
PEDIATRIC EMERGENCY CARE COORDINATOR LEARNING COLLABORATIVE

Introductory Packet



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EMSC INNOVATION & IMPROVEMENT CENTER
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About the Prehospital Pediatric Emergency Care Coordinator Learning Collaborative

Emergency medical service (EMS) responses for pediatric patients represent thirteen percent of total EMS responses in the United States, but because call volume is highly variable, nearly 40% of all EMS agencies in the United States see fewer than thirteen pediatric patients per year on average.^{1,2} The pediatric training requirements for EMS provider licensure and re-licensure vary, from 4-9 hours for emergency medical technicians (EMTs) and 7-34 hours for paramedics, often combining pediatrics into a 'special populations' domain (e.g., geriatrics, obstetrics, etc.).³ The infrequency of seeing pediatric patients in the field means that pediatric care training does not become 'hard-wired' into EMS providers' 'muscle memory'. Because many EMS agencies have such a limited chance to exercise their pediatric skills in real-life settings, the responding EMS providers don't feel confident in providing appropriate care.⁴ In addition, educational opportunities and even best-practice guidelines are very limited in the prehospital setting, further exacerbating the quality of care gap between high- and low-resource settings.

In 2007, the Institute of Medicine (IOM) released *Emergency Care for Children: Growing Pains* which specifically recommends that EMS agencies designate a pediatric emergency coordinator to ensure that training and guidelines are available to field providers to maintain competence in the emergent care of children.⁵ This role is now commonly referred to as a pediatric emergency care coordinator (PECC). The IOM report suggests the individual(s) filling this role would serve as a resource to oversee any pediatric care quality improvement initiatives in the agency; provide skills based training to agency staff; and

assuring that all medications, equipment and supplies needed for a child are stocked and available in all responding vehicles. Potential benefits of having a PECC described in the report are:

- Identifying gaps and ensuring that resources to care for children are available
- Maintaining a relationship with the state EMS for Children infrastructure
- Working with state and local authorities and regional coalitions to develop strategies for addressing pediatric needs in the event of a disaster
- Establishing and maintaining offline and online pediatric EMS protocols
- Establishing quality improvement plans with pediatric-specific indicators
- Coordinating with dispatch to provide evidence-based, pre-arrival instructions for children and/or caretakers
- Reviewing on a regular basis the medications and devices available for prehospital care of children
- Liaising with hospitals to improve pediatric readiness of emergency departments
- Assisting in education and training of EMS providers in the care of children and principles of family centered care.⁶

In the resource document, *Coordination of Pediatric Emergency Care in EMS Systems*, Remick et al. point out that emergency departments that have a nurse or physician PECC have a higher rate of compliance with national guidelines for the care of children than those that do not.⁷ It is expected that EMS agencies who have a PECC would have similar results. In addition to these findings, and acting on the recommendations from the IOM report, the Health Resources and Services Administration's (HRSA) Emergency Medical Services for Children (EMSC) program has set as a performance measure for the EMSC State Partnership Program that 90% of all EMS agencies have a PECC by 2026. This collaborative is designed to assist all selected participants in achieving this goal.

Collaborative Objective

To form a cohort of EMSC State Partnership Grant recipients to participate in a learning collaborative that will demonstrate effective, replicable strategies to increase the number of local EMS agencies with a PECC.

Overall Aim

By 2020, 30% of EMS agencies in the state/territory have a designated individual who coordinates pediatric emergency care.

Focused Aim

By March 31, 2019, nine participating states will have established a PECC in > 50% of local EMS agencies that indicated an interest in adding this role on the 2017-2018 National EMSC Survey.

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PEDIATRIC EMERGENCY CARE COORDINATOR

Related Manuscripts and Policy Statements

FUTURE OF EMERGENCY CARE

EMERGENCY CARE FOR CHILDREN GROWING PAINS

Committee on the Future of Emergency Care
in the United States Health System

Board on Health Care Services

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creates overlaps and gaps in program funding. The committee recommends that Congress establish a lead agency for emergency and trauma care within 2 years of the release of this report. The lead agency should be housed in the Department of Health and Human Services, and should have primary programmatic responsibility for the full continuum of emergency medical services and emergency and trauma care for adults and children, including medical 9-1-1 and emergency medical dispatch, prehospital emergency medical services (both ground and air), hospital-based emergency and trauma care, and medical-related disaster preparedness. Congress should establish a working group to make recommendations regarding the structure, funding, and responsibilities of the new agency, and develop and monitor the transition. The working group should have representation from federal and state agencies and professional disciplines involved in emergency and trauma care (3.6).

ADDRESSING SPECIFIC PEDIATRIC CONCERNS

In addition to the above reforms to the broader emergency care system, the delivery of optimum pediatric emergency care will require addressing a number of concerns specific to pediatric populations. It will be necessary to strengthen the capabilities of the emergency care workforce to treat pediatric patients, improve patient safety, exploit advances in medical and information technology, foster family-centered care, enhance disaster preparedness, and improve the evidence base.

Strengthening the Workforce

Ideally, because of the unique way in which pediatric patients should be triaged and treated, all children should be served by emergency care providers with formal training and experience in pediatric emergency care. In reality, providers' levels of pediatric emergency care training vary considerably. Residency programs, medical schools, nursing schools, states, EMS agencies, and hospitals have varying requirements for initial and continuing pediatric emergency care education and training. In some cases, the training is intensive; however, emergency medicine or pediatrics training often represents only a small part of a provider's total training time. Of particular concern are emergency care providers who rarely encounter pediatric patients, making it difficult for them to maintain pediatric skills. This is a long-standing problem that has improved somewhat over time, but naturally has led to continued concern about the ability of the emergency care workforce to care properly for pediatric patients. To reduce the consequences of illness and injury, the workforce must have the knowledge and skills necessary to provide appropriate pediatric emergency care. The committee believes all

emergency care providers should possess a certain level of competency to deliver emergency care to children. Therefore, the committee recommends that every pediatric- and emergency care–related health professional credentialing and certification body define pediatric emergency care competencies and require practitioners to receive the level of initial and continuing education necessary to achieve and maintain those competencies (4.1).

Treatment patterns of providers in emergency care for pediatric patients differ not only because of differences in training, but also because of the lack of evidence-based clinical practice guidelines for many different types of conditions. This is troubling since the use of such guidelines has been shown to improve the quality of care. The committee recommends that the Department of Health and Human Services collaborate with professional organizations to convene a panel of individuals with multidisciplinary expertise to develop, evaluate, and update clinical practice guidelines and standards of care for pediatric emergency care (4.2). The committee believes these guidelines should be evidence-based, developed through an evidence evaluation process. That process should include individuals from different disciplines and different types of emergency care organizations to promote consensus and uniformity.

Simply recommending more training and the development of guidelines is not enough, however. Someone must be responsible at the provider level for ensuring that continuing education opportunities are available and exploited. Similarly, the development of clinical guidelines is useless without widespread adoption by providers. Thus the committee believes that pediatric leadership is needed in each provider organization. The committee recommends that emergency medical services agencies appoint a pediatric emergency coordinator, and that hospitals appoint two pediatric emergency coordinators—one a physician—to provide pediatric leadership for the organization (4.3). The pediatric coordinator position would not be a full-time position, but a shared role. Still, the coordinators would have a number of responsibilities, including ensuring adequate skill and knowledge among fellow ED or EMS providers, overseeing pediatric care quality improvement initiatives, and ensuring the availability of pediatric medications, equipment, and supplies.

Improving Patient Safety

Emergency care services are delivered in an environment where the need for haste, the distraction of frequent interruptions, and clinical uncertainty abound, thus posing a number of potential threats to patient safety. Children are, of course, at great risk under these circumstances because of their physical and developmental vulnerabilities, as well as their need for care that may be atypical for providers used to treating adult patients.

care. The effort should be multidisciplinary and multiorganizational to promote consensus and uniformity. The more organizations are involved in the development, the more likely it will be that the guidelines will be used in practice in various disciplines.

Unless there is a commitment to funding pediatric emergency medicine research, however, there will not be an adequate evidence base from which to derive practice guidelines. The issue of research and research funding is discussed in depth in Chapter 7.

Providing Pediatric Leadership in EMS Agencies and EDs

Simply recommending more training and the development of guidelines is not enough. Someone must be responsible at the provider level for ensuring that continuing education opportunities are available and well attended. Similarly, the development of clinical guidelines is useless unless their widespread adoption by providers is ensured. To these ends, the committee believes pediatric leadership within each provider organization is needed. Therefore, the committee recommends that **emergency medical services agencies appoint a pediatric emergency coordinator and hospitals appoint two pediatric emergency coordinators—one a physician—to provide pediatric leadership for the organization (4.3)**. Hospitals could choose personnel for the two coordinator positions based on available resources; often they will be filled by a physician and a nurse, but other models are possible (e.g., a physician and an EMT-P). The activities of the pediatric coordinators should be a component of medical oversight.

The pediatric coordinator position is not necessarily intended to be full-time, but instead a shared role. Still, the coordinators would have a number of responsibilities that would include ensuring adequate skill and knowledge among fellow ED or EMS providers; overseeing pediatric quality improvement initiatives; ensuring the availability of pediatric medications, equipment, and supplies; ensuring that fellow providers are following clinical practice guidelines; representing the pediatric perspective in the development of hospital or EMS protocols or procedures, for example, for family-centered care; participating in pediatric research efforts; and developing prevention programs for the hospital or EMS agency. The pediatric coordinator would monitor pediatric care issues and present concerns to the organization's leadership when a problem with pediatric care was identified. For example, if medication errors for children in the ED appeared to be rising, the pediatric coordinator should bring this to the attention of hospital administrators. Additionally, pediatric coordinators would liaison in quality improvement efforts and education with community hospitals lacking pediatric resources.

There are two reasons why it is important for hospitals to have two

pediatric coordinators. First, as noted, the coordinator positions would not be full-time. However, the committee envisions the coordinator role as encompassing many responsibilities—enough that two coordinators would be necessary. Second, it is important for hospitals to have a physician serve as a pediatric coordinator rather than having the role filled by a lone nurse or EMT. While the nurse–physician relationship has generally evolved over time from an authoritarian to a collaborative one (Pavlovich-Danis et al., 2005), remnants of the old dynamic may prevent some physicians from taking suggestions for improving pediatric care amiably from nurses or EMTs and vice versa. Certainly both coordinators should collaborate on pediatric improvement initiatives within the ED.

The concept of a pediatric coordinator is not new. In fact, since 1983 all Los Angeles hospitals designated as emergency departments approved for pediatrics (EDAPs) have been required to have a pediatric liaison nurse (PdLN) on staff, similar to the pediatric coordinator proposed here. Additionally, the AAP/ACEP 2001 *Guidelines for Preparedness for the Care of Children in the Emergency Department* contain a recommendation regarding the use of a physician coordinator and a nurse coordinator for pediatric care. The guidelines stipulate that the physician coordinator may be a staff physician with other responsibilities in the ED, but should meet the criteria for credentialing as a specialist in emergency care, pediatric emergency medicine, or pediatrics and have a special interest, knowledge, and skill in emergency medical care of children. The guidelines stipulate further that the nurse coordinator should have an interest, knowledge, and skill in emergency care and resuscitation of infants and children as demonstrated by training, clinical experience, or focused continuing nursing education. The position includes such duties as coordinating pediatric quality improvement, serving as a liaison to in-hospital and out-of-hospital pediatric care committees, and facilitating nursing continuing education in pediatrics (AAP, 2001). Pediatric coordinators for EMS agencies appear to be less common, but are necessary to advocate for improved competencies and the availability of resources for pediatric patients. Preferably, prehospital pediatric coordinators would be EMT-Ps with the interest, knowledge, and skills necessary to deliver care to children. EMS pediatric coordinators would have many of the same responsibilities as physician and nurse pediatric coordinators.

One children's hospital currently employs two full-time coordinators who are responsible for both EMS and hospital-based emergency care services. The hospital-based coordinator, an EMT-P, spends the majority of his time coordinating the PALS and other education programs within the hospital. He also leads a task force that examines all resuscitation events and reviews policies and procedures for resuscitation. His duties include making sure that resuscitation equipment is available and that all crash carts are uniform across all hospital floors. The coordinator reports to

the administrator of the ED, as well as to the division chief of emergency medicine. The second coordinator focuses primarily on coordinating PALS and other continuing education courses for prehospital providers (Personal communication, D. LaCovey, March 13, 2006).

Approximately 18 percent of hospitals have a pediatric physician coordinator on staff; 12 percent have a nurse coordinator (Gausche-Hill et al., 2004). In Los Angeles, however, the hospitals that are best prepared for pediatric emergencies—those designated as EDAPs—are required to have pediatric coordinator positions. But pediatric coordinators are arguably most important for smaller EDs and EMS agencies that lack strong pediatric expertise; these are the facilities most in need of immediate pediatric leadership. They may not be able to staff the pediatric coordinator position with a physician that is an EM physician or a physician with pediatric expertise; however, the position should be assigned to a physician with the interest and desire to improve pediatric emergency care within the facility.

SUMMARY OF RECOMMENDATIONS

4.1 Every pediatric- and emergency care-related health professional credentialing and certification body should define pediatric emergency care competencies and require practitioners to receive the level of initial and continuing education necessary to achieve and maintain those competencies.

4.2 The Department of Health and Human Services should collaborate with professional organizations to convene a panel of individuals with multidisciplinary expertise to develop, evaluate, and update clinical practice guidelines and standards of care for pediatric emergency care.

4.3 Emergency medical services agencies should appoint a pediatric emergency coordinator, and hospitals should appoint two pediatric emergency coordinators—one a physician—to provide pediatric leadership for the organization.

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PHYSICIAN OVERSIGHT OF PEDIATRIC CARE IN EMERGENCY MEDICAL SERVICES

The National Association of EMS Physicians® believes:

- EMS is a multi-faceted, multidisciplinary field that serves diverse populations.
 - A physician serving the role of EMS medical director must recognize the diverse patient population their EMS program serves. If the EMS medical director has knowledge or experience gaps pertaining to a specific subset of patients in the program's population, the physician should actively engage subject matter experts and other resources to ensure the EMS-related healthcare needs of those groups are appropriately and reasonably reflected in the clinical operations of the EMS program.
 - There is significant value in the EMS medical director establishing relationships with other partners in patient care including healthcare facilities, medical specialty organizations, and government and non-governmental supported entities that advocate for or support efforts to provide medical care to special populations.
- Pediatric patients have unique needs that every EMS program must ensure are appropriately and reasonably met.
- If the EMS medical director does not inherently possess knowledge and experience in pediatric-related EMS healthcare needs, they should engage with stakeholders that can provide EMS-appropriate guidance related to pediatric EMS healthcare needs.
- Ensuring pediatric EMS healthcare needs are represented in the planning of an EMS system will improve the care of children and can be accomplished by working collaboratively with the pediatric healthcare stakeholders to:
 - Identify gaps and ensure available resources to care for children,
 - Maintain a relationship with state EMS for Children infrastructure,
 - Establish and maintain pediatric specific EMS protocols, and
 - Establish quality improvement plans with pediatric specific indicators.
- Some jurisdictions may choose to develop an EMS Pediatric Emergency Care Coordinator or an EMS System Pediatric Advisory Committee, based on EMS program or system needs and resources, in order to augment and advise the EMS medical director(s) for the system or for individual EMS programs.
- If designated by the EMS medical director, the role of the Pediatric Emergency Care Coordinator may be met either by integrating the responsibilities of the role into an existing position, or by establishing a dedicated position, based on jurisdictional needs and resources, e.g. a shared role within a single agency or a shared resource among multiple agencies within a region.
- If formed, an EMS System Pediatric Advisory Committee should be composed of a diverse group of local EMS, emergency medicine, and pediatric stakeholders. The purpose of the committee is to be advisory to the oversight body for the EMS System, and support the EMS medical director(s) in the EMS system or jurisdiction.

RESOURCE DOCUMENT: COORDINATION OF PEDIATRIC EMERGENCY CARE IN EMS SYSTEMS

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ABSTRACT

Background: Citing numerous pediatric-specific deficiencies within Emergency Medical Services (EMS) systems, the Institute of Medicine (IOM) recommended that EMS systems appoint a pediatric emergency care coordinator (PECC) to provide oversight of EMS activities related to care of children, to promote the integration of pediatric elements into day-to-day services as well as local and/or regional disaster planning, and to promote pediatric education

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K. Remick, T. Gross, K. Adelgais, M. I. Shah, J. C. Leonard, and M. Gausche-Hill conceived the study. K. Remick, T. Gross, and M. Gausche-Hill conducted the systematic review of the literature. K. Remick oversaw statistical analysis. K. Remick drafted the manuscript and all authors contributed substantially to its revision. K. Remick takes responsibility for the paper as a whole.

