

Global Forum for Road Traffic Safety

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Serious Injury

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BACKGROUND

- Road safety performance has traditionally been measured almost entirely by the reduction of fatalities.
- Serious but non-fatal accidents also present a major health problem with huge economic and human costs to society.

3 steps

In 2010, the Council responded to the Commission's policy orientations paper by :

- underlining the urgent need to **address serious injuries**
- supporting the development of a **common definition**
- agreeing to the principle of a specific **quantitative target**

European Parliament resolution of 27 September 2011: European road safety 2011-2020

The European Parliament in 2011 expressed its support for

- initiatives on serious injuries,
- calling for a **target of 40% reduction** in the number of persons seriously injured on roads,
- calling on the Commission to **establish a common definition** of seriously injured in road traffic accidents

Common definition

In road safety data, the **severity of an injury** was sometimes defined:

- on the basis of **medical classifications**,
- sometimes in terms of the **long-term effects of the injury**.
- by the **length of hospitalization** needed.

However, different Member States applied different practices.

data were not comparable

Different practices

UK	Hospitalised or according to national definition
GR	Police records; presumed ≥ 24 h in hospital
HU	Injuries needing hospital care or > 8 days to heal
LU	≥ 24 hours in hospital
DE	≥ 24 h in hospital
IT	Not defined
CZ	As decided by medical doctor or ≥ 24 h hospital

Further problems stem from **misreporting and underreporting.**

The most common process for data collection has been that road accident data are reported from the place of the accident, by **the police or other law enforcement authorities.**

Member States might choose to proceed **three** main ways:

- continue to use **the police data** but apply a correction coefficient;
- report the number of injured based on **data from hospitals**;
- create a **link between police and hospital data**.

The common definition of serious injury needs to be based on an already established **medically classified standard**.

This would avoid **arbitrary diagnoses**, and not put any extra administrative burden on medical staff, and has the added advantage of being **internationally comparable**.

MAIS

The already existing trauma scale 'Maximum Abbreviated Injury Score' (MAIS) was seen as the preferable option for a **common definition**.

MAIS

The MAIS is a globally accepted **trauma scale** used by medical professionals.

It provides an objective and reliable basis for data collection.

The injury score is determined **at the hospital** with the help of a detailed classification key.

The score ranges **from 1 to 6**, with levels **3 to 6 considered as serious injuries**.

The benefit of using this specific classification system is that it has high **validity and reliability**.

The use of a detailed classification key reduces the risk of **arbitrary diagnosis** and also the **risk of misreporting** would be substantially reduced.

Moreover, it is also internationally **comparable**.

Algorithms for conversion

- ensure **correct assessment of injury severity**.
- Gathering these data should not require the development of new structures or processes as the information normally already exists in hospital data bases.
- **Algorithms for conversion** exist for cases where the hospital reports use other codes than the MAIS.

Italy

The **2020 target** set by the United Nations and the European Commission is a further halving, since 2010, of the number of deaths in road accidents in Europe and globally. Although a specific target was not launched, the decrease in the number of serious injuries is recommended too.

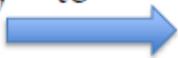
In compliance with the recent programs for road safety and the new 2020 targets, to establish new standards for an international and **harmonized definition** of serious injury in road accidents was required.

In **2013**, the **European Commission's policy orientations** on road safety 2011-2020 document was disseminated.

In **2015**, the **European Commission defined guidelines** for Eu28 countries. **Italy**, part of the Eu CARE experts group, **adopted definitions and methods** using **Hospital Discharge** data for identifying serious injuries.

Algorithms for conversion

Association for the Advancement of Automotive Medicine AAAM, owner and licensee of injury coding products, provided to **European Commission**, under contract, and to Eu 28 countries, two different mappings for International Classification of Diseases (ICD) versions 9 and 10 into the code MAIS3+, MAIS<3, or indeterminable.

Italy adopted the **IC9-AIS conversion** table to apply to Hospital Discharge data. 

ICD9 Mapping exemple - Total list 2500 records

CODE	DESCRIPTION	1 = AIS 3, 4, 5, 6 0 = AIS 1,2 9 = cannot determine
800	Fracture Of Vault Of Skull	0
800.0	Closed Fracture Of Vault Of Skull Without Mention Of Intracranial Injury	0
800.00	Closed fracture of vault of skull without mention of intracranial injury; unspecified state of consciousness	0
800.01	Closed fracture of vault of skull without mention of intracranial injury; with no loss of consciousness	0
800.02	Closed fracture of vault of skull without mention of intracranial injury; with brief [less than one hour] loss of consciousness	0
800.03	Closed fracture of vault of skull without mention of intracranial injury; with moderate [1-24 hours] loss of consciousness	1
800.04	Closed fracture of vault of skull without mention of intracranial injury; with prolonged [more than 24 hours] loss of consciousness and return to pre-existing conscious level	1

Further step: record linkage

the use of hospital records will not provide all of the data on causes and characteristics of accidents that can be delivered by police reports.

- The relevant data from hospital records would need to be processed into road traffic databases in anonymised form to prevent sensitive or private health-related data from being improperly handled.

Thanks for your attention

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