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International Association of Emergency Medical Services Chiefs

International Association of EMS Chiefs Statement on The National Roadway Safety Strategy

May 23, 2022

The International Association of EMS Chiefs (IAEMSC) represents Chief Officers leading EMS personnel in the United States and throughout the world. Changes in technology, improvements in patient care, and new systems in the delivery of care face us, and will challenge our very convictions...what we thought was right for so long, will ultimately need to change. We are at the edges of a new frontier, and we will construct a new system, a new way to do things, while we try and maintain a standard of care.

The goal for the provision of Emergency Medical Services at its very foundation was to reduce death and disability from traumatic injury¹ the leading cause of death for people between 1 and 44 years age. The nascent outline of a system of care, describing training and certification for personnel, a communications system, specially designated hospitals to receive patients, trauma registries, hospital trauma committees, and special rehabilitation facilities, all essential to the initial care and resuscitation of the trauma patient.

To this day we struggle with response times; attracting and retaining personnel to the profession; and if asked by the populace we cannot explain how we have reduce death and disability due to trauma. We have created community paramedics. We are in the process of standing up mobile crisis response teams. Yet we continue to struggle with the essential elements of trauma care, the very issue that challenged a nation, the driving force that created us.

We function in silos independent of each other. Time as a construct for trauma patients is crucial to their survival²⁻³. For the most critically injured patients, response to the scene, time on scene, and delays en-route to the hospital can mean the difference between life and death. Yet we staff, roster, and deploy services based on economics, and not on the factors that infuse the system with sufficient resources to guarantee a timely response and swift transport to definitive care. In places like Camden, NJ and Philadelphia, PA if you are the victim of penetrating trauma you will most likely be conveyed to the trauma center in a police van not an ambulance.

If we can roster enough resources to ensure that we can confirm a timely police response, why can't we make sure we have enough resources to get an ambulance to those scenes as well? This is not only an issue for major metropolitan areas, but rural and frontier areas as well.

Blood and lyophilized plasma hold great promise for trauma resuscitation⁵, but blood is not something you can order from your medical supply vendor. You need to develop an infrastructure



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to include a system to manage, track, and store blood, a blood bank to collect your product, and volunteers to donate.

Yet in order to accomplish this we will essentially be competing for blood products with the very hospitals we will need to transport our patients to save their lives.

Look at the work completed by the Brain Trauma Foundation. They wrote the first guidelines for the resuscitation of the patient with traumatic brain injury (Guidelines for Prehospital Management of Traumatic Brain Injury 1st edition 2000). These guidelines were overwhelmingly based on Class II and Class III evidence, none of which were derived from the prehospital care environment, it was all data and information extrapolated from the hospital. The Brain Trauma Foundation pleaded for evidenced based EMS research. It took twenty years for Daniel Spaite, MD, and his team at the University of Arizona to conduct a study and prove that these recommendations worked⁷.

We have to stop thinking small and think big.

EMS is a beacon for our communities, a great equalizer, the place where the rich and poor receive the same care, the very best care we have to offer. We have been imbued with an immense trust and responsibility by the communities we provide care in. Nothing is impossible, and there is no failure in trying, the only failure is to do nothing. We need to develop new constructs for systems, inclusive and collaborative systems that are not in competition with one another. Singular in purpose focused on improving care and reducing death and disability from trauma. We need to complete our mission.

In order to meet the National Roadway Safety Strategy for Post-Crash Care, specifically to “Improve the delivery of EMS throughout the nation in collaboration with the Federal Interagency Committee on Emergency Medical Services and the National Emergency Medical Services Advisory Council by focusing on shortening ambulance on-scene response times” we need to work together.

Progression of EMS and the success needed to reduce death and disability from trauma is founded in developing collaborative, inclusive systems of care, not competitive ones. The following areas are key to any grant and funding arising from the National Roadway Safety Strategy for Post-Crash Care.

Systems of Care and Resources

Since the development of the first trauma centers, collaborative systems of care, between emergency medical services and trauma centers are essential to reducing death and disability. Fund the re-imagination of the system to include adequate EMS ambulance resources to guarantee a timely response – what does this need to look like, what are the formulas necessary to determine what is adequate; quality improvement activities that include EMS as part of the continuum of care; universal treatment protocols based on evidence and best practice; clinical innovations that are supported within our systems, not competing against one another; safe harbors for purchasing

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durable and disposable medical supplies and medications; and interactive systems of communication, rostering, and fielding that are agnostic of geographic boundaries. Sharing of resources to not only include EMS units but patient beds regardless of insurance provider or healthcare system.

Data and Quality Improvement

Success regarding trauma patients has been poorly defined for EMS systems. Developing the essential lateral and sequential benchmarks for improving quality are lacking, not only for EMS services as a whole, but for the city managers, elected officials, and the community to effectively evaluate the services provided to them every day. We have done a tremendous job for cardiac arrest, myocardial infarction, and stroke. Unfortunately we are seriously lacking in our ability to define or measure success for EMS in trauma.

The following are some suggested measures to identify success.

One measure is a drop in the under five mortality rate (U5MR), specifically child mortality, as a means of EMS system efficiency and effectiveness. It is one benchmark that would be crucial for analyzing success. This is an outcome measure, that when factored into other data such as population density, race, and economic status would provide a better understanding of the challenges facing EMS services in the communities they deliver care in.

Reduction in the death and disability rates for patients with an injury severity score greater than 15. These are the majority of patients are transported to trauma centers. This is another outcome measure that should be measured to determine system and service success, and should also comparative data for population density, race, and economic status.

Process measures such as response time, on-scene time, and transport time need to be analyzed. Time is the great equalizing factor for all trauma patients. Extended response times, extended on scene times, and delayed transport times all eat up clock cycles that the trauma patient does not have. They increase mortality and morbidity in trauma patients when they are too long. Any community providing EMS needs to provide adequate resources to ensure a timely response to the scene and rapid transport to definitive care. Timely response is not occurring where they have insufficient ambulances. This is not occurring in communities where they have resigned themselves to the fact that allowing the police to transport a patient in the back of a police car or van is acceptable, or urban and suburban regions where 20 – 40 minute response times are considered the norm.

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