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Supplemental data for this article can be accessed on the [publisher's website](#).

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Color versions of one or more of the figures in the article can be found online at www.tandfonline.com/ipeec.

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across all levels of EMS providers. **Methods:** A systematic review of the literature was undertaken to describe the evidence for pediatric coordination across the emergency care continuum. The search strategy was developed by the investigators in consultation with a medical librarian and conducted in OVID, Medline, PubMed, Embase, Web of Science, and CINAHL databases from January 1, 1983 to January 1, 2016. All research articles that measured a patient-related or system-related outcome associated with pediatric coordination in the setting of emergency care, trauma, or disaster were included. Opinion articles, commentaries, and letters to the editors were excluded. Three investigators independently screened citations in a hierarchical manner and abstracted data. **Results:** Of 149 identified titles, nine were included in the systematic review. The nine articles included one interventional study, five surveys, and three consensus documents. All articles favored the presence of pediatric coordination. The interventional study demonstrated improved documentation, clinical management, and staff awareness of high priority pediatric areas. **Conclusion:** The current literature supports the identification of pediatric coordination to facilitate the optimal care of children within EMS systems. In order for EMS systems to provide high quality care to children, pediatric components must be integrated into all aspects of care including day-to-day operations, policies, protocols, available equipment and medications, quality improvement efforts, and disaster planning. This systematic review and resource document serves as the basis for the National Association of EMS Physicians position statement entitled "Physician Oversight of Pediatric Care in Emergency Medical Systems." **Key words:** emergency medical services (EMS) systems; pediatrics; EMS for Children; administration; quality improvement

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INTRODUCTION

Providing high-quality emergency medical services (EMS) to children requires an infrastructure designed to support the care of pediatric patients. Unfortunately, the 2006 Institute of Medicine (IOM) report on the Future of Emergency Care in the United States Health System described multiple challenges facing EMS systems when it comes to meeting the needs of children.¹ Gaps exist in both the clinical and administrative arenas. EMS providers face challenges related to infrequent encounters with children, particularly the critically ill, and maintenance of pediatric skills. Furthermore, there is a paucity of research on best

practices, clinical outcomes, and patient safety for the prehospital care of children.

In response to these gaps, the IOM recommended that credentialing and certification organizations define pediatric emergency care competencies and that EMS providers be required to receive initial and continuing education to achieve and maintain those skills. In addition, the IOM recommended that EMS systems appoint a pediatric emergency care coordinator (PECC) to provide oversight of EMS activities related to care of children, to promote the integration of pediatric elements into day-to-day services as well as local and/or regional disaster planning, and to promote pediatric education across all levels of EMS providers.

Beginning in 2006, the federal EMS for Children program developed a set of performance measures to help states evaluate pediatric emergency care. These performance measures allow the EMS for Children program to track ongoing success in integrating the needs of children into our overall emergency care systems. Funding through the EMS for Children program's state partnership grants supports the assessment of local standards for online and offline pediatric medical direction and the integration of pediatric needs into the state EMS system through EMS for Children advisory committees and regulations.² The performance measures are regularly updated, and a new set of standards is scheduled to be released in 2016 for implementation in the 2017 grant cycle. Included in the new proposed EMS for Children performance measures is "EMS Pediatric Emergency Care Coordination: The percentage of EMS agencies in the state/territory that have a designated individual who coordinates pediatric emergency care."³

State EMS for Children advisory committees oversee pediatric-specific goals and activities within state and/or regional EMS systems. Similarly, local pediatric advisory councils offer a means for local EMS agencies and stakeholders to provide input on the development of pediatric policies and protocols. Additional funding from the National Healthcare Preparedness Program (HPP) is available to states, territories, and municipalities to develop and strengthen Healthcare Coalitions,⁴ and to enhance planning and improve infrastructure for pediatric patients.⁵

Pediatric Coordination Within EMS Systems

The 2011 National EMS Assessment by the Federal Interagency Committee on Emergency Medical Services demonstrated that of the 38 responding states, 15 (39%) reported a Pediatric Medical Director.⁶ There is minimal information on the roles or responsibilities of these Pediatric Medical Directors or whether they are compensated for their services.

While children account for up to 10% of EMS transports, in 1995 Snyder *et al.* documented significant deficiencies in state EMS systems, with 77% lacking prehospital triage protocols for specialty populations such as pediatrics.⁷ Data from the 2014 EMS for Children Performance Measures gives a more recent national snapshot of pediatric services within EMS systems. Based on responses from over 6,000 EMS agencies, greater than 90% of Basic Life Support (BLS) and Advanced Life Support (ALS) agencies have access to online pediatric medical direction.⁸ Written pediatric protocols were immediately available to 63% of BLS agencies and 90% of ALS agencies.^{8,9} Based on the 2014 Equipment for Ground Ambulances recommendations, BLS and ALS agencies carried on average 91% and 96% of the nationally recommended pediatric equipment, respectively.^{8,10} The most common equipment deficiencies were the smaller sized respiratory supplies (e.g., neonatal mask for bag-mask ventilation, child size nasal cannula for delivery of oxygen) and pediatric Magill forceps for removal of foreign bodies. Across all areas there were only marginal improvements over the 2011 assessment. Based on 2014 data from EMS for Children state partnership grantees, over 82% of states and territories require pediatric education for license and certification renewal of prehospital providers,¹¹ and 88% have formal EMS for Children Advisory Committees.¹² This is particularly important given that prehospital providers infrequently perform critical procedures on pediatric patients and these are less likely to be successful in the younger age groups.¹³ Day-to-day readiness is important given that children arriving to the emergency department by ambulance are more likely to have higher-acuity illnesses than those arriving by other means.¹⁴ These findings demonstrate that EMS systems are actively engaged in integrating the needs of children into the larger EMS system, yet gaps continue to exist.

Within individual EMS systems and with the assistance of regional or statewide pediatric advisory committees, PECCs can identify and address gaps in the care of children. The purpose of this publication is to serve as a resource document and provide a systematic review of how the literature has defined the role of an individual and, when warranted, a group to coordinate pediatric care within EMS systems. In addition, it provides information to assist EMS agencies with the establishment of local and/or regional PECCs and pediatric advisory committees.

METHODS

Data Sources and Search Strategy

We conducted a systematic review of the literature to identify descriptions of and scientific evidence for

pediatric coordination across the emergency care continuum. We searched the OVID, Medline, PubMed, Embase, Web of Science, and CINAHL databases from January 1, 1983 to January 1, 2016, for all relevant articles. To find all relevant citations related to pediatric coordination, we used a complex set of search strategies that combined medical subject headings and text words for terms related to pediatric coordination in the emergency care setting (Supplement 1). The search strategy was developed by the investigators in consultation with a medical librarian.

Data Selection

We included all research articles that measured a patient-related or system-related outcome associated with pediatric coordination in the setting of an emergency, trauma, or disaster. We excluded opinion articles, commentaries, and letters to the editors. We included consensus statements. Two investigators (KR and TG) reviewed all citation titles independently in a hierarchical manner. Titles classified as “include” or “indeterminate” by at least one of the investigators were included in the next iteration of review by abstract. Three investigators (MGH, KR, and TG) reviewed all abstracts to identify full articles for review. Disagreements at the full-article stage were resolved by consensus between the three authors (MGH, KR, and TG).

Data Extraction

Three investigators independently abstracted the following information from each article using a

data-abstraction tool: the study design, population/demographics, control and intervention, outcome data, setting, type of coordination, and specific recommendations. Any abstraction differences were resolved through consensus among these three authors. Data analysis was performed using STATA version 14 statistical software (StataCorp LP, College Station, TX).

RESULTS

The search strategy identified 149 citations (Figure 1). Of these, 75 were selected for abstract review, of which 20 underwent full-text review. Nine articles met inclusion criteria and were included in our review (Table 1). The kappa measuring inter-rater agreement for title, abstract, and full-text articles was 0.722, 0.554, and 1.0, respectively. Of the included citations, three were consensus documents, five were surveys, and one was an interventional study. The results from data abstraction can be found in Table 1.

Population Demographics and Settings

All five of the qualitative surveys were performed in the United States including one that was limited to Indian Health Services and Tribal areas.^{15–19} Four of the five surveyed hospital emergency departments (across the entire United States or in California), and one surveyed hospitals in New York. Two articles (one consensus document and one survey) focused on disaster preparedness^{18,20}; the remainder focused on pediatric emergency care in the ED setting. Two of the articles

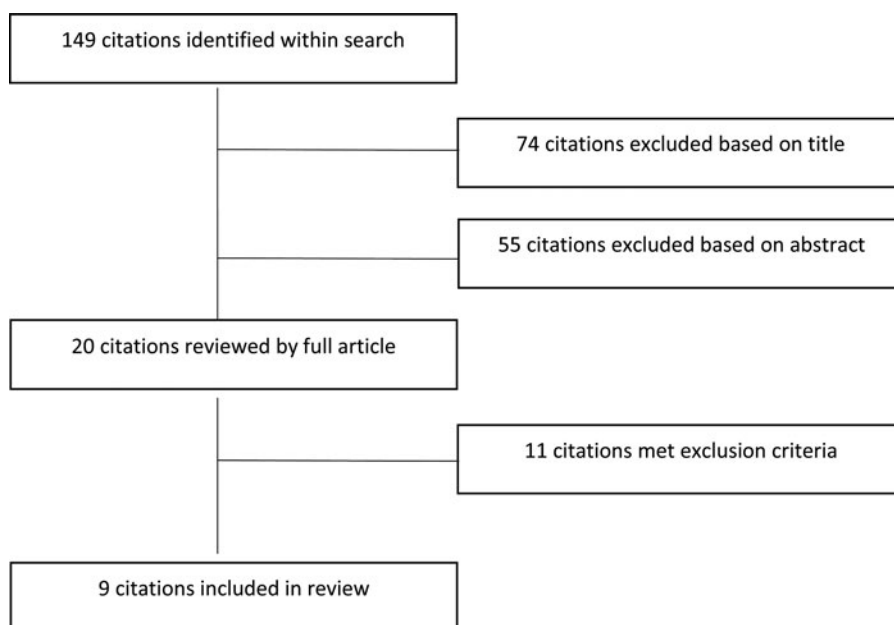


FIGURE 1. Flowchart of the review process.

TABLE 1. Summary of the 9 included citations

Citation	Method	N	Population	Setting	Type of Coordination	Recommendations and/or Outcomes
Sadovich et al. ¹⁵ (2015)	Survey (100% response rate)	45	EDs	Tribal/Indian Health Services	Physician PECC, Nurse PECC	Overall WPRS 60.9, 22% had physician PECC, 42% had nurse PECC. Presence of PECC associated with higher readiness scores across all domains: administration and coordination (13.1 vs. 0), Staff competencies and training (5.5 vs. 4.2), Pediatric quality improvement processes (2.1 vs. 1.8), Pediatric patient safety (10.2 vs. 9.2), policies and procedures (9.8 vs. 8.5), Equipment, Supplies and Medications (30.4 vs. 28.3) but this was only statistically significant for Equipment/Supplies/Medications score
Remick et al. ¹⁶ (2016)	Survey (90% response rate)	335	EDs	California	Physician PECC, Nurse PECC	43% at least one type of coordinator, 33% both types of coordinator; wide range of responsibilities; associated with higher WPRS (85 vs. 58)
Gausche-Hill et al. ¹⁷ (2015)	Survey (83% response rate)	5017	EDs	United States	Physician PECC, Nurse PECC	48% physician PECC, 59% nurse PECC, 42% both PECCs; PECC associated with increased WPRS (82.2 vs. 66.5) across all patient volumes, scores for both PECCs higher than for physician or nurse PECC alone (82.2 vs. 75.3 vs. 69.7); associated with increased likelihood of pediatric quality improvement process (ARR 4.11), pediatric policies and procedures (ARR 2.33), pediatric equipment supplies, and medications (ARR 1.44), and pediatric patient safety measures (ARR 1.30)
Clancy and Kacica ¹⁸ (2012)	Survey (80% response rate)	145	Hospitals	New York	Pediatric Coordinator (physician and/or nurse)	60% physician coordinator, 49% nurse coordinator; presence of physician vs nurse coordinator respectively associated with increased likelihood of having emergency management plan that includes pediatrics (OR 4.02 vs. 3.06), tracking plan for unaccompanied children (OR 6.50 vs. 5.36), plan to house pediatric patients in-place (OR 15.13 vs. 11.50), pediatric equipment (OR 7.22 vs. 6.14), and staff to meet pediatric patient medical needs (OR 28.56 vs. 33.30)
Barfield et al. ²⁰ (2011)	Literature review, Expert opinion	53 experts	Experts in public health, disaster, and medical response	Oak Ridge Institute for Science and Education	Pediatric experts as advisory council	Need for pediatric experts to ensure children are included in mass critical care preparations
AAP, ACEP, ENA ²² (2009)	Consensus statement	Expert panel	AAP, ACEP, ENA	—	Physician PECC; Nurse PECC	Recommend PECC
Gausche-Hill et al. ¹⁹ (2007)	Survey (29% response rate)	5144	EDs	United States	Physician PECC, Nurse PECC	18% doc PECC, 12% nurse PECC, 10% both PECC; 52% had pediatric QI/PI plan (not compared by coordinator role); median 11 of 13 pediatric care policies (not compared by coordinator role); presence of physician and nurse PECC associated with higher WPRS across all types of facilities: Standby (81 vs. 57), Basic (80 vs. 68), General (84 vs. 72), Comprehensive (87 vs. 79).

(Continued on the next page)

TABLE 1. (Continued).

Citation	Method	N	Population	Setting	Type of Coordination	Recommendations and/or Outcomes
Oakley et al. ²¹ (2004)	Interventional study with survey and retrospective review	117 charts	ED, Families, Staff	Melbourne, Australia	Joint Liaison Committee: Emergency Directors, Hospital Executives, Director of Pediatric Services, Director of Medicine Services, physician and nurse PECCs	Development of a designated pediatric area within the ED, identification of physician and nurse PECCs to provide education and training, development of pediatric specific protocols for top 15 most common diagnoses and 10 high-risk diagnoses, Outcomes included decreased pediatric inter-facility transfers (4.9 vs. 4.1 per month) and inpatient pediatric bed usage (6% reduction), improved triage documentation (50% vs. 85%), decrease in inappropriate asthma management (12 vs. 5), increased pain management (50% vs. 100%), and increased staff awareness of high priority issues in pediatrics (12% vs. 29%)
AAP and ACEP (2001) ²³	Consensus statement	Expert panel	AAP, ACEP	—	Physician PECC, Nurse PECC	Recommend PECC

ED: Emergency Department; PECC: Pediatric emergency care coordinator; WPRS: Weighted pediatric readiness score; AAP: American Academy of Pediatrics; ACEP: American College of Emergency Physicians; ENA: Emergency Nurses Association; QI/PI: Quality Improvement/Process Improvement.

evaluated the impact of pediatric experts serving in an advisory capacity^{20,21}; the remainder evaluated the role of a pediatric care coordinator. There was no emphasis or delineation of rural, suburban, or urban settings. The definition of pediatric was not consistently defined across studies. The interventional study was carried out in Australia and included pediatric patients seen in the emergency department.²¹

Intervention/Coordination Role and Responsibilities

The exact roles and responsibilities of the pediatric coordinator were not clearly outlined in every article. However, the majority identified the pediatric coordinator as someone who serves in a broad capacity focused on pediatric care including liaison work, clinical protocol development, quality improvement efforts, patient safety, and education/training. Across all studies, the pediatric coordinator position was filled by a physician and/or nurse with expertise in pediatric emergency care. Of the articles that evaluated the role of a pediatric advisory council, only one identified the individuals who served in that capacity.²² Specific members included nurses, physicians, and administrative leaders across the continuum of care. The Pediatric Emergency Mass Critical Care Task Force recommended that “pediatric experts must be involved in all aspects of emergency and disaster planning.”¹⁹ The Australian interventional study created a partnership between a tertiary pediatric hospital and a mixed population hospital, utilizing a joint

liaison committee comprised of a pediatric emergency physician and pediatric clinical nurse facilitator, in addition to emergency service directors and hospital executives.²²

Outcomes and Recommendations

Specific outcomes and recommendations associated with pediatric coordination are summarized in Table 1. The three consensus documents list recommendations, which include the identification of a PECC in the emergency department and the inclusion of pediatric experts in disaster planning.^{20,22,23}

The Australian interventional study evaluated the impact of a pediatric advisory council to develop a pediatric-specific treatment area, identify physician and nurse PECCs to facilitate education and training among staff, and the adoption of pediatric clinical practice guidelines. Implementation of these three elements resulted in an increase in overall pediatric patient volume, a decrease in inter-facility transfers, increase in pediatric triage including vital sign assessment and pain management, and a decrease in variations in clinical practice. In addition, the interventions resulted in increased parent satisfaction, staff confidence, and awareness of pediatric needs.²¹

The five survey studies each reported the prevalence of a PECC among surveyed entities and measured the association of PECC presence with various other outcomes. Four of the 5 survey studies utilized the weighted pediatric readiness score (WPRS). The WPRS was developed by assigning a weighted score based

upon a 55-item survey. A panel of experts developed the initial weighting criteria for the score. The survey was then piloted among a select group of emergency departments in California. Based on the expert panel and the pilot assessment results, 24 of the survey items were weighted to generate an overall score, which was normalized to a 100-point scale. Weighting for each section of the assessment included coordination of care (19 points), physician and nurse staffing (10 points), quality improvement (7 points), patient safety (14 points), policies and procedures (17 points), and equipment and supplies (33 points).¹⁷

The 2013 national assessment of emergency departments, in which pediatric patients accounted for up to 25% of all emergency department visits, demonstrated the impact of PECCs on readiness to care for children.¹⁷ This assessment demonstrated that 59% of emergency departments had a nurse PECC and 48% had a physician PECC; 42% had both types of PECC. This was a significant improvement from the prior national survey in 2003, which demonstrated nurse PECC presence of 12% and physician PECC presence of 18%.²¹ In multiple surveys, emergency departments with a PECC had a significantly higher level of readiness to care for children, as measured by the WPRS.^{15-17,19} In the 2013 survey the median adjusted WPRS was 82 for emergency departments with a PECC vs. 67 for those without.¹⁷ This association with higher WPRS persisted across all pediatric ED volume categories. The presence of a PECC was associated with a higher likelihood of having all of the other recommended components of the 2009 Guidelines for Care of Children in the Emergency Department¹⁶ in place. Deficiencies included presence of a quality improvement program that includes children (55% lacking) and a disaster plan that addresses children (53% lacking).¹⁷

The report on California emergency departments outlined the roles and responsibilities of a PECC.¹⁶ These roles and responsibilities included facilitating continuing education, development of pediatric policies and procedures, oversight of quality improvement and patient safety efforts, liaising with regional facilities and organizations as well as hospital committees, and ensuring pediatric needs are addressed in disaster planning.

