

In an ICOM setting, we demonstrated 100% intubation success in adult trauma patients undergoing PHEA. There was no significant difference in first-pass intubation success between physicians and CCPs.

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### A MULTI-CENTRE PROSPECTIVE OBSERVATIONAL STUDY TO EVALUATE HEALTHCARE IMPACTS OF E-SCOOTERS ON EMERGENCY DEPARTMENTS

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**Aims, Objectives and Background** This study aims to report the prevalence of E-scooter related injuries, delineate the impact of rental schemes on Emergency Departments (ED) and report associated ED resource use and cost.

E-scooters have risen in popularity since the expansion of rental schemes and there is rising concern over the healthcare impact of faster illegal private E-scooters. Current literature is limited on the healthcare related impact of E-scooters by retrospective design and focus on specific injury patterns (e.g. orthopaedic or maxillofacial).

This study presents prospective data on E-scooter related injury presenting to the ED, comparing sites with and without rental schemes.

**Method and Design** A prospective observational study for four weeks of recruitment across twenty EDs across the United Kingdom (12 with rental schemes and 8 without). All patients presenting to ED with an E-scooter associated injury were identified.

A prospective observational design was chosen to more accurately collect data on E-scooter injury patterns and behaviours. Sites with and without rental schemes were chosen to compare the impact of rental schemes.

**Results and Conclusion** E-scooter related injury was found in 250 ED patients. Fractures were diagnosed in 30.4% of patients and 19.4% sustained a head injury (4.2% classified as severe traumatic brain injury). Only 6.4% of

riders were helmeted and 19.8% were intoxicated with alcohol. Mean unadjusted ED costs per patient were £297.31. The mean Injury Severity Score (ISS) was 2.8 in rental E-scooter incidents and 3.0 in private E-scooter incidents. From multiple linear regression modelling, helmet use, alcohol use and private or rental E-scooters were not predictive of ISS.

In conclusion, E-scooter riders are vulnerable to injuries of varying severity. Low rates of helmet use and high prevalence of alcohol intoxication suggest a need for targeted public health interventions, but improved data collection is required. Health service costs should be considered when reviewing the suitability of rental schemes.

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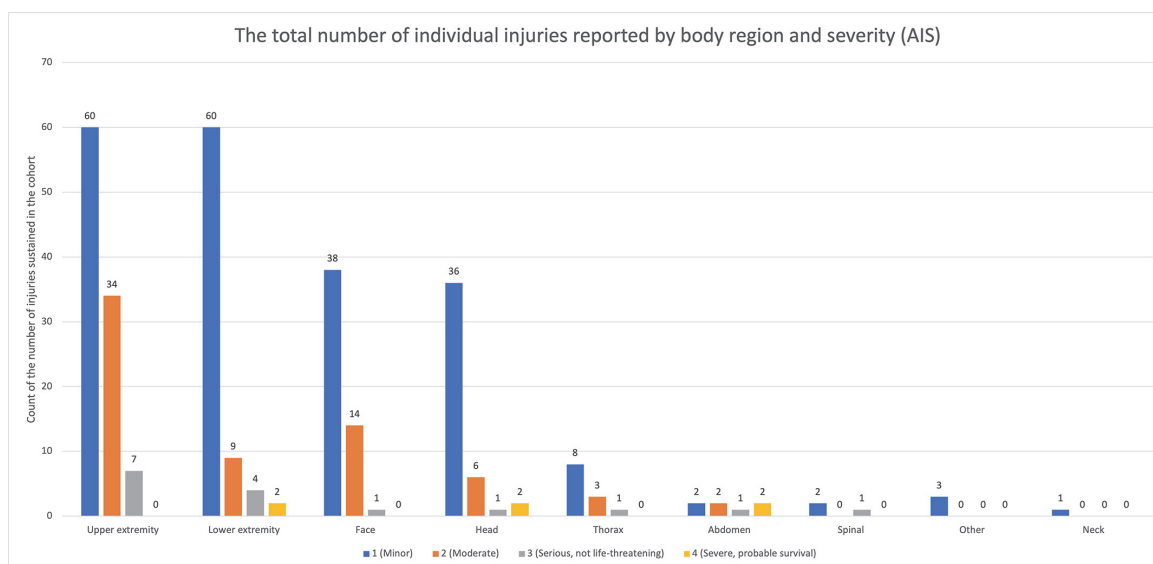
### GEOSPATIAL VISUALISATION OF EMERGENCY DEPARTMENT ATTENDANCE RATES AND THEIR ASSOCIATIONS WITH DEPRIVATION AND NON-URGENT ATTENDANCES

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**Aims, Objectives and Background** Attendances at emergency departments in England continue to increase above the capacity of the urgent and emergency care system. There is significant variability in the rates of attendance at emergency departments across different localities. The aim of this study is to model the association of deprivation and non-urgent attendances with locality-based emergency department attendance rates. The secondary aim is to create an interactive data visualisation tool to engage stakeholders, clinicians, and the public with the research.

**Method and Design** We undertook a retrospective, observational study using routinely collected emergency department attendance data from Yorkshire and the Humber (population 5.4 million) between January 2013 and March 2017. We calculated average annual age and sex standardised attendance



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