

EMSC: A Historical Perspective

Emergency Medical Services for Children (EMSC) is a national initiative designed to reduce childhood death and disability due to severe illness or injury. The Program has successfully raised awareness among healthcare professionals, EMS and trauma system planners, and the general public that children respond differently – physically, emotionally, and psychologically – to illness or injury than do adults.

EMSC grant funds have enabled the development of prehospital and acute care provider training; the establishment of EMS guidelines and protocols, equipment lists, and other clinical care resources; the formation of advisory committees and national/federal partnerships; and identification of strategies for improving the EMS system for children. The EMSC performance measures have set goals for states that will help develop more consistency in the EMS and trauma system of care for children across the nation.

Looking towards the future, EMSC aims to ensure all emergency departments (ED) are ready to care for children through the implementation of national quality improvement initiatives. A heightened focus will be placed on regionalized care systems that share resources and improve access to health care services for children in tribal, territorial, insular, and rural areas of the United States. In addition, EMSC's funding of multicenter pediatric emergency research in both the prehospital and acute care settings is expected to reveal new knowledge to guide the future advances in pediatric emergency care for decades to come.

EMSC Through the Years

1966: Congress passes the Highway Safety Act of 1966, establishing the National Highway Traffic Safety Administration (NHTSA). The agency's purpose is to help states start their own coordinated EMS programs.

1973: Congress passes the Emergency Medical Services Systems Act of 1973, a program managed by the Health Resources and Services Administration (HRSA), to provide additional resources to state and local governments for implementing comprehensive EMS systems.

1975-79: State EMS systems dramatically improve the outcomes for adults. However, pediatric surgeons, pediatricians, and other concerned groups begin to realize that children's outcomes weren't keeping up the pace.

1979: Calvin Sia, MD, president of the Hawaii Medical Association, urges members of the American Academy of Pediatrics (AAP) to develop multifaceted EMS programs designed to decrease disability and death in children.

1983-84: Senator Daniel Inouye (D-HI) joins Dr. Sia's crusade after learning about the emergency care

provided to a senior staff member's daughter. Her treatment demonstrated the average ED's shortcomings in treating a child in crisis. Senators Orrin Hatch (R-UT) and Lowell Weicker (R-CT), backed by other staff members with similarly disturbing experiences, join Sen. Inouye in sponsoring legislation to create the EMSC Program.

1984: U.S. Congress enacts [legislation](#), authorizing the use of federal funds for EMSC. Administered by the HRSA's Maternal and Child Health Bureau (MCHB), the EMSC Program provides states grant money to help improve emergency medical services for critically ill and injured children. The Program does not promote the development of a separate EMS system for children, but rather enhances the pediatric capability of existing EMS systems.

1985: U.S. Congress appropriates initial funds for EMSC; first program grant announcements published.

1986: EMSC awards first federal grants to Alabama, California, New York, and Oregon, specifically earmarked to improve pediatric emergency medical services.

1987: The first Pediatric Advanced Life Support (PALS) course is made available to all emergency care providers.

1989: The first National Pediatric Emergency Medicine (PEM) course is introduced in collaboration with the American College of Emergency Physicians (ACEP) and the AAP.

1990: HRSA's MCHB establishes the EMSC Resource Network, which includes the [EMSC National Resource Center](#) (NRC), located in Washington, DC, and the National EMSC Resource Alliance, located in Los Angeles, CA. Their purpose is to help grantees develop new programs, disseminate their products, promote public understanding of pediatric issues in the EMS system, and work with professional organizations to further training efforts in pediatric emergency care for all health care providers.

1991: Pediatric emergency medicine is approved as a subspecialty in Emergency Medicine and Pediatrics.

1992: New Jersey becomes the first state to enact EMSC legislation at the state-level. California, New York, and Idaho become the first states to be awarded an EMSC [Targeted Issue](#) (TI) grant. Through the competitive TI grant mechanism, the EMSC Program funds schools of medicines to find new approaches to providing the best possible emergency care for children across the nation. Typically, the projects result in a new product or resource or demonstrate the effectiveness of a model system component or service of value.

1993: The Institute of Medicine (IOM) releases the most comprehensive report on children's emergency medical care. The [Emergency Medical Services for Children](#) report details the nature, extent, and outcomes of pediatric illness and traumatic emergencies, and reveals continued deficiencies in pediatric emergency care for many areas of the country.

1995: To help address "the need for more and better data on the volume, nature, and outcomes of pediatric emergency care," a major shortcoming identified in the IOM report, MCHB funds the [National EMSC Data Analysis Resource Center](#) (NEDARC), located in Salt Lake City, UT. NEDARC's primary mission is to assist EMSC grantees in collecting and analyzing data.