The highest prevalence of physician PECCs was noted in the survey of New York hospitals related to emergency preparedness planning, where 60% of hospitals had a physician coordinator. The presence of a PECC (physician or nurse) was associated with having the following: emergency management plans that include pediatric-specific plans, a tracking plan for unaccompanied children, the ability to house pediatric patients in place, pediatric equipment, and staff to meet pediatric medical needs.¹⁸

DISCUSSION

The coordination of pediatric care and the readiness to treat children within our nation's emergency departments is enhanced with the presence of PECCs. The presence of a physician or nurse PECC has been associated with higher pediatric readiness scores and increased compliance with national guidelines for the care of children in emergency departments. This includes having appropriate equipment and medications, staff who are certified/trained appropriately, staff competency evaluations, pediatric patient safety measures, and key policies or procedures in place.

It is expected that the same benefits will be realized in prehospital EMS systems that utilize a PECC. While pediatric patients treated in U.S. emergency departments account for nearly 25% of all patient visits, the pediatric proportion of patients treated in EMS systems is much less, an estimated 7–13%.^{13,14} The pediatric readiness assessment demonstrated that facilities with lower annual pediatric patient volumes were less likely to be pediatric ready than facilities with higher annual pediatric patient volumes in the absence of a PECC.¹⁷ Having a designated individual who coordinates pediatric emergency care may be even more important for EMS systems, where pediatric care is less of an everyday occurrence. To this end, an advisory committee to the federal EMS for Children program, made up of national pediatric EMS subject matter experts, determined that states and territories be required to report the percentage of EMS agencies that have a designated individual who coordinates pediatric emergency care. The Maternal and Child Health Bureau of the Health Resources and Services Administration has set the following goals for obtaining this performance measure: 30% of agencies by 2020, 60% of agencies by 2023, and 90% of agencies by 2026.³

The role of a PECC within an EMS system is to work collaboratively with the EMS system administrator and physician medical director to improve the care of children. This would be accomplished by:

- identifying gaps and ensuring that resources to care for children are available
- maintaining a relationship with the state EMS for Children infrastructure
- establishing and maintaining offline and online pediatric EMS protocols
- establishing quality improvement plans with pediatric-specific indicators.

Additional activities may include but not be limited to the following:

- liaising with hospitals to improve pediatric readiness of emergency departments

- coordinating with dispatch to provide evidence-based, pre-arrival instructions for children and/or caretakers
- reviewing on a regular basis the medications and devices available for prehospital care of children
- assisting in education and training of EMS providers in the care of children and principles of family-centered care
- working with state and local authorities and regional coalitions to develop strategies for addressing pediatric needs in the event of a disaster.

It is expected that the PECC have a background in pediatrics, emergency medicine, pediatric emergency medicine and/or EMS with a clear understanding of clinical practice as well as the administrative aspects of EMS systems and EMS provider scope of practice. Fellowship-trained emergency physicians in pediatric emergency care or EMS are well-qualified for the physician PECC position; nurse practitioners, paramedics, mobile intensive care nurses, and/or nurse educators with pediatric expertise or training may also serve well as a PECC.

Not all systems will have the ability to fund a full-time PECC but may assign this role and the accompanying responsibilities to an existing staff member. Other systems may expand the role of the PECC, such as the Pediatric EMS Medical Director, who could assist the EMS Medical Director in overall medical oversight of the EMS system's pediatric care. Depending on the size and needs of the system, a part-time, voluntary, or shared position may be sufficient. Additionally, EMS systems may consider funding the position cooperatively as a shared resource with other healthcare entities.

Ideally, complementing the PECC is a Pediatric Advisory Committee composed of key stakeholders in the care of children. The Pediatric Advisory Committee is ideally composed of a diverse group of local pediatric stakeholders including EMS providers, physicians and nurse leaders in emergency medicine, pediatric emergency care, trauma, and pediatric critical care from all geographic areas in the region. In addition, *ad hoc* representatives with experience in system-based policies, protocol development, research, and quality improvement efforts may serve on the committee.

This committee would be advisory to the authoritative body for the EMS System such as a governing board or EMS Commission. The activities and responsibilities of the Pediatric Advisory Committee may include but are not limited to:

- reviewing EMS system activities and policies for the prehospital care of children
- developing categorization systems to identify local or regional emergency departments that are able to stabilize and manage pediatric emergencies

TABLE 2. Pediatric resources

Online and Offline Pediatric Medical Direction Resources:
Children with Special Healthcare Needs: A Template for Prehospital Protocol Development ²⁵
Model EMS Clinical Guidelines ²⁶
EMS for Children Medical Direction Toolbox ^{27,28}
Consent of EMS for children and adolescents ²⁹
Educational Resources:
Teaching Resource for Instructors in Prehospital Pediatrics – BLS ³⁰ and ALS ³¹
Pediatric Education of Prehospital Professionals ³²
Emergency Pediatric Care ³³
EMS for Children Prehospital Education Toolbox ³⁴
Special Children's Outreach and Prehospital Education (SCOPE) ³⁵
EMS for Children Patient- and Family-Centered Care Toolbox ³⁶
EMS for the Pediatric Emergency Physician ³⁷
Disaster Resources:
EMS for Children Pediatric Disaster Preparedness Toolbox ³⁸
Pediatric Disaster Preparedness Resource ³⁹
Pediatric Disaster Triage: JumpSTART ⁴⁰
California EMS for Children Pediatric Disaster Preparedness Guidelines for Local EMS Agencies ⁴¹
Pediatric Preparedness Resource Kit ⁴²
System-Based Policies and Procedures:
Joint position statement on Equipment for Ambulances ⁴³
Models for Facility Categorization ^{44,45}
EMS for Children Facility Categorization Toolbox ⁴⁶
EMS for Children Inter-facility Transfer Toolbox ⁴⁷
Guidelines for Air and Ground Transport of Neonatal and Pediatric Patients ⁴⁸

- writing and reviewing pediatric-specific protocols for the prehospital care of children
- identifying and instituting pediatric-specific quality improvement measures,
- developing a local/regional pediatric disaster surge plan
- organizing and assisting with pediatric disaster drills.

Further evidence for systematic pediatric emergency care coordination exists. Pediatric verification programs for emergency departments have been associated with greater readiness to care for children and may be associated with decreased mortality among injured children.^{16,24} While the specific impact of pediatric emergency care coordination at the prehospital level has not been assessed, a similar trend is expected across the larger healthcare continuum.

Resources Available to PECCs and Pediatric Advisory Committees

Multiple resources are available to PECCs and pediatric advisory committees, including online and offline pediatric medical direction, educational and disaster resources, as well as system-based policies and procedures (Table 2).

CONCLUSION

EMS is a multi-faceted, multidisciplinary field that serves diverse populations. Pediatric patients have unique needs that every EMS program must ensure are appropriately met. The prehospital care of children requires EMS systems to have and maintain policies and procedures that cover all aspects of pediatric emergency care. This coordination may benefit from the presence of a designated individual to coordinate the care of children. An EMS PECC facilitates the integration of pediatric needs into all aspects of EMS. Additionally, the establishment of a pediatric advisory committee will ensure system-based quality improvement efforts to evaluate and address ongoing integration of pediatric-specific needs within EMS systems. Multiple resources exist to assist EMS administrators in developing such roles. Future research into best practices for EMS systems is critical to evaluate the magnitude of the impact of a PECC within EMS systems.

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PEDIATRIC EMERGENCY CARE COORDINATOR LEARNING COLLABORATIVE

Grant-Related Information

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES



Maternal and Child Health Bureau
Division of Child, Adolescent, and Family Health

***Pediatric Emergency Care Coordinator (PECC) Learning Collaborative
Demonstration Project***

Funding Opportunity Number: HRSA-18-127
Funding Opportunity Type(s): Competing Supplement
Catalog of Federal Domestic Assistance (CFDA) Number: 93.127

NOTICE OF FUNDING OPPORTUNITY

Fiscal Year 2018

Letter of Intent Due Date: July 27, 2018

Application Due Date: August 20, 2018

*Ensure your SAM.gov and Grants.gov registrations and passwords are current immediately!
HRSA will not approve deadline extensions for lack of registration.
Registration in all systems, including SAM.gov and Grants.gov,
may take up to 1 month to complete.*

Issuance Date: July 18, 2018

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Authority: Public Health Service Act, Title XIX, § 1910, as amended (42 U.S.C. 300w-9)

EXECUTIVE SUMMARY

The Health Resources and Services Administration (HRSA) is accepting applications for the fiscal year (FY) 2018 Pediatric Emergency Care Coordinator (PECC) Learning Collaborative Demonstration Project. The purpose of this project is to form a cohort of Emergency Medical Services for Children (EMSC) State Partnership Grant recipients to participate in a learning collaborative that will demonstrate effective, replicable strategies to increase the number of local emergency medical services (EMS) agencies with a PECC. Results from this project will inform and advance efforts within all 58 EMSC State Partnership recipient sites to increase adoption of PECC within local EMS agencies.

Funding Opportunity Title:	Pediatric Emergency Care Coordinator (PECC) Learning Collaborative Demonstration Project
Funding Opportunity Number:	HRSA-18-127
Due Date for Applications:	August 20, 2018
Anticipated Total Annual Available FY 2018 Funding:	\$1,000,000
Estimated Number and Type of Award(s):	Up to 10 grants
Estimated Award Amount:	\$100,000
Cost Sharing/Match Required:	No
Period of Performance:	April 1, 2018 through March 31, 2019 (1 year to align with the base awards)
Eligible Applicants:	Eligible applicants are state governments and accredited schools of medicine in the U.S. states, territories and freely associated states that are current EMSC State Partnership (H33) grant recipients. See Section III-1 of this notice of funding opportunity (NOFO) for complete eligibility information.

I. Program Funding Opportunity Description

1. Purpose

This notice solicits applications from current recipients of the Emergency Medical Services for Children (EMSC) State Partnership Program for the Pediatric Emergency Care Coordinator (PECC) Learning Collaborative Demonstration Project.

The purpose of this project is to form a cohort of EMSC State Partnership Grant recipients to participate in a Learning Collaborative that will demonstrate effective, replicable strategies to increase the number of local emergency medical services (EMS) agencies with a PECC. Results from this project will inform and advance efforts within all 58 EMSC State Partnership recipient sites to increase adoption of PECC within local EMS agencies. The EMSC State Partnership sites include the U.S. states, territories and freely associated states (hereinafter referred to as “states”).

This NOFO supports a critical performance measure of the EMSC State Partnership program, specifically, to [increase the percentage of local EMS agencies within each state that have a PECC](#). The EMSC State Partnership Program established this performance measure in 2016, along with the following goals:

- 30 percent by 2020
- 60 percent by 2023
- 90 percent by 2026

A PECC within a local EMS agency has the following defined roles:

- Ensures that the pediatric perspective is included in the development of EMS protocols;
- Ensures that fellow EMS providers follow pediatric clinical practice guidelines;
- Promotes pediatric continuing-education opportunities;
- Oversees pediatric-process improvement;
- Ensures the availability of pediatric medications, equipment, and supplies;
- Promotes agency participation in pediatric-prevention programs;
- Promotes agency participation in pediatric-research efforts;
- Liaises with the emergency department pediatric emergency care coordinator; and
- Promotes family-centered care at the agency.

State Partnership recipients first collected baseline data on this performance measure in 2017-2018, which included whether an EMS agency:

- Had a PECC;
- Did not have a PECC;
- Did not have a PECC, but had a plan to add this role within the next year;
- Did not have a PECC but would be interested in adding this role.

Results from this initial data collection are available to State Partnership recipients, however, have not yet been reported to HRSA. EMSC State Partnership recipients will report these data in the Fall of 2018 as part of their required annual performance report submission to HRSA.

Results from this project will inform and advance efforts to demonstrate effective, replicable strategies to increase the number of local EMS agencies with a PECC. A secondary outcome is to increase the number of local EMS agencies that establish a PECC within all 58 EMSC State Partnership recipients.

Each applicant is required to establish a target number of EMS agencies that will establish new PECCs across the project duration. At a minimum, this target must include a majority of state EMS agencies that reported not having a PECC, but indicated an interest in adding this role.

Specifically, recipients are expected to:

- Assemble a state team. The state team should include representatives from one or more EMS agencies within the state that already have a PECC in place. It may also include key EMSC program stakeholders such as the EMSC Family Advisory Network (FAN) representative or other members of the state's EMSC advisory committee or EMS advisory board.
- Ensure the state team is to participate in multi-state Learning Collaborative activities that will be facilitated by the EMSC Innovation and Improvement Center (EIIC), a cooperative agreement program administered by HRSA to provide consultative and technical support to EMSC Program grant recipients to improve pediatric emergency medical services. The multi-state Learning Collaborative is designed to support and advance the goals of the EMSC Program, identify and share models and strategies, and to assist in the application and demonstration of strategies to increase the adoption and effective use of PECCs in EMS settings.
- Create a state action plan, based upon the shared strategies identified through the Learning Collaborative.
- Engage key stakeholders, beyond the immediate state team, regularly to ensure engagement in planning and implementation.
- Recruit and provide education to local EMS agency sites regarding the purpose, need, and value of an assigned PECC within an EMS agency.
- Re-assess the number of EMS agencies in the state with a PECC at the end of the project.
- Collect qualitative feedback from local EMS agencies on the usability, ease of adoption, and impact experienced as a result of having a PECC at the local agency level.
- Create a plan for sustainability of PECCs at local EMS agencies after this project concludes.

The EMSC Innovation and Improvement Center (EIIC) will provide technical support to recipients of this NOFO. Specifically, the EIIC will:

- Facilitate virtual multi-state learning sessions.
 - The monthly learning sessions will also provide opportunities for sharing lessons learned and best practices for outreach design and implementation across states.
- Assist recipients in creating a multi-state collective action plan for increasing the number of EMS agencies with a PECC with common methods and aims shared across all participating states.
- Host one in-person multi-state Learning Collaborative training session.
- Implement a multi-state collective action plan through active outreach, education, and training.
- Share results from the multi-state Learning Collaborative with other states to increase use of effective strategies.

