Expert-developed ICD-AIS map for measuring serious road traffic injuries

This item was submitted to Loughborough University's Institutional Repository by the/an author.

Citation: BARNES, J, ... et al., 2016. Expert-developed ICD-AIS map for measuring serious road traffic injuries [abstract 187]. Injury Prevention, 22:A68-A69 doi:10.1136/injuryprev-2016-042156.187

Additional Information:

- This is a conference abstract. The author accepted manuscript version is entitled ICD-AIS MAP FOR SERIOUS MAIS 3+ INJURIES. It has been published in the journal Injury Prevention Vol 22 Supp 2 as part of the Safety 2016 World Conference, 18-21 September 2016, Tampere, Finland. The definitive version is available at: http://dx.doi.org/10.1136/injuryprev-2016-042156.187

Metadata Record: https://dspace.lboro.ac.uk/2134/22609

Version: Accepted for publication

Publisher: © BMJ Publishing Group Ltd.

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ICD-AIS MAP FOR SERIOUS MAIS 3+ INJURIES

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Background The problem of serious road injury has not decreased in comparison to the drop in fatal road injuries. Unlike the standard definition adopted for fatal road injuries, serious injury has not been as well defined in Europe. However in 2012 the High Level Group on road safety agreed to the defining of serious injury in EU countries as Maximum Abbreviated Injury Scale 3+ (MAIS3+). The AAAM was commissioned by the Transport and Mobility, Road Safety Unit of the European Commission to develop a MAIS3+ serious injury map from the International Classification of Diseases (ICD-9 and ICD-10) to the Abbreviated Injury Scale (AIS 2005 Update 2008).

Methods The study involved an expert panel comprising ICD coding experts and certified AIS specialists to map ICD-9-CM and ICD-10-CM codes to the AIS 2005 Update 2008 identifying the following levels of severity: MAIS3+ injury, MAIS 1 and 2 and ‘no map’ cases. Rules were invoked based on the AIS principles of coding practice to ensure the MAIS descriptors were a true reflection of how an injury descriptor in ICD would be coded manually to the AIS by a certified AIS specialist.

Results Overall for the injury-based codes of ICD-9-CM, 781 codes (31%) were mapped to a MAIS severity at the level of MAIS3+, 1297 codes (52%) were mapped to a severity at the level of MAIS1 or 2, and 426 (17%) could not be mapped. For the much larger set of injury-based codes of ICD-10-CM, 2323 codes (14%) were mapped to a MAIS severity at the level of MAIS3+, 9700 codes (59%) at the level of MAIS1 or 2, and 4485 (27%) could not be mapped.

Conclusions The application of the AAAM’s expert derived AIS-ICD map is a solid foundation for identifying serious injury at MAIS3+ for road traffic injuries. Setting measurable road safety targets based on the reduction of serious injury is a key area for the EU having achieved substantial reductions in fatal road injuries and this AIS-ICD map offers a comprehensive comparable approach to serious road injury definition.