1996: MCHB establishes the EMSC Partnership for Children Consortium to promote and support collaboration between national organizations with an interest in pediatric emergency care. Members include the Ambulatory Pediatric Association, AAP, ACEP, the National Association of EMT's, the American Trauma Society, and others. These partnerships have enabled the program to broaden its impact far beyond the actual EMSC program funding.

1997: MCHB reports that every state, the District of Columbia, and four U.S. territories have received grant support at some time since the Program's establishment. Many elements of a model EMSC system have been developed since the Program's implementation, including prehospital protocols for triage and treatment of children, curricula for prehospital and ED staff, and standards for hospital facilities accepting pediatric patients. In addition, [State Partnership grants](#) are first introduced to help states improve, refine, and integrate pediatric care within the state EMS system.

1998: MCHB sponsors the first National Congress on Childhood Emergencies. This historic event marks the first nation-wide gathering of all medical and non-medical individuals interested in improving health care for children. During a special luncheon at the Congress, HRSA announces the recipients of its first National Heroes Awards. The purpose of the awards program is to identify, honor, and recommend as models the efforts of a select handful of men and women who excel in improving children's emergency health care.

1998: The Interagency Committee on Emergency Medical Research (ICER) is created. Its purpose is to improve the quality and quantity of EMSC research, to foster collaboration between federal agencies in highlighting EMSC research topics during development of research agendas, and to reduce barriers to the production of high quality EMSC research. Participating agencies include: HRSA, the Agency for Health Care Research and Quality (AHRQ), the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), and the National Institutes of Health (NIH), among others.

1999: Recognizing that families are a valuable resource in the planning, development, and evaluation of pre-

hospital and acute care services for children, the EMSC NRC creates the [Family Advisory Network \(FAN\)](#). FAN representatives impart a consumer's perspective and serve as community allies in support of patient- and family- centered health services throughout the entire continuum of care.

2000: The Department of Health and Human Services (DHHS) releases [Healthy People 2010](#), a national health promotion and disease prevention initiative that identifies 28 focus areas and 467 objectives to improve the health of all Americans. EMSC succeeds in ensuring that the plan's final version includes two EMSC-related objectives: (1) increase the number of states and the District of Columbia that have implemented state-wide pediatric protocols for online medical direction and (2) increase the number of states and the District of Columbia that have adopted and disseminated pediatric guidelines that categorize acute care facilities with the equipment, drugs, trained personnel, and other resources necessary to provide varying levels of pediatric emergency and critical care.

2000: ACEP includes information about the first-ever [National EMS for Children Day](#) in its National EMS Week promotional materials. Working in partnership with the EMSC NRC, EMSC Day is now celebrated annually on the third Wednesday of May.

2001: EMSC funds four cooperative agreements through a competitive funding mechanism known as the Network Development Demonstration Project. These cooperative agreements form the [Pediatric Emergency Care Applied Research Network \(PECARN\)](#), the first federally-funded, multi-institutional network for research in pediatric emergency medicine.

2002: The University of Utah receives a cooperative agreement to serve as the [EMSC Data Coordinating Center](#) for PECARN.

2002: DHHS adopts the EMSC theme, The Right Care When It Counts, as the focus of its annual observance of Child Health Month (October). The centerpiece of this year's celebration is the EMSC National Public Information and Education (PIE) campaign, a three-year initiative designed to: (1) help prepare caregivers for addressing the distinctive needs of children in medical emergencies; and (2) raise awareness among parents about the critical need to work closely with their

healthcare providers to better prepare for a pediatric medical emergency.

2005: The EMSC NRC commences a two-year endeavor to develop the first set of [EMSC performance measures](#) to demonstrate the results of Program funding given to states/territories. The measures focus on the availability of: (1) online and offline pediatric medical direction, (2) pediatric equipment on ambulances, (3) pediatric training for prehospital providers, (4) pediatric trauma and medical categorization of hospitals, and (5) appropriate interfacility transfer guidelines and agreements. These measures become the basis for all State Partnership grants.

2006: The IOM releases the [Future of Emergency Care](#), a series of reports that included "Emergency Medical Services at the Crossroads," "Hospital-Based Emergency Care: At the Breaking Point," and "Emergency Care for Children: Growing Pains." The reports comprehensively describe the "fragmented" system of emergency care with emphasis in the pediatric report on the "uneven" nature of emergency care for children.

