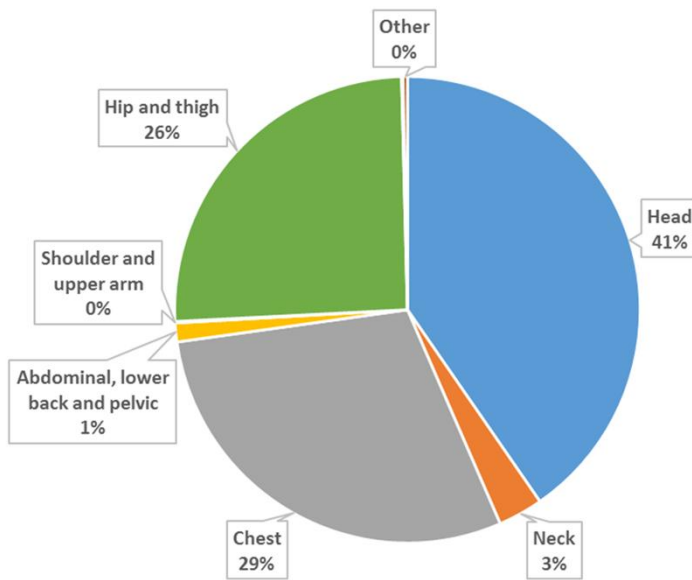




Experience on serious injuries using MAIS3+ criteria

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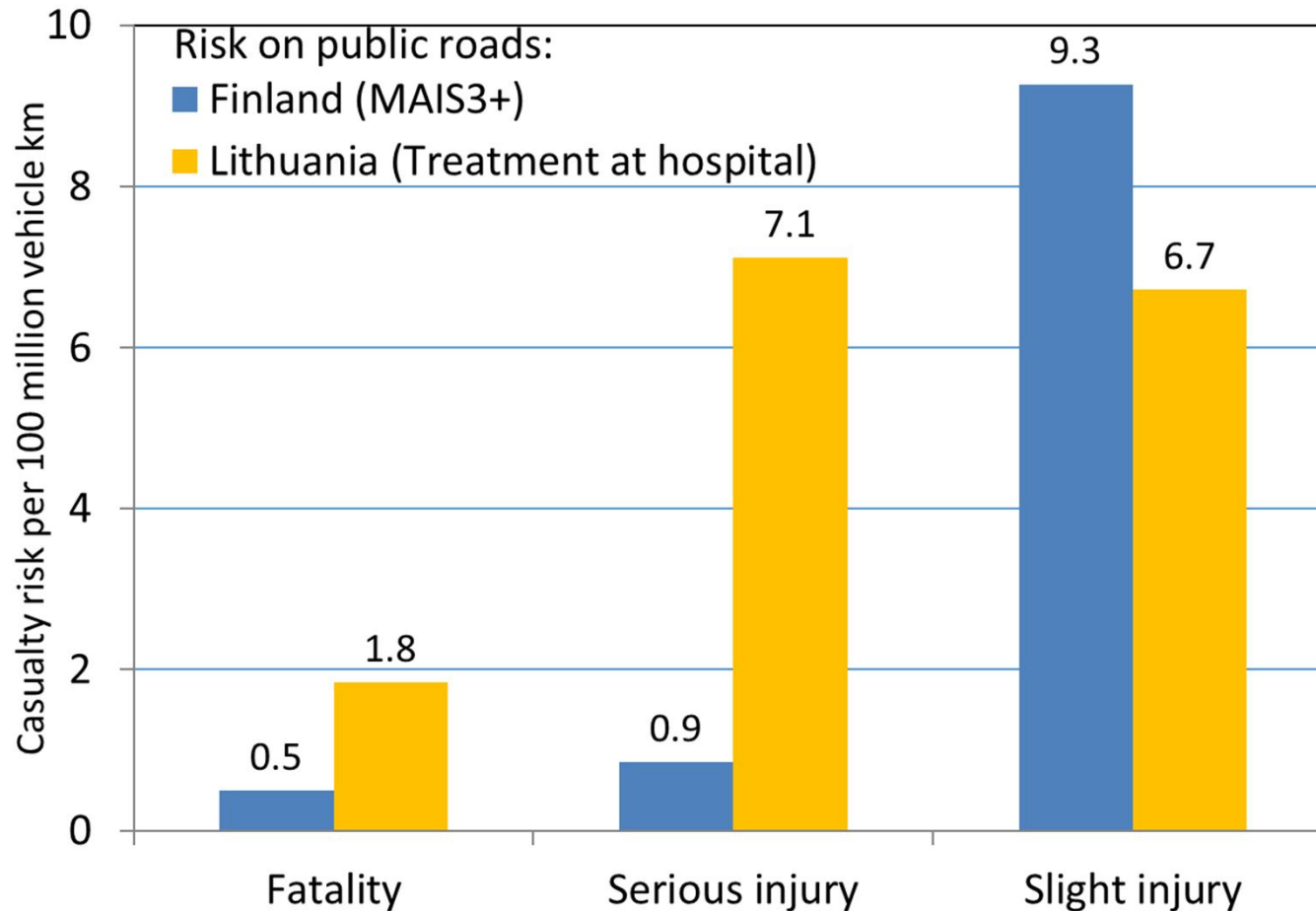
Content

