Attempts to improve road safety data in the Netherlands

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Outline

• Background
• Aim
• Major methodological issues
• A way out? – 2 examples
• Discussion – international context
Background - 1

The Netherlands:
• 1974 – 2005 Road Safety policy quite successful
• 2009 – 2013 Accident data seriously degraded
  – Less coverage and quality
• 2013 Policy grip on road risk fades:
  – National Road Safety targets assumptions found inaccurate
  – Local authorities need to act ‘blind’ (unreliable accident data)
  – Research scope limited to available data: often biased conclusions
  – Unsufficient grip on ‘new’ problems of elderly, cyclists, pedestrians, inexperienced drivers (concerns 70+% of casualties)

Background - 2

Recent developments - change in scopes:
• Government: better data for less money (‘lean’)  
  – Less money for standard statistics; smaller central statistical bureaus; smaller samples in travel survey, etc.
  – ‘Big Data’ – a cheap way out or ‘big business’?
• Substantial societal changes:
  – ageing; e-bike; ‘new working’, e-shopping and e-service
  – alternative mobility patterns – other risks
• Data collection via internet
  – internet questionnaires, apps; face-to-face outdated?
**Background - 3**

**Policy focus changed:**
- Focus on Performance Indicators → quantification, lots of paperwork = better control?
- Success of road safety measures → lower priority RS
- Police got many additional tasks → lower priority RS

**Research institutes:**
- demand more and better data
- validity of current data is often still taken for granted

**Aim**

Comprehensively cover status quo and developments in road safety,

in order to develop adequate strategies, policies, measures for the improvement of road safety

and thus support the wealth and well-being of the population.
Methodological issues

Do data sets describe the system properly?

Coverage
- All kinds of travel accidents in public space
- Proper definitions?

Validity
- Is it true? Cf. all modes treated the same way?

Reliability
- Accuracy
- Continuity over time

Representativeness
- Balanced samples regarding actor groups, modes, time, space etc.
- Current databases no longer in sync with conditions; underrepresentation of VRI’s

A way out? - 1

The police is not going to improve data coverage and quality by itself. It concerns their operational management; the police is not controllable.

Options:
1. Make use alternative accident data sets
2. Link/enrich or triangulate available data sets
3. Dedicated research
4. Combination of 2 and 3

Potential accident and casualties data sources:
- The police (selective re. liability questions, severity, competing incidents)
- Hospitals, ER, Ambulances (incl. casualties only, event not pinpointed)
- Insurance data (concerns insured parties only)
- The Media (selective re. presumed newsworthiness)
- Road users (selective re. mobile phone, accident severity, mode, ...)

Eventuele voettekst
A way out? – 2

**Apply Systems Theory:**

- **System components:**
  - Road user
  - Social/normative environment
  - Built and natural environment (incl. infrastructure)
  - Mobile environment (traffic and transport)
  - ITS

- **System perspective**
  - System objective is ‘safe mobility’
  - Aim regarding data is to report hazardous events happening within jurisdiction/authority of policy actors

- **Data / questions re. the incident about:**
  - Component characteristics on multiple levels
  - Relations between components and activity levels
  - Event outcomes (damage, injuries, long-term consequences)

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**A way out? – Example one -1**

**Accidents of elderly during outdoor journeys - study**

**Aim:**
- Insight in status quo and developments regarding travel safety of the elderly
- Starting points for dedicated policy development on national (meta) level

**Researchers:**
- VeiligheidNL (Consumer Safety)
- Rijkswaterstaat (ministry of Infrastructure and Environment)

**Triangulated data sets:**
- Police accident database (BRON)
- Death certificate statistics
- LIS (ER injury database)
- LMR (Hospitalized casualties database)
- Continuous LIS follow-up research database
- Follow-up casualties questionnaires 55+ (dedicated research)
- Travel Survey database (exposure)
A way out? – Example one - 2

Accidents of elderly during outdoor journeys - study

Found phenomenon:
- Over 70% of all ER casualties = cyclist or pedestrian; in-car < 20%
- Over 60% of 50+ ER casualties concern single accidents (falls)
- 100% increase in 5 years in hospital admittances amongst elderly (55+)
  pedestrians and cyclists
- Explanation: changes in casualty admittance and reporting (MAIS-2 type
  casualties intake via general practitioner and outpatients Clinique in stead of via
  ER post)
- Implication: older data had undetected underreporting as well

Downside:
- Not a useful method on local level (accident site not reported, only hospital)
- Dedicated follow-up survey is (very) expensive, so not practical for general
  accident data collection

A way out? the STAR initiative - 1

• **Smart Traffic Accident Registration**
• Private-Public-Partnership
  - VIA (Traffic Consultant)
  - Rijkswaterstaat (National Road Authority)
  - Associations of Provinces and Municipalities
  - SWOV, VeiligheidNL (Safety research institutes)
  - ANWB, Cyclist Federation, VVN (NGO’s).
• Accident reporting by victim
  - Mobile Phone App or website
  - Interest in settlement of damage and insurance risks
  - Automatic linking of location position, weather, road information
  - Only relevant information.
The STAR initiative - 2

- Reporting scenarios:
  - Real time with Smartphone
  - Victim calls insurer
  - Victim reports via website
  - Police reports the accident
  - Victim asks medical support/care

- Fully operational from January 2014

- Downside:
  - Little incentive to report non-financial interest accidents (walkers, cyclists, single accidents)
  - Coverage comparable with police accident reporting \(\rightarrow\) structurally incomplete; not covering the current main casualties groups
  - Additional structural sources needed, like expanded LIS (\(\sim\) happens...)

Discussion

- Police accident reporting is a thing of the past
- In dedicated meta studies careful triangulation provide new insights
- Local authorities are helped with a STAR like data collection system, but the majority of casualties (walkers, cyclists and the elderly) are still left in the cold. Their underreporting is not solved.
- Regarding triangulation and combining/linking datasets: Look before you leap. After the start, when some work is done, adaptation generally is extremely difficult. Check:
  - Coverage and quality (Garbage in \(\rightarrow\) Garbage out)
  - Why are the data collected? Are original positions suitable (valid)?
  - What bias can be expected?
- Are Dutch trends telling for international trends?
Thank you!

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