Chapter 1

Introductory Chapter: The Role of Emergency Medical Service Physician

Theodoros Aslanidis

Additional information is available at the end of the chapter

http://dx.doi.org/10.5772/intechopen.80916

1. Introduction: emergency medical services as medical subspecialty

Almost 45 years since the inception of first modern emergency medical services (EMS) in the United States with the Highway Safety Act of 1966 and the EMS Services Development Act of 1973 [1, 2], the American Board of Medical Specialties (ABMS) voted in 2011 to create a new physician subspecialty called "emergency medical services" [3]. The American Board of Emergency Medicine was named the parent board for this subspecialty and held its first board certification exam in 2013.

The first suggestions about an EMS subspecialty head back to late 1990s by the creation of an ABEM task force and later, in 2001, by National Association of Emergency Medical Society Physicians (NAEMSP's EMS Physician) Certification Task Force. Yet, it took another ten years and the continuous tremendous advance in prehospital care in the last decades that finally led to the new emergency medicine subspecialty [4].

Today, the list of the existing subspecialties of emergency medicine [5] is:

- anesthesiology critical care medicine,
- emergency medical services,
- hospice and palliative medicine,
- internal medicine-critical care medicine,
- medical toxicology,
- pain medicine,
- pediatric emergency medicine,

- sports medicine, and
- undersea and hyperbaric medicine;

thus covering almost all kinds of emergency medical care.

However, outside US, emergency medical systems are considered a relative new addition to the Healthcare systems [2]. Even now (2018), the state of EMS still varies drastically from developed to developing countries [6].

Within the aforementioned frame, the present article aims at describing the possible roles of the EMS physician.

2. The role of EMS physician

2.1. On scene

EMS personnel are recognized as the extension of the physician in the field, a "delegated practitioner." Even though the current level of training in other EMS personnel (EMTs, Paramedics) is continuously raising, active involvement of the physicians in prehospital emergency care of patients is still needed.

There are several studies about out-of-hospital cardiac arrest (OHCA), synthesized in a recent meta-analysis [7], that suggests that EMS-physician-guided CPR in OHCA is associated with improved survival outcomes. Yet, due to the fact that the meta-analysis is based solely on observational studies, some authors doubt its results [8]. The same dispute is ongoing when it comes to single country studies about the same subject [9]. On the contrary, in cases of traumatic OHCA and in cases of severe injured patients, the presence of an EMS physician on the field is related with increased survival [10–12].

2.2. Beyond direct patient care

The high level of EMS personnel allows the system to work, most of the time, independently on the scene. Yet, the role of EMS physician extent beyond direct patient care; as he can serve as a coordinator or team leader, as an EMS educator, as the legal component of the system, as the patient advocate, or as the link between EMS and the hospital health care [13].

Thus, EMS physician can serve as the ideal Medical Director that can provide management, supervision, and guidance in an effort to assure quality of care [14]. The recent American College of Emergency Physicians (ACEP) policy statement gives the main principles of the role [15].

2.3. The challenge for the best EMS physicians' utilization

Though recognition of EMS subspecialty seems to create a new dynamic in prehospital emergency medicine, the optimum way of utilization of EMS physicians remains a question.

Even in the US, EMS agencies have significant practice variability with regard to quality improvement resources, medical direction, and specific clinical quality measures [16]. At the same time, there is a lack of share in understanding of which quality indicators to be used by physician-staffed EMS [17]. The heterogeneity of EMS systems in terms of organization (Anglo-American concept or European), equipment availability, staffing (EMTs, paramedics, EMS physicians, anesthesiologists, etc.), and level of training, on the one hand, and the national or regional determinants of prehospital healthcare system (geographical, socioeconomic factors, etc.), on the other hand, make it even harder to find the answer.

The formation of a self-regulatory quality improvement system (SQIS) with flexible model of best human recourse utilization, adapted to the data feedback from the local or regional characteristics of EMS utilization, may be the most prudent way for resolving the problem.

Conflict of interests

The author has no conflict of interest.