Award recipients may propose to use these funds through a variety of mechanisms to meet the purpose of the award. Some examples, although not required unless specified, include the following:

- Personnel:
 - Increasing personnel time for existing staff in the recipient organization that is not currently contributing a 1.0 Full-Time Equivalent toward the achievement of the following EMSC State Partnership performance measure: increasing the percentage of local EMS agencies within each state that have a PECC.
- Travel
 - Within-state travel needed to effectively engage remote or distant local EMS agencies.
 - Travel for the project team to attend one face-to-face Learning Collaborative meeting convened by the EIIC. (Required)
- Other:
 - Subject matter expert (SME) consultants who contribute expertise in the administrative and operational context of pre-hospital EMS systems within the state, including experience in establishing a PECC within EMS agencies.
 - SME consultants who contribute experience and capacity for effective outreach and training to pre-hospital EMS agencies.
 - Logistics support for any statewide or regional meetings of EMS authorities for outreach and training purposes.

Recipients are expected to demonstrate sufficient administrative and programmatic capacity within the state to anticipate and overcome challenges for successfully implementing project activities.

HRSA aims for the PECC Learning Collaborative Demonstration Project to build evidence for effective, replicable strategies within a wide range of EMS agencies across diverse geographic, demographic and administrative contexts.

2. Background

This demonstration project is authorized by the Public Health Service Act, Title XIX, § 1910, as amended (42 U.S.C. 300w-9), for projects for the expansion and improvement of emergency medical services for children who need treatment for trauma or critical care.

The EMSC State Partnership Grant Program funds demonstration projects in 58 states to systematically improve the delivery and quality of pediatric emergency care in both pre-hospital and hospital settings. Each recipient dedicates the annual \$130,000 base award to different purposes depending on unique needs and resources of the state. Commonly, these funds support the personnel time of an EMSC program manager who leverages partnerships with state and local stakeholders to increase the standardized delivery of optimal pediatric emergency care. Assuring coordination of pediatric emergency care at the local level is a key intervention toward achieving that mission.

The National Academy of Medicine (formerly known as the Institute of Medicine (IOM)) provide advice for governmental decision makers on pressing issues through a meticulous process of information collection, evidence analysis, and deliberation.¹ In 2007, several federal agencies² and the Josiah Macy, Jr. Foundation commissioned the IOM to examine the emergency care system in the U.S. and issue evidence-driven recommendations on how to improve care for children.

As documented in the 2007 publication “Emergency Care for Children: Growing Pains,” the IOM issued a resulting recommendation that “emergency medical services agencies appoint a pediatric emergency coordinator...to provide pediatric leadership for the organization” This recommendation was based on the IOM's finding that PECCs “are necessary to advocate for improved competencies and the availability of resources for pediatric patients.” Since then, evidence has continued to grow in support of this recommended intervention. In 2016, a systematic review in the *Journal of Prehospital Emergency Care* concluded that existing literature supports PECCs as an improvement within EMS agencies that facilitates optimal care of children in a pre-hospital setting.

Despite the documented importance of having a PECC, many obstacles exist to achieving full adoption of PECCs by local EMS agencies. For example, local agency leadership may not be aware of the importance of having a PECC; the PECC role may be applied differently if the local EMS command is located within the fire versus medical community; and rural, suburban and urban EMS agencies may face distinct opportunities and challenges based on local context. The strategies developed and demonstrated through this project will enable a better understanding of the obstacles to establishing a PECC in local EMS agencies and provide concrete, effective strategies to overcome them, ultimately serving to inform the diverse geographic, demographic and administrative contexts found within all states.

¹ <https://nam.edu/>

² U.S. Department of Health and Human Services' Agency for Healthcare Research and Quality (AHRQ), Health Resources and Services Administration (HRSA) and Centers for Disease Control and Prevention (CDC); the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA).

PECC Learning Collaborative: Objective & Aim Statements

Objective

To form a cohort of EMSC State Partnership Grant recipients to participate in a learning collaborative that will demonstrate effective, replicable strategies to increase the number of local EMS agencies with a PECC.

Overall Aim

By 2020, 30% of EMS agencies in the state/territory have a designated individual who coordinates pediatric emergency care.

Focused Aim

By March 31, 2019, nine participating states will have established a PECC in > 50% of local EMS agencies that indicated an interest in adding this role on the 2017-2018 National EMSC Survey.

PEDIATRIC EMERGENCY CARE COORDINATOR

Supporting Documents & Presentations

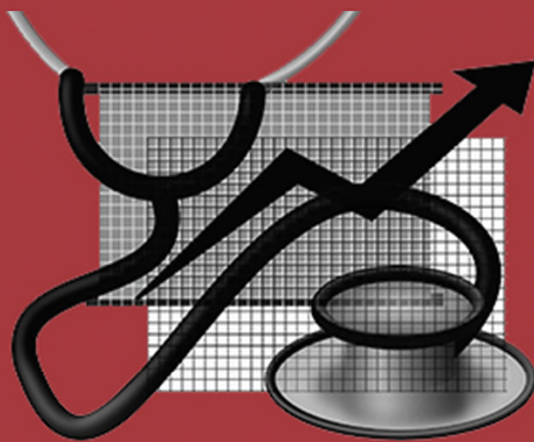
20 *Years of Data Helping Children*

NEDARC

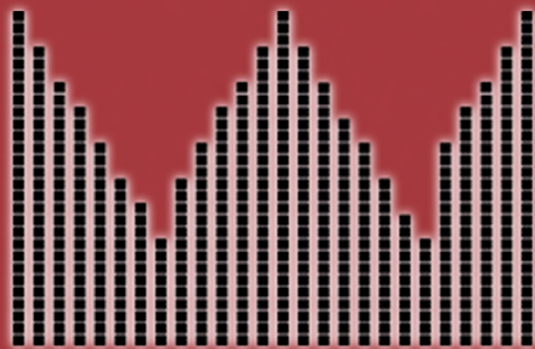
COLLECT



ANALYZE



VISUALIZE



THANK YOU!



Overview of Slides

- General results of the 2017-2018 Data Collection
- Review Data for Performance Measure 02 - Pediatric Emergency Care Coordinator
- Review Data for Performance Measure 03 – Use of Pediatric – Specific Equipment



Data Collection Efforts for PM 2/3

58 States/Territories Participated

11,027

EMS Agencies Contacted

Response Rate for PM 2/3 Survey

79.2%

of EMS Agencies Responded

= 8,730

EMS Agencies

Denominator for Performance Measures

The number below is the **national denominator** that contains records that are part of the inclusion criteria for Performance Measure calculations.

Please see the *2017 EMSC Implementation Performance Measures Manual* for additional information.

n=8,166

EMS Agencies

EMS Licensure

Highest EMS Agency Licensure Reported:

Basic Life Support



32.2% (n=2,627)

Intermediate Life Support



6.4% (n=523)

Advanced Life Support

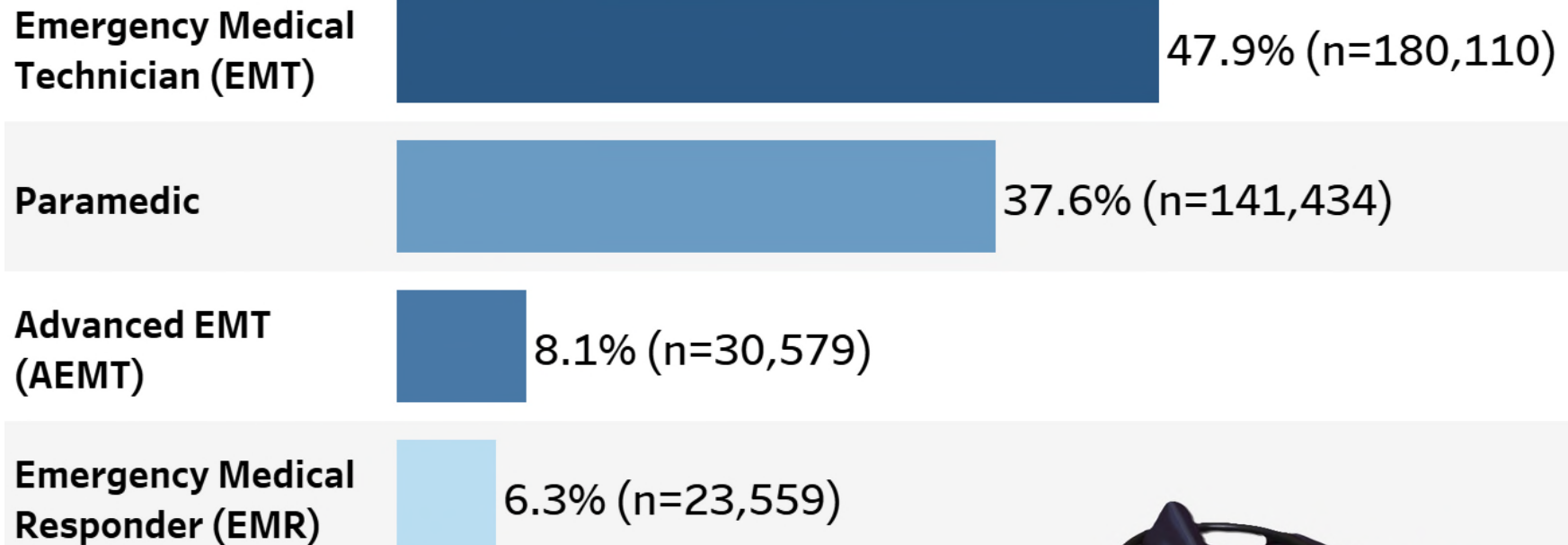


61.4% (n=5,016)



EMS Providers

Number and Type of Providers Reported:*



* This question was not required; 42 agencies did not answer this question.



Annual 911 Pediatric Call Volume*

None - Zero pediatric calls in the last year	2.8% n=226 agencies
Low - Twelve (12) or fewer pediatric calls in the last year (1 or fewer pediatric calls per month)	39.4% n=3,219 agencies
Medium - Between 13-100 pediatric calls in the last year (1 - 8 pediatric calls per month)	39.0% n=3,186 agencies
Medium High - Between 101-600 pediatric calls in the last year (8 - 50 pediatric calls per month)	13.9% n=1,138 agencies
High - More than 600 pediatric calls in the last year (more than 50 pediatric calls per month)	4.4% n=357 agencies
Pediatric Call Volume Not Reported	0.5% n=40 agencies

Almost
80% of
 EMS
 agencies see
 a **Low to
 Medium
 Volume** of
 Pediatric
 Patients

* This question was
 not required; 40
 agencies did not
 respond. See chart.



EMSC 02

PEDIATRIC EMERGENCY CARE COORDINATOR (PECC)

The percentage of EMS agencies in the state or territory that have a designated individual who coordinates pediatric emergency care.

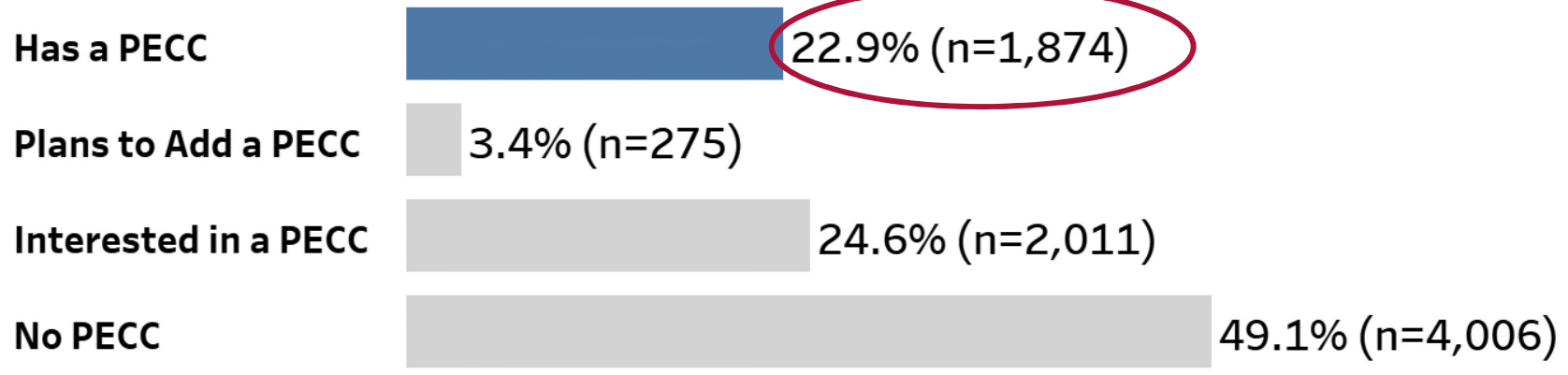
Goal for this measure is that by 2026:

Ninety percent of EMS agencies in the state or territory have a designated individual who coordinates pediatric emergency care.

Pediatric Emergency Care Coordinator

PM 02 Result

Pediatric Emergency Care Coordinator



PECC by Type:

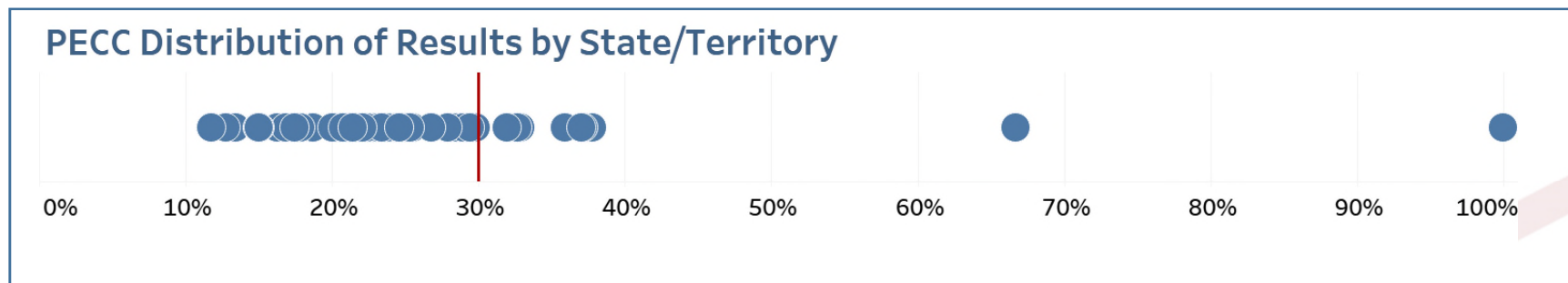
PECC Oversees Own Agency	74.1% (n=1,389)
PECC Oversees Multiple Agencies	25.9% (n=485)



EMSC Meeting Austin, Texas 2018

Program Targets:

YEAR	TARGET
2020	30% of EMS agencies in the state or territory have a designated individual who coordinates pediatric emergency care.
2023	60% of EMS agencies in the state or territory have a designated individual who coordinates pediatric emergency care.
2026	90% of EMS agencies in the state or territory have a designated individual who coordinates pediatric emergency care.



Duties of Pediatric Emergency Care Coordinator (n=1874)

Ensures that fellow providers follow pediatric clinical practice guidelines and/or protocols	96.8%
Promotes pediatric continuing education opportunities	96.7%
Ensures the availability of pediatric medications, equipment, and supplies	91.7%
Oversees pediatric process improvement initiatives	86.8%
Ensures that the pediatric perspective is included in the development of EMS protocols	84.7%
Promotes agency participation in pediatric prevention programs	70.4%
Coordinates with the emergency department pediatric emergency care coordinator	54.2%
Promotes family-centered care	50.7%
Promotes agency participation in pediatric research efforts	39.6%
Other activities	29.2%



PECC by Licensure

Pediatric Emergency Care Coordinator by Licensure

	Basic Life Support	Intermediate Life Support	Advanced Life Support
Has a PECC	17.9%	18.0%	26.1%
Plans to Add a PECC	2.9%	3.4%	3.6%
Interested in a PECC	23.0%	22.8%	25.7%
No PECC	56.2%	55.8%	44.6%



PECC by Annual Pediatric Volume

Pediatric Emergency Care Coordinator by Pediatric Volume*

	Low Volume	Medium Volume	Medium High Volume	High Volume	No Peds Last Year
Has a PECC	17.3%	24.2%	32.2%	38.4%	14.2%
Plans to Add a PECC	2.9%	4.1%	2.8%	3.4%	3.5%
Interested in a PECC	24.3%	25.6%	24.2%	24.4%	19.0%
No PECC	55.5%	46.1%	40.9%	33.9%	63.3%

* The pediatric volume question was not required; 40 agencies did not respond to this question.







EMSC 03

USE OF PEDIATRIC-SPECIFIC EQUIPMENT

The percentage of EMS agencies in the state or territory that have a process that requires EMS providers to physically demonstrate the correct use of pediatric-specific equipment.

