

SafetyCube

Safety CaUsation, Benefits and Efficiency

Wendy Weijermars, Catherine Perez, Klaus Machata

CARE experts meeting
Brussels, 8 March 2016



Co-funded by the Horizon 2020
Framework Programme of the European Union

Agenda



- SafetyCube and work on Serious road injuries
- Introduction to the guidelines
- Preliminary results of data analyses
- Data collection in all EU Member States and EFTA countries
- Discussion

SafetyCube project



Funded by the European Commission under the Horizon 2020 research framework programme

Coordinator: Pete Thomas,
Loughborough University



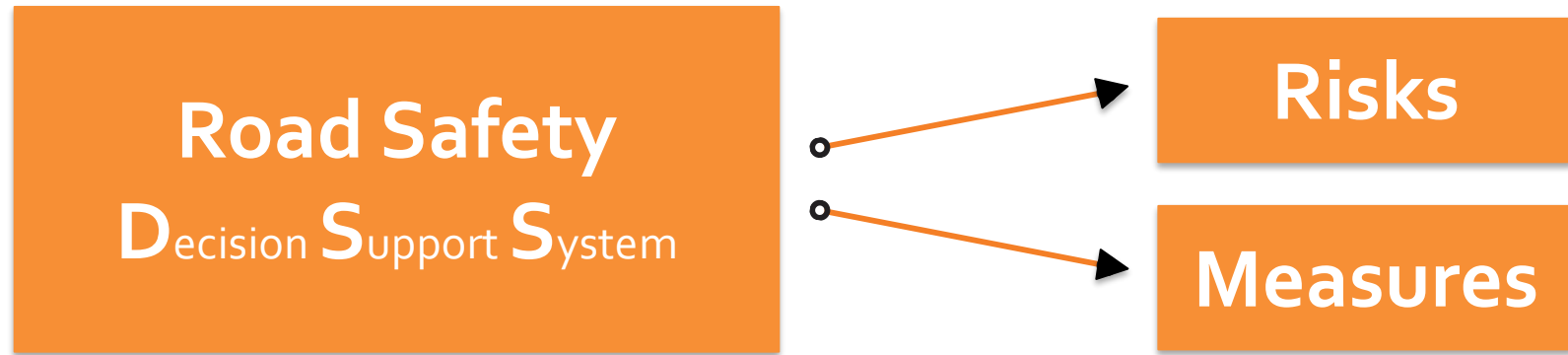
Start: May 2015

Finish: April 2018



www.SafetyCube-project.eu

SafetyCube primary objective



Policy-makers & stakeholders

- strategies
- measures
- cost-effective approaches

Reduce casualties

- All road users
- All severities

Serious road injuries (WP7)



Support the objective set by the EC to reduce the number of serious road injuries.

Main objectives:

- Assess and improve estimation of serious road injuries
- Determine and quantify health impacts
- Estimate economic and immaterial costs
- Identify key risk factors related to (health impacts of) serious injuries

Task 7.1



- Overview of data and procedures that are applied across EU member states and EFTA countries
- Guidelines for the registration and monitoring of serious road injuries for each of the three ways for collecting data identified by the High Level Group

Guidelines (1)



Applying correction coefficients on police data

- *Data sources*
- *Methods for deriving coefficients*
- *How to apply coefficients to police data*
- Examples from France and Belgium
- Questionable if it is possible to transfer correction factors from one country to another

Guidelines (2)



Using hospital data alone

- Criteria for case selection/inclusion
 - *Exclude fatalities within 30 days*
 - *Exclude readmissions*
 - *Selection of E-codes/V codes*
 - *Traumatic injury in any diagnosis*
- Comparison of different methods for deriving MAIS₃₊
 - *Direct coding vs different conversion tools + different versions of AIS*
 - *Effect of using a limited number of injuries*
 - *Effect of truncation of injury codes (less than 5 digits)*

Guidelines (3)



Using linked/matched police and hospital data

- Examples for Rhône region, the Netherlands and Slovenia
- Intersection and remainders (capture/recapture)

Differences in reporting according the method used



1. To compare estimations of serious injuries depending on the method used
 - a. *by applying a correction on police data,*
 - b. *by using hospital data alone, and*
 - c. *by using linked police and hospital data*
- *The Netherlands*
 - *United Kingdom*

Data collection under Task 7.1

- Overview of data and procedures that are applied across EU Member States
- Guidelines...



SafetyCube Questionnaire on MAIS3+ assessment

In January 2010, the definition of serious injuries as in-patients with an injury level of MAIS3+ was established by the High Level Group on Road Safety. It is recommended that all EU countries provide information on the number of MAIS3+ injuries from 2010 on. Currently, however, Member States use different procedures to determine the number of serious road injuries. The High Level Group identified three main ways Member States can collect the data: 1) by applying a correction on police data, 2) by using hospital data alone and 3) by using linked/rechecked police and hospital data.

