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2 **National EMS Advisory Council**
3 **Committee Report and Advisory**
4 **FINAL**
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7 **Committee: Preparedness and Education**

8 **Title: Pediatric Emergency Care Coordinator (PECC) for Emergency Medical Services**
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10 **A. Executive Summary**

11 The 2007 Institute of Medicine report, “ Emergency Care for Children: Growing
12 Pains”, recommended that EMS providers appoint a pediatric emergency care
13 coordinator (PECC) to advocate for improved EMS practitioner competencies and
14 the availability of appropriate resources for pediatric patients to ensure that the
15 provider and its front-line practitioners are adequately prepared to care for ill and
16 injured children.(1) Conceptually, this includes a recognition that evaluation of
17 pediatric out-of-hospital encounters and discussing opportunities for improvement
18 can lead to improved care for future patients.(2)
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20 The Health Resources and Services Administration (HRSA), Maternal and Child
21 Health Bureau (MCHB) Emergency Medical Services for Children (EMSC) program
22 has established a performance measure to encourage the adoption of a PECC by
23 EMS providers.(3) The NEMSAC recommends that all EMS providers appoint a
24 PECC to provide advocacy and guidance for activities related to the care of
25 children. The PECC should work in collaboration with the state EMS office, EMS
26 provider leaders and medical directors, and other stakeholders, to ensure pediatric
27 needs are well integrated into all aspects of paramedicine. EMS providers that
28 appoint PECCs have the potential to enhance their EMS systems by providing high
29 quality pediatric emergency care.
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31 **B. Recommended Actions/Strategies:**
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33 **NHTSA, Department of Transportation and FICEMS:**
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35 NEMSAC recommends that the DOT/NHTSA and FICEMS support and promote
36 the EMS for Children State Partnership Program goals and performance measure
37 regarding pediatric emergency care coordinators (PECCs).
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39 **C. Scope and Definition**

40 Emergency medical service (EMS) responses for pediatric patients represent
41 thirteen percent of total EMS responses in the United States, but because call
42 volume is highly variable, nearly 40% of all EMS providers in the United States see
43 fewer than thirteen pediatric patients per year on average. (4,5) This translates to a
limited experience for many providers who may be ill equipped to care for an

44 acutely ill or injured child. Pediatric Emergency Care Coordinators for EMS systems
45 serve several roles including protocol review and development, pediatric education,
46 ensuring adequate pediatric equipment, pediatric quality and performance
47 improvement, and hospital outreach. (6) A recently published joint policy statement
48 speaks to the importance of pediatric readiness in EMS systems (7) and a technical
49 report to the importance of the PECC within each EMS service. (8)

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51 **D. Analysis**

52 The pediatric training requirements for EMS practitioner licensure and re-licensure
53 vary from 4-9 hours for emergency medical technicians (EMTs) and 7-34 hours for
54 paramedics, often combining pediatrics into a 'special populations' domain (e.g.,
55 geriatrics, obstetrics, etc.).(9) The infrequency of pediatric out-of-hospital
56 encounters in the field creates challenges to maintaining pediatric skills despite
57 periodic training. Many EMS practitioners have a limited chance to exercise their
58 pediatric skills in real-life settings and often do not feel confident to provide
59 appropriate care.(2) Educational opportunities and even best-practice guidelines
60 are very limited in the prehospital setting, further exacerbating the quality of care
61 gap between high and low resource settings.

62 The same challenges in providing high quality care for acutely ill and injured
63 children exist across the health care spectrum, particularly in emergency
64 departments where the majority of pediatric emergencies are managed. Studies in
65 this setting demonstrate a positive impact on pediatric outcomes.(10,11)
66 Specifically, the National Pediatric Readiness Project notes that institutions with a
67 PECC frequently have higher scores of pediatric readiness as measured by a
68 weighted scoring tool.(12) In Arizona, hospital mortality for children aged 0-18
69 years decreased after a certification program for pediatric readiness was
70 implemented in the state.(13) A separate study using the Agency for Healthcare
71 Research and Quality's Healthcare Cost and Utilization Project (HCUP) database
72 found a reduction in mortality in critically ill children among 426 hospitals in Florida,
73 Iowa, Massachusetts, Nebraska, and New York.(14) EMS agencies that appoint
74 PECCs can similarly enhance their EMS systems to provide high quality pediatric
75 prehospital emergency care.(15)

76 The Health Resources and Services Administration (HRSA), Maternal and Child
77 Health Bureau (MCHB) Emergency Medical Services for Children (EMSC) program
78 has established a performance measure to encourage the adoption of a PECC by
79 EMS providers.(3) HRSA funded a Pediatric Emergency Care Coordinator Learning
80 Collaborative (PECCLC) to form a cohort of 9 EMSC State Partnership Grant
81 recipients to participate in a learning collaborative to demonstrate effective,
82 replicable strategies to increase the number of local EMS agencies with a pediatric
83 emergency care coordinator (PECC).(16) In addition, 3 additional projects funded
84 by HRSA/MCHB will directly address the impact of PECCs in EMS systems.
85 Results from these projects will inform and advance efforts with all 58 EMSC State
86 Partnership recipient sites to increase adoption of PECC within local EMS
87 providers.

