

**Results and Conclusion** The study included 153 patients, aged 20-70 (mean 44) years, 108 (71%) male, 70 (46%) with an incomplete recovery. The best model without DTI (UPFRONT-PLUS) explained 10% (-6-26) of the variation in outcome (ViO) with an area under the curve (AUC) of 0.57 (0.47-0.68). Adding DTI raised the ViO to 74% (66-82) and the AUC to 0.79 (0.77-0.81),  $p < 0.001$ .

NFL could have avoided 36% of DTI with a sensitivity of 0.81 (0.67-0.89) if sampled at initial presentation, or 24% with a sensitivity of 0.95 (0.81-0.98) if sampled at the time of DTI.

This suggests that NFL and DTI could help select mild TBI patients at risk of incomplete recovery for interventional trials and clinical follow up, pending external validation and a health economics assessment.

### 2178 RELATIVE HYPOTENSION: THE MORTALITY EFFECT OF BELOW-BASELINE SYSTOLIC PRESSURE IN OLDER PEOPLE RECEIVING EMERGENCY CARE

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**Aims and Objectives** Increased mortality has been observed among older people whose systolic pressure was at least 7mmHg below their baseline primary care value when they attended the emergency department (ED). This study aimed to (1) assess feasibility of identifying this 'relative hypotension' using readily available ED data, (2) externally validate the 7mmHg threshold, and (3) refine a threshold for clinically important relative hypotension.

**Method and Design** This single-centre retrospective cohort study of people aged over 64 linked year 2019 ED attendance data to vital signs at hospital discharges within the previous eighteen months. Hospital frailty risk (HFRS) and Charlson comorbidity scores were calculated. Previous discharge ('baseline') vital signs were subtracted from initial ED values to give individuals' relative change. Cox regression analysis compared relative hypotension exceeding 7mmHg with mean time to mortality censored at 30 days. The relative hypotension threshold was refined using a fully adjusted risk tool formed of logistic regression models. Receiver operating characteristics were compared to NEWS2 models with and without incorporation of relative systolic pressure.

**Results and Conclusion** 5136 (16%) of 32548 ED attendances were linkable with recent discharge vital signs. Relative hypotension exceeding 7mmHg was associated with increased 30-day mortality (HR: 1.98; 95%CI: 1.66-2.35). The adjusted risk tool (AUC: 0.69; sensitivity: 0.61; specificity: 0.68) estimated each 1mmHg relative hypotension to increase 30-day mortality by 2% (OR: 1.02; 95%CI: 1.02-1.02). 30-day mortality prediction was marginally better with NEWS2 alone (AUC: 0.73; sensitivity: 0.59; specificity: 0.78) and NEWS2 + relative systolic (AUC: 0.74; sensitivity: 0.62; specificity: 0.75).

Comparing ED vital signs with recent discharge observations was feasible for 16% individuals. The association of relative hypotension exceeding 7mmHg with 30-day mortality was externally validated. Indeed, any relative hypotension appeared to increase risk, but model characteristics were poor. These findings are limited to the context of older people with recent hospital admissions.

### 2176 MEASURING WHAT MATTERS: VALIDATION OF THE PATIENT-REPORTED OUTCOME MEASURE FOR OLDER PEOPLE LIVING WITH FRAILTY RECEIVING ACUTE CARE (PROM-OPAC)

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**Aims and Objectives** Measurement of acute care quality and effectiveness is usually constrained to service metrics such as mortality and waiting times. Meaningful measurement for older people living with frailty would include additional person-centred outcomes of healthcare knowledge, shared decision-making, and situational security. Consideration of these requires patient-reported outcome measures (PROMs), which are useful at the system level (commissioning), service level (quality improvement), and patient level (goal elicitation). We have previously reported the development and field-testing of a PROM for older people living with frailty receiving acute care – the PROM-OPAC. This study examined PROM-OPAC for feasibility, reliability, and validity.

**Method and Design** Older people living with frailty and receiving acute healthcare were recruited at three UK hospitals. They completed the PROM-OPAC and concurrent measures totalling 16 items. Data were analysed for feasibility (completeness, completion time), reliability (response distribution, internal consistency), and validity (confirmatory factor analysis, hypothesis testing).

**Results and Conclusion** 66 participants completed the final draft PROM-OPAC. 98% responses were complete and median completion time was 11 (IQR: 12) minutes. Responses were adequately distributed without end-effects and internal consistency was acceptable (Cronbach's alpha: 0.71). Eight items had acceptable fit on two factors for self-determination and security (RMSEA: 0.065; TLI: 0.917; CFI: 0.944) and as hypothesised these responses were lower when respondents had longer waiting times or required hospital admission.

Administration of PROMs for research in emergency care settings was feasible with older people living with frailty; implementation for clinical applications requires further evaluation. The eight-item PROM-OPAC considers outcome goals specific to this population and was observed here to have metric reliability and validity.

## APEM Elizabeth Molyneux Prize Papers

### 2135 COOKING ON GAS: IMPLEMENTING GUIDELINES FOR SUSPECTED GROUP A STREPTOCOCCUS IN THE EMERGENCY DEPARTMENT AT ROYAL ABERDEEN CHILDREN'S HOSPITAL

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**Aims and Objectives** Paediatric GAS pharyngitis is common<sup>1</sup> and associated with chronic health complications. Antibiotic treatment decreases risk of complications.<sup>2</sup> Many cases of pharyngitis are viral, and most milder GAS cases self-resolve without complication; injudicious antibiotic use is associated with bacterial resistance.<sup>3,4</sup> A spike in GAS infections in Winter 2022 increased investigation and antibiotic prescribing.<sup>5</sup>