

The Continuing Evolution of Pediatric Emergency Care

Evaline A. Alessandrini, MD, MSCE; Joseph L. Wright, MD, MPH

Every day, approximately 80 000 children seek emergency care in US emergency departments (EDs), and 20% of all children in the United States will have at least 1 ED visit each year.^{1,2} Yet the needs of children historically have received little



Related article

attention in the emergency medical services system.³ Emergency medical services are a relatively new component of our national health care system, and, recently, increased attention has been given to the unique needs of children during emergencies, as well as to the documentation of significant variation in the quality of care.⁴⁻⁶ As a result, resources through the Emergency Medical Services for Children (EMSC) program of the US Department of Health and Human Services Health Resources and Services Administration have been devoted to the establishment of various components of the EMSC, which refer to a spectrum of services for acutely ill and injured children.⁷

Patients and caregivers expect emergency care clinicians to deliver high-quality emergency care, yet many children do not receive appropriate care under the current system. The complexities of delivering high-quality health care are likely magnified in the ED. Patients are in crisis, EDs are often overcrowded, patient-physician relationships are not longstanding, and the varieties of complaints and diagnoses are immense. In a watershed moment in 1992, the *US News and World Report* published a cover article entitled “The Shame of Emergency Care for Kids”⁸ that reported on the significant shortcomings in care and what parents needed to know to assess whether their hospital was good enough to provide emergency care for their children. This was followed by an Institute of Medicine (IOM) report in 1993 entitled “Emergency Medical Services for Children” in which care categorization was introduced as a model concept based on the Los Angeles County “emergency departments approved for pediatrics” experience. The IOM also recommended that all state regulatory agencies with jurisdiction over hospitals and emergency medical services systems require that hospital EDs and emergency response and transport vehicles should have and should maintain equipment and supplies appropriate for the emergency care of children.⁹⁻¹¹ Despite the fact that these recommendations were made more than 20 years ago, progress on improving the quality of care for children in emergencies has remained slow at best.¹²

Ongoing recognition of a complex and burdened emergency medical system in the United States resulted in the 2006 IOM report “The Future of Emergency Care in the United States Health System.” This report highlighted the fragmented components of the overall emergency care system and stressed the

need for an accountable, coordinated, and regionalized approach to overcome obstacles and ensure the delivery of high-quality care.³ Children are particularly subject to problems in the emergency care system. Specific conclusions drawn from the pediatric component of the IOM report (“Emergency Care for Children: Growing Pains”)³ include the following: (1) although children make up 27% of all ED visits, only 6% of EDs have all of the necessary supplies for pediatric emergencies, and (2) most children receive emergency care in general (not children’s) hospitals, which are less likely to have specific pediatric expertise, equipment, and policies in place for the care of children. Professional organizations such as the American Academy of Pediatrics, the American College of Emergency Physicians, and the Emergency Nurses Association have galvanized efforts and leveraged support from the EMSC program and the emergency medical services office of the National Highway Traffic and Safety Administration to address the lingering challenges identified by the 2006 IOM report findings. With the publication of the 2009 policy statement, “Guidelines for Care of Children in Emergency Departments,”¹³ the American Academy of Pediatrics, American College of Emergency Physicians, and Emergency Nurses Association collaboration has indeed established a “floor” of pediatric readiness in this country and the framework on which quality care improvement for children needs to be built.

Thus, the publication of the “National Assessment of Pediatric Readiness of Emergency Departments”¹⁴ in this issue of *JAMA Pediatrics* represents another watershed moment for the EMSC and a huge step forward in the further definition of the path forward to optimal care for children in the emergency care setting.¹⁵ With significant investments from the EMSC program to the National Pediatric Readiness Project, Gausche-Hill and colleagues¹⁴ have completed a comprehensive web-based assessment of US EDs for pediatric readiness as measured by compliance with the 2009 national “Guidelines for Care of Children in Emergency Departments.”¹³ They achieved an impressive 82.7% response rate, accounting for more than 4000 EDs with approximately 24 million ED visits from children each year. Their response rates indicate enthusiasm and accountability for pediatric readiness in ED settings, and their results demonstrate a real improvement in readiness scores over prior assessments. As expected, higher-pediatric-volume EDs have better readiness scores.

It is important to note that this study¹⁴ describes self-reported pediatric emergency readiness scores for US EDs. Although a critical foundational step, the work does not associate better readiness scores with improved outcomes of pediatric emergency care. Stakeholder-prioritized ED pediatric performance measures that include outcomes of emergency care have

been defined and are available for use through the EMSC National Resource Center.¹⁵ This important limitation should be addressed by this group of researchers and the engaged national coalition as they go beyond ensuring day-to-day pediatric readiness to ensuring best possible outcomes for children in our nation's EDs. In addition, the study¹⁴ recommends that the single most important thing an ED can do to improve pediatric readiness is to identify a nurse and/or physician pediatric emergency care coordinator to provide pediatric leadership for the organization. True readiness and the ability to improve the quality and outcomes of pediatric emergency care are influenced by a good leader (which may be a designated pediatric coordinator) but also require a receptive environment and other infrastructures, such as actionable data, as well as training and educational resources, that were noted to be barriers to guideline implementation in half of responding EDs.

