to 52.6% (n=16,087) in 2019. Over the same period the proportion of patients receiving CT imaging increased from 20.7% (n=676) to 88.9% (n=27,174). TARN hospital membership doubled from 96 to 179 hospitals, and the annual mean number of cases per hospital per annum increased sixfold from 31 to 174. Case ascertainment improved from 42% in 2008 to 95% in 2019. Significant differences were observed in the demographics, injury patterns, presenting physiology, care pathways, and outcomes between the high and low energy cohorts.

Changes in imaging and reporting practices have revealed a previously hidden burden of injury resulting from low energy transfer mechanisms. It is essential that future research recognises this distinct cohort and investigates how trauma systems can be changed to optimise outcomes.

### Results

15133 patients met TARN inclusion criteria. 4962 were evaluated using sensitivity, specificity, under and over-triage analysis was conducted on patients with complete pre-hospital physiological data and planned secondary analyses using first recorded physiological data. Performance characteristics were evaluated using sensitivity, specificity, under and over-triage.

**Primary outcome** was identification of patients receiving one or more LSIs from a previously defined list. Secondary outcomes included mortality and prediction of ISS>15. Primary analysis was conducted on patients with complete pre-hospital physiological data with planned secondary analyses using first recorded physiological data. Performance characteristics were evaluated using sensitivity, specificity, under and over-triage.

**Results** 15133 patients met TARN inclusion criteria. 4962 (32.8%) had complete pre-hospital physiological data and 8255 (54.5%) had complete first recorded data. Male patients predominated (69.5%), sustaining blunt trauma (95.4%) with a median ISS of 9. 875 patients (17.6%) reached at least one LSI.

The SPTT demonstrated the greatest sensitivity of all triage tools at identifying need for LSI (92.2%) but was associated with the highest rate of over-triage (75.0%). Both the PTT (sensitivity 34.1%) and JumpSTART (sensitivity 45.0%) performed less well at identifying LSI. By contrast, the adult MPTT-24 triage tool had the second highest sensitivity (80.8%) with tolerable rates of over-triage (70.2%).

**Conclusion** The SPTT and MPTT-24 outperform existing paediatric triage tools at identifying those patients requiring LSIs. This may necessitate a change in recommended practice. Further work is needed to determine the optimum method of paediatric major incident triage, but consideration should be given to simplifying major incident triage by the use of one generic tool (the MPTT-24) for adults and children.