EMSC Program* button