

EMSC REPORT

2022

BY THE NUMBERS

80,000

Children seek care in emergency settings each day.¹

<15

The majority of these visits occur in hospitals that see less than 15 pediatric patients a day.²

<10%

Of prehospital patient encounters involve pediatric patients.³

EDs and EMS agencies may not have the resources, skills, and training needed to effectively treat ill and injured children.

EMSC works to ensure that—no matter where a child lives—the health systems in their area provide quality emergency care.



EMSC
Emergency Medical
Services for Children

OUR PURPOSE

Since 1985, the Health Resources and Services Administration's Emergency Medical Services for Children (EMSC) program has helped seriously ill and injured children. We make sure that—no matter where a child lives—the health systems in their area provide quality emergency care services. The goals are to improve access and quality of emergency care for children and reduce serious injury or death. The program also provides leadership in improving emergency services for children both when they are cared for and transported by emergency medical services (EMS) agencies and once they arrive at the hospital emergency department (ED). We do this through research, practice, and partnership.

PROGRAM ADMINISTRATION

The EMSC program is administered by the U.S. Department of Health and Human Services (HHS) Health Resources and Services Administration (HRSA) Maternal and Child Health Bureau (MCHB) Division of Child, Adolescent and Family Health EMSC Branch.

LEGISLATION AND APPROPRIATIONS

Emergency Medical Services for Children Program Reauthorization Act of 2019. In August 2019, the EMSC program was reauthorized for five years, until fiscal year 2024, under the Public Health Service Act, Section 1910. As a discretionary grant program, appropriations for the program must be approved by Congress each year. In fiscal year 2021, Congress appropriated level funding of approximately \$22 million.

OUR INVESTMENTS



STATE PARTNERSHIP PROGRAM

Infrastructure & Systems Integration



INNOVATION & IMPROVEMENT CENTER

Quality Improvement & Communications



PEDIATRIC EMERGENCY CARE APPLIED RESEARCH NETWORK

Evidence Generation



DATA CENTER

Data Management & Analysis



TARGETED ISSUES GRANTS

Innovation

CROSS-CUTTING INITIATIVES

The National Pediatric Readiness Project
(Hospital EDs)

The National Prehospital Pediatric Readiness Project
(EMS)

The Pediatric Pandemic Network



INNOVATION

The EMSC Targeted Issues (TI) grants support the development of innovative strategies to

address pediatric emergency care needs in both the prehospital and ED settings. Best practices derived from these efforts improve pediatric health outcomes related to emergency care and are replicable nationwide.

In 2019, the EMSC program funded five TI grants to address current gaps in pediatric emergency care and enhance existing programs that promote pediatric readiness in emergency care settings. Over the four-year grant period, EMSC will invest \$6.5 million into these projects, which aim to demonstrate the link between ED and EMS system readiness improvements and improved pediatric clinical care and health outcomes.

The 2019-2022 TI grant projects are:

- **CONNECTICUT** – Yale University. Pediatric Emergency Care Coordination in EMS Agencies: Measuring the Influence, Magnifying the Improvement (Principal Investigator: Mark X. Cicero, MD).
- **LOUISIANA** – Louisiana Department of Health, Office of Public Health. Pediatric Care Coordination in EMS Agencies – Improving Child Health Outcomes in Louisiana (Principal Investigator: Toni Gross, MD, MPH).
- **NORTH CAROLINA** – University of North Carolina at Chapel Hill. System Readiness Improvements through the EMS Pediatric Emergency Care Coordinators Program (Principal Investigator: Jane Brice, MD, MPH).
- **OREGON** – Oregon Health and Science University. A Multi-State Evaluation of Emergency Department Pediatric Readiness: Guideline Update and Association with Quality, Outcomes, and Cost (Principal Investigator: Craig D. Newgard, MD, MPH).
- **TEXAS** – Dell Medical School at the University of Texas at Austin. Developing a National Pediatric Readiness Project Quality Improvement Data Registry (Principal Investigator: Katherine Remick, MD).