Glossary:
AI: Abbreviated Injury Scale
MAIS: Maximum AIS; The European Union adopted as official definition of serious injury to report cases with MAIS ≥ 3
HDR: Hospital discharge register
ICD: International Statistical Classification of Diseases and Related Health Problems
IN-PATIENT: A patient who is formally admitted (or "hospitalised") to an institution for diagnosis, treatment and / or care and stays for a minimum of one night or more than 24 hours in the hospital or other institution providing inpatient care.
DAY CARE PATIENT: A patient who is discharged on the same day as admitted.
OUTPATIENT: A patient who has not been formally admitted for diagnosis, treatment or other types of health care.
 Note: HDR meta-data and main exceptions noted by EU Member States and non-member countries (for 2010 data) are listed at: http://ec.europa.eu/road_safety/infocentre/index.php/hospital_discharges_and_length_of_stay_statistics
 Note: All questions refer to road traffic crashes (RTC)

	Austria	Belgium
0. Contact information	Dr. Robert Buser KFV - Austrian Road Safety Board robert.buser@kfvo.at +43 577077 5320	Nina Neutens Belgian Road Safety Institute (BRSI) nina.neutens@brsi.be 32 2 244 19 16
1. General information	Police bmvit - Ministry of Transport, Innovation & Technology, Statistik Austria, KFV Statistik Austria, KFV	Police Belgian Road Safety Institute Federal Agency of Statistics
Institution responsible for data collection of RTC (i.e. Police)?	Police	Police
Institution responsible for data analysis of RTC (e.g. ministries, statistical bureau, others)?	Police	Police
Institution responsible for publication / dissemination of official statistics (e.g. ministries, statistical bureau, others)?	Police	Police
Institution responsible for analysis of health/hospital data to report MAIS3+ injuries (e.g. ministries, statistical bureau, others)?	KFV	The Federal Public Service of Mobility and Transport is officially appointed by the EC to report the number of MAIS3+, but BRSI is doing the analysis.
Additional comments or links that help understand the national context & framework	http://www.kfv.at/~/media/KFV/Dateien/Statistik/2010/2010-01-01-2010-12-31-RTA-2010.pdf	

A serious injury is one that causes a health problem or occupational disability longer than 24 days (i.e.), or one that "causes permanent difficulty"

The SafetyCube data collection sheet

Data collection topics (EU & EFTA)



- **Prime contact** in the country
- **General information** on collection practices, responsibilities, ...
- **MAIS₃+ methodology**: 1, 2 or 3 (or none of them)?
- Information on **hospital data**
- Detailed **information on Method 1 / 2 / 3**
- **Concrete figures**: fatalities & serious injuries

Questions in detail 1



Responsibilities in the police & health data sector

- Collection
- Analysis
- Publication



Questions in detail 2



MAIS₃+ methodology

- Which of the method proposed by EC is in use?
- Changes in methodology planned?



Questions in detail 3



Information of health/hospital data

- Data sources
- Inclusion criteria (e.g. outpatients, day care patients, re-admissions, scheduled admissions, fatalities within 30 days)
- ICD version
- Nr. of diagnoses & nr. of digits
- Conversion algorithm
- Proportion of failed transformations (ICD > MAIS)
- ICD injury codes
- Codes on external causes
- ...



Questions in detail 4



Details on EC methods 1, 2, 3

- Correction coefficient on police data
 - *Estimation & application of coefficient*
 - *Available by age, gender, road user type, ...*
- Use of hospital data alone
 - *Description of method*
 - *Representative?*
- Link police / hospital data
 - *Which databases?*
 - *Method?*
 - *Assessment of underreporting?*



Questions in detail 5



Crash & Serious injury figures

- Nr. of fatalities
- (serious) injuries
 - *Police*
 - *MAIS₃₊*
- Gender?
- Age groups?
- Different MAIS levels available?

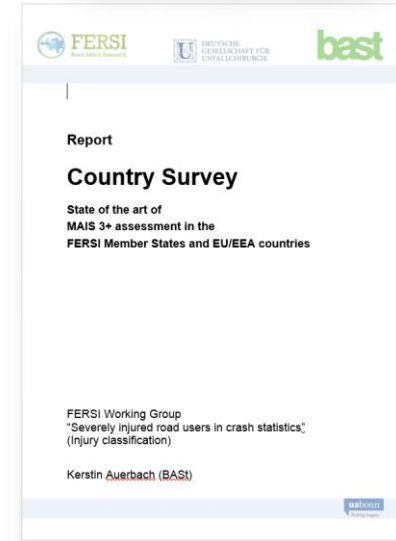


Experts contacted

1. Inside SafetyCube
2. Respondents to FERSI questionnaire
3. Further FERSI & IRTAD contacts
4. Care Experts (meeting 8 March)



SafetyCube



Responses



- From 16 countries, as of 8 March
 - *Austria*
 - *Belgium*
 - *Czech Republic*
 - *Denmark*
 - *Finland*
 - *France*
 - *Germany*
 - *Greece*
 - *Hungary*
 - *Italy*
 - *Netherlands*
 - *Portugal*
 - *Slovenia*
 - *Spain*
 - *Switzerland*
 - *UK*

Some first results: big spread!



- **Varied methods to determine MAIS₃₊** across the countries
 - 1: AT (formerly), BE (based on method 2 for years 08-11), UK
 - 2: AT (now), NL, PT, ES, England,
 - 3: FIN, SLO, CH,
 - Other: FR (combination of 1 and 3 and 4), DE (GIDAS)
- **Number of diagnoses:** 1 (AT, BE, IT) .. 9/10/14/20.
- **Number of digits:** 4 (AT, PT, SLO) .. 5
- **Conversion algorithm:** AAAM!, ICDPIC (BE), ICDmap90 (NL), AGU (CH)
- **MAIS₃₊ per fatalities:** 2.3 (FIN) to 13.2 (NL)
- Several countries are only in early phases of the process

Towards 28 + 4 countries ...



- We look for your input for completing the overview!
- How can we support you in the process?
- Your requirements and needs?
- What are your expectations & needs from the SafetyCube guidelines?



Discussion

Selection of External causes



1. ICD9-CM

- *Inclusion of E-codes E810-E819 + E826, E827, E829*
- *E-code E849 can indicate if the accident occurred on a public road, or use a correction for not on a public road for E826-E829*
- *Exclude E820-E825 (not on a public road) and E828 (horse)*

2. ICD10

- *V00-V89*
- *4th digit indicates whether or not it is a road traffic accident (if this is reliable, otherwise apply a correction factor)*