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89 **E. Strategic Vision**

90 EMS providers that appoint a PECC to provide advocacy and guidance for
91 activities related to the care of acutely ill and injured children will enhance and
92 improve the care of these patients in their system. The role of the PECC will be an
93 essential component of the EMS system infrastructure, working in collaboration
94 with the state EMS office, EMS provider leaders, medical directors, and other
95 stakeholders ensuring that pediatric needs are well integrated into all aspects of
96 paramedicine. EMS providers appointing PECCs will enhance and ensure their
97 systems to provide high quality pediatric emergency care.

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99 **F. Strategic Goals**

- 100 1. EMS providers will appoint PECCs within the HRSA/MCHB timeline established
101 for EMS for Children State Partnership programs
102 2. PECCs will be an essential component of the EMS provider infrastructure
103 3. Future study of PECCs within EMS systems will focus on the impact of this role
104 on the quality of care delivered to children in the out-of-hospital setting.

105 **Reference Material:**

106

107 **A. Crosswalk with other standards documents or past recommendations**

108 Not applicable

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110 **B. Sources/references related to the issue**

- 111 1. Institute of Medicine. 2007. *Emergency Care for Children: Growing Pains*.
112 Washington, DC: The National Academies Press. <https://doi.org/10.17226/11655>.
113 2. Cushman JT, Fairbanks RJ, O’Gara KG, et al. Ambulance personnel perceptions of
114 near misses and adverse events in pediatric patients. *Prehosp Emerg*
115 *Care*. 2010;14(4):477-484.
116 3. <https://emscimprovement.center/programs/partnerships/performance-measures/>
117 4. Shah MN, Cushman JT, Davis CO, Bazarian JJ, Auinger P, Friedman B. The
118 epidemiology of emergency medical services use by children: an analysis of the
119 National Hospital Ambulatory Medical Care Survey. *Prehosp Emerg Care*.
120 2008;12(3):269-76.
121 5. EMSC Innovation and Improvement Center (EIIC). NEDARC Data Collection
122 Results for Performance Measures 02 and 03. *EMSC Meeting Austin, Texas*
123 *2018*. Available at: <https://emscimprovement.center/categories/measurement/>.
124 Accessed 9.18.2019.
125 6. <https://emscimprovement.center/collaboratives/pecc/c/what-pecc/>
126 7. Moore B, Shah MI, Owusu-Ansah S, Gross T, Brown K, Gausche-Hill M, Remick K,
127 Adalgais K, Lyng J, Rappaport L, Snow S, Wright-Johnson C, Leonard JC.
128 Pediatric readiness in emergency medical services systems. *Ann Emerg Med*.
129 2020;75:e1-e6.
130 8. Owusu-Ansah S, Moore B, Shah MI, Gross T, Brown K, Gausche-Hill M, Remick K,
131 Adalgais K, Rappaport L, Snow S, Wright-Johnson C, Leonard JC, Lyng J, Fallat

- 132 M, Committee on Pediatric Emergency Medicine, Section on Emergency Medicine,
133 EMS Subcommittee, Section on Surgery. Pediatric readiness in emergency
134 medical services systems. *PEDIATRICS* Volume 145, number 1, January
135 2020:e20193308.
- 136 9. Ngo TL, Belli K, Shah M. EMSC Program Manager Survey on Education of
137 Prehospital Providers. *Prehospital Emergency Care*. 2014; 18(3):424-8.
- 138 10. Gausche-Hill M, Ely M, Schmuhl P, et al. A national assessment of pediatric
139 readiness of emergency departments. *JAMA Pediatr*. 2015; 169(6):527-534.
- 140 11. Ray KN, Olson LM, Edgerton EA, Ely M, Gausche-Hill M, Schmuhl P, Wallace DJ,
141 Kahn JM. Access to high pediatric-readiness emergency care in the United States.
142 *J Pediatr* 2018;194:225-32.
- 143 12. Remick K, Kaji AH, Olson L, Ely M, Schmuhl P, McGrath N, Edgerton E, Gausche-
144 Hill M. Pediatric readiness and facility verification. *Ann Emerg Med* 2016;67:320-
145 328.
- 146 13. Rice A, Dudek J, Gross T, St Mars T, Woolridge D. The impact of a pediatric
147 emergency department facility verification system on pediatric mortality rates in
148 Arizona. *The Journal of Emergency Medicine* 2017; 52(6):894–901.
- 149 14. Ames SG, Davis BS, Marin JR, Fink EL, Olson LM, Gausche-Hill M, Kahn JM.
150 Emergency department pediatric readiness and mortality in critically ill children.
151 *Pediatrics* 2019;144(3).
- 152 15. Remick K, Gross T, Adelgais K, Shah MI, Leonard JC, Gausche-Hill M. Resource
153 document: Coordination of pediatric emergency care in EMS systems. *Prehosp*
154 *Emerg Care*. 2017; 21(3):399-407.
- 155 16. <https://emscimprovement.center/collaboratives/pecclc/>

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