Emergency Medical Services for Children: Closing the Gaps in Pediatric Disaster Preparedness

By Anthony Gilchrest, MPA, EMT-P, EMS for Children National Resource Center, and Diane Pilkey, RN, MPH, EMS for Children Program, Maternal and Child Health Bureau, Health Resources and Services Administration

Children have unique, often complex physiological, psychosocial, and psychological needs that differ from adults, especially during disaster situations. Unfortunately, children are often involved when disasters occur. On average, children comprise 27% of the U.S. population[1] and account for about 20% of all hospital emergency department visits.[2] However, in 2006, the Institute of Medicine's (IOM) Future of Emergency Care series[3] noted deficiencies in the availability of pediatric equipment, supplies and medications, training for medical staff, and policies incorporating the unique needs of children. Furthermore, in the wake of Hurricane Katrina, the report noted that such deficiencies in everyday operational readiness are exacerbated during a disaster, calling the nation's emergency care system "poorly prepared for disasters."[3]

Emergency Medical Services for Children

For more than 30 years, the Emergency Medical Services for Children (EMSC) Program has worked to eliminate deficiencies identified in the nation's everyday operational readiness to provide emergency medical care for children. The EMSC Program is administered by the U.S. Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA) through the Maternal and Child Health Bureau (MCHB). Its mission is to reduce child and youth mortality and morbidity caused by severe illness or trauma. EMS for Children aims to ensure that:

- state of the art emergency medical care is available for the ill and injured child or adolescent;
- pediatric service is well integrated into an emergency medical service system backed by optimal resources; and
- the entire spectrum of emergency services, including primary prevention of illness and injury, acute care, and rehabilitation, is provided to children and adolescents as well as adults, no matter where they live, attend school, or travel.

The EMSC Program funds and supports pediatric emergency care improvement initiatives and projects in every U.S. state, territory, and the freely associated states. Grant programs include State Partnership (SP), Targeted Issues (TI), State Partnership Regionalization of Care (SPROC), and support for the Pediatric Emergency Care Applied Research Network (PECARN). These programs have enabled the development of prehospital and acute care provider training; the establishment of EMS guidelines and protocols, equipment lists, and other clinical care resources; the formation of advisory committees and national/federal partnerships; and the identification of strategies for improving the EMS system for children. More information on EMSC Grant programs is available online.

The National Pediatric Readiness Project Assessment of Hospitals

As part of its mission, the EMSC Program works with grantees, partners, and stakeholders to assure that the specific care needs of children are incorporated into local, state, and regional disaster preparedness and response planning. While there have been marked improvements in many areas of everyday pediatric readiness,[4] persistent insufficiencies in pediatric disaster preparedness remain.[5,6] In 2013, the American Academy of Pediatrics (AAP), American College of Emergency Physicians (ACEP), Emergency Nurses Association (ENA), and the EMSC Program collaborated jointly on a quality

continued on page 17

[1] U.S. Census Bureau: Age and Sex, Table 1: Population by Age and Sex 2012. Accessed online Apr. 11, 2014.
[2] Centers for Disease Control and Prevention, Ambulatory and Hospital Care Statistics Branch. National Hospital Ambulatory Medical Care Survey:2010. Accessed online Apr. 10, 2014.
[3] Institute of Medicine, Committee of the Future of Emergency Care in the United States Health System. Emergency Care for Children: Growing Pains. Washington, DC: National Academies Press. 2007.
[4] National Pediatric Readiness Project. National Results. Revised March 21, 2014. Accessed online Apr. 10, 2014.
[5] National Commission on Children and Disasters. 2010 Report to the President and Congress. AHRQ Publication No. 10-M037. Rockville, MD: Agency for Healthcare Research and Quality. October 2010.
[6] Institute of Medicine, Forum on Medial and Public Health Preparedness for Catastrophic Events. Disaster Preparedness, Response, and Recovery Considerations for Children and Families: Workshop Summary. Washington, DC: National Academies Press. 2013.

EMSC: Closing Gaps in Pediatric Disaster Preparedness

continued from page 16

improvement initiative, the National Pediatric Readiness Project.