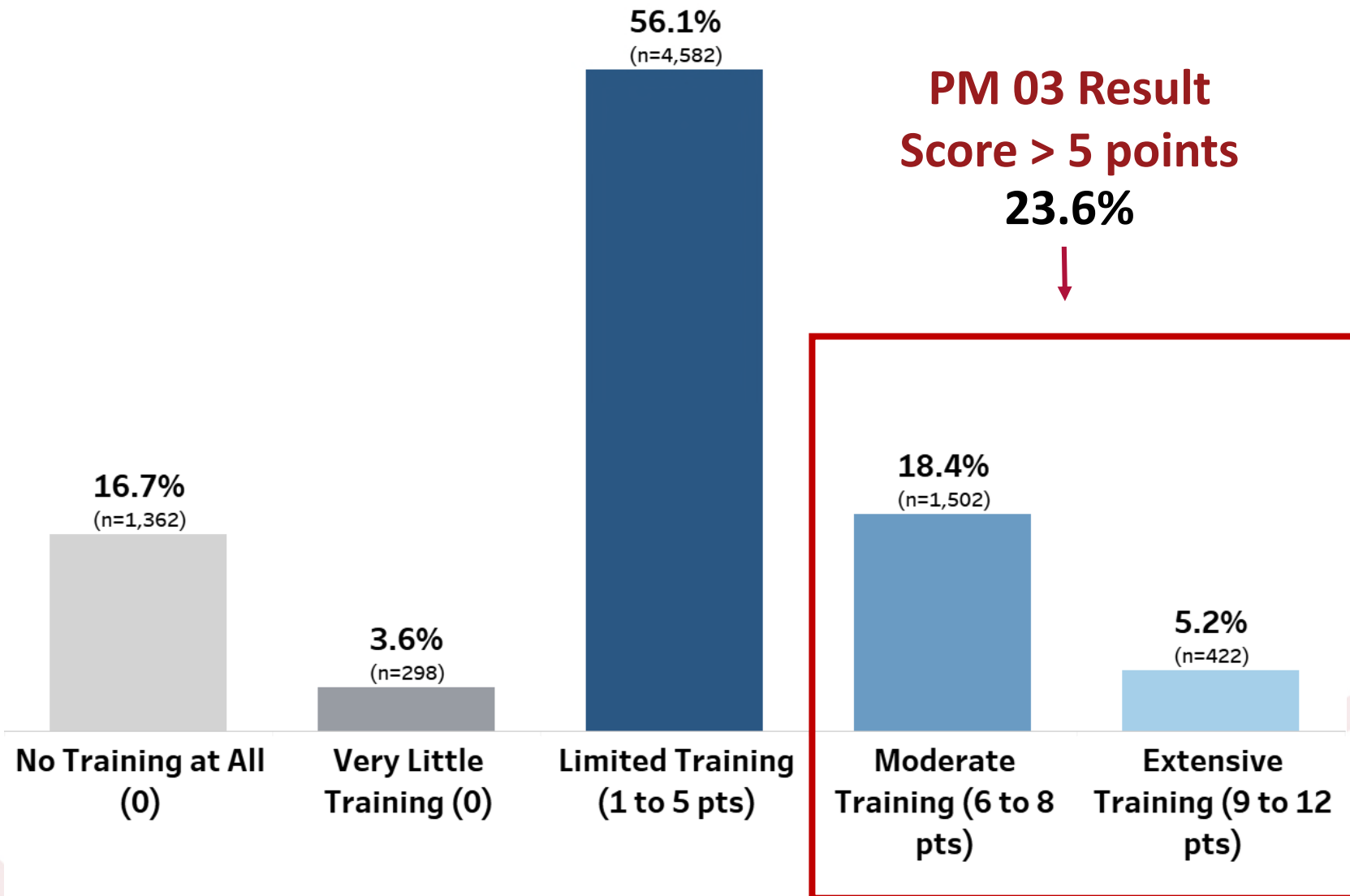
Goal for this measure is that by 2026:

Ninety percent of EMS agencies will have a process that requires EMS providers to physically demonstrate the correct use of pediatric-specific equipment.

	Two or more times per year	At least once per year	At least once every two years	Less frequency than once every two years
How often are your providers required to demonstrate skills via a SKILL STATION?	4	2	1	0
How often are your providers required to demonstrate skills via a SIMULATED EVENT?	4	2	1	0
How often are your providers required to demonstrate skills via a FIELD ENCOUNTER?	4	2	1	0

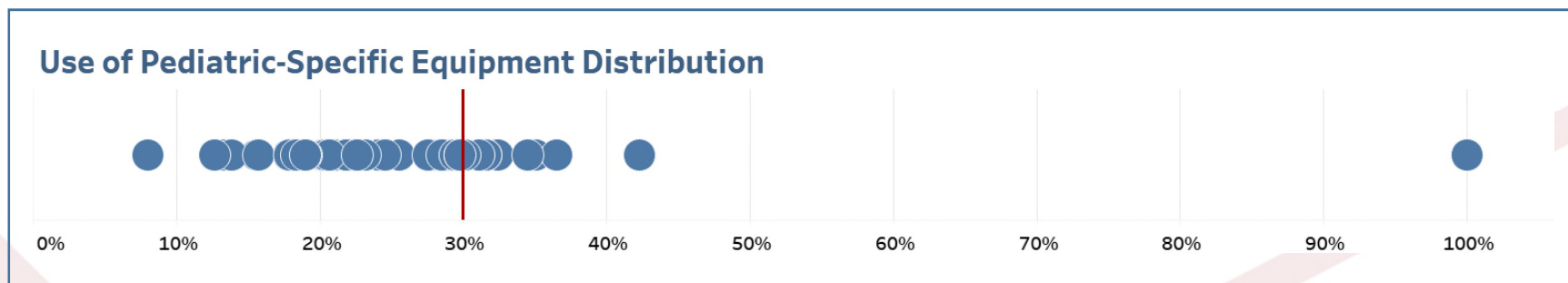
Frequency of three methods (skill station, simulated event, or field encounter) used to evaluate EMS providers knowledge of pediatric specific equipment; **score of >5 meets PM metric within score range 0-12.**

Breaking Down the Score = Frequency of Training



Program Targets:

YEAR	TARGET
2020	30 % of EMS agencies will have a process that requires EMS providers to physically demonstrate the correct use of pediatric-specific equipment, which is equal to a score of 6 or more on a 0-12 scale.
2023	60 % of EMS agencies will have a process that requires EMS providers to physically demonstrate the correct use of pediatric-specific equipment, which is equal to a score of 6 or more on a 0-12 scale.
2026	90 % of EMS agencies will have a process that requires EMS providers to physically demonstrate the correct use of pediatric-specific equipment, which is equal to a score of 6 or more on a 0-12 scale.



Use of Pediatric-Specific Equipment Matrix

	Two or more times per year (4pts)	At least once per year (2pts)	At least once every two years (1pt)	Less frequency than once every two years (0pts)	None (0pts)
How often are your providers required to demonstrate skills via a SKILL STATION?	14.2% (n=1,157)	39.4% (n=3,215)	14.1% (n=1,148)	2.2% (n=176)	30.2% (n=2,470)
How often are your providers required to demonstrate skills via a SIMULATED EVENT?	11.4% (n=935)	37.3% (n=3,050)	15.9% (n=1,299)	2.9% (n=240)	32.4% (n=2,642)
How often are your providers required to demonstrate skills via a FIELD ENCOUNTER?	5.7% (n=468)	13.8% (n=1,123)	4.6% (n=375)	3.3% (n=270)	72.6% (n=5,930)

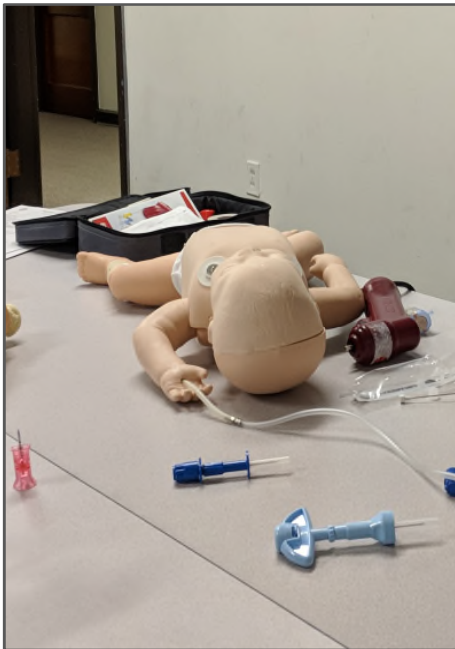
Use of Pediatric-Specific Equipment Matrix - with a PECC

	Two or more times per year (4pts)	At least once per year (2pts)	At least once every two years (1pt)	Less frequency than once every two years (0pts)	None (0pts)
How often are your providers required to demonstrate skills via a SKILL STATION?	23.7% (n=444)	47.9% (n=897)	14.0% (n=263)	1.4% (n=26)	13.0% (n=244)
How often are your providers required to demonstrate skills via a SIMULATED EVENT?	19.2% (n=360)	47.4% (n=889)	15.5% (n=291)	2.0% (n=38)	15.8% (n=296)
How often are your providers required to demonstrate skills via a FIELD ENCOUNTER?	12.4% (n=232)	22.0% (n=413)	5.5% (n=103)	3.6% (n=68)	56.5% (n=1,058)

Agencies having a PECC increases percentages in the first two columns by approximately 10% AND decreases the percentages in the NONE column.

Percent and Type/Method of Skills Checking

69.8%
Skills Demo
(n=5,696)



67.6%
Simulation
(n=5,523)



27.4%
Field Observation
(n=2,236)



Skills Checking Comments

supervisor simulation
education demonstrate
PEPPP defibrillation
airway frequently scenarios
FTO ALS treatment
mutual aid
rural small evaluation
barriers
officer PALS CPR
low volume BLS
practice hands on
IV IO QA/QI
Supervisors competency
intubation quarterly trainings limited funding
volunteers



Overall Comments



NEXT STEPS



**Research
Dissemination**

QI Efforts?

Explore Your Data

Review Your Data

Map by Agency Location:

Highest Licensure:

(All)

Annual 911 Pediatric Call Volume

(All)

Skill Checking:

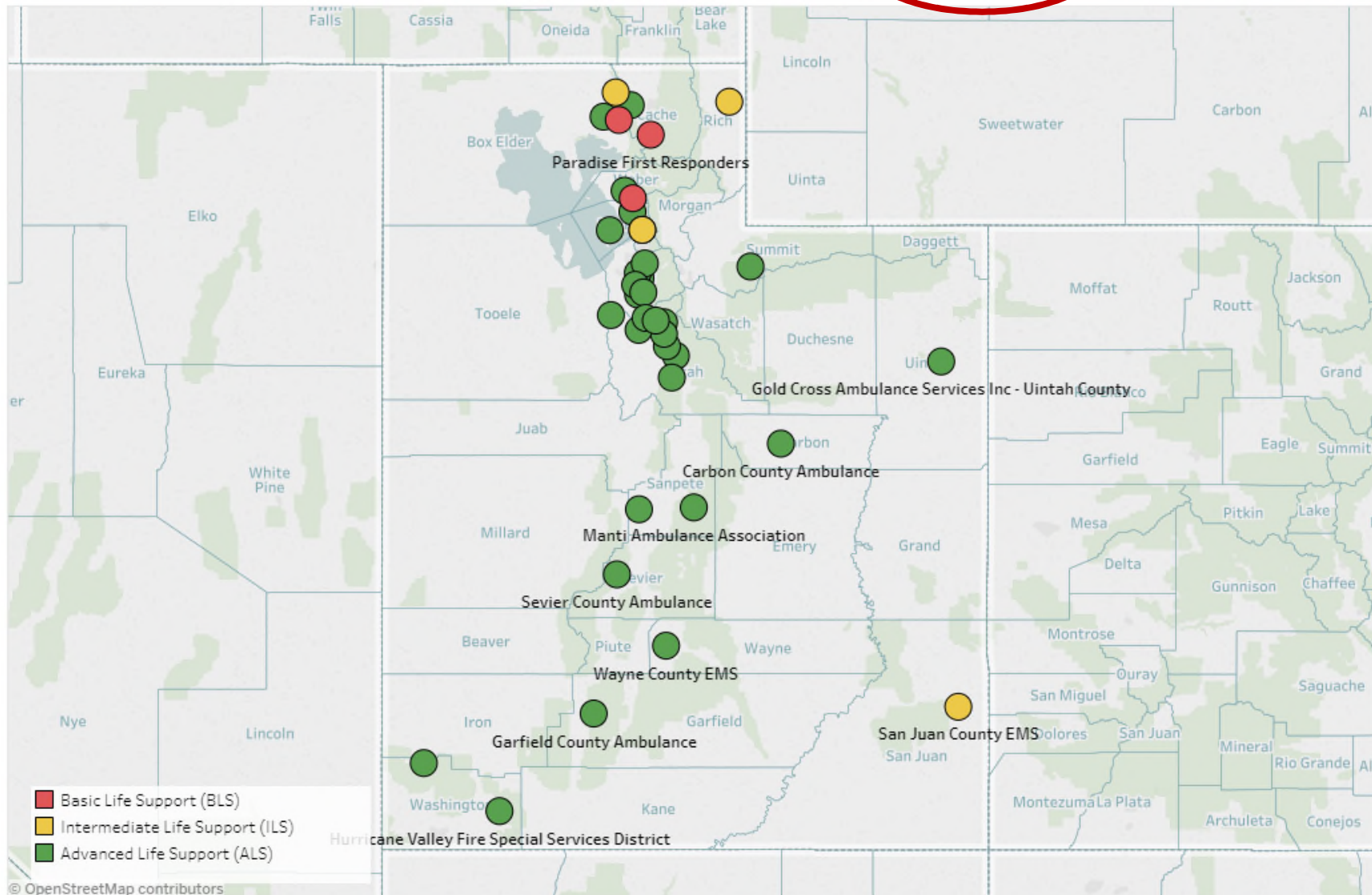
(All)

PECC:

Has a PECC

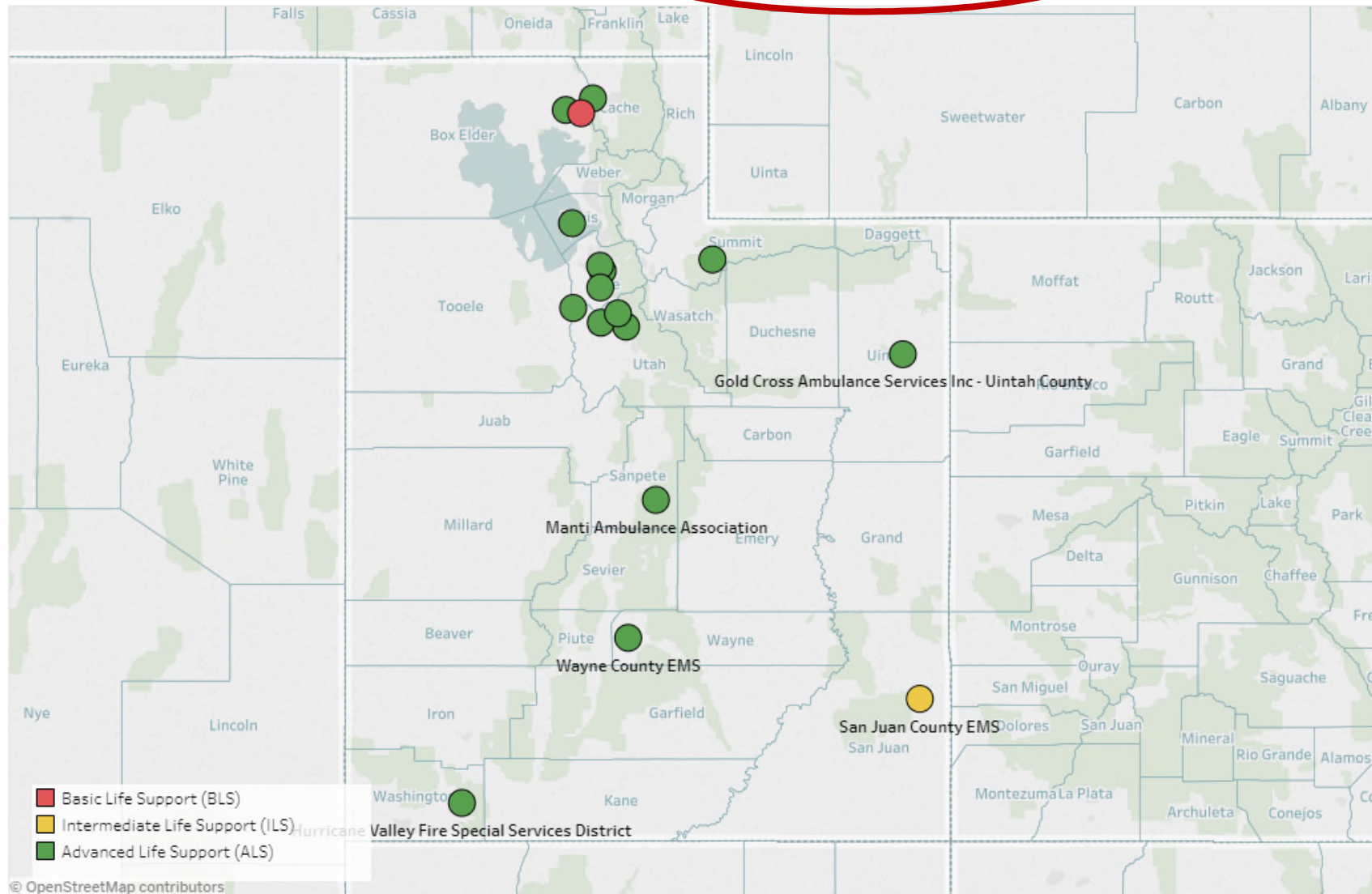
Percent of Agencies Shown:

40/106 (37.7%)



Map by Agency Location:

Highest Licensure: (All) Annual 911 Pediatric Call Volume: (All) Skill Checking: 6 pts or Higher PECC: Has a PECC Percent of Agencies Shown: 17/106 (16.0%)



Next steps-Research/dissemination

Development of a scientific paper for submission to a peer-reviewed publication



With help and insight from

EIIC: Manish Shah

Program Manager: Katherine Hert

ANY QUESTIONS???



