Editorial:

The Past, Present and Future of Emergency Medical Services

Less than two decades ago, professional prehospital medical care and emergency medical services (EMS) systems came into being largely in response to the appearance of two modern epidemics: coronary artery disease and trauma. Just after the mid-point of this century, these two processes suddenly were being recognized as being responsible for: nearly a million premature deaths annually in the United States; and for permanent disability in another million victims. Also, it became evident that what clearly differentiated these two epidemics from the classical epidemics involving infectious diseases was that they both required immediate attention—within minutes—if many of the deaths were to be prevented (1). "Sudden death" can be the first symptom in as many as a quarter of those with coronary artery disease and most of these sudden deaths are caused by potentially reversible ventricular dysrhythmias. Similarly, the earliest possible spinal immobilization and airway management, coupled with rapid evacuation to a specialized facility for the definitive care of internal hemorrhage are the primary mainstays of early injury management (2). And while these preventable causes of mortality and morbidity need attention and critical intervention within minutes, they also occur in venues far from the security of a medical facility such as homes, offices, and on dark, rain-slicked streets. Immediately, this brings a unique aspect and perspective to the medical care provided. Particularly in the management of sudden death and injuries, the medical care must be modified and tailored in accordance with the environment in which it is delivered. Factors such as difficult extrications, lifting and evacuation, weather, hostile crowds, hazardous conditions and limited resources change the priorities and limit one's ability, not only to deliver optimal care, but also to recognize and monitor for potential complications of both medical problems and the medical care rendered.

But, despite these logistical barriers of time, environment, and distance, a handful of pioneer physicians ventured forth, primarily from academic institutions, in the late 1960s and responded out into the out-of-hospital setting to challenge the notion that these two major epidemics were beyond the scope of medical practice (1,3). "Street-wise" and often bold in their approach, they demonstrated scientifically not only a definite life-saving effect of prehospital care, but also that even through the use of closely supervised intermediaries (the first EMTs and paramedics), many of these deaths clearly could be prevented. To this day, one common element still can be found among all of those EMS systems which can document their ability to prevent deaths and provide quality of care for the sick and injured. The common element continues to be the intense involvement of academically-oriented physicians who understand the prehospital environment and who act as the driving forces for continuous improvements in prehospital emergency care and EMS systems management; physicians who view EMS as part of their personal practice of medicine and who uphold their own high standard of care among those EMS personnel to whom they delegate the direct "on-scene" responsibilities for that medical practice (1,3). It must be emphasized that most of the original pioneer training programs had that one important factor that would shape their eventual success. The physician-trainers of the first paramedics were themselves extremely adept at dealing with the logistics of providing the most optimal medical care possible in the pre-hospital setting. The prehospital environment forces one to use modified tactics, priorities and judgments. In such circumstances, these physicians had to learn to single-

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handedly provide defibrillation, intubation, and drug administration in the most awkward of situations. They knew how to intubate in a church pew before dozens of anxious onlookers, as well as how to defibrillate a large person in the confines of a stairwell. In essence, these physicians were privy to the unique aspects of the delivery of prehospital care and were able to pass their expertise on to their new apprentices. And eventually, these supervisor physicians continued to provide an omnipresent influence, even when most of the on-scene care was being weaned onto their early proteges, as well as subsequent trainees—today's paramedics.

Unfortunately, attempts at emulating these early successes by other communities frequently were disappointing. Although EMT and paramedic recipe curricula were formalized on paper, and ambulances and other equipments were purchased at great public expense, most EMS systems have fallen short of expectations. Many large EMS systems have become expensive medical taxi services, elaborately dressed in all of the right medical trappings, but often unable to demonstrate clear public satisfaction, let alone a lifesaving effect. It is not surprising, that this generally has been associated with a lack of intense supervision by EMS physicians. In summary, leadership, direction, and quality assurance has, for the all practical purposes, been sparse or absent.

