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# POSITION PAPER

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**National Association of EMS Educators**  
**Pre-EMS Education and Instructor Development**  
*Accepted by the NAEMSE Board of Directors September 10, 2003*



## **Introduction**

The National Association of EMS Educators (NAEMSE) is the leading national organization of professional emergency medical service (EMS) educators. The Association represents over 2000 individuals involved in every level of EMS education. The ad hoc Pre-EMS\* forum is an NAEMSE sponsored committee of EMS experts with a special interest in the education of Pre-EMS responders. Pre-EMS responders are persons trained in emergency care that function as an integral element of the Emergency Medical Services System, providing life support and care while awaiting the arrival of licensed EMS personnel. The Pre-EMS responder is a critical link in the chain of care for many ill or injured patients as the care given and the information obtained from them can be vital to both their immediate care and long term outcome. A key goal of NAEMSE Pre-EMS forum is to explore ways to improve collaboration and connection between the domains of EMS and Pre-EMS with the intent of strengthening continuity of care and improving outcome.

Pre-EMS responders by definition are laypersons including bystanders (passersby) and first aid providers (persons who are occupationally required to be trained in first aid even though they may not be specifically required by law to perform first aid) that receive Basic Life Support Training to respond to victims with critical injuries.<sup>1</sup> The term “Pre-EMS Responder” can refer to a large group that encompasses: community emergency volunteers, lay persons, public safety employees, firefighters, police officers, highway patrol personnel, security guards, merchant marine sailors, and airline, railroad, and other public transportation vehicle crews.<sup>2</sup> It is widely accepted that early recognition of a medical emergency combined with the delivery of prompt, effectively administered pre-EMS care can make a difference between life and death, rapid vs. prolonged recovery, and temporary vs. permanent disability.<sup>3</sup>

NAEMSE believes a national forum will cultivate respect, encourage partnerships, and facilitate Pre-EMS educational endeavors such as Pre-EMS related research and other activities that will enhance public health and benefit Pre-EMS educators, responders and ultimately - the ill and injured.

## **Discussion**

Much like the EMS System of which it is a part, Pre-EMS is made up of a variety of independent but inter-related components and activities aimed at optimal initial emergency care preparedness and prompt delivery of reasonable and appropriate emergency care and life support. Pre-EMS systems

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\*The descriptor “pre-EMS” is intended to signify events, people, and emergency care provided before the arrival of licensed personnel providing emergency medical services. The term is not meant to suggest that persons providing emergency care before EMS personnel arrive are not essential component of a complete EMS system.

operate both formally and informally in nearly all communities, suburban and rural areas, urban factories and remote work environments. “A well designed and tested Pre-EMS system can save lives and prevent further injuries. This also means that it is a tool of risk management or more specifically, safety and loss control.”<sup>4</sup>

However, whether or not a Pre-EMS responder is required or expected to act (as part of their job), or is a well-meaning Good Samaritan or a family member - how the task of emergency preparedness is accomplished will greatly influence the individual’s willingness to act. To optimally prepare the Pre-EMS responder, they must be ready physically, emotionally and logistically. Knowing what to do and how to do it are of little value if people aren’t willing. Much like EMS Systems, the foundation and key to effectiveness of a Pre-EMS system is quality training from qualified educators.

Several examples provide evidence for the positive benefit of EMS leadership and involvement in Pre-EMS educational efforts:

The Hampshire England (UK) Ambulance Service National Health Service Trust (HASNHST) developed a First Responder Scheme that trained volunteers to respond to emergency calls and provide first aid until an ambulance arrived. This sequence of events is known as the “chain of survival”<sup>5</sup> and includes the concepts of early access, early resuscitation, early defibrillation and early advanced life support. When HASNHST put the “chain of survival” into practice pre-hospital survival for heart attack victims improved 25% to 30%.<sup>6</sup> “The Community First Responder Scheme proved to be an excellent initiative, which made a real difference to the whole community and supported patients in the first vital minutes following a heart attack, or other life-threatening events.”<sup>7</sup>

In Seattle/King County, Washington (USA) the most widely advocated Pre-EMS program is citizen cardiopulmonary resuscitation (CPR) training. Community-based CPR training programs have trained millions of laypersons in CPR. The American Heart Association®, Inc., has suggested that morbidity and mortality from out-of-hospital cardiac arrest might be significantly reduced if 20% of adults were trained in CPR.<sup>2</sup> This is exemplified by the Seattle Medic II Citizen CPR Program.<sup>8</sup> A collaboration between the Seattle Fire Department, Downtown Rotary Club, American Heart Association, United Way, private business and the media; the goal was to train 100,000 people in CPR (1/5th of Seattle’s population). To date, the program has provided CPR training to more than 700,000 citizens in Seattle and King County (60% of all Seattle Residents over 12 years old)<sup>9</sup>. Several studies have documented better survival outcomes for sudden cardiac arrest victims who receive bystander CPR and have demonstrated a consistent survival rate of over 25% when witnessed VF arrest is combined with bystander CPR.<sup>3,10,11</sup>

