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# A Call to Action: The Institute of Medicine Report on Emergency Medical Services for Children

Jane F. Knapp, MD, Editor

ABBREVIATIONS. EMS-C, Emergency Medical Services for Children; IOM, Institute of Medicine; EMS, Emergency Medical Systems; ED, emergency department; BLS, basic life support; EMT, emergency medical technician.

## INTRODUCTION

Emergency Medical Services for Children (EMS-C) must be recognized as a public responsibility; the "market" cannot be relied on to produce the kind of planning and cooperation required to make services available to all who need them.<sup>1</sup> The Institute of Medicine (IOM) Report on Emergency Medical Services For Children.

Each year millions of American children become seriously ill or injured. If you have ever encountered a child who did not receive the medical care they needed or deserved under these circumstances you understand what EMS-C is all about. The familiar adage, "Children are not small adults," emphasizes that their care must be an integral part of a system not an afterthought once the adults have been addressed. The achievement of the desired level of competence for EMS-C in the larger system is hampered by many factors. These include lack of organization, equipment, training, and a lack of understanding of the child's unique problems and needs.

In response to these needs, Congress approved a demonstration grant program in 1984. The purpose of the program was threefold: to expand access to EMS-C, to improve the quality available through existing Emergency Medical Systems (EMS), and to generate knowledge and experience that would be of use to all states and localities seeking to improve their system.

Continuing interest prompted the formation of the Committee on Pediatric Emergency Medical Services by the IOM. This 19-member committee Chaired by Dr Donald N. Medearis, Jr released their report in the summer of 1993. The IOM report entitled *Emergency Medical Services for Children* is available in both a soft cover 25-page summary and the full text (see Appendix).

As with any work similar in nature to *Emergency Medical Services for Children*, dissemination of the existence and importance of the information in the report is critical. The purpose of this supplement to *Pediatrics* is to help disseminate the findings of the IOM report and to personalize these findings for pediatricians, surgeons, subspecialists, nurses and others involved in the care of children. As the IOM report notes, there has been a tendency in the past for discussions of emergency care to concentrate on the principal providers. To make real strides in system development it is imperative that we recognize that EMS-C is much, much more than prehospital services, emergency departments (EDs), and hospital inpatient settings. For instance, it is well documented, that office-based physicians and nurse practitioners encounter emergency conditions among their patients. Sixty-two percent of Chicago area pediatricians from one study reported seeing at least one child a week who required hospitalization or urgent treatment.<sup>2</sup> Going beyond the office to the home, it has been argued by pediatric emergency medicine physicians that parents should be devoting at least as much time to learning pediatric Basic Life Support (BLS) as they do to childbirth preparation. This level of parental education and involvement requires organization and effort at all levels of pediatric practice. Furthermore, it embodies the philosophy that emergency medical care cannot be treated as a process

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unrelated to a child's routine health care needs. The connections between primary care, emergency care, tertiary (ie, specialty care), and rehabilitation should be as seamless as possible (see the Figure). Therefore, the articles in this the supplement were chosen to help physicians in various settings whether it be urban or rural, subspecialty or primary care, recognize how EMS-C relates to their practice. This supplement should enhance, not replace, the need for reading some form of the IOM report. The summary should be required reading for anyone who has responsibilities in the medical care of children; familiarity with the entire report should be mandatory for all who are involved in emergency care.

Contained herein are eight articles by a distinguished panel of authors. Dr George Foltin, Director of Pediatric Emergency Medicine at Bellevue Hospital Center/New York University Medical Center, thoroughly examines *Critical Issues in Urban Emergency Medical Services For Children*. Indeed, there appear to be many challenges in our cities. Particularly in major urban areas there is an increasing demand for services, often in circumstances in which emergency care resources are scarce or overburdened. In some areas of the country, the call for ED and inpatient care exceeds the capacity of the hospitals in question, making it difficult for them to provide optimal care.

How can EMS-C address the needs of children who live in counties with more cattle than people? In the second article, Dr Jerome Hirschfeld, Director of Pediatric Education at the Family Practice Residency of Idaho addresses issues relating to EMS-C in rural and frontier America.

Surgeons play a critical role in EMS-C. A passage from the report states that, "For the surgical specialties, surgeons-in-training in pediatric subspecialties not involving trauma should receive an adequate grounding in trauma; those training in trauma should be expected to spend time in settings that include care for pediatric patients." In their commentary *The Surgeon and EMS-C*, Drs Arthur Cooper and Barbara Barlow from the Division of Pediatric Surgery Harlem Hospital Center/Columbia University

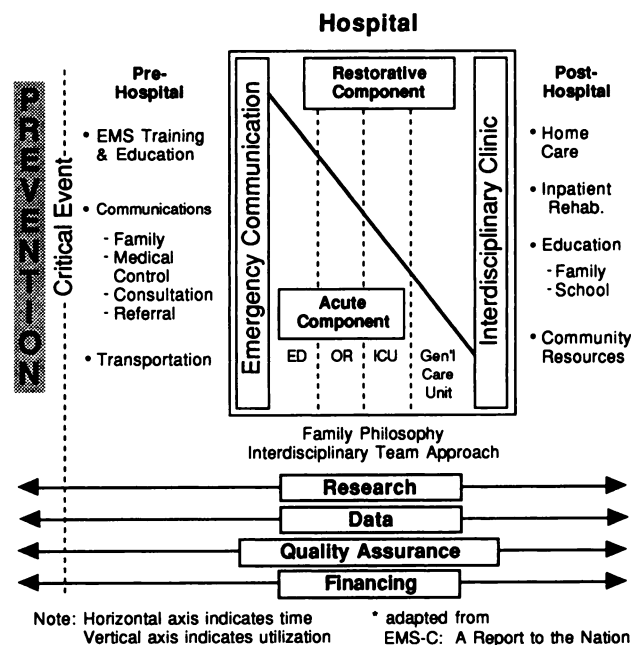


Figure. The connections between primary care, emergency care, tertiary care, and rehabilitation.

have beautifully scripted the role of the surgeon using the analogy of a drama. The ending is not to be missed.