New EMSC Performance Measure Data Presentation: Strategic Planning Session

April 30, 2018 - Austin, Texas

Performance Measure 02

Pediatric Emergency Care Coordinator (PECC)

The percentage of EMS agencies in the state or territory that have a designated individual who coordinates pediatric emergency care.

Barriers or Challenges to Implementation	<ul style="list-style-type: none">● Staffing● Funding● Lack of a Clearly Defined Role● Politics● Lack of Education/Training
Resources Needed to Implement a PECC	<ul style="list-style-type: none">● Funding● A Clearly Defined Role● Education and Training● A PECC Network● Recognition of PECC as a Valid Position in EMS
Resources in Hand to Implement a PECC	<ul style="list-style-type: none">● Existing PECCs● EMSC and their Partners● Pediatric Hospitals and Associations● Education and Training● State/Local/Regional Resources
Stakeholders Already Engaged and Stakeholders Needed	<ul style="list-style-type: none">● EMSC and their Partners● Pediatric Hospitals and Associations● EMS Medical Directors and Administrators● State/Local/Regional Stakeholders
Solutions	<ul style="list-style-type: none">● Funding● Develop a Clearly Defined Role● Education and Training for a PECC● Develop Regulations and Compliance● Create Networks

Performance Measure 03

Use of Pediatric Specific Equipment

The percentage of EMS agencies in the state or territory that have a process that requires EMS providers to physically demonstrate the correct use of pediatric-specific equipment.

Barriers or Challenges to Implementation	<ul style="list-style-type: none">● Lack of Funding● Lack of Equipment● Staffing Issues● Lack of Education/Training● Low Priority for EMS
Resources Needed to Implement a Process	<ul style="list-style-type: none">● Education/Training● Equipment● Staffing● Regulations and Compliance● Promote the Need
Resources in Hand to Implement a Process	<ul style="list-style-type: none">● EMSC Partners● Education/Training/Equipment● Funding● Federal/State/Local/Regional Resources● Pediatric Hospitals
Stakeholders Already Engaged and Stakeholders Needed	<ul style="list-style-type: none">● EMSC and Partners● Federal/State/Local/Regional Stakeholders● Education/Training/Equipment● Funding● EMS Medical Directors and Hospital Directors● Pediatric Hospitals and Patient Families
Solutions	<ul style="list-style-type: none">● Funding/Incentives● Education/Training● QI Efforts● Regionalization/Networking● Develop Regulations and Compliance● Involvement of Medical Directors

State Fact Sheets

Performance Measures 02 & 03

In 2017-18, the Connecticut EMSC Program, conducted an assessment on whether there was an individual responsible for the coordination of pediatric emergency care and a process for pediatric training within local EMS agencies. Connecticut achieved a 81% response rate. This report compares Connecticut's results with national results.

If you would like more information please do not hesitate to contact the:
Connecticut EMSC Program Manager at (203) 688-7537

Coordination of Pediatric Emergency Care:

The Institute of Medicine report "Emergency Care for Children: Growing Pains"¹ states that pediatric coordinators are necessary to advocate for improved competencies and the availability of resources for pediatric patients in both the pre-hospital and emergency department settings.

Gausche-Hill et al.² in a national study of EDs found that the presence of a physician or nurse pediatric emergency care coordinator was associated with an ED being more prepared to care for children. An individual who coordinates pediatric emergency care for EMS agencies may also result in ensuring that the agency and its providers are more prepared to care for ill and injured children.

	CONNECTICUT	NATIONAL
% of EMS agencies with access to a Pediatric Emergency Care Coordinator	15% of EMS Agencies	23% of EMS Agencies

Of the 15% who have a Pediatric Emergency Care Coordinator, what are the top five duties performed?

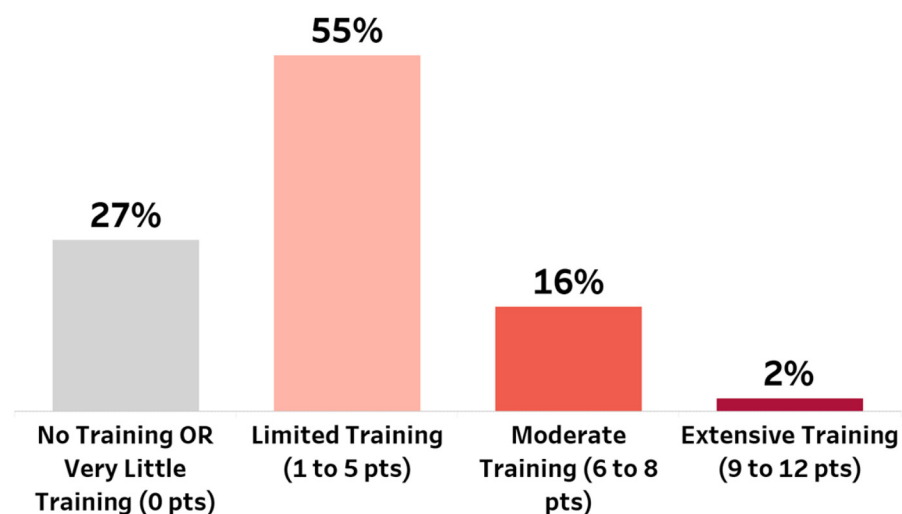
Ensures the availability of pediatric medications, equipment, and supplies	95%
Ensures that fellow providers follow pediatric clinical practice guidelines and/or protocols	95%
Promotes pediatric continuing education opportunities	95%
Ensures that the pediatric perspective is included in the development of EMS protocols	86%
Oversees pediatric process improvement initiatives	82%

Frequency of Pediatric Training:

Pediatric EMS encounters are often rare so there is little chance for providers to practice the needed skills in the field. Studies have shown that specific clinical skills, of EMS providers, deteriorate over time when they are not practiced regularly in a training setting or actual patient encounter.³

Evaluation of training using pediatric-specific equipment among EMS providers, was scored based on type and frequency of training at the EMS Agency. An EMS Agency scoring 6 points or higher, on a 12 point scale, was considered to have moderate to extensive training for pediatric-specific needs.

Distribution of Connecticut Results:



CONNECTICUT MEDIAN SCORE = 3

NATIONAL MEDIAN SCORE = 3

ENGAGE regional, agency, and medical directors to better understand barriers and look for solutions to increase the coordination of care and the frequency of training for pediatric patients.

¹ Institute of Medicine (2007). "Emergency care for children: Growing pains"

² Gausche-Hill, et al. (2015). A national assessment of pediatric readiness of emergency departments. *JAMA Pediatrics*, 169(6), 527-534.

³ Lammers, R. L., et al. (2009). Simulation-based assessment of paramedic pediatric resuscitation skills. *Prehospital Emergency Care*, 13(3), 345-356

This project is/was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS), EMS for Children Program, under U03MC0008 and U07MC09174, respectively. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

In 2017-18, the Kentucky EMSC Program, conducted an assessment on whether there was an individual responsible for the coordination of pediatric emergency care and a process for pediatric training within local EMS agencies. Kentucky achieved a 100% response rate. This report compares Kentucky's results with national results.

If you would like more information please do not hesitate to contact the:

Kentucky EMSC Program Manager at (859) 256-3583

Coordination of Pediatric Emergency Care:

The Institute of Medicine report "Emergency Care for Children: Growing Pains"¹ states that pediatric coordinators are necessary to advocate for improved competencies and the availability of resources for pediatric patients in both the pre-hospital and emergency department settings.

Gausche-Hill et al.² in a national study of EDs found that the presence of a physician or nurse pediatric emergency care coordinator was associated with an ED being more prepared to care for children. An individual who coordinates pediatric emergency care for EMS agencies may also result in ensuring that the agency and its providers are more prepared to care for ill and injured children.

	KENTUCKY	NATIONAL
% of EMS agencies with access to a Pediatric Emergency Care Coordinator	21% of EMS Agencies	23% of EMS Agencies

Of the 21% who have a Pediatric Emergency Care Coordinator, what are the top five duties performed?

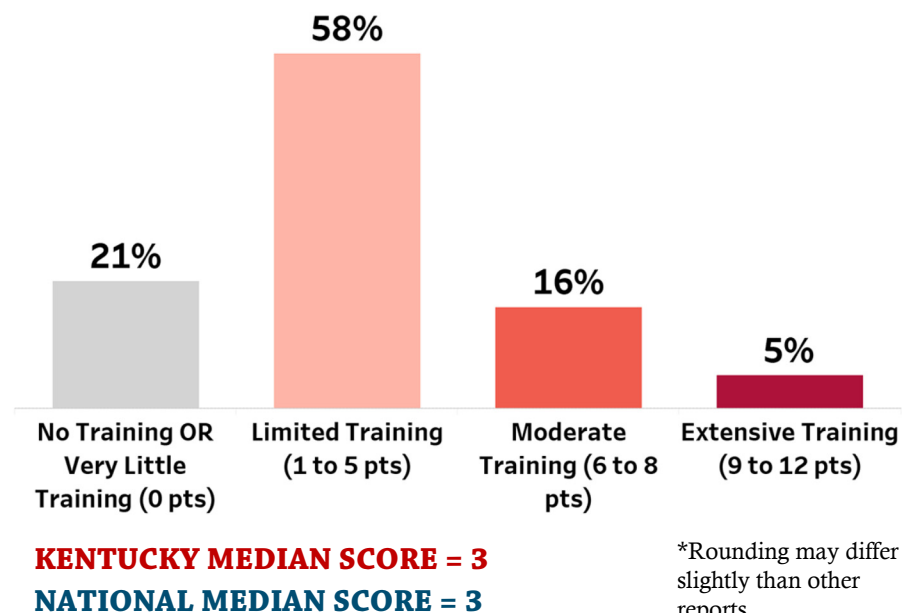
Promotes pediatric continuing education opportunities	100%
Ensures that fellow providers follow pediatric clinical practice guidelines and/or protocols	97%
Ensures the availability of pediatric medications, equipment, and supplies	91%
Ensures that the pediatric perspective is included in the development of EMS protocols	89%
Promotes agency participation in pediatric prevention programs	83%

Frequency of Pediatric Training:

Pediatric EMS encounters are often rare so there is little chance for providers to practice the needed skills in the field. Studies have shown that specific clinical skills, of EMS providers, deteriorate over time when they are not practiced regularly in a training setting or actual patient encounter.³

Evaluation of training using pediatric-specific equipment among EMS providers, was scored based on type and frequency of training at the EMS Agency. An EMS Agency scoring 6 points or higher, on a 12 point scale, was considered to have moderate to extensive training for pediatric-specific needs.

Distribution of Kentucky Results:



ENGAGE regional, agency, and medical directors to better understand barriers and look for solutions to increase the coordination of care and the frequency of training for pediatric patients.

¹ Institute of Medicine (2007). "Emergency care for children: Growing pains"

² Gausche-Hill, et al. (2015). A national assessment of pediatric readiness of emergency departments. *JAMA Pediatrics*, 169(6), 527-534.

³ Lammers, R. L., et al. (2009). Simulation-based assessment of paramedic pediatric resuscitation skills. *Prehospital Emergency Care*, 13(3), 345-356

This project is/was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS), EMS for Children Program, under U03MC0008 and U07MC09174, respectively. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

In 2017-18, the Montana EMSC Program, conducted an assessment on whether there was an individual responsible for the coordination of pediatric emergency care and a process for pediatric training within local EMS agencies. Montana achieved a 93% response rate. This report compares Montana's results with national results.

If you would like more information please do not hesitate to contact the:

Montana EMSC Program Manager at (406) 444-0901

Coordination of Pediatric Emergency Care:

The Institute of Medicine report "Emergency Care for Children: Growing Pains"¹ states that pediatric coordinators are necessary to advocate for improved competencies and the availability of resources for pediatric patients in both the pre-hospital and emergency department settings.

Gausche-Hill et al.² in a national study of EDs found that the presence of a physician or nurse pediatric emergency care coordinator was associated with an ED being more prepared to care for children. An individual who coordinates pediatric emergency care for EMS agencies may also result in ensuring that the agency and its providers are more prepared to care for ill and injured children.

	MONTANA	NATIONAL
% of EMS agencies with access to a Pediatric Emergency Care Coordinator	22% of EMS Agencies	23% of EMS Agencies

Of the 22% who have a Pediatric Emergency Care Coordinator, what are the top five duties performed?

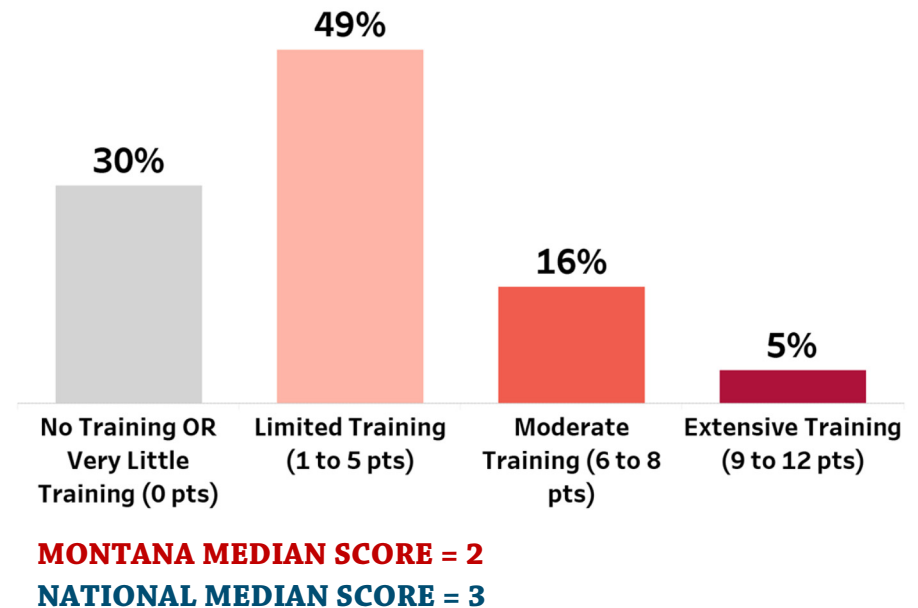
Promotes pediatric continuing education opportunities	95%
Ensures that fellow providers follow pediatric clinical practice guidelines and/or protocols	95%
Ensures the availability of pediatric medications, equipment, and supplies	93%
Oversees pediatric process improvement initiatives	88%
Promotes agency participation in pediatric prevention programs	86%

Frequency of Pediatric Training:

Pediatric EMS encounters are often rare so there is little chance for providers to practice the needed skills in the field. Studies have shown that specific clinical skills, of EMS providers, deteriorate over time when they are not practiced regularly in a training setting or actual patient encounter.³

Evaluation of training using pediatric-specific equipment among EMS providers, was scored based on type and frequency of training at the EMS Agency. An EMS Agency scoring 6 points or higher, on a 12 point scale, was considered to have moderate to extensive training for pediatric-specific needs.

Distribution of Montana Results:



ENGAGE regional, agency, and medical directors to better understand barriers and look for solutions to increase the coordination of care and the frequency of training for pediatric patients.

¹ Institute of Medicine (2007). "Emergency care for children: Growing pains"

² Gausche-Hill, et al. (2015). A national assessment of pediatric readiness of emergency departments. *JAMA Pediatrics*, 169(6), 527-534.

³ Lammers, R. L., et al. (2009). Simulation-based assessment of paramedic pediatric resuscitation skills. *Prehospital Emergency Care*, 13(3), 345-356

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In 2017-18, the New Mexico EMSC Program, conducted an assessment on whether there was an individual responsible for the coordination of pediatric emergency care and a process for pediatric training within local EMS agencies. New Mexico achieved a 84% response rate. This report compares New Mexico's results with national results.

