Aims/Objectives/Background GCS 13–15 patients with TBI identified by CT imaging are routinely admitted for observation in the UK. A small proportion of patients clinically deteriorates or requires intervention. We previously derived a prognostic model and decision rule to identify low-risk patients with injuries on CT who could be safely discharged from the ED. Neither has been externally validated.

We aim to externally validate our empirically derived prognostic model and decision rule.

Methods/Design A cohort of initial GCS13-15 patients with injuries on CT was derived from the CENTER-TBI cohort study. CENTER-TBI recruited patients who underwent CT imaging for head trauma between December 2014 and 2017 at 63 centres across Europe and Israel. A composite outcome encompassing need for hospital admission was used, including: seizures, death, intubation, admission to ICU, neurological intervention and neurological deterioration. Performance of the model was assessed by measures of discrimination and calibration. The sensitivity and specificity of the decision rule to the composite outcome was estimated at the discharge threshold.

Results/Conclusions 1047 of 4509 patients recruited to the CENTER-TBI study met the inclusion criteria. 25.5% (95% CI: 22.9% to 28.2%) clinically deteriorated and 20.2% (95% CI: 17.9% to 22.8%) underwent neurosurgery, died, or were intubated. The prognostic model had an estimated C-static of 0.81 and a calibration slope of 0.5. Our decision rule achieved 100% (95% CI: 97% to 100%) sensitivity and specificity of 4.7% (95% CI: 3.3% to 6.5%) to clinical deterioration. This would allow 3.5% of patients to be discharged-
Abstract 59 Table 2  Performance of mTBI discharge decision rule and BIG criteria

<table>
<thead>
<tr>
<th>Risk Score</th>
<th>mTBI Risk Score</th>
<th>BIG Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=961</td>
<td>Deteriorated</td>
<td>No deterioration</td>
</tr>
<tr>
<td>Risk=0 (Discharge ED)</td>
<td>0 (3.3%)</td>
<td>Sensitivity 100% (95% CI: 97% to 100%)</td>
</tr>
<tr>
<td>Risk=0 (Inpatient admission)</td>
<td>234 (4.7%)</td>
<td>Specificity 4.7% (95% CI: 3.3% to 6.5%)</td>
</tr>
</tbody>
</table>

| N=921      | Deteriorated | No deterioration |
| BIG 1 (discharge ED) | 12 (1.3%) | Sensitivity 94% (95% CI: 90.5% to 97%) |
| BIG 2/3 (Inpatient admission) | 210 (13.3%) | Specificity 13.3% (95% CI: 10.9% to 16.1%) |

none of whom deteriorated. The decision rule outperformed the BIG criteria, which is used to triage hospital admissions in the USA.

External validation shows our decision rule may be safe for routine use in clinical practice. The inclusion of biomarkers or other novel factors may improve the calibration of the model and the specificity of the decision rule.

Free papers

156 PREHOSPITAL DETERMINANTS OF SUCCESSFUL RESUSCITATION AFTER TRAUMATIC AND NON-TRAUMATIC OUT-OF-HOSPITAL CARDIAC ARREST

Ed Barnard, 1Daniel Sandbach, 1Tracy Nicholls, 1Alistair Wilson, 1Ari Ercole. 1East Anglian Air Ambulance; 2East of England Ambulance Service NHS Trust

Aims/Objectives/Background Out-of-hospital cardiac arrest (OHCA) is prevalent in the UK. Reported survival is lower than in countries with comparable healthcare systems; a better understanding of outcome determinants may identify areas for improvement. Aim: to compare differential determinants of survival to hospital admission and survival to hospital discharge for traumatic (TCA) and non-traumatic cardiac arrest (NTCA).

Methods/Design An analysis of 9109 OHCA in East of England between 1 January 2015 and 31 July 2017. Univariate descriptive and multivariable analysis were used to understand the determinants of survival for NTCA and TCA. Two Utest in the study was 10,154.

Determinants of NTCA and TCA survival were different, and varied according to the outcome examined. In NTCA, bystander cardiopulmonary resuscitation (CPR) was associated with survival at discharge but not at admission, and the likelihood of bystander-CPR was dependent on geographical socioeconomic status.

NTCA and TCA are clinically distinct entities with different predictors for outcome and should be reported separately. Determinants of survival to hospital admission and discharge differ in a way that likely reflects the determinants of neurological injury. Bystander CPR public engagement may be best focused in more deprived areas.

432 ESTABLISHING INJURY SURVEILLANCE IN EMERGENCY DEPARTMENTS IN NEPAL: EPIDEMIOLOGY AND BURDEN OF PAEDIATRIC INJURIES

Dan Magnus, 2Santosh Bhatta, 1Julie Mytton, 2Bristol Royal Hospital for Children; 2University of the West of England (UWE Bristol)

Aims/Objectives/Background Globally, injuries cause more than 5 million deaths annually. Children and young people are a particularly vulnerable group and injuries are the leading cause of death in people aged 5–24 years globally and a leading cause of disability.

In most low and middle-income countries where the majority of global child injury burden occurs, systems for routinely collecting injury data are limited. There is a continuing need for better data on childhood injuries and for injury surveillance.

The aim of our study was to introduce a hospital-based injury surveillance tool – the first of its kind in Nepal and explore its feasibility. We undertook prospective collection of data on all injuries/trauma presenting to 2 hospital emergency departments to describe the epidemiology of paediatric hospital injury presentations and associated risk factors.

Methods/Design A new injury surveillance system for use in emergency departments in Nepal was designed and used to collect data on patients presenting with injuries. Data were collected prospectively in two hospitals 24 h a day over 12 months (April 2019 - March 2020) by trained data collectors using tablet computers.

Results/Conclusions The total number of ED patients with injury in the study was 10,154. 2,696 were patients aged <18 years. Most injuries in children were unintentional and over half of children presenting with injuries were <10 years of age. Falls, animal bites/strings and road traffic injuries accounted for nearly 75% of all injuries with some (drowning, poisonings and burns) under-represented. Over half of injuries were cuts, bites and open wounds. The next most common injury types were superficial injuries (14.2%); fractures (11.1%); sprains/dislocations (9.0%). Child mortality was 1%.

This is the biggest prospective injury surveillance study in a low or middle country in recent years and supports the use