

10.1136/ip.2010.029215.50

Background The ICD-based Injury Severity Score (ICISS) provides a criterion for selecting severe injuries, useful when reporting trends in injury incidence because less affected by extraneous factors than total hospitalised cases. We assessed the relative performance of some variants of ICISS.

Method Records from the Australian National Hospital Morbidity Database were included if Principal Diagnosis was S00-T89 (ICD10AM), the episode ended in the 2 years to 30 June 2007 and the mode of separation was not transfer to another acute-care hospital or statistical discharge.

The ICISS variants studied were: multiplicative; worst injury; treating comorbidity as a covariate (instead of and as well as age); hybrid (precoordinating multiple injury codes within each body region); and omitting same-day cases.

Survival proportions specific to each injury diagnosis code (Osler's 'SRR') were used to calculate ICISS, the method differing between variants. Performance of each variant in predicting survival was assessed by logistic regression modelling.

Findings Multiplicative and worst injury approaches had similar discrimination and calibration (H-L statistic). Replacing age with comorbidity improved discrimination in multiplicative and worst injury models but calibration deteriorated. Including both comorbidity and age improved discrimination (multiplicative and worst injury); calibration did not change in the former, and deteriorated slightly in the latter. The hybrid approaches did not improve the models. Excluding same-day cases had little effect.

Conclusion In this setting (all hospitalised injuries; ICD10AM coding) the best overall performance was for the multiplicative approach with both age and comorbidity as covariates.

0050 **A COMPARISON OF METHODS FOR MEASUREMENT OF INJURY SEVERITY**

J E Harrison*, G Henley *Correspondence: Research Centre for Injury Studies, Flinders University, GPO Box 2100 Adelaide, 5001, Australia*