

### Assessment of HEMS Teams Performance in Out-of-Hospital Cardiac Arrest (OHCA)

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**Introduction:** The Out of Hospital Cardiac Arrest (OHCA) procedures constitute one of the most quantifiable indicators of the quality of Emergency Medical Services (EMS). In Poland, HEMS teams perform such procedures both during primary missions and when they support EMS teams.

**Aim:** To carry out a retrospective analysis of OHCA related calls received from January 1, 2011, to December 31, 2016.

**Methods:** During the relevant period there were 2,447 OHCA related calls. Of those, 308 cases were excluded from the analysis because no cardiac arrest was confirmed or the patients showed signs of death that prevented any emergency procedures.

**Results:** The Return of Spontaneous Circulation (ROSC) was achieved in 1,119 cases. Resuscitation was clearly much more effective if CPR procedures were commenced prior to the arrival of the HEMS team. The groups in which higher survival rates were obtained included women, patients younger than 40 and patients who had signs of shockable rhythms. The use of HEMS team allowed for faster transport of patients to relevant specialist institutions, specifically if an invasive cardiologic intervention was needed.

**Discussion:** The use of HEMS teams in OHCA related calls indicates that such actions are highly effective both in primary missions and when HEMS teams support other EMS terms. An additional advantage is the possibility of quick transportation to a relevant specialist medical center.

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### Availability of Essential Medical Equipment for Prehospital Trauma Care on Public Ambulances in Ukraine

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**Introduction:** The public ambulance system in Ukraine is the primary deliverer of prehospital care for trauma patients in this Eastern European country, but no national assessment has previously been made to ensure the presence of essential medical equipment on these ambulances.

**Aim:** Working with the Ukraine Ministry of Health, our aim was to assess the availability of public ambulances of medical equipment essential for managing traumatic injury using an internationally recognized standard for prehospital care.

**Methods:** We identified 53 Advanced Life Support (ALS) ambulances from randomly selected cities for evaluation. We performed an inventory of available medical equipment and supplies on these ambulances against a matrix of essential equipment for prehospital providers developed by the World Health Organization (WHO).

**Results:** Essential medical equipment in the categories of personal protection, patient monitoring, hemorrhage control, and immobilization were generally available in the ALS public ambulances

surveyed. Deficiencies were noted in equipment and supplies for basic and advanced airway monitoring and management.

**Discussion:** Public ALS ambulances across Ukraine are adequately equipped with many essential medical supplies to manage traumatic injury, but have deficiencies in both basic and advanced airway management. Correcting these deficiencies may improve prehospital survival of the traumatically injured patient. The results of this study will enable the Ukraine Ministry of Health to develop requirements of essential medical equipment for all public ALS ambulances in the country, to inform resource allocation decisions, and to guide public health policy regarding prehospital trauma care.

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### Awareness, Perspective, and Reasons Behind Patients' Rejection of Emergency Medical Services in Thailand

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**Introduction:** Emergency Medical Service (EMS) increases survival rates and reduces possible disability among emergency patients. However, the number of requests is relatively low in Thailand.

**Aim:** To inspect the awareness, perspective, and reasons behind the rejection of EMS by patients or their relatives who visit the emergency room.

**Methods:** Responses were analyzed in 45 government, university, and private hospitals from December 2015 to February 2016. The hospitals were scattered in 7 provinces with the sample group including 2,028 patients, whereby 646 patients visited using EMS and 1,368 did not. The key reasons for self-visit or other means are the convenience of personal transportation (76.0%), not wanting to wait for an ambulance (31.0%), and anxiety caused by the emergency situation (28.9%). Most misconceptions about the service include; 1) Ambulances are used only for casualties from accidents and 2) Ambulance service are not free. In terms of perspective, most patients or relatives hold a negative view towards the emergency medical service, especially the idea that they can help themselves when the condition is not severe or if there are medications or relief devices available. Another view is that the service will delay them from getting to the hospital. These perspectives are from non-users.

**Discussion:** The study indicated that the cause of non-user involved misunderstandings, poor perspectives, lack of awareness, and the ignorance of the threat of the particular emergency condition. Thus, they do not realize the benefit of using EMS. As a result, regional agencies, the National Institute of Emergency Medicine, and the Ministry of Public Health should discuss the solutions to raise public awareness and improve the perspective towards emergency medical services to promote more usage.

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### Back to the Future: Portable Word Processors and the Electronic Health Record

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