The project initiated an assessment of more than 5,000 U.S. emergency departments (EDs) and more than 4,100 facilities responded (83%).[4] Results illustrated that less than half of all U.S. hospitals reported having written disaster plans addressing issues specific to the care of children. Furthermore, the assessment revealed that most children are cared for in emergency departments that see relatively few children and those facilities with smaller pediatric volumes were significantly less likely to include pediatric care needs in their disaster plans. (See Chart 1.)

The EMSC Response

Based on these findings, a multidisciplinary work group of subject matter experts was assembled to develop a tool specifically to help hospital administrators and clinical leadership incorporate essential pediatric considerations into existing hospital disaster policies. The work group included national leaders in the fields of pediatric emergency medicine, disaster preparedness and response, trauma and emergency nursing, behavioral and mental health, coalition building, healthcare quality improvement, and health law and ethics. The primary goal of the work group was to build on existing resources, with a particular focus on best practice guidelines and checklists from local geographic regions, to come to consensus on essential domains of pediatric considerations that should be incorporated into disaster policies for all hospital types in the United States.

The Checklist of Pediatric Domains and Considerations for Every Hospital's Disaster Preparedness Policies is a comprehensive yet simple tool consisting of 10 essential pediatric domains that should be included as part of every hospital's disaster preparedness plan. Within each domain is a detailed list of specific considerations and relevant resources to provide more details and help guide implementation. The checklist is primarily designed to identify the personnel, resources, equipment, and supplies that will be useful for rapid onset pediatric surge planning and disaster response involving pediatric patients. It is not, however, a step-by-step guide to implementing policies. Rather, because hospital disaster plans are unique to each facility and community, the checklist should be used in collaboration with local, regional, and state healthcare systems, healthcare and/or disaster coalitions, and other community partners to adapt recommendations to their local needs, strategies, and resource availability. Hospitals large and small can use the tool to assess where they are with pediatric preparedness planning, establish benchmarks, and develop a plan of action.

Other EMSC Preparedness Initiatives

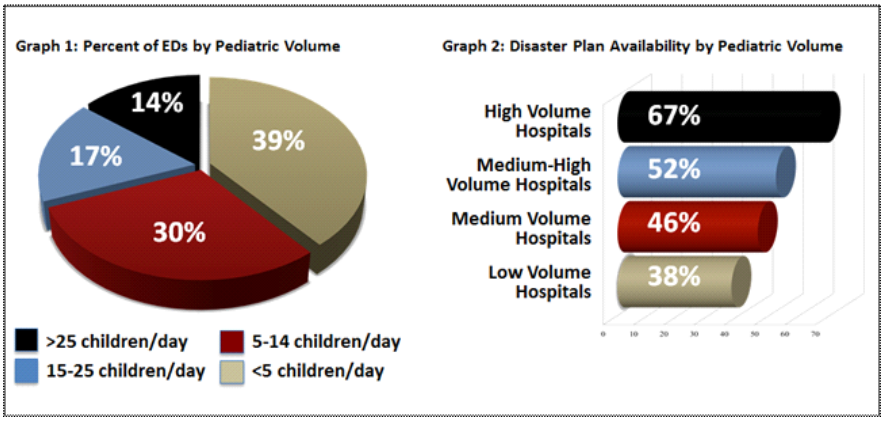
Additional EMSC preparedness initiatives ensure that the specific care needs of children are incorporated across the continuum of care. In 2014, the EMSC Program worked with the Assistant Secretary of Preparedness and Response (ASPR) Hospital Preparedness Program (HPP) and the National Library of Medicine (NLM) to create Health Resources on Children in Disasters and Emergencies, an online compendium of resources related to medical and public health issues of children in disasters and emergencies. Since 2002, five Targeted Issues projects have focused specifically on disaster preparedness themes. These projects are listed in Table 1 on page 18. Additionally, the Alaska EMSC SPROC program addressed statewide pediatric-specific training in disaster preparedness and integration of pediatric components into disaster response planning.