If you would like more information please do not hesitate to contact the:

New Mexico EMSC Program Manager at (505) 272-6024

Coordination of Pediatric Emergency Care:

The Institute of Medicine report "Emergency Care for Children: Growing Pains"¹ states that pediatric coordinators are necessary to advocate for improved competencies and the availability of resources for pediatric patients in both the pre-hospital and emergency department settings.

Gausche-Hill et al.² in a national study of EDs found that the presence of a physician or nurse pediatric emergency care coordinator was associated with an ED being more prepared to care for children. An individual who coordinates pediatric emergency care for EMS agencies may also result in ensuring that the agency and its providers are more prepared to care for ill and injured children.

	NEW MEXICO	NATIONAL
% of EMS agencies with access to a Pediatric Emergency Care Coordinator	24% of EMS Agencies	23% of EMS Agencies

Of the 24% who have a Pediatric Emergency Care Coordinator, what are the top five duties performed?

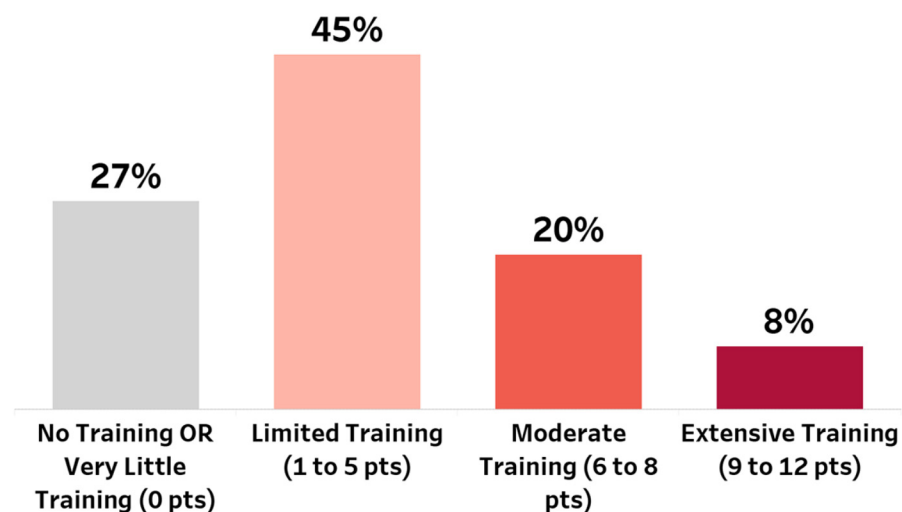
Promotes pediatric continuing education opportunities	100%
Ensures that fellow providers follow pediatric clinical practice guidelines and/or protocols	98%
Oversees pediatric process improvement initiatives	93%
Ensures that the pediatric perspective is included in the development of EMS protocols	91%
Ensures the availability of pediatric medications, equipment, and supplies	89%

Frequency of Pediatric Training:

Pediatric EMS encounters are often rare so there is little chance for providers to practice the needed skills in the field. Studies have shown that specific clinical skills, of EMS providers, deteriorate over time when they are not practiced regularly in a training setting or actual patient encounter.³

Evaluation of training using pediatric-specific equipment among EMS providers, was scored based on type and frequency of training at the EMS Agency. An EMS Agency scoring 6 points or higher, on a 12 point scale, was considered to have moderate to extensive training for pediatric-specific needs.

Distribution of New Mexico Results:



NEW MEXICO MEDIAN SCORE = 3

NATIONAL MEDIAN SCORE = 3

ENGAGE regional, agency, and medical directors to better understand barriers and look for solutions to increase the coordination of care and the frequency of training for pediatric patients.

¹ Institute of Medicine (2007). "Emergency care for children: Growing pains"

² Gausche-Hill, et al. (2015). A national assessment of pediatric readiness of emergency departments. *JAMA Pediatrics*, 169(6), 527-534.

³ Lammers, R. L., et al. (2009). Simulation-based assessment of paramedic pediatric resuscitation skills. *Prehospital Emergency Care*, 13(3), 345-356

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In 2017-18, the New York EMSC Program, conducted an assessment on whether there was an individual responsible for the coordination of pediatric emergency care and a process for pediatric training within local EMS agencies. New York achieved a 98% response rate. This report compares New York's results with national results.

If you would like more information please do not hesitate to contact the:

New York EMSC Program Manager at (518) 402-0996

Coordination of Pediatric Emergency Care:

The Institute of Medicine report "Emergency Care for Children: Growing Pains"¹ states that pediatric coordinators are necessary to advocate for improved competencies and the availability of resources for pediatric patients in both the pre-hospital and emergency department settings.

Gausche-Hill et al.² in a national study of EDs found that the presence of a physician or nurse pediatric emergency care coordinator was associated with an ED being more prepared to care for children. An individual who coordinates pediatric emergency care for EMS agencies may also result in ensuring that the agency and its providers are more prepared to care for ill and injured children.

	NEW YORK	NATIONAL
% of EMS agencies with access to a Pediatric Emergency Care Coordinator	12% of EMS Agencies	23% of EMS Agencies

Of the 12% who have a Pediatric Emergency Care Coordinator, what are the top five duties performed?

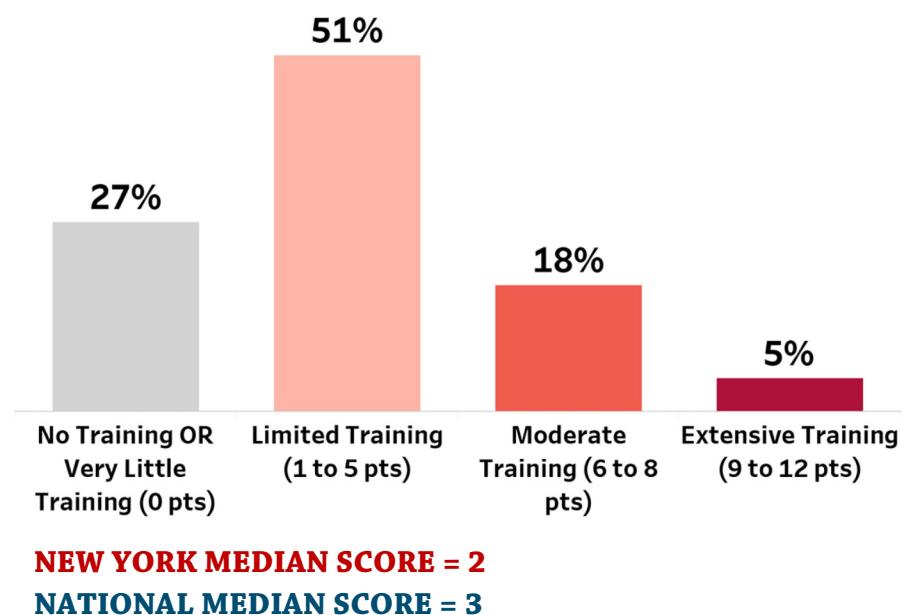
Ensures that fellow providers follow pediatric clinical practice guidelines and/or protocols	100%
Ensures the availability of pediatric medications, equipment, and supplies	95%
Promotes pediatric continuing education opportunities	91%
Oversees pediatric process improvement initiatives	79%
Ensures that the pediatric perspective is included in the development of EMS protocols	74%

Frequency of Pediatric Training:

Pediatric EMS encounters are often rare so there is little chance for providers to practice the needed skills in the field. Studies have shown that specific clinical skills, of EMS providers, deteriorate over time when they are not practiced regularly in a training setting or actual patient encounter.³

Evaluation of training using pediatric-specific equipment among EMS providers, was scored based on type and frequency of training at the EMS Agency. An EMS Agency scoring 6 points or higher, on a 12 point scale, was considered to have moderate to extensive training for pediatric-specific needs.

Distribution of New York Results:



ENGAGE regional, agency, and medical directors to better understand barriers and look for solutions to increase the coordination of care and the frequency of training for pediatric patients.

¹ Institute of Medicine (2007). "Emergency care for children: Growing pains"

² Gausche-Hill, et al. (2015). A national assessment of pediatric readiness of emergency departments. *JAMA Pediatrics*, 169(6), 527-534.

³ Lammers, R. L., et al. (2009). Simulation-based assessment of paramedic pediatric resuscitation skills. *Prehospital Emergency Care*, 13(3), 345-356

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In 2017-18, the Ohio EMSC Program, conducted an assessment on whether there was an individual responsible for the coordination of pediatric emergency care and a process for pediatric training within local EMS agencies. Ohio achieved a 67% response rate. This report compares Ohio's results with national results.

If you would like more information please do not hesitate to contact the:

Ohio EMSC Program Manager at (614) 387-1949

Coordination of Pediatric Emergency Care:

The Institute of Medicine report "Emergency Care for Children: Growing Pains"¹ states that pediatric coordinators are necessary to advocate for improved competencies and the availability of resources for pediatric patients in both the pre-hospital and emergency department settings.

Gausche-Hill et al.² in a national study of EDs found that the presence of a physician or nurse pediatric emergency care coordinator was associated with an ED being more prepared to care for children. An individual who coordinates pediatric emergency care for EMS agencies may also result in ensuring that the agency and its providers are more prepared to care for ill and injured children.

	OHIO	NATIONAL
% of EMS agencies with access to a Pediatric Emergency Care Coordinator	29% of EMS Agencies	23% of EMS Agencies

Of the 29% who have a Pediatric Emergency Care Coordinator, what are the top five duties performed?

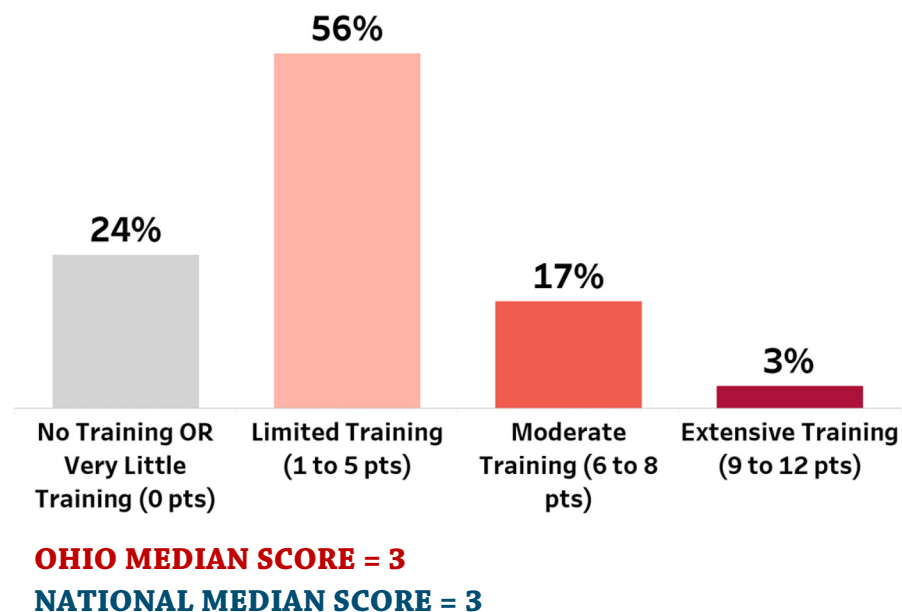
Ensures that fellow providers follow pediatric clinical practice guidelines and/or protocols	100%
Promotes pediatric continuing education opportunities	96%
Oversees pediatric process improvement initiatives	93%
Ensures the availability of pediatric medications, equipment, and supplies	92%
Ensures that the pediatric perspective is included in the development of EMS protocols	88%

Frequency of Pediatric Training:

Pediatric EMS encounters are often rare so there is little chance for providers to practice the needed skills in the field. Studies have shown that specific clinical skills, of EMS providers, deteriorate over time when they are not practiced regularly in a training setting or actual patient encounter.³

Evaluation of training using pediatric-specific equipment among EMS providers, was scored based on type and frequency of training at the EMS Agency. An EMS Agency scoring 6 points or higher, on a 12 point scale, was considered to have moderate to extensive training for pediatric-specific needs.

Distribution of Ohio Results:



ENGAGE regional, agency, and medical directors to better understand barriers and look for solutions to increase the coordination of care and the frequency of training for pediatric patients.

¹ Institute of Medicine (2007). "Emergency care for children: Growing pains"

² Gausche-Hill, et al. (2015). A national assessment of pediatric readiness of emergency departments. *JAMA Pediatrics*, 169(6), 527-534.

³ Lammers, R. L., et al. (2009). Simulation-based assessment of paramedic pediatric resuscitation skills. *Prehospital Emergency Care*, 13(3), 345-356

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In 2017-18, the Pennsylvania EMSC Program, conducted an assessment on whether there was an individual responsible for the coordination of pediatric emergency care and a process for pediatric training within local EMS agencies. Pennsylvania achieved a 69% response rate. This report compares Pennsylvania's results with national results.

If you would like more information please do not hesitate to contact the:

Pennsylvania EMSC Program Manager at (717) 795-0740, ext. 114

Coordination of Pediatric Emergency Care:

The Institute of Medicine report "Emergency Care for Children: Growing Pains"¹ states that pediatric coordinators are necessary to advocate for improved competencies and the availability of resources for pediatric patients in both the pre-hospital and emergency department settings.

Gausche-Hill et al.² in a national study of EDs found that the presence of a physician or nurse pediatric emergency care coordinator was associated with an ED being more prepared to care for children. An individual who coordinates pediatric emergency care for EMS agencies may also result in ensuring that the agency and its providers are more prepared to care for ill and injured children.

	PENNSYLVANIA	NATIONAL
% of EMS agencies with access to a Pediatric Emergency Care Coordinator	19% of EMS Agencies	23% of EMS Agencies

Of the 19% who have a Pediatric Emergency Care Coordinator, what are the top five duties performed?

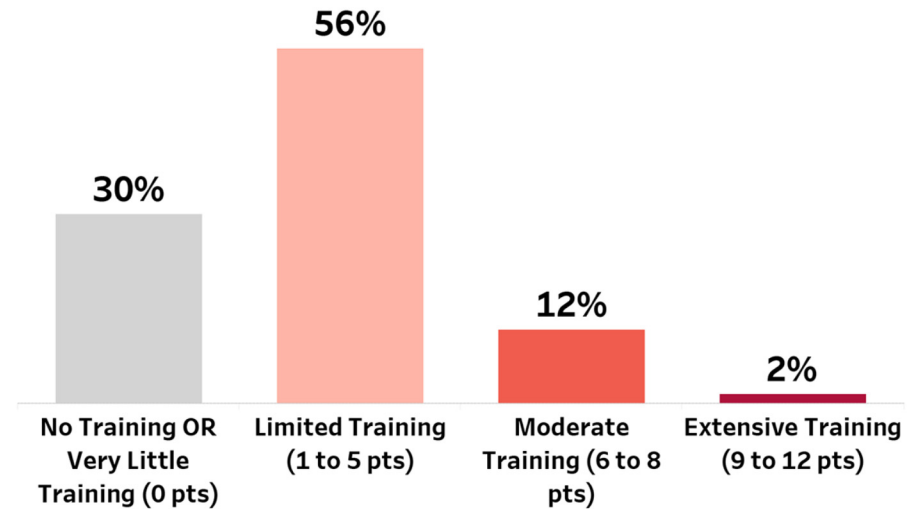
Promotes pediatric continuing education opportunities	96%
Ensures that fellow providers follow pediatric clinical practice guidelines and/or protocols	96%
Ensures the availability of pediatric medications, equipment, and supplies	94%
Oversees pediatric process improvement initiatives	88%
Promotes agency participation in pediatric prevention programs	84%

Frequency of Pediatric Training:

Pediatric EMS encounters are often rare so there is little chance for providers to practice the needed skills in the field. Studies have shown that specific clinical skills, of EMS providers, deteriorate over time when they are not practiced regularly in a training setting or actual patient encounter.³

Evaluation of training using pediatric-specific equipment among EMS providers, was scored based on type and frequency of training at the EMS Agency. An EMS Agency scoring 6 points or higher, on a 12 point scale, was considered to have moderate to extensive training for pediatric-specific needs.

Distribution of Pennsylvania Results:



PENNSYLVANIA MEDIAN SCORE = 2

NATIONAL MEDIAN SCORE = 3

ENGAGE regional, agency, and medical directors to better understand barriers and look for solutions to increase the coordination of care and the frequency of training for pediatric patients.

¹ Institute of Medicine (2007). "Emergency care for children: Growing pains"

² Gausche-Hill, et al. (2015). A national assessment of pediatric readiness of emergency departments. *JAMA Pediatrics*, 169(6), 527-534.