Learn more about each project here: <https://bit.ly/TIgrants>.

PEDIATRIC READINESS: HOSPITAL EDs

A cornerstone of the EMSC program is the National Pediatric Readiness Project (NPRP), a multiphase quality improvement initiative to ensure all U.S. EDs have the infrastructure to provide effective emergency care to children. The NPRP is a multidisciplinary effort across EMSC investments, including the EMSC Innovation and Improvement Center, the National EMSC Data Analysis Resource Center, and the 58 EMSC State Partnerships, working in tandem with the American College of Emergency Physicians (ACEP), the American Academy of Pediatrics (AAP), the Emergency Nurses Association (ENA), and other professional organizations.

71%

or 3,647 EDs across the nation responded to the NPRP assessment in 2021.

The NPRP involves the development of high-quality resources and education along with periodic assessments of the nation's EDs. Hospitals that participate in the assessment receive a readiness score and gap analysis. Data from the assessment is used to guide future systems-level approaches to improving care.

Through the NPRP, the EMSC program has demonstrated the value of improving pediatric readiness: EDs with high readiness scores demonstrate a four-fold lower rate of mortality for children with critical illness than those with lower readiness scores; trauma centers demonstrate a two-fold lower rate.

For more information about the project, visit <https://bit.ly/pedsreadyproject>.

PEDIATRIC READINESS: PREHOSPITAL SETTINGS

The National *Prehospital* Pediatric Readiness Project launched in 2019 with a focus on improving pediatric care within EMS agencies. The project is led by a steering committee comprising representatives from federal partners, EMSC grant recipients, subject matter experts, and national organizations and associations with a vested interest in prehospital pediatric care (to view a complete list of representative organizations, visit <https://bit.ly/3z5vAml>). Thus far, based on a joint policy statement—"Pediatric Readiness in Emergency Medical Services Systems," co-authored by the AAP, ACEP, ENA, National Association of Emergency Medical Technicians, and National Association of EMS Physicians—the group has developed a checklist and toolkit. The project aims to launch a national assessment by 2024. For more information, visit <https://bit.ly/prehospitalpedsready>.



INFRASTRUCTURE & SYSTEMS INTEGRATION

The EMSC program provides funding to State Partnerships in all 50 states, the District of Columbia, and seven territories to expand and improve emergency medical services for children in need of treatment for injuries and illnesses. Since 2006, the EMSC State Partnership program has been driving national efforts through defined performance measures that promote and evaluate the degree to which systems are in place to ensure optimal care of children in the emergency care setting.

Learn about the State Partnerships by visiting <https://bit.ly/EMSCSP>. Learn about performance measures by visiting <https://bit.ly/EMSCPerformanceMeasures>.

ENSURING FAMILIES ARE HEARD

EMSC continues to ensure that the family voice is at the center of all its work. The Family Advisory Network (FAN) is the EMSC connection to children and families across all states and territories; FAN representatives are integrated throughout EMSC efforts.



QUALITY IMPROVEMENT & COMMUNICATIONS

The EMSC Innovation and Improvement Center (EIIIC) helps bring evidence-based research and innovation to clinical practice through quality improvement science; it also supports EMSC-wide communications and dissemination efforts. The EIIIC is led by University of Texas at Austin Dell Medical School and University Hospitals Rainbow Babies and Children's, with partners at Yale University, Baylor College of Medicine, and The Lundquist Institute. The center comprises leading experts across multiple domains or focus areas, including Prehospital-Based Care, Hospital-Based Care, Trauma, Disaster Preparedness, Research, Advocacy, Collaboratives, and Knowledge Management.

Below, we highlight ongoing work of five specific areas.

Quality Improvement (QI) Collaboratives

To date, the EIIIC has hosted six large-scale QI collaboratives—programs that engage clinicians, administrators, State Partnerships, and others in learning about pediatric readiness and how to leverage QI science to transform care across settings and disciplines. Collaborative topics thus far include national pediatric readiness, disaster preparedness, telehealth, and pediatric emergency care coordinator workforce development and growth.