- Background
- MAIS3+ vs. treatment at hospital (Lithuania vs. Finland)
- Bias caused by incomplete reporting
- Serious injuries vs. fatalities
- Parts of the body suffering serious injuries
- MAIS3+ vs. serious and very serious injuries
- Recommendations
- Acknowledgements and further information

Background

- Serious road injuries defined as ≥ 3 on the MAIS scale (Maximum AIS Severity score) in the EU since 2013
- MAIS3+ data available from Finland since 2014
 - Hospital injury data and police accident data combined
 - Additionally some information available on MAIS3+ traffic injuries by hospital but not reported by police
- In Lithuania severity of injuries defined by treatment at hospital reported by the police

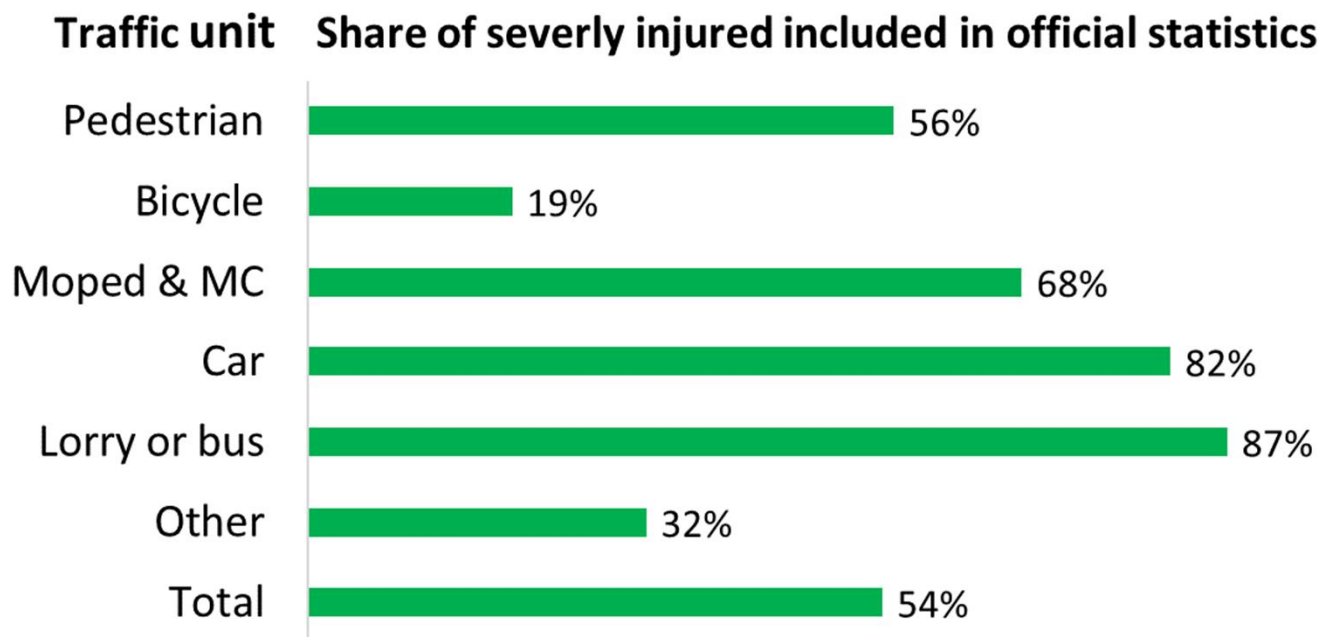
Use of MAIS3+ would enhance comparability!