The Office of Technology Assessment estimates that there may be as many as 100 000 technology dependent children. Estimates of the numbers of other children with chronic conditions are even larger. These children tend to use emergency care services recurrently and in some circumstances have special vulnerabilities that are not shared by the general population. Ordinary illness or injury may place them at risk for additional complications. Recognizing this fact and other references to subspecialists in the IOM report, Dr Debra Fiser, Chief of Pediatric Critical Care Medicine and Health Services Research and Epidemiology at the Arkansas Children's Hospital/University of Arkansas, issues a call to action for those in subspecialty practice.

In the summary of recommendations the IOM report advocates that research in EMS-C be expanded and that priority attention be given to seven areas. These are: clinical aspects of emergencies and emergency care; indices of severity of injury and especially, severity of illness; patient outcomes and outcome measure; costs; system organization, configuration, and operation; effective approaches to education and training, including retraining and skill retention; and prevention. Dr David Jaffe, Director of the Division of Emergency Medicine at St. Louis Children's Hospital/Washington University School of Medicine, has promoted the growth and development of research in pediatric emergency medicine throughout his career. In his article, Dr Jaffe emphasizes the need for focused research in EMS-C and urges investment of resources for the benefit of future generations.

Dr Richard Cook has been a paramedic, medical student, emergency medicine resident and pediatric emergency medicine Fellow. He currently is Assistant Director, Division, Prehospital EMS at Lehigh Valley Hospital in Allentown, PA. Using this broad experience, he has authored "The Institute of Medicine Report On EMS-C: Thoughts For EMTs, Paramedics, and Emergency Physicians." He examines issues relating to many aspects of EMS-C. Particularly important are issues of training and understanding between the various caretakers.

The authors of *Emergency Medical Services for Children* wrote that, "Nurses play a critical role in nearly all phases of emergency care . . . the committee takes the position that advanced training

and certification in the areas of emergency, trauma, critical care, and rehabilitation nursing must address the proper care of children. Similarly, those nurses and nurse practitioners who practice in a primary care setting need training that will prepare them to provide appropriate emergency care to their pediatric patients." Yet a recent survey of EDs in Florida found that only 4% of the emergency nurses employed by these EDs had received hospital-based training in pediatric care and only 5% had taken the Pediatric Advanced Life Support course.<sup>3</sup> In their commentary, Deborah Parkman Henderson and June D. Thompson note that the IOM Report does not always address the role of nurses separately. They delineate areas where nurses play a role in EMS-C, and describe possible approaches to implementation.

The articles are followed by an appendix which contains additional information to support your involvement in EMS-C. It has the roster of the members of the Committee on Pediatric Emergency Medicine of the Institute of Medicine, the Summary Of Recommendations Of The Committee On Pediatric Emergency Medical Services, a copy of the model legislation developed by the American Academy of Pediatrics on Emergency Medical Services For Children, a glossary of terms, and a resource list.

Over the past year as this supplement has been planned and written, I have spent a great deal of time reading and digesting the material in the IOM report. My copy has become underlined, worn, filled with notes in the margins and a constant companion. A final wish is that you who care for children use this supplement and the IOM report as references, guides, and planners to chart your own course and our country's future in EMS-C.

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# Critical Issues in Urban Emergency Medical Services for Children

George L. Foltin, MD, FAAP, FACEP

**ABSTRACT.** In order to be effective those wishing to improve emergency care of children in an urban environment must be aware of barriers as well as resources. Urban children are at high risk for requiring emergency care as a result of both illness and injury. These children face a dangerous environment resulting from the problems of poverty, homelessness, overcrowded living conditions, drug abuse, and a shrinking tax base. They face this nation's highest rates of violent injury (intentional and unintentional), immunization delays, and preventable infectious diseases such as TB and measles. In addition, they have poor access to quality primary health care and suffer the greatest morbidity rates from chronic diseases such as asthma and diabetes. On the other hand, there is great opportunity to ensure that urban children receive quality emergency health care. The urban environment is rich in "centers of pediatric excellence," which often have paid full-time EMS systems in opera-

tion, and is the locale in which the majority of pediatric emergency medicine specialists and prehospital advanced life support providers practice. The child advocate must work to ensure that the urban child can benefit from these resources.

## INTRODUCTION/BACKGROUND

Emergency medical services for children (EMS-C) is envisioned as consisting of six phases (Table 1). These phases should be integrated into the child's medical home. Within these phases are contained all the components of a fully functioning emergency medical services (EMS) system.

The EMS System comprises primary health care providers, ambulance services, receiving hospitals, interhospital transport services, and subspecialty referral centers. These components often operate independently, may not interface well or at all with the other components, or may not exist. This situation varies on a region to region basis.

The landscape that forms the backdrop in which urban EMS-C exists includes the many problems associated with poverty. Forty percent of urban children live below the poverty level.<sup>1</sup> Many are homeless and many more are exposed to the detrimental effects of drug trafficking. The environment of the urban child is dangerous. The incidence of penetrating trauma to children is rising in every urban center and is not limited to the adolescent age group. In some urban centers, the morbidity and mortality rates from

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