³ Lammers, R. L., et al. (2009). Simulation-based assessment of paramedic pediatric resuscitation skills. *Prehospital Emergency Care*, 13(3), 345-356

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In 2017-18, the Rhode Island EMSC Program, conducted an assessment on whether there was an individual responsible for the coordination of pediatric emergency care and a process for pediatric training within local EMS agencies. Rhode Island achieved a 100% response rate. This report compares Rhode Island's results with national results.

If you would like more information please do not hesitate to contact the:
Rhode Island EMSC Program Manager at (401) 222-2597

Coordination of Pediatric Emergency Care:

The Institute of Medicine report "Emergency Care for Children: Growing Pains"¹ states that pediatric coordinators are necessary to advocate for improved competencies and the availability of resources for pediatric patients in both the pre-hospital and emergency department settings.

Gausche-Hill et al.² in a national study of EDs found that the presence of a physician or nurse pediatric emergency care coordinator was associated with an ED being more prepared to care for children. An individual who coordinates pediatric emergency care for EMS agencies may also result in ensuring that the agency and its providers are more prepared to care for ill and injured children.

	RHODE ISLAND	NATIONAL
% of EMS agencies with access to a Pediatric Emergency Care Coordinator	23% of EMS Agencies	23% of EMS Agencies

Of the 23% who have a Pediatric Emergency Care Coordinator, what are the top five duties performed?

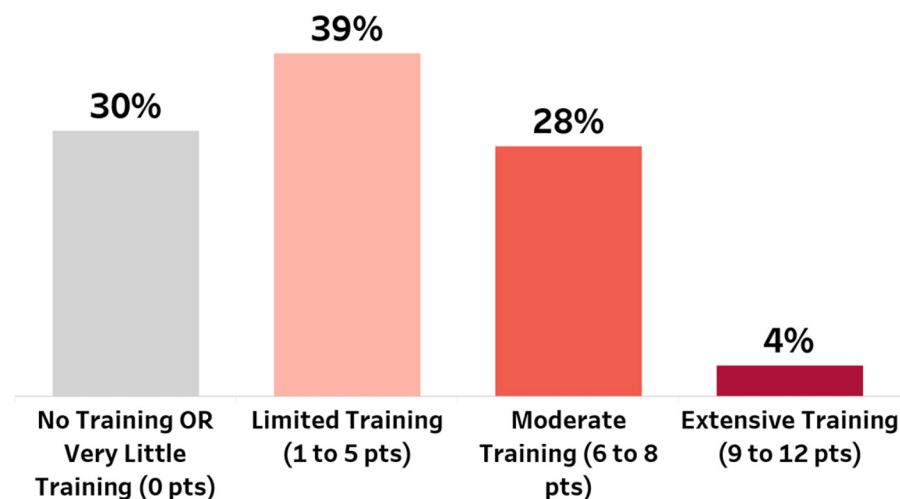
Ensures the availability of pediatric medications, equipment, and supplies	100%
Ensures that fellow providers follow pediatric clinical practice guidelines and/or protocols	100%
Promotes pediatric continuing education opportunities	92%
Ensures that the pediatric perspective is included in the development of EMS protocols	92%
Oversees pediatric process improvement initiatives	85%

Frequency of Pediatric Training:

Pediatric EMS encounters are often rare so there is little chance for providers to practice the needed skills in the field. Studies have shown that specific clinical skills, of EMS providers, deteriorate over time when they are not practiced regularly in a training setting or actual patient encounter.³

Evaluation of training using pediatric-specific equipment among EMS providers, was scored based on type and frequency of training at the EMS Agency. An EMS Agency scoring 6 points or higher, on a 12 point scale, was considered to have moderate to extensive training for pediatric-specific needs.

Distribution of Rhode Island Results:



RHODE ISLAND MEDIAN SCORE = 3

NATIONAL MEDIAN SCORE = 3

ENGAGE regional, agency, and medical directors to better understand barriers and look for solutions to increase the coordination of care and the frequency of training for pediatric patients.

¹ Institute of Medicine (2007). "Emergency care for children: Growing pains"

² Gausche-Hill, et al. (2015). A national assessment of pediatric readiness of emergency departments. *JAMA Pediatrics*, 169(6), 527-534.

³ Lammers, R. L., et al. (2009). Simulation-based assessment of paramedic pediatric resuscitation skills. *Prehospital Emergency Care*, 13(3), 345-356

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In 2017-18, the Wisconsin EMSC Program, conducted an assessment on whether there was an individual responsible for the coordination of pediatric emergency care and a process for pediatric training within local EMS agencies. Wisconsin achieved a 81% response rate. This report compares Wisconsin's results with national results.

If you would like more information please do not hesitate to contact the:

Wisconsin EMSC Program Manager at (414) 337-4572

Coordination of Pediatric Emergency Care:

The Institute of Medicine report "Emergency Care for Children: Growing Pains"¹ states that pediatric coordinators are necessary to advocate for improved competencies and the availability of resources for pediatric patients in both the pre-hospital and emergency department settings.

Gausche-Hill et al.² in a national study of EDs found that the presence of a physician or nurse pediatric emergency care coordinator was associated with an ED being more prepared to care for children. An individual who coordinates pediatric emergency care for EMS agencies may also result in ensuring that the agency and its providers are more prepared to care for ill and injured children.

	WISCONSIN	NATIONAL
% of EMS agencies with access to a Pediatric Emergency Care Coordinator	21% of EMS Agencies	23% of EMS Agencies

Of the 21% who have a Pediatric Emergency Care Coordinator, what are the top five duties performed?

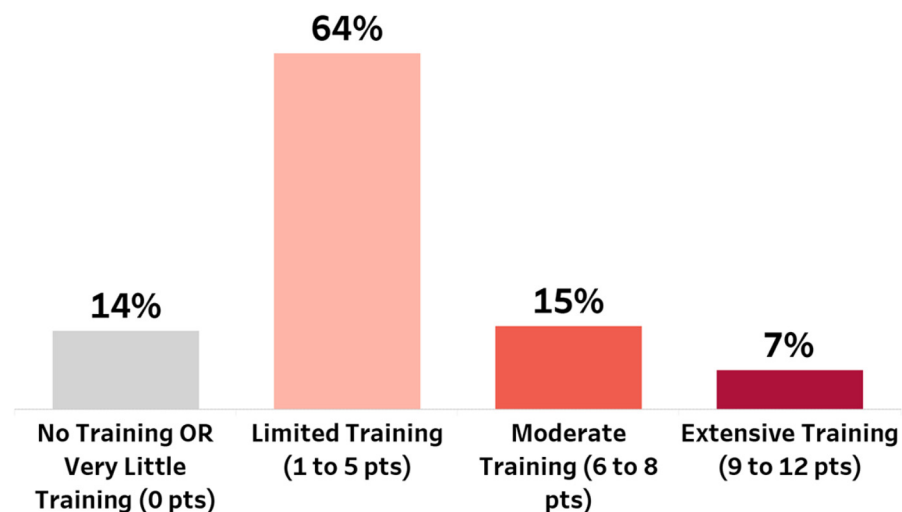
Ensures that fellow providers follow pediatric clinical practice guidelines and/or protocols	100%
Ensures the availability of pediatric medications, equipment, and supplies	97%
Promotes pediatric continuing education opportunities	94%
Oversees pediatric process improvement initiatives	91%
Ensures that the pediatric perspective is included in the development of EMS protocols	89%

Frequency of Pediatric Training:

Pediatric EMS encounters are often rare so there is little chance for providers to practice the needed skills in the field. Studies have shown that specific clinical skills, of EMS providers, deteriorate over time when they are not practiced regularly in a training setting or actual patient encounter.³

Evaluation of training using pediatric-specific equipment among EMS providers, was scored based on type and frequency of training at the EMS Agency. An EMS Agency scoring 6 points or higher, on a 12 point scale, was considered to have moderate to extensive training for pediatric-specific needs.

Distribution of Wisconsin Results:



WISCONSIN MEDIAN SCORE = 3

NATIONAL MEDIAN SCORE = 3

ENGAGE regional, agency, and medical directors to better understand barriers and look for solutions to increase the coordination of care and the frequency of training for pediatric patients.

¹ Institute of Medicine (2007). "Emergency care for children: Growing pains"

² Gausche-Hill, et al. (2015). A national assessment of pediatric readiness of emergency departments. *JAMA Pediatrics*, 169(6), 527-534.

³ Lammers, R. L., et al. (2009). Simulation-based assessment of paramedic pediatric resuscitation skills. *Prehospital Emergency Care*, 13(3), 345-356

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PEDIATRIC EMERGENCY CARE COORDINATOR LEARNING COLLABORATIVE

Roles and Collaborative Support

Advisory Committee and Subject Matter Experts: Roles and Responsibilities

Advisory Committee

Roles

- Are knowledgeable about Pediatric Emergency Care Coordinators and their importance in all EMS agencies.
- Maintain awareness regarding PECCLC activities and how those activities align with your organization's activities/goals.
- Identify resources within your organization that may support the collaborative's activities.
- Share your expertise with the collaborative team leads.
- Facilitate communication with your organization's members regarding PECCLC activities.
- Are knowledgeable about Pediatric Emergency Care Coordinators and their importance in all EMS agencies.
- Maintain awareness regarding PECCLC activities and how those activities align with your organization's activities/goals.
- Identify resources within your organization that may support the collaborative's activities.
- Share your expertise with the collaborative team leads.
- Facilitate communication with your organization's members regarding PECCLC activities.

Responsibilities

- Participate in the PECCLC Advisory Committee/SME calls.
- Review developed content and provide input as well as assist in identifying realistic strategies, available resources and tools to assist in implementation.
- Participate in learning sessions as you are able.

Subject Matter Experts

Roles

- Are knowledgeable about Pediatric Emergency Care Coordinators and their importance in all EMS agencies.
- Have knowledge, expertise, and experience with EMS PECCs and/or the concept.
- Share your expertise with the collaborative as the content is built based on best available evidence, and will include comprehensive and achievable goals.
- Are willing to assist trainers and State Partnership Program Managers better understand:
 - the importance of their task
 - the associated challenges
 - the opportunities associated with the goals of the collaborative
 - steps for implementation of PECCs within the states participating

Responsibilities

- Participate in the virtual pre-work sessions
- Participate in the PECCLC Learning Sessions sharing your expertise with participants
- Review developed content and provide input as well as assist in identifying realistic change strategies, available resources and tools to assist in change implementation.
- Attend the January 2019 Learning Workshop in Austin, TX

PECC Learning Collaborative Calendar

for Advisory Committee, SMEs, and SP Grantees

2018

IMPORTANT DATES

JULY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

AUGUST

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

GRANT-RELATED ACTIVITIES

July 27: SP Letter of Intent Due (*not required*)
Aug. 20: Closing Date for NOFO Applications
Sept. 30: NOA issued on, or before

SP WEBINARS/LEARNING SESSIONS

July 23: HRSA Technical Assistance with NOFO (2:00pm eastern)
Oct. 10: SP Teams Introductory Webinar (12:30p eastern)
Oct. 25: Learning Session (12:30p eastern)
Nov. 15: Learning Session (12:30p eastern)
Dec. 13: Learning Session (12:30p eastern)

ADVISORY CMTE/SME PLANNING MEETINGS/WEBINARS

Sept. 27: SME/Advisory Committee Intro Webinar (12:30p eastern)
Oct. 8: SME/Advisory Committee Meeting (12:30p eastern)
Oct. 18: SME Meeting (12:30p eastern)
Nov. 5: SME/Advisory Committee Meeting (12:30p eastern)

SEPTEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

OCTOBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

NOVEMBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

DECEMBER

M	T	W	T	F	S	S
						1
3	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

2019

IMPORTANT DATES

JANUARY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

FEBRUARY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

IN-PERSON SESSION (*Training Sites Only*)

Jan. 30 - Feb. 1: Austin, TX

GRANT-RELATED ACTIVITIES

Mar. 31: State Partnership Grant Ends

SP LEARNING SESSIONS

Feb. 21: Learning Session (12:30p eastern)
Mar. 28: Learning Session (12:30p eastern)

SME PLANNING MEETINGS

Jan. 10: SME Meeting (12:30p eastern)
Jan. 24: SME Meeting (12:30p eastern)

MARCH

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Prehospital PECC Learning Collaborative: Participant Directory

Administrative Team

NAME	EMAIL ADDRESS	PHONE	TITLE	STATE ASSIGNMENTS
Rachael Alter, BA, QAS	alter@nasemso.org	(208) 949-8630	EiIC Prehospital Domain Project Specialist	MT, NM, WI
Marc Auerbach, MD	marc.auerbach@yale.edu	(203) 737-7437	PECCLC, Director of Quality	n/a
Terry Fisher, MPH, PMP	tfisher@bcm.edu	(832) 824-0149	EiIC Operations Director	CT, NY, RI
Charles Macias, MD, MPH	cgmacias@texaschildrens.org	(832) 824-5416	EiIC Executive Director	n/a
Cassidy Penn	cvpenn@texaschildrens.org	(832) 824-3291	EiIC QI Education Project Specialist	n/a
Sam Vance, MHA, LP	samuel.vance@bcm.edu	(832) 824-6653	EiIC Prehospital Domain Lead	OH, KY, PA

Advisory Committee

NAME	EMAIL ADDRESS	ASSOCIATION
Tracy Cleary	tracy.cleary@ks.gov	NASEMSO
Ann Dietrich, MD	dramjd1@gmail.com	NAEMT
Joseph Ferraro	Joseph.ferraro1@navy.mil	IAFC
Matthew Harris	matthew.harris@childrenscolorado.org	NAEMSP

NAME	EMAIL ADDRESS	ASSOCIATION
Megan Hollern, MA, NRP	mhollern@nremt.org	NREMT
Margo Knefelkamp, MBA	margo.knefelkamp@indianapolisems.org	EMSC SP Representative
John Lyng	jlyngmd@gmail.com	NAEMSP
Brian Moore, MD	BrMoore@salud.unm.edu	AAP
Sarah O'Donnell, MPH	sodonnell@hrsa.gov	HRSA
Kate Remick, MD	kate.remick@gmail.com	EIIC
Manish Shah, MD, MS	mxshah@texaschildrens.org	EIIC
Joelle Simpson, MD, MPH	JnSimpson@childrensnational.org	ACEP
Joe Stack	jestack@dps.ohio.gov	EMSC SP Representative
Belinda Waters, RN, CEN, CCRN	watersbk@covhs.org	ENA

Subject Matter Experts

NAME	EMAIL ADDRESS	JOB TITLE
Kathleen Adelgais, MD, MPH	kathleen.adelgais@childrenscolorado.org	Principal Investigator, Colorado EMS for Children State Partnership Program Associate Professor, Pediatrics (Emergency Medicine), University of Colorado School of Medicine
Kathleen Brown, MD	KBrown@childrensnational.org	Emergency Medicine Specialist Children's National
Lorin R. Browne, DO, FAAP	LBrowne@mcw.edu	Associate Professor, Medical College of Wisconsin, Children's Hospital of Wisconsin
Greg Faris, MD	gfaris@iu.edu	Assistant Professor of Clinical Emergency Medicine, Indiana University School of Medicine Deputy Medical Director, Indianapolis EMS

NAME	EMAIL ADDRESS	JOB TITLE
Toni Gross, MD	tonig.doctort@gmail.com	Medical Director, Emergency Department, Children's Hospital of New Orleans (as of Nov 5 th)
Julie Leonard, MD, MPH	julie.leonard@nationwidechildrens.org	Associate Professor of Pediatrics Nationwide Children's Hospital and the Ohio State University College of Medicine
Brian Moore, MD FAAP	BrMoore@salud.unm.edu	Associate Professor of Emergency Medicine, Division of Pediatric Emergency Medicine, University of New Mexico Health Sciences Center
Travis Adams, NRP, CCRN	travisbadams@yahoo.com	Pediatric Emergency Care Coordinator, Gaston County EMS, North Carolina

State Partnership Teams

STATE	NAME	EMAIL ADDRESS	ROLE (TITLE)
CONNECTICUT	Victoria Barnes, RN, BSN	victoria.barnes@ynhh.org	Lead <i>EMSC Program Coordinator</i>
	Marc Cicero, MD	mark.cicero@yale.edu	Advisor <i>Associate Professor in Pediatrics (Emergency Medicine)</i>
KENTUCKY	Morgan Scaggs, BHS, NRP	morgan.scaggs@kctcs.edu	Lead <i>EMSC Project Director</i>
MONTANA	Jason Mahoney	jason@373consulting.com	Lead <i>Pediatric Liaison (SPROC)</i>
NEW MEXICO	Katherine Schafer	KSchafer@salud.unm.edu	Lead <i>CR Program Manager</i>
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