had an OR of 12.51[11.12;14.08] and 3.68 [3.30;4.09], respectively. In a time-to-death analysis presented as incidence rate ratios, Mental disorders due to use of alcohol 2.63 [2.39;2.88], COPD and respiratory failure 2.58[2.42;2.74], stroke 1.96[1.82;2.11], cancer 1.76[1.61;1.91], infection 1.71 [1.58;1.85], or diabetes 1.52[1.41;1.63] were important.

Conclusion Comorbidities significantly influence survival of OHCA patients. Cardiovascular comorbidities constitute the major part of the disease burden. The influence of comorbidity should be included in future treatment guidelines of OHCA patients.

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Cardiac arrest

257 CAN MOBILISING AEDS BY INSTALLING THEM IN TAXIS IMPROVE ROSC?

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Background The automated external defibrillator (AED) can restore normal heart rhythm in cardiac arrest victims. Early defibrillation correlates with increased rate of out-of-hospital cardiac arrest (OHCA) survival. However, AED availability remains a challenge. We aimed to measure key time intervals and observe impact of mobilizing the taxi’s AEDs on pre-hospital return of spontaneous circulation (ROSC).

Method One-hundred and twenty taxi drivers were CPR and AED trained. They were then assigned to taxis equipped with AEDs, and thereafter alerted to OHCA cases via phone app. A retrospective analysis of this intervention was conducted.

Results From November 2015 to December 2017, 4088 phone alerts were sent out to taxis, 374 accepted the cases, and 127 arrived at scene. Of those who arrived on scene, 18 walked 198.6 metres on average, while 104 drove an average of 7,317 in Vancouver). Simulated VTOL response times were based on prototype specifications. Response times were defined from call reception to arrival at scene. Simulation models considered 1–5 VTOL vehicles placed in optimized locations. We determined the proportion of OHCA’s for which VTOL response times were at least 1-min shorter than historical response from ground-based units.

Results In total, 13,933 cases were included (6,616 in Paris; 7,317 in Vancouver). Simulated VTOL response times were substantially shorter than those of ground-based units, varying from 59% (1 VTOL) to 76% (5 VTOL) in Paris, and 17% (1 VTOL) to 40% (5 VTOL) in Vancouver. In both locations, median response times were reduced by 1–3 minutes, and 90th percentile response times by 1–5 minutes, varying upon model configuration. For OHCA’s with improved response, the median improvement was 3–4 minutes, and 90th percentile improvement was 8–10 minutes in both areas.

Conclusion Simulation models of VTOL-capable flying ambulances show major theoretical reduction in EMS response times for OHCA’s in two large European and North American metropolitan areas.

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