Knowledge Management

The Knowledge Management Domain synthesizes, creates, and disseminates high-quality, pragmatic, multidisciplinary educational resources known as Pediatric Education and Advocacy Kits (PEAKs). Resources include bottom-line recommendations and are developed around an urgent-need area of focus. Thus far, the team has released two PEAKs on the topics of status epilepticus and suicide.

Trauma

Working closely with the American College of Surgeons Committee on Trauma, the Trauma Domain focuses on system-level improvements to trauma care for children. Of note, participation in the National Pediatric Readiness Project assessment will soon be incorporated as a trauma center verification standard for all pediatric and adult trauma centers.

Advocacy: Equity, Diversity, and Inclusion (EDI)

Led by the Advocacy Domain, the EDI Steering Committee brings together each of the EIIIC domains, representatives from partner organizations, and Family Advisory Network (FAN) members. The goal of the committee is to create an EIIIC-specific EDI statement, strategic plan, and guide for best practices, as well as to serve as a coordinating body for efforts among EIIIC, partner organizations, and FAN.

Research: EMSC Scholars and Fellows

In 2021, the EIIIC launched two opportunities to engage future leaders in the EMSC space: the EMSC Scholars Program, which supports early career clinicians and health-systems professionals in developing unique research projects, and the EMSC Fellows Program, which engages trainees and early career professionals in systems-level approaches to improving emergency medical care for children.

Announcing a new partner program driving pediatric readiness

In 2021, HRSA announced the award of a \$48 million grant to five children's hospitals to establish the Center for Pediatric Everyday Readiness—Pediatric Pandemic Network (PPN). The goal of the network is to improve the nation's ability to meet the specialized needs of children during natural disasters and global health threats—including pandemics—in part by improving everyday pediatric readiness.

The network brings together the expertise of the five children's hospitals, located across distinct regions of the U.S., with the work of the EMSC Innovation and Improvement Center and two Pediatric Disaster Care Centers of Excellence (funded through the Office of the Assistant Secretary for Preparedness and Response): the Western Regional Alliance for Pediatric Emergency Management (WRAP-EM) and the Eastern Great Lakes Pediatric Consortium for Disaster Response (EGLPCDR).



EVIDENCE GENERATION

The Pediatric Emergency Care Applied Research

Network (PECARN) includes seven multi-institutional research node centers that work collaboratively with hospital ED and EMS affiliates to develop and submit research proposals. The larger PECARN cohort conducts PECARN-reviewed and approved research at their respective institutions. Each of the six hospital-based nodes includes three hospitals and one EMS-affiliated agency. The CHAMP (Charlotte, Houston, Milwaukee Prehospital) node has three EMS affiliated agencies.

The seven nodes are:

Great Lakes EMSC Research Network (GLEMSCRN), led by Principal Investigator (PI) Rachel Stanley, MD, MHSA, of Nationwide Children's Hospital.

Hospitals of the Midwest Emergency Research Node (HOMERUN), led by PI Lynne Babcock MD, MSc, of Cincinnati Children's Hospital Medical Center.

Pediatric Emergency Medicine Northeast, West & South (PEM-NEWS), led by PI Peter Dayan MD, MSc, of New York-Presbyterian Morgan Stanley Children's Hospital.

Pediatric Research in Injuries and Medical Emergencies (PRIME), led by PI Nathan Kuppermann MD, MPH, and Daniel Nishijima, MD, MSc, at University of California, Davis.

San Francisco-Oakland, Providence, Atlanta Research Collaborative (SPARC) led by PI Thomas Chun, MD, of Hasbro Children's Hospital.

West/SW Pediatric Emergency Medicine Research (WPEMR) led by PI Eileen J. Klein, MD, MPH, of Seattle Children's Hospital.

Charlotte, Houston, Milwaukee Prehospital EMS Research Node Center (CHaMP E-RNC), led by PI Brooke Learner, PhD, of the Medical College of Wisconsin.

