

## Quality improvement and organization

## 315 PATIENT EXPERIENCE ANALYZED THROUGH NET PROMOTER SCORE (NPS) IN THE EMERGENCY MEDICAL SERVICE

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**Background** Quality measurements in the prehospital emergency medical service (EMS) have focused mainly on response-time. Net promoter score (NPS) is a simple, one-question method widely used in business and health care to assess patient satisfaction. The aim of this study was to analyze feasibility and primary results of customized NPS in the EMS.

**Method** In August 2021, EMS providers asked a permission on every mission for a latter, text message based patient satisfaction survey. The patients graded their general experience on scale from 0 to 10. They had a chance to further assess their experience on eight subquestions and write down a free comment. The research group validated all answers.

**Results** There were 6610 EMS missions during study time. We sent 3010 text messages to the patients and got 629 answers. The total NPS score was 59 after validation. People living in low-density communities (NPS 68) intended to give higher NPS score than people in medium-density (NPS 64) or in high-density communities (NPS 54);  $P=0.02$ . Higher NPS was associated to missions of higher priority (A priority being the highest and D the lowest; A 71; B 64; C 58 and D 47;  $P=0.02$ ).

**Conclusion** There is an increasing interest in measuring quality in EMS. NPS is easy to commence but needs proper implementation to achieve more answers. The NPS 59 achieved in this cohort was good, compared to NPS results in general and gives a comparison point for future patient satisfaction surveys in EMS.

**Conflict of interest** None.

**Funding** Nothing to declare.

## Cardiac arrest

## 324 NEUROPROTECTIVE CARDIOPULMONARY RESUSCITATION TO IMPROVE SURVIVAL AFTER CARDIAC ARREST

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**Background** Out-of-hospital cardiac arrest (OHCA) survival remains poor worldwide, especially for patients with non-shockable rhythms. A physiologically-distinct neuroprotective (NP) cardiopulmonary resuscitation (CPR) strategy combining automated head-up positioning (AHUP), an impedance threshold device (ITD), and manual active compression-decompression (ACD) and/or an automated suction-cup based compression device was recently shown in animal models to increase cerebral blood flow<sup>1</sup> and neurologically-intact

survival<sup>2</sup>. We assessed the effectiveness of NP-CPR on overall survival and favorable neurological survival after OHCA.

**Method** This Institutional Review Board-approved observational study from a prospective NP-CPR registry compared patients treated with NP-CPR (n=227) from 6 United States pre-hospital systems with individual conventional (C) CPR control subjects (n=5,352) with data obtained from three large published North American OHCA randomized controlled trials. The primary endpoint was hospital survival. Favorable neurological function was a secondary endpoint. Multivariate logistic regression analyses (MLRA) and propensity-score 4:1 (C-CPR:NP-CPR) matching analyses (PSMA) were performed.

**Results** Regardless of the presenting rhythm, faster initiation of NP-CPR was associated with higher adjusted odds ratios (ORs)[95% confidence interval(CI)] of survival and favorable neurological survival, using MLRA and PSMA. Specifically when NP-CPR was initiated <10 and <15 minutes after the emergency call for help, the ORs[CI] for survival were 4.0 [1.7–9.6] and 2.0[1.1–3.8], respectively, with PSMA. When NP-CPR was initiated <12 minutes after the emergency call, the ORs[CI] for survival with favorable neurological function were 2.29[1.04–5.04] and 3.35[1.42–7.89] with MLRA and PSMA, respectively.

**Conclusion** Compared with matched C-CPR controls rapid NP-CPR application was associated with a significantly higher probability of overall survival and favorable neurological survival after OHCA.

## REFERENCES

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**Conflict of interest** No authors have a conflict of interest except for Keith Lurie, who is a co-inventor of the automated head up positioning device used in the study and a co-founder of AdvancedCPR Solutions LLC that funded the study.

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## Miscellaneous

## 326 USABILITY, ACCEPTABILITY, AND FEASIBILITY OF AN ONLINE, REAL-TIME HOME CPR TRAINING SOLUTION (HEROS-REMOTE) DURING THE COVID-19 PANDEMIC

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**Background** The COVID-19 pandemic has created challenges and led to the massive closure of in-person CPR trainings