Comparison would greatly benefit from similar definitions

Several similar conclusions drawn from serious injuries regardless of definition

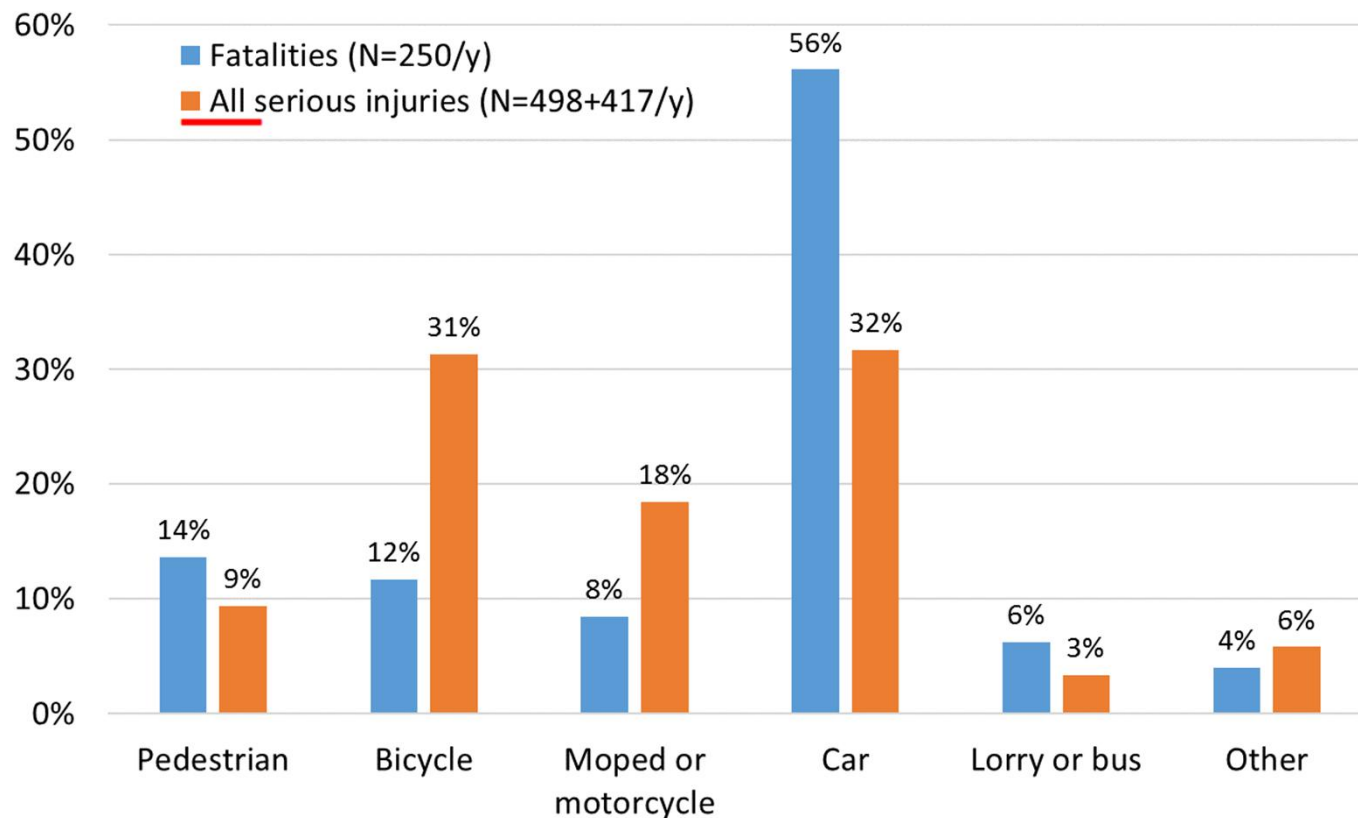
The data on serious injuries is far from complete?