Author details

Theodoros Aslanidis

Address all correspondence to: thaslan@hotmail.com

Intensive Care Unit, St. Paul General Hospital of Thessaloniki, Thessaloniki, Greece

References

[1] Emergency Medical Services Systems Development Act of 1973. Hearings. 93rd Congress, 1st Session, on §504.and §654. Washington, DC: United States Congress, Senate, Committee on Labor and Public Welfare, Subcommittee on Health; 1973. pp. 691-694

[2] Shah MN. The formation of the emergency medical services system. American Journal of Public Health. 2006;**96**(3):414-423. DOI: 10.2105/AJPH.2004.048793

[3] American Board of Medical Specialties. Emergency Medical Services: Eligibility Vriteria for Certification. 2011. Available from: http://www.naemsp.org/Documents/EMSEligCriteriaFINALApril2011.pdf [Accessed: 9-7-2018]

[4] Escott M. EMS Subspecialty creates an opportunity to change the role of the paramedic. JEMS: A Journal of Emergency Medical Services. 2015;**40**(1). https://www.jems.com/articles/print/volume-40/issue-1/departments-columns/field-physicians/ems-subspecialty-creates-opportunity-cha.html [Accessed: 10-7-2018]

[5] American Board of Medical Specialties. Specialty and Subspecialty Certificates. 2011. Available from: https://www.abms.org/member-boards/specialty-subspecialty-certificates [Accessed: 10-7-2018]

[6] Aslanidis T. EMS Health Staff Problems: Facts and Solution: Asian Hospital Healthcare & Management. 2018. Available from: https://www.asianhhm.com/articles/ems-staff-health-problems [Accessed: 08-07-2018]

[7] Bottiger BW, Berhhard M, Knapp J, Nagele P. Influence of EMS-physician presence on survival after out-of-hospital cardiopulmonary resuscitation: Systematic review and meta-analysis. Critical Care. 2016;**20**:4. DOI: 10.1186/s13054-015-1156-6

[8] Von Vopelious-Feld J, Benger J. Response to: Influence of EMS-physician presence on survival after out-of-hospital cardiopulmonary resuscitation. Critical Care. 2016;**20**:324. DOI: 10.1186/s13054-016-1495-y

[9] Fouche P, Jennings PA. Physician presence at out-of-hospital cardiac arrest is not necessarily the cause of improved survival. Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine. 2016;**24**(1):88. DOI: 10.1186/s13049-016-282-8

[10] Fjaeldstad A, Kirk MH, Knudsen L, Bjerring J, Christensen EF. Physician-staffed emergency helicopter reduces transportation time from alarm call to highly specialized centre. Danish Medical Journal. 2013;**60**(7):A4666

[11] Den Hartog D, Romeo J, Ringburg AN, Verhofstad MH, Van Lieshout EM. Survival benefit of physician-staffed helicopter emergency medical services (HEMS) assistance for severely injured patients. Injury. 2015;**46**(7):1281-1286. DOI: 10.1016/j.injury.2015.04.013

[12] Fukuda T, Ohashi-Fukuda N, Kondo Y, Hayashida K, Kukita I. Association of prehospital advanced life support by physician with survival after out-of-hospital cardiac arrest with blunt trauma following traffic collisions: Japanese registry-based study. JAMA Surgery. 2018;**153**(6):e180674. DOI: 10.1001/jamasurg.2018.0674

[13] American College of Emergency Physicians (ACEP); National Association Of EMS Physicians (NAEMSP); National Association Of State EMS Officials (NASEMSO). Role of the state EMS medical director. Prehospital Emergency Care 2010;**14**(3):402. DOI: 10.3109/10903121003770688

[14] Munjal KG. The Role of the medical director: A more collaborative, multidisciplinary oversight is called for in the future. EMS World. 2016;Suppl:10-11

[15] American College of Emergency Physicians. The Role of the Physician Medical Director in Emergency Medical Services Leadership: Policy Statement. 2017. Available from: https://www.acep.org/globalassets/new-pdfs/policy-statements/the.role.of.the.physician.medical.director.in.ems.leadership.pdf [Accessed: 06-08-2018]

[16] Redenier M, Olivieri P, Loo GT, Muniai K, Hilton MT, Potkin KT, et al. National assessment of quality programs in emergency medical services. Prehospital Emergency Care. 2018;**22**(3):370-378. DOI: 10.1080/10903127.2017.1800094

[17] Haugland H, Uleberg O, Klepstad P, Kruger A, Rehn M. Quality measurement in physician-staffed emergency medical services: A systematic literature review. International Journal for Quality in Health Care. 2018;**30**(4). DOI: 10.1093/intqhc/mzy106