

## AB097. SOH21AS174. Paediatric major trauma in the setting of the Irish trauma network

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**Background:** The construction of a new tertiary children's hospital and reconfiguration of its two satellite centres will become the Irish epicentre for all paediatric care including paediatric trauma. Ireland is also currently establishing a national trauma network although further planning of how to manage paediatric trauma in the context of this system is required. This research defines the unknown epidemiology of paediatric major trauma in Ireland with the intention of assisting strategic planning of a future paediatric major trauma network.

**Methods:** Data from 1,068 paediatric trauma cases was extracted from a longitudinal series of annual cross-sectional studies collected by the Trauma Audit and Research Network (TARN). All paediatric patients between the ages of 0–16 suffering Abbreviated Injury Scale (AIS)  $\geq 2$  injuries in Ireland between 2014–2018 were included. Demographics, injury patterns, hospital care processes and outcomes were analysed.

**Results:** Children were most commonly injured at home (45.1%) or public places/roads (40.1%). The most frequent mechanisms of trauma were falls  $< 2$  m (36.8%) followed by RTAs (24.3%). Limb injuries followed by head injuries were the most often injured body parts. The proportion of head injuries in those aged  $< 1$  year is double that of any other age group. Twenty-one percent of patients present directly to a children's hospital and 46% require transfer. CT scanning is required in 52.4% of patients and is undertaken after

1.92 hrs. Overall, 48.2% of patients required operative intervention and 22.8% required critical care admission. A significant number of children in Ireland aged 1–5 years die from asphyxia/drowning. The overall mortality rate was 3.8% and was significantly associated with the presence of head injuries ( $P < 0.001$ ).

**Conclusions:** Paediatric Trauma represents a significant childhood burden of mortality and morbidity in Ireland. There are currently several sub-optimal elements of paediatric trauma service delivery that will benefit from the establishment of a trauma network. This research will help guide prevention strategy, policy-making and workforce planning during establishment of an Irish paediatric trauma network and will act as a benchmark for future comparison studies after the network is implemented.

**Keywords:** Paediatric major trauma; Irish trauma network; a trauma system for Ireland; healthcare planning; Children's Health Ireland; new children's hospital

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### Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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