In [Finland](#) serious injury: MAIS3+ defined at hospital to a person involved in a traffic accident reported by police

Police reports are far from all-inclusive

Are serious injuries making a difference?



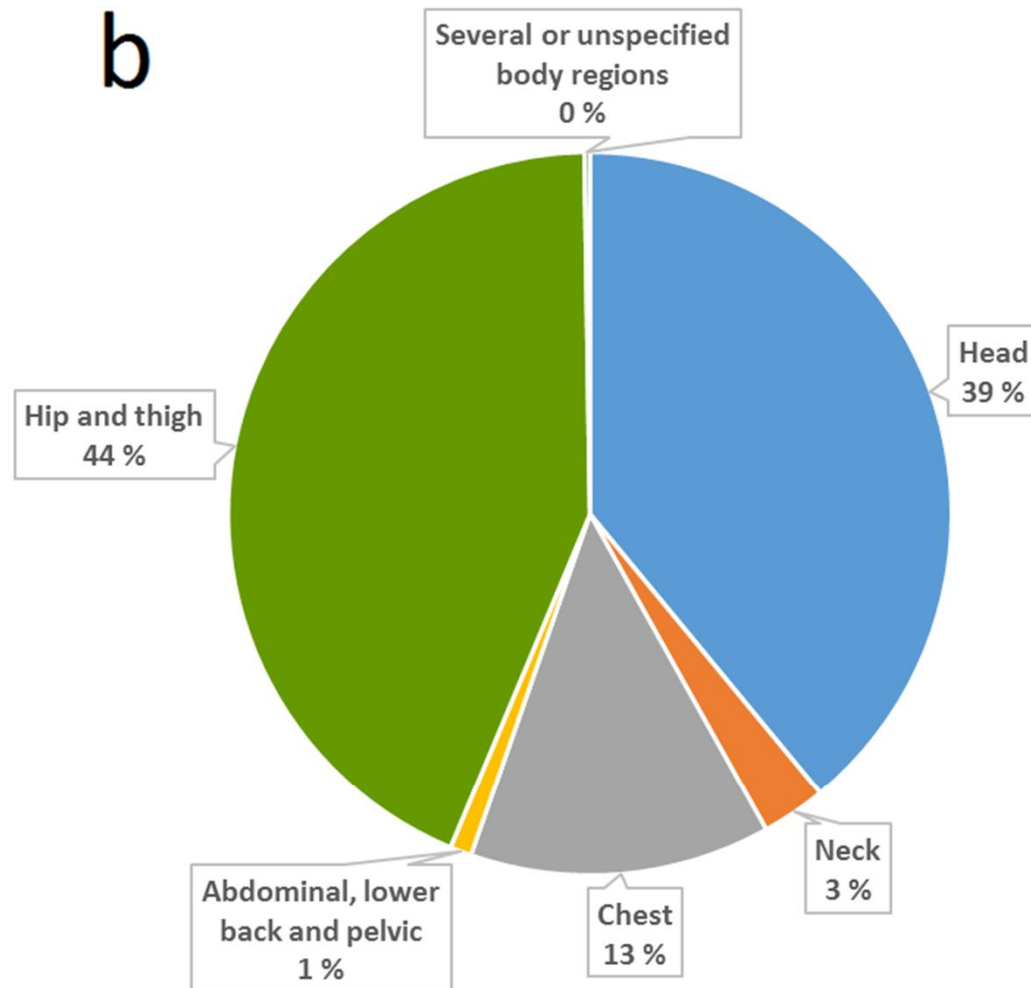
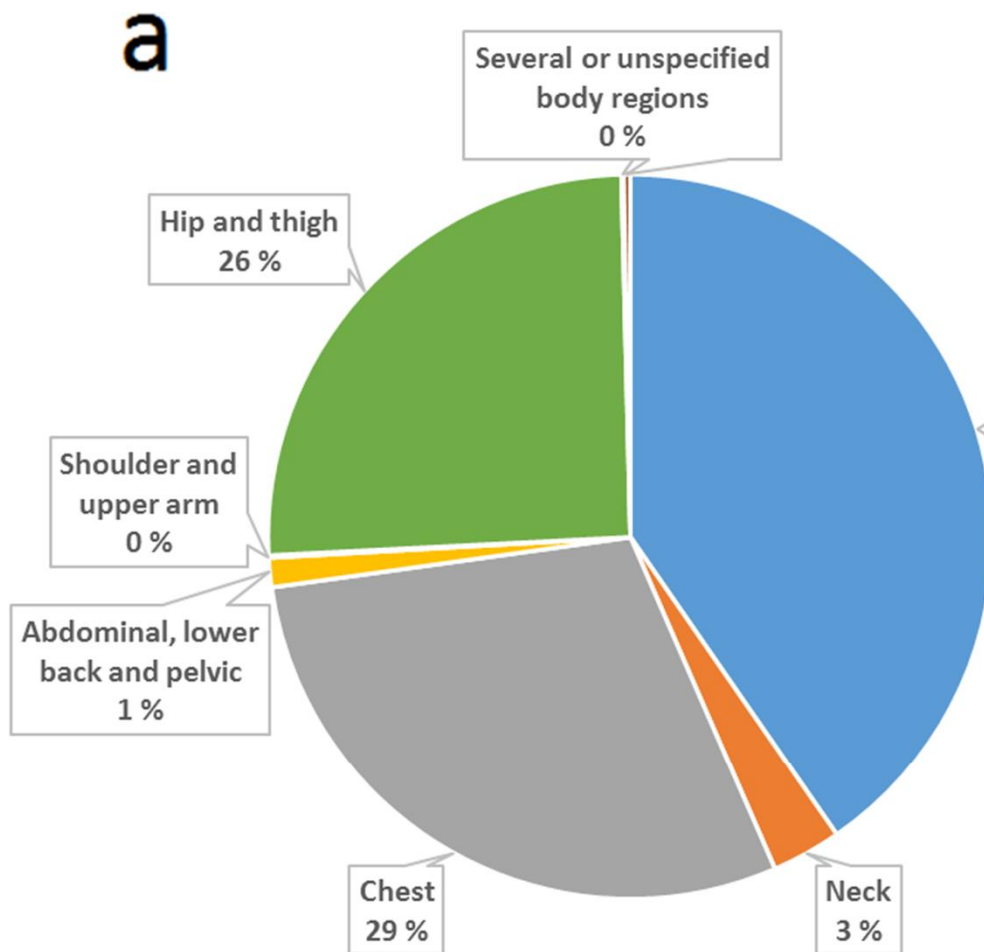
Serious injuries give other signals than fatalities or light injuries

