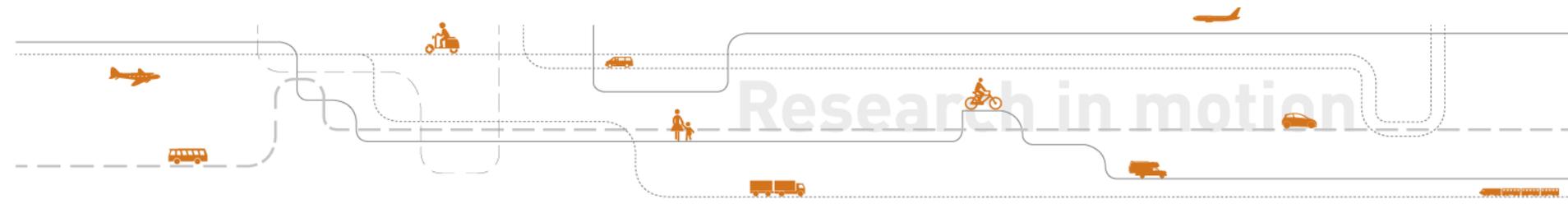


The need for data and evidence to support road safety policy

European Road Safety Conference on data and knowledge based road safety policy-making

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Data and evidence are keys to successful road safety policy

■ Data:

- *Information on the state of road safety and factors influencing it*
- *Such information is needed in order to monitor trends, describe road safety problems and identify targets for intervention*
- *If we do not what the chief problems are, we cannot solve them*

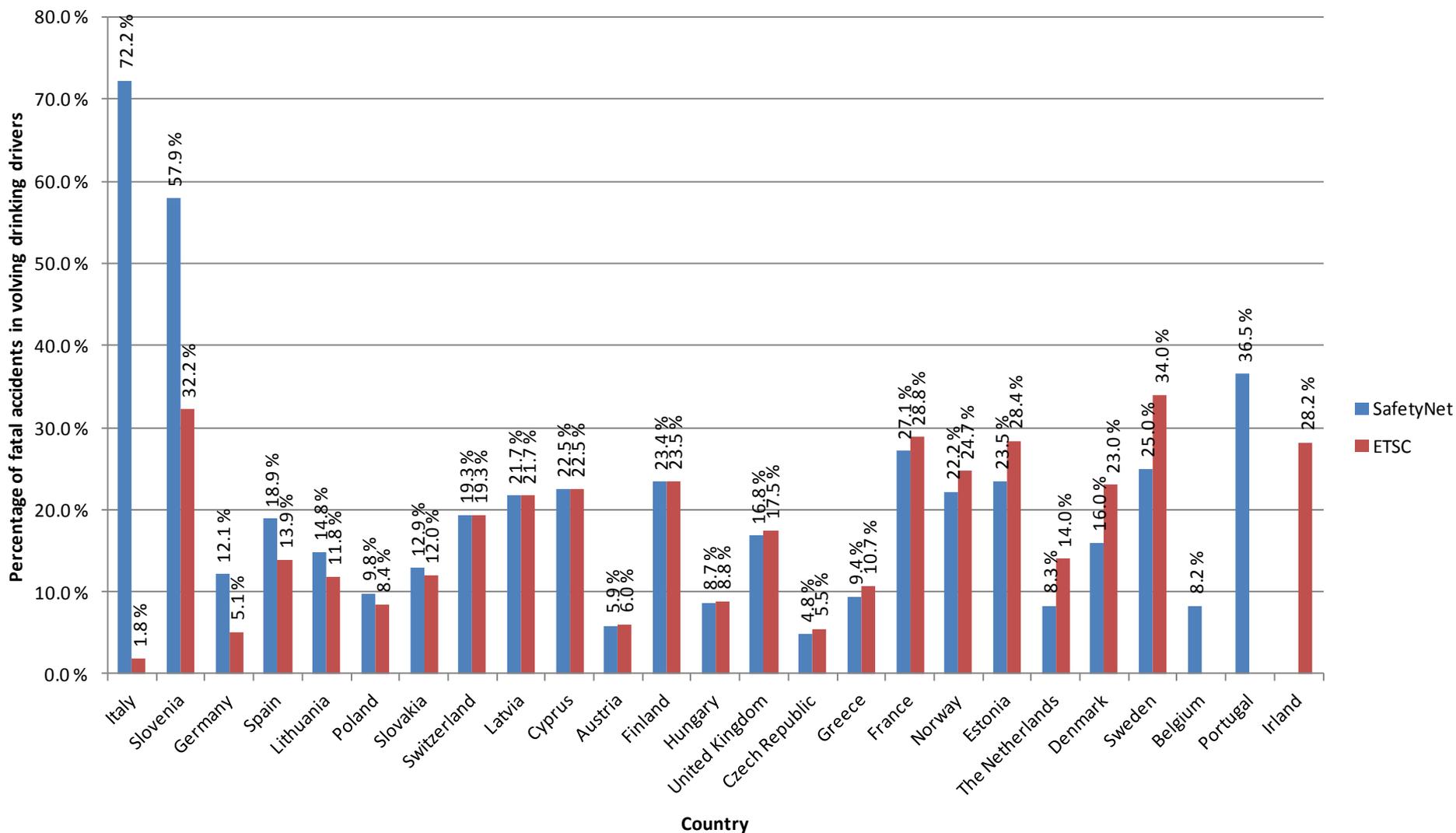
■ Evidence:

- *Evidence is knowledge about how to reduce road safety problems, based on analyses of data*
- *The quality of evidence depends directly on the quality of data: the poorer the data, the poorer the evidence*
- *Unless road safety policy is evidence-based, it is unlikely to be successful*

Common problems of data quality

- Incomplete and inaccurate accident reporting
 - Bicycle accidents are particularly poorly reported
 - Poor and unreliable data on factors that influence safety (safety performance indicators)
 - Incomplete data on traffic exposure (rarely systematic data on pedestrians and cyclists)
 - Poor records of safety measures that have been implemented
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- Safety performance indicators were studied in detail in Safety-net (the project that preceded DaCoTA)

Percentage of fatal accidents involving drinking drivers according to two sources of data. Based on Assum and Sørensen 2010



Implications of poor data quality

- There are in some cases huge differences between the two sources of data with respect to the contribution that drinking drivers make to fatal accidents
- If, as in Italy, the true contribution is 1.8 %, it is a minor problem
- If, on the other hand, it is 72.2 %, it is a huge problem
- It is astounding that the contribution of a potentially very important factor contributing to fatal accidents is so poorly known