In 1999, a cooperative between NHTSA and the state of Iowa (USA) produced the National Standard Curriculum for Bystander Care, called “First There, First Care.”<sup>12</sup> The bystander care program explores how the passerby can best learn basic life-saving care to respond – how to call EMS, manage the airway, control bleeding and avoid getting hurt - to the most critical needs of seriously injured victims in rural highway crashes. “The bystander or passerby (the public at large) is the first link in the out-of-hospital “chain of survival.”<sup>1</sup>

According to Steve Noland of Iowa Methodist Medical Center, “Traumatic injury is the leading cause of death in the first four decades of life. In 1994, Iowa’s motor vehicle crashes represented 46 percent

(518) of deaths by unintentional traumatic injury. Long EMS response times to emergencies in rural areas are common. Additionally, untrained and ill-equipped bystanders are often the first responders to crash sites where airway management and bleeding control are critical to the survival of injured persons.”<sup>8,13</sup>

In response to this statistic, the Iowa Methodist Medical Center initiated the Iowa Bystander Trauma Care Training Program. The goal of this program was to improve access to care by training bystanders to provide basic trauma care to victims of rural automobile accidents utilizing the National Standard Curriculum for Bystander Care.<sup>3</sup> As part of this program, EMT instructors provided a one-hour Bystander Trauma Care course covering six basic interventions.<sup>8,14</sup> The program successfully trained 2000 bystanders from 25 communities in one year. The results show that EMS led bystander training can make a difference in trainee attitudes.<sup>8</sup> Preliminary analysis of responses from 369 participants, both before and after training, indicates increased likelihood that the lay rescuer would stop, provide better and more accurate information to 911, and provide appropriate care after attending the course.<sup>12</sup>

In Tucson, Arizona (USA) during the mid-1980's the Tucson Fire Department discovered that more children die each year from accidental drowning than from any other type of injury and began tracking drowning incidents.<sup>8</sup> In 1990 the Tucson EMS & Fire Department formed a coalition with other community leaders to develop a drowning prevention program. Based on data collected, the program consists of model pool-fencing code, public awareness campaign, school curricula, and multimedia presentation in the community.<sup>8, 12</sup> The program resulted in a 50% reduction in child drowning deaths over a three year period and demonstrates that EMS providers can also provide effective leadership towards safety and accident prevention.<sup>12</sup>

As these few examples show, EMS is the natural arena of advocacy of pre-EMS care. The *Emergency Medical Services, Agenda for the Future* acknowledges public education as a critical activity for EMS personnel and accurately recognizes that it is “woefully underdeveloped” in this area.<sup>3,15</sup>

Another aspect of the pre-EMS system are the numerous training courses presented in both community and occupational settings throughout the U.S. and in many first world countries everyday by educators affiliated with organizations such as the American Heart Association® Inc., American Red Cross, American Safety and Health Institute, Inc., Emergency and Safety Programs Inc., MEDIC FIRST AID International, Inc., the National Safety Council® (NSC); and others.<sup>3</sup> These organizations as well as the military, EMS and other government agencies, publishing companies, private corporations, hospitals, vocational institutes, colleges, and others produce pre-EMS training courses using various instructional strategies, elements, objectives, and methods.

The National Guidelines for First Aid in Occupational Settings<sup>14</sup> (NGFATOS) and ASTM Standard F2171-02 Standard Guideline Defining the Performance of First Aid Providers in Occupational Settings<sup>15</sup> were developed to standardize the core knowledge and skills taught to non-EMS providers of emergency care. Guided by and based upon the work of the Washington State First Aid Training Task Force, Guidelines Development Group<sup>16</sup> and derived from the National Highway Traffic Safety Administration revised First Responder: National Standard Curriculum,<sup>17</sup> these guidelines represent an important first step to directly linking pre-EMS education with EMS education. Further efforts in this direction could foster innovative partnerships – impacting and enriching public health through

improved curriculum design, research, prevention, early identification, and treatment of sudden illness and injury in everyday situations as well as during national security emergencies.

## **Conclusion**

The EMS System of care begins with those who are first to recognize an emergency exists and apply accepted principles of life supporting care and appropriate first aid. However, for Pre-EMS care to be appropriately and consistently rendered, lay people, public safety professionals and health care professionals who do not normally work as emergency care professionals, should be prepared to assume and carry out their important role in the chain of care. This preparation requires sound, effective and convenient training from a qualified instructor utilizing accepted curricula. These instructors need to have optimal preparation and educational resources. Such opportunities exist for Pre-EMS educators in the form of conferences conducted by training organizations, but there has been inadequate national leadership on Pre-EMS education by EMS.

The ad hoc Pre-EMS forum is an NAEMSE sponsored committee of EMS education experts who have come together to provide a neutral leadership platform where pre-EMS educators from a variety of agencies and organizations can share ideas, insight and information with the objective of promoting EMS as the natural arena of advocacy for pre-EMS education and care. A key goal of NAEMSE Pre-EMS forum is to explore ways to improve collaboration and connection between the domains of EMS and Pre-EMS education.

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