

Abstract 1375 Figure 1 Kaplan-Meier survival curve of the 2020 STAG cohort of traumatically injured adult patients who died within 365 days post-trauma hospitalisation stratified by underlying cause of death subgroup: trauma, trauma-contributed and non-trauma

determine risk factors linked to death. Kaplan-Meier curves and Cox regression were used for survival analysis to evaluate mortality.

Results and Conclusion 4056 patients were analysed with a median age 63 years and male predominance (55.2%). 782 patients died within 365 days (19.3%), with 55% occurring post-discharge. 47.7% of all deaths were attributable to trauma, and 35.3% were a direct consequence of injury. Non-traumatic deaths accounted for 20.3% and 79.4% in-hospital and post-discharge deaths respectively, most frequently due to circulatory, neoplastic and respiratory disease (37.7%, 12.3%, 9.1%, respectively). GCS < 8, modified Charlson Comorbidity score > 5, Injury Severity Score >25, Head AIS >3, Sex, and Age were independent risk factors for mortality at one year. Approximately 20% of patients died within 365 days due to trauma. Although early deaths reflect the bulk of trauma-related mortality, our sample demonstrated a significantly higher post-discharge one-year mortality than previously appreciated.

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IMPACT OF DIGITAL TECHNOLOGY IN CARE HOMES ON EMERGENCY DEPARTMENT ATTENDANCES

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Aims, Objectives and Background HealthCall is a digital health initiative that aims to reduce emergency department attendances by upskilling care home staff to use app-based technology whereby residents with new clinical presentations' observations are recorded electronically using a structured SBAR approach. Information is fed to a Single Point of Access where clinical staff triage the referrals. This study evaluated the effectiveness of the HealthCall technology across the North East of England to safely reduce ED referrals and attendance.

Method and Design The study included 122 care homes covering the study period 2018–2021. Routinely collected secondary care data from County Durham and Darlington NHS Foundation Trust was linked with clinical data from Health-Call. We describe the change in ED attendances over the period before, during and after the introduction of the technology to the care homes. We fitted Poisson generalised linear mixture models to monthly counts of emergency attendances. Covariates were included to adjust for seasonality and external factors such as COVID-19, and hierarchical random intercepts were included to account for both individual and care home variability. The impact of HealthCall technology usage on residents' expected number of attendances is tested as a 'step' change at intervention and a 'slope' change post intervention.

Results and Conclusion We identified 8,702 care home residents through linkage between the secondary care and Health-Call datasets. Preliminary results suggest the use of HealthCall reduces expected monthly ED attendances for care home residents by 16% (95%CI 5 to 25, p-value<0.001). No significant change was observed in the impact of HealthCall during the post-intervention period.

This study finds that the implementation of the HealthCall technology reduces the expected number of monthly emergency department attendances for residents. The technology allows for ongoing monitoring of resident health alongside providing more convenient and timely access to clinical advice that promotes more appropriate and resident-focussed decision leading to fewer unnecessary ED attendances.

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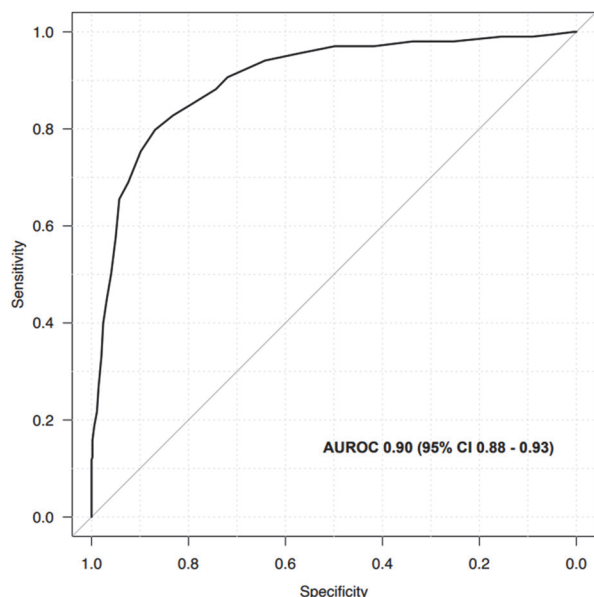
PATIENTS ATTENDING THE EMERGENCY DEPARTMENT FOR BLUNT THORACIC TRAUMA: A VALIDATION STUDY OF THE STUMBL SCORE

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Aims, Objectives and Background Blunt thoracic trauma (BTT) is a leading cause of emergency department (ED) trauma-related attendance. The STUMBL score is a prognostic model for BTT, derived and validated in the United Kingdom; this study's aim was to validate the STUMBL score in an Italian ED.

Method and Design This single-centre retrospective validation study was conducted in the ED of Cuneo hospital, north-western Italy. All patients with an ED attendance for isolated BTT from 2018 to 2021 were included. Exclusion criteria were: age of under eighteen and the presence of any immediately life-threatening lesion. The primary outcome was the development of trauma-related complications, defined by the occurrence of one or more of the following: in-hospital mortality, pulmonary complications (infection, pleural effusion, haemothorax, pneumothorax, pleural empyema), need for intensive care unit admission, hospital length of stay equal to or greater than seven days. The performance of the STUMBL score was analysed in terms of discrimination with the evaluation of the receiver operating characteristic curve and calibration with the Hosmer-Lemeshow test and with the calibration belt.



Abstract 1404 Figure 1

Results and Conclusion 745 patients were enrolled (median age 64 [50;78], male/female ratio 1:4, median Charlson comorbidity index 2 [1;4], median STUMBL score 11 [6;17]). 65.2% of patients were discharged home after ED evaluation. 203 patients (27.2%) developed the primary outcome. The STUMBL score was significantly different in patients with complications compared to those without complications (9 [5;13] vs 21 [17;25], $p < 0.001$). The C index of the score for the primary outcome was 0.9 (95% CI 0.88 – 0.93) (figure 1), and the result of the Hosmer-Lemeshow test was 9.01 ($p = 0.34$). STUMBL score = 16 had a negative predictive value of 0.92. In conclusion, this validation study demonstrated that the STUMBL score had excellent discrimination and calibration in predicting the outcome of patients attending the ED with a BTT.

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ABSTRACT WITHDRAWN

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THE DIFFERENTIAL DETERMINANTS OF DELIVERING PREHOSPITAL EMERGENCY ANAESTHESIA WITHIN 45-MINUTES OF THE 999-CALL – A MULTI-CENTRE, RETROSPECTIVE OBSERVATIONAL STUDY

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WHAT INFLUENCES DECISIONS AND PREDICTS TRANSFER OF OLDER CARE-HOME RESIDENTS TO THE EMERGENCY DEPARTMENT? A SYNTHESIS OF QUALITATIVE REVIEWS AND SYSTEMATIC REVIEW

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Aims, Objectives and Background The proportion of adults aged over 65 is rapidly increasing in developed countries. Care home residents have disproportionate rates of transfer to the ED. An estimated 40% of emergency admissions for care home residents may be for avoidable conditions and up to 8-fold variation in hospitalisations has been identified between care homes

We aimed to synthesise the qualitative research collated in existing reviews relating to the experience of residents, family members and professionals in decisions to transfer care home residents to the ED and identify known factors which predict ED transfer from care homes.

Aims, Objectives and Background Prehospital emergency anaesthesia (PHEA) is a necessary intervention for a significant proportion of severely injured trauma patients. The National Institute for Health and Care Excellence (NICE) trauma quality standards include delivery of prehospital emergency anaesthesia (PHEA), where indicated, ≤ 45 -minutes of the 999-call. The aim of this study was to report the differential determinants of meeting this standard in a large regional cohort of trauma patients.

Method and Design A consecutive sample of adult trauma patients undergoing PHEA (2015–2020) at three Helicopter Emergency Medical Services (HEMS) in the East of England. The primary outcome was PHEA ≤ 45 -minutes of 999-call; defined as duration between call 'pick-up' and administration of anaesthetic drugs. Data were extracted from all three HEMS electronic medical records (HEMSbase, MediOne Systems), and combined. Variables included: dispatch type (immediate, interrogate, crew-request), demographics, time of day (day/night), PHEA indication, pre-PHEA physiology.

A purposeful selection logistic regression model was used in R (a language and environment for statistical computing). Each variable was first tested in turn to explore the unadjusted association with the outcome. Significant variables were then included in the multivariable analysis. Variables were successively eliminated until only statistically significant variables remained. This was a service evaluation study (EAAA 2021/025).

Results and Conclusion 1,155 adult trauma patients were included in the analysis. The primary outcome, PHEA ≤ 45 -minute of 999-call, was achieved in $n = 196$ (17.0%) of cases. The data model is under construction. However, there is signal that non-immediate dispatch type, older age, and night-time operations are all associated with a reduced likelihood of delivering PHEA ≤ 45 -minutes of the 999-call.

Less than one in five trauma patients receive PHEA ≤ 45 -minutes of the 999-call in the East of England. Results from this project may positively influence dispatch systems in order to increase the timely delivery of prehospital anaesthesia where indicated (pending the complete data model).