EMSC Learning Opportunities

The EMSC Pediatric Disaster Planning and Preparedness Community of Practice (CoP) was launched on June 24, 2014. The purpose of the CoP is to provide a collaborative learning format in which participants exchange technical

continued on page 18

Chart 1. Relationship of ED Pediatric Volume to Availability of Disaster Plans Addressing Pediatric Care Needs



Source: National Pediatric Readiness Assessment

EMSC: Closing Gaps in Pediatric Disaster Preparedness

continued from page 17

information, share experiences and best practices, hear from subject matter experts, and engage in collective problem solving. Archived events and information on upcoming meetings can be found on the EMSC NRC website.

EMSC also hosts live webcast events and online learning modules for prehospital and hospital-based emergency care providers. The following webcasts are archived and available online.

- National Pediatric Readiness Project: Preparing the Emergency Department to Provide Psychosocial Support to Children and Families in a Disaster.
- Essential Pediatric Domains and Considerations for Hospital Disaster Preparedness: Where Do We Begin?
- Not Just Small Adults: Health Resources on Children in Disasters and Emergencies.
- Everyday Pediatric Readiness for Extraordinary Events.
- EMSC and the Hospital Preparedness Program: Working Toward Everyday Pediatric Readiness.
- Kids in Disasters: Facing Our Challenges.
- State of All Hazards Preparedness for Children: Partnerships and Models for Merging Emergency Department and Disaster Preparedness Efforts Nationwide.

Online training courses accessible on the EMSC National Resource Center website include:

- Pediatric Disaster Triage: Doing the Most Good for the Most Patients in the Least Time by Connecticut EMSC Targeted Issue grantee Mark Cicero, MD.
- Pediatric Disaster Planning and Preparedness by the EMSC National Resource Center.
- Pediatric Disaster Preparedness Courses for Healthcare Professionals by Tennessee EMSC State Partnership.
- Pediatric Disaster Preparedness Courses for the Public by Tennessee EMSC State Partnership.

Table 1: Targeted Issue Projects

- **2010–2013**: Yale University; Mark Cicero, MD. *Small Victims, Big Challenges: Refining Pediatric Disaster Triage Algorithms and Education in the Prehospital Setting* and the online educational module *Pediatric Disaster Triage: Doing the Most Good for the Most Patients in the Least Time.*
- **2008–2011**: Children's Hospital of Boston Center for Biopreparedness; Sarita Chung, MD. REUNITE: A Novel Imaging System for Children Separated During Disaster.
- **2005–2008**: The Children's Hospital of Philadelphia; Flaura Winston, MD, PhD. *General Pediatrics Evidence-Based Secondary Prevention of Traumatic Stress: Practical Tools to Help Parents Help Their Children.*
- **2004–2007**: Regents of the University of Minnesota; Lee A Pyles, MD. Emergency Preparedness for CSHCN Using Minnesota EMSC information System (MEMSCIS).
- **2002–2006**: Harlem Hospital, Columbia University; David Markenson, MD. *Model Pediatric Component for State Disaster Plans*.

Detailed project descriptions are posted here.

Conclusion

Natural and manmade disasters can strike anywhere at any time and, when they do, children are especially vulnerable. The best preparation for these extraordinary events is a solid commitment to everyday pediatric readiness and the thorough integration of pediatric disaster services into regional systems of care.[7] The EMS for Children Program is dedicated to strengthening the nation's capacity to provide high-quality emergency care to children every day and in the event of a disaster. More information is available online. ▲

[7] Kanter, RK. The 2011 Tuscaloosa Tornado: Integration of Pediatric Disaster Services into Regional Systems of Care. *Journal of Pediatrics, 161;* 526-530; 2012.

Improving Personal Effects Process Following Mass Fatality

continued from page 15

or a form of best practice for the industry. Initially, the recommendation would be that a standardisation of the activation and process could be achieved through a guidance document. Ideally, and with subsequent work, this would be recognised across all jurisdictions.

Conclusion

It can be concluded that the personal effects process is highly valued by the families of victims who have died in a mass fatality incident. The key term for families, is choice. Families must be empowered to make their own choices regarding their loved ones' personal possessions. ▲