Clearly, this is distressing, as public trust is at risk. Although the history of professional EMS is less than two decades old, it is now as much an expected part of everyday life as police protection and public schools. Evolving beyond its original task to confront sudden death and injury, EMS now provides care and comfort for all types of emergencies and for all types of people. In the USA, there is a call for EMS every other second! This year, approximately 20–25 million people in the United States will be responded to by a prehospital care provider. And no doubt, all of these people have an expectation that when they call for EMS, they always will be receiving the best medical care available. As a result, because there now exists this public trust that the best possible medical care always will be provided for the millions of U.S. citizens who will use EMS every year, it must never be forgotten that EMS, while usually provided on-scene by physician surrogates, is still the practice of medicine and therefore has both the potential benefit and dangers incumbent with any finely-honed medical instrument. Without the proper medical training (modified appropriately for the prehospital setting), and without carefully controlled oversight of those directly rendering care, appropriate patient management may be delayed or even improper, leading to unnecessary morbidity and mortality. In summary, despite its transportational trappings, its political and governmental restrictions, and its very public media-exposed nature, prehospital medical care demands intense, knowledgeable physician supervision, direct scrutiny, and continued leadership in that out-of-hospital setting(1–3).

The National Association of Emergency Medical Services Physicians(NAEMSP) is a rapidly developing organization which is composed largely of the statuary responsible and officially designated Medical Directors of municipal and State EMS systems, as well as their administrative associates from across the United States and Canada. It evolved as a reflection of the emerging self-awareness of many communities in which stronger medical leadership and better role models for such leadership were lacking in their local EMS system. Again, despite well-intentioned attempts to emulate the success of the early EMS systems, most communities unfortunately have fallen short of the engendered expectations. Yet, they all expect EMS to be there in their time of need.

It is now obvious that EMS has become not only a public service but also a public trust. Beyond all of the rhetoric about "quality assurance" and "protocol development" are the patients—the 55 year old man with chest pain, the two year old child with a fever, or the 17 year old teen in a fender-bender whose head induced a spider-web formation on the windshield. No more than 1–2% of the EMS responses involve

the critical injury or patients with ventricular fibrillation. Perhaps what we do more often than "save lives" is to simply BE THERE when they call for help: The reassurance, the oxygen, the pair of hands on the head to hold the spine still. The provide just as much of a true service to the community and its quality of life than do all of the advanced life support techniques that we have tended to emphasize. EMS, barely two decades old, is now approaching its adulthood. The NAEMSP naturally evolved because of this maturation process. Like EMS itself, the organization is evolving, discovering its identity, and recognizing its duty in society to guarantee the public trust that the best possible medical care will be there when it is needed.

We are coming to accept that we are providing a very special kind of public service —one of reassurance, assistance, comfort, and, on occasion, life-saving actions. But, clearly, the majority of our work simply is providing prehospital CARE—not prehospital treatment or management, but prehospital CARE.

We are coming to accept that we need to scutinize and question what we do in a more scientific fashion—not always in the laboratory, but in the streets as well. And what better place to test new therapies than the prehospital setting? After all, we have learned today that whether CPR, defibrillation, thrombolysis, or hemorrhage control, the earlier the intervention, the better the results.

We are coming to accept that we that we need to pass on the lessons learned, both good and bad. The training of EMS physicians is a key to the future. It is possible that one can pay doctors to work at EMS full time and provide them with a whole set of written roles and responsibilities, such as to "review charts" and to "perform on-scene supervision." But without good role models for medical directorship, even eager, responsible, well-intentioned physicians may not be as effective as they should be (3). Unfortunately, at present, few excellent role models exist.

The future of EMS and excellence in prehospital medical care will depend on our ability to formally and properly train the EMS physician of tomorrow. And as long as meticulous attention to detail, boldness, and compassion are part of the formula, the future of EMS holds great promise. Instead of arguing about limiting the scope of practice for paramedics, we will be more actively researching ways to broaden it. Therefore, NAEMSP has an important role to play in the future of EMS. It must try to fill the void—it must establish a course of action to provide role models for the future. It is clear that EMS needs more than medical direction; it needs leadership. By creating the forum, by establishing the network, and by assimilating thoughts, NAEMSP will better provide both direction *and* leadership. The direction will focus not only on patient care and EMS administration, but also on scientific peer-review and education. Through its Journal, its meetings, and its enthusiastic membership, NAEMSP will begin to achieve and better structure both the original goals and now the evolving mission of professional EMS. I am privileged to have been part of this exciting movement.

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