Number of severe injuries higher and they include less extreme behaviour than fatalities (e.g. extremely high BAC or extreme speeding)

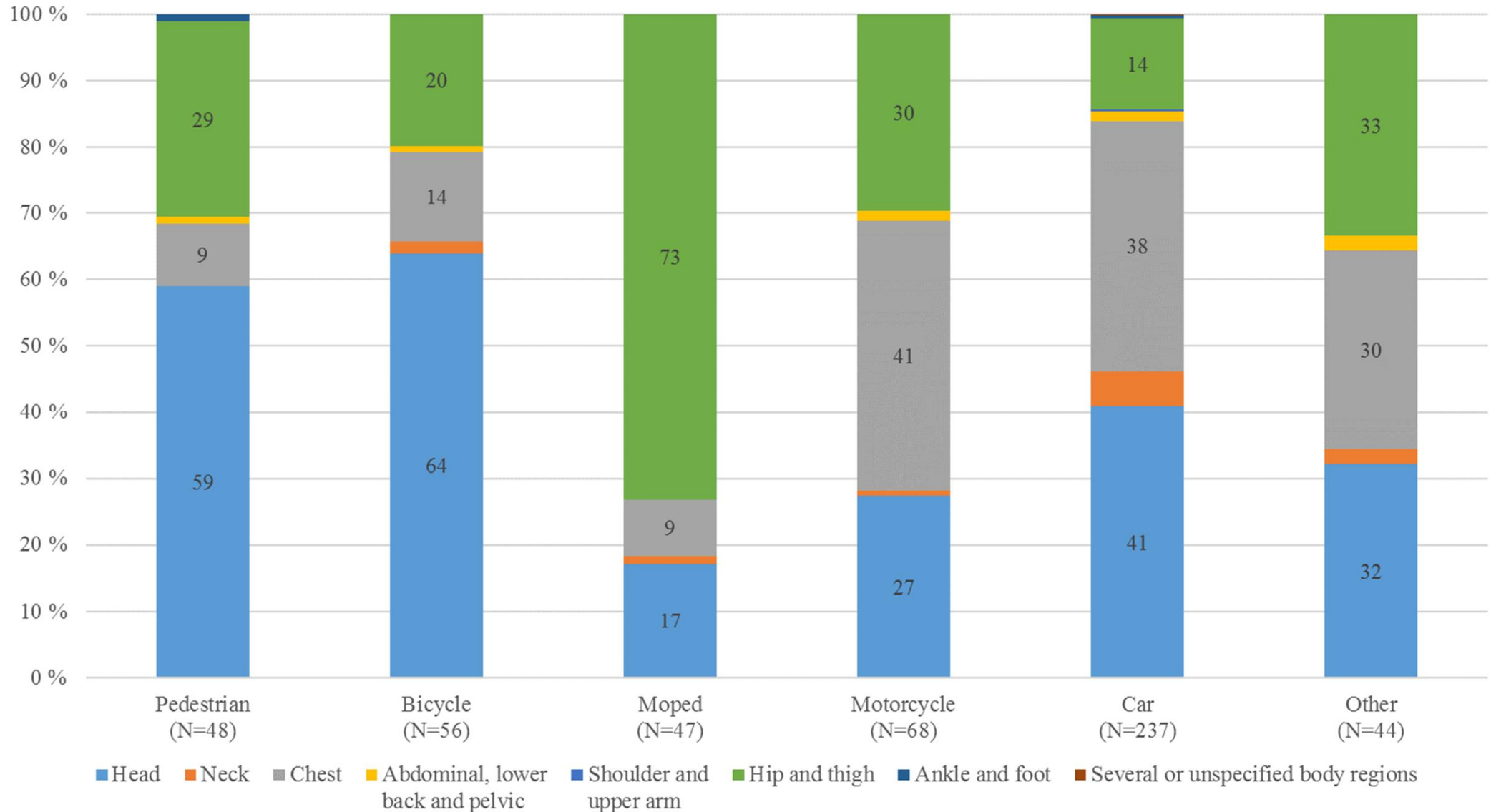
Non-reported serious injuries are different from those in the official statistics!

Official statistics (N=498/y)

Non-reported (N=417/y)



Different body parts sustain serious injuries depending on the road user type



On the other hand: Sweden doesn't apply only MAIS3+! Highest number of very seriously injured is in MAIS2!

Consequence	MAIS, severity of the injury						Total
	1 Minor	2 Moderate	3 Serious	4 Severe	5 Critical	6 Maximum	
1 % invalidity ¹	8,3	38,1	56,7	75,7	91,8	96,1	17,2
10 % invalidity ¹	0,9	4,0	16,5	52,4	80,8	96,1	2,7
Number of risk ² estimates (N)	96101	28557	4511	707	436	76	130388
Seriously injured ³	7962	10881	2558	535	400	73	22410
Very seriously injured ³	838	1131	744	370	352	73	3508

¹Estimated risk of permanent invalidity (%)

²Number of injuries, whose MAIS figure has been estimated

³Estimate on permanent injuries based on risk estimates

Recommendations

- Introduction of MAIS3+ will enhance traffic safety work and transferability between countries
- However, MAIS3+ is not the whole truth
- Information on the most effective safety measures should be studied for serious injuries
- Serious injuries remaining outside official statistics need to be studied, taking into account different ways of creating serious injury data

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<https://www.vtt.fi/sites/tl2025/en/english>



Serious injuries
in road traffic.
What can we
learn from
Sweden?
Liikennevirasto
10/2017



Proceedings of 7th Transport Research Arena TRA 2018, April 16-19, 2018, Vienna, Austria

Experience with serious road traffic accidents in Finland and Lithuania

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