2007: [PECARN](#) completes its first major trial looking at the use of dexamethasone for the treatment of infant bronchiolitis. The study is published in the July 26, 2007, edition of the *New England Journal of Medicine*.

2008: NIH releases [special program announcement](#) inviting applications for EMSC research. This first-ever multi-agency program Funding Opportunity Announcement is designed to expand and improve the quality and quantity of research related to EMSC.

2009-10: EMSC turns 25 and goes social! The EMSC NRC establishes Facebook, Twitter, and YouTube accounts to expand its outreach by educating and informing the online community about EMSC. Within two weeks, EMSC reached 50 Facebook Likes. By the end of 2010, Likes increased to more than 300. Want to help spread the word? Join or "friend" each of our sites at "[/emscnrc](#)." Look for the Facebook and Twitter accounts for NEDARC too ([/emscnedarc](#)).

2011: [PECARN](#) investigators receive an NIH [Institutional Research Career Development \(K12\) award](#) to promote multidisciplinary clinical research training programs in emergency medicine (EM) that prepares

clinician-scientists for independent research careers and academic leadership roles in EM and Pediatric EM. In addition, EMSC expands PECARN's reach by awarding six new cooperative agreements. The entire [PECARN network](#) now serves approximately 1.2 million acutely ill and injured children every year.

2012: EMSC funds six EMSC [State Partnership Regionalization of Care](#) (SPROC) demonstration grants, a four-year initiative to: (1) support the development of regionalized care that improves access to pediatric health care services for children and families in tribal, territorial, insular, and rural areas of the United States and (2) develop "Models of Inclusive Care" that may be replicated by other regions where access to specialized pediatric medical treatment is limited due to geographical distances or jurisdictional borders.

2012: In partnership with AAP, ACEP, and ENA, the EMSC Program implements the [National Pediatric Readiness \(Peds Ready\) Project](#), a national continuous quality improvement initiative. Phase one of Peds Ready is to conduct a national (online) assessment to measure ED pediatric readiness. The assessment will allow project staff to identify where the gaps are and align resources and efforts to build the competency and capacity within each ED.

2013: Phase one of Peds Ready is complete. More than 4,000 EDs participated, yielding a response rate of more than 82% (visit www.PediatricReadiness.org for in-depth information about Peds Ready national results). Not only does the successful response rate demonstrate the engagement of almost all of the nation's EDs to be peds ready, it provides a more accurate snapshot of the needs of these EDs.

2013: EMSC funds six new [Targeted Issue](#) grants that focus solely on pediatric prehospital care. This represents one of the largest investments, \$5.4 million over three years, in pediatric prehospital research. These newly-funded projects will either demonstrate the ability of EMS systems to conduct pediatric research or seek to improve the quality of care by increasing the base of pediatric prehospital research. In addition, EMSC [State Partnership](#) grants are awarded to the Federated States of Micronesia and the Republics of Palau and Marshall Islands.

2014: EMSC, AAP, ACEP, and ENA initiate phase two of Peds Ready: the development of strategies and resources to engage ED quality improvement activities. Two resources are released: (1) "[Checklist of Essential Pediatric Domains and Considerations for Every Hospital's Disaster Preparedness Policies](#)," in response to findings from the assessment, which noted that half of hospital EDs did not have pediatric-specific components in their disaster plan, and (2) "[Pediatric Readiness Data: An Opportunity to Improve Quality of Care in Your Emergency Department](#)," a webinar held in response to another important ED void identified in the initial data analysis, which found that only 45.1% of hospital EDs reported having a pediatric care review process and only 58.3% of respondents had defined pediatric quality indicators.

2014: A new partnership between the EMSC Program and the Department of Defense will result in the development of a pediatric trauma education program that will address the needs of health professionals who are responding to humanitarian and military missions, as well as in rural areas with limited pediatric resources. The web-based education prototype will include modules that address pediatric blast injury and damage control resuscitation.

2015: "National Assessment of Pediatric Readiness of Emergency Departments," the first manuscript describing the Peds Ready assessment and initial findings, is published online on April 13, in [JAMA Pediatrics](#). Two additional articles follow: one demonstrating an association between pediatric verification programs and improved day-to-day readiness in EDs ([Annals of Emergency Medicine](#)) and a second presenting results of the Peds Ready assessment of the 45 Indian Health Service/Tribal EDs ([Journal of Emergency Nursing](#)). On November 1, the Peds Ready assessment portal reopens to assist EDs in measuring their progress in becoming ready for children.

2016: The EMSC Program proposes [three new EMS-based performance measures](#) for the EMSC State Partnership program.