56

In 2020, PECARN researchers wrote, contributed to, or were mentioned in 56 published papers.

View a full list of research papers from 2020 at <https://bit.ly/3bW4wuF>.



ACCOUNTABILITY

The EMSC Data Center, based at the University of Utah, has two major functions.

1. EMSC grantee data collection and analysis

The National EMS for Children Data Analysis Resource Center (NEDARC) serves to assist EMSC program grantees in the collection, analysis, and utilization of EMSC performance measure and other data to improve the quality of pediatric care in state and territory EMS, hospital, and trauma systems. NEDARC is also the data coordinating center for the National Pediatric Readiness Project, the EMS for Children Survey, and the National Prehospital Pediatric Readiness Project. These data collection efforts are ongoing and have consistently yielded survey response rates of 50-80% nationally over the last decade, representing data from over 4,000 hospitals and 9,000 EMS agencies.

2. Support for PECARN

The Data Coordinating Center (DCC) serves as a central resource for PECARN, assisting with data collection and management, quality assurance, statistical analysis, and coordination of selected PECARN activities.

COLLABORATION

Recognizing that improving pediatric emergency care requires a systems-wide, multidisciplinary approach, the EMSC program collaborates closely with numerous organizations, particularly the American College of Emergency Physicians, the American Academy of Pediatrics, the Emergency Nurses Association, the National Association of State EMS Officials, and the American College of Surgeons Committee on Trauma.

The program also works with multiple federal partners. Below are updates about how EMSC and federal partners are collaborating to improve emergency care for children.

Assistant Secretary for Preparedness and Response (ASPR)

ASPR and EMSC collaborate to help sync up pediatrics and disaster response at the national level. They have worked together to develop a pediatric checklist for hospital disaster preparedness and pediatric content hosted on ASPR's information exchange. ASPR also provides input on EMSC initiatives, including as a member on the National Pediatric Readiness Project Steering Committee. In addition, ASPR funds the Pediatric Disaster Care Centers of Excellence. The two centers collaborate closely with EMSC and are part of the new HRSA-funded Pediatric Pandemic Network.

National Highway Traffic Safety Administration (NHTSA), Office of Emergency Medical Services (EMS)

NHTSA has collaborated with EMSC on many key guidelines and resources, including the EMS Agenda for the Future, the National EMS Scope of Practice Model, the National EMS Education Standards, and the development of multiple evidence-based guidelines for prehospital care. Most recently, NHTSA and EMSC have worked to update several of these resources—developing a process to rapidly update the EMS Scope of Practice Model as needs arise, which proved important in the COVID-19 pandemic, and working to revise the EMS Education Standards to include pediatric content throughout all the standards.

National Institutes of Health (NIH) Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) Pediatric Trauma and Critical Illness Branch (PTCIB)

PTCIB has the mission of supporting research and training activities aimed at preventing, treating, and reducing all forms of childhood traumatic injury and critical illness across the care continuum. NICHD supports a robust portfolio of EMSC-related activities, ranging from cooperative agreements to research grants and training awards. For example, NICHD has a current notice of special interest soliciting research on emergency medical services for children.

Indian Health Service (IHS)

IHS is a vital collaborator with EMSC, particularly through the National Pediatric Readiness Project. IHS works to encourage all 47 IHS and tribal EDs to participate in the National Pediatric Readiness Project assessment; it also helps serve to strengthen communication channels with these EDs in order to share data and disseminate pediatric resources.

For more information, visit:

HRSA MCHB EMSC

<https://mchb.hrsa.gov/maternal-child-health-initiatives/emsc>

State Partnerships

<https://emscimprovement.center/programs/partnerships/>

EIIC

<https://emscimprovement.center/>

NEDARC

<https://www.nedarc.org/>

PECARN

<https://www.pecarn.org/>

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FOOTNOTES:

- <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb242-Pediatric-ED-Visits-2015.pdf>
- <https://pubmed.ncbi.nlm.nih.gov/30389843/>
- <https://pubmed.ncbi.nlm.nih.gov/30380953/>