Improvement is surely the main reason to measure pediatric readiness of our nation's EDs. Performance measures are

yardsticks by which all health care professionals and organizations can determine how successful they are in pediatric readiness, delivering recommended care and improving patient outcomes. However, there are other important purposes of performance measurement. Transparently reporting pediatric ED readiness scores to patients and the public holds health care professionals accountable to both consumers and purchasers of care; transparency builds trust. Patients can also learn what the expected professional standards of care are and where they can go to receive them. This was the concept espoused more than 30 years ago at the very beginnings of EMSC with the Emergency Department Approved for Pediatrics model. There is still a long way to go, however, and the National Pediatric Readiness Project certainly brings the field closer to a full-circle realization of the evidence parameters around which universal standards for the care of children in EDs can be implemented and ultimately linked to optimal outcomes.

ARTICLE INFORMATION

Author Affiliations: Department of Pediatrics, James M. Anderson Center for Health Systems Excellence, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio (Alessandrini); Department of Pediatrics and Child Health, Howard University College of Medicine, Washington, DC (Wright); Emergency Medicine and Health Policy, George Washington University School of Medicine and Health Sciences, and Milken Institute School of Public Health at the George Washington University, Washington, DC (Wright).

Corresponding Author: Evaline A. Alessandrini, MD, MSCE, Department of Pediatrics, James M. Anderson Center for Health Systems Excellence, Cincinnati Children's Hospital Medical Center, 3333 Burnet Ave, Cincinnati, OH 45229 (evaline.alessandrini@cchmc.org).

Published Online: April 13, 2015.
doi:10.1001/jamapediatrics.2015.0357.

Conflict of Interest Disclosures: None reported.

REFERENCES

1. Prager K, et al. *Health, United States, 2005, With Chartbook on Trends in the Health of Americans*. Hyattsville, MD: National Center for Health Statistics; 2005:311.
2. US Dept of Health and Human Services. *National Center for Health Statistics. Health, United States, 2009, With Special Feature on Medical Technology*. Hyattsville, MD: National Center for Health Statistics; 2010:333.
3. Committee on the Future of Emergency Care in the United States Health System; Board on Health Care Services; Institute of Medicine. *Emergency Care for Children: Growing Pains*. Washington, DC: National Academy Press; 2007.
4. Chamberlain JM, Patel KM, Pollack MM. Association of emergency department care factors with admission and discharge decisions for pediatric patients. *J Pediatr*. 2006;149(5):644-649.
5. Knapp JF, Hall M, Sharma V. Benchmarks for the emergency department care of children with asthma, bronchiolitis, and croup. *Pediatr Emerg Care*. 2010;26(5):364-369.
6. Hampers LC, Trainor JL, Listerick R, et al. Setting-based practice variation in the management of simple febrile seizure. *Acad Emerg Med*. 2000;7(1):21-27.
7. Wright J, Krug S. Emergency medical services for children. In: Kliegman RM, Stanton BMD, St Geme J, Schor NF, eds. *Nelson Textbook of Pediatrics*. 20th ed. Philadelphia, PA: Elsevier; 2015.
8. Buckley J. The shame of emergency care for kids. *US News World Rep*. 1992;112(3):34-38, 40, 42-43.
9. Seidel JS, Henderson DP, eds. *Emergency Medical Services for Children: A Report to the Nation*. Washington, DC: National Center for Education in Maternal and Child Health; 1991.
10. 2005, Los Angeles County, Department of Health Services, Emergency Medical Services Agency, EDAP Standards. <http://ems.dhs.lacounty.gov/SpCentersHospitalPrograms/EDAPs/EdapStandards.pdf>. Accessed February 24, 2015.
11. Institute of Medicine; Committee on Pediatric Emergency Medical Services; Durch JS, Lohr KN, eds. *Institute of Medicine Report: Emergency Medical Services for Children*. Washington, DC: National Academy Press; 1993.
12. Wright JL. Emergency medical services for children and the Institute of Medicine revisited, 1993-2006. *Clin Pediatr Emerg Med*. 2006;7(2):69-70. doi:10.1016/j.cpep.2006.04.003.
13. American Academy of Pediatrics; Committee on Pediatric Emergency Medicine; American College of Emergency Physicians; Pediatric Committee; Emergency Nurses Association Pediatric Committee. Joint policy statement—guidelines for care of children in the emergency department. *Pediatrics*. 2009;124(4):1233-1243.
14. Gausche-Hill M, Ely M, Schmuhl P, et al. A national assessment of pediatric readiness of emergency departments [published online April 13, 2015]. *JAMA Pediatrics*. doi:10.1001/jamapediatrics.2015.138.
15. Emergency Medical Services for Children (EMSC) National Resource Center. Emergency department performance measures. EMSC website. http://www.emscnrc.org/EMSC_Resources/Toolboxes.aspx. Accessed February 24, 2015.