Abstracts

Abstract 1502 Figure 1  Screenshot of interactive data visualisation tool showing age and sex standardised annual emergency department attendance rates in Yorkshire and the Humber

rates at emergency departments for small localities known as lower layer super output areas.

The association between emergency department attendance rates, deprivation and non-urgent attendances was examined using multivariable linear and logistic regression models, which were adjusted for travel time to the nearest emergency department.

The data was visualised to create an interactive choropleth map using R.

Results and Conclusion The analytical sample included 6,389,383 attendances across 2,880 localities, with a median age and sex standardised annual emergency department attendance rate of 308 per 1000 population (interquartile range 130).

The fully adjusted linear regression model was significant (Adjusted R² = 0.648, F (7, 2872)=757, p<0.001 ). Higher locality-based emergency department attendance rates were significantly predicted by each increasing decile of deprivation (β =14.8, p=0.002), each minute less of travel time to the emergency department (β = 7.86, p<0.001) and each percent greater proportion of low acuity attendances (β = 8.61, p<0.001).

A large proportion of the variability in emergency department attendance rates in different geographical areas can be explained by deprivation levels and proportion of non-urgent attendances. This provides an opportunity for targeted interventions to reduce emergency department attendances.

Elizabeth Molyneux Prize Papers (APEM)

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Aims, Objectives and Background Disability and death due to low falls is increasing worldwide and disproportionately affects older adults. Current trauma systems were not designed to suit the needs of these patients. This study assessed the effectiveness of major trauma centre care in adult patients injured by low falls.

Method and Design Data were obtained from the Trauma Audit and Research Network on adult (age >16 years) patients injured by falls from <2 metres between 2017–2019 in England and Wales. Binary logistic regression and Cox Regression were used to control for casemix. 30-day survival, length of hospital stay and discharge destination were compared between major trauma centres (MTCs) and trauma units or local emergency hospitals (TU/LEHs).

Results and Conclusion 127,334 patients were included of whom 27.6% attended an MTC. The median age was 79.4 years (IQR 64.5–87.2 years), and 74.2% of patients were aged >65 years. MTC care was not associated with improved 30-day survival (adjusted odds ratio [AOR] 0.91, 95% CI 0.87–0.96). Transferred patients had a significant impact upon the results. After excluding transferred patients, the AOR for survival in MTCs was 1.056 (95% CI 1.001–1.113). The association between improved survival and MTC care was greatest in patients who suffered major trauma (AOR 1.126, 95% CI 1.044–1.215) and was absent in patients aged >65 (AOR 1.038, 95% CI 0.982–1.097).

TU/LEH care is at least as effective as MTC care due to the facility for secondary transfer from TU/LEHs to MTCs. In patients who are not transferred, MTCs are associated with greater odds of 30-day survival in the whole cohort and in the most severely injured patients. Future research must determine the optimum means of identifying patients in need of higher-level care, the components of care which improve patient outcomes, and develop patient-focused outcomes which reflect the characteristics and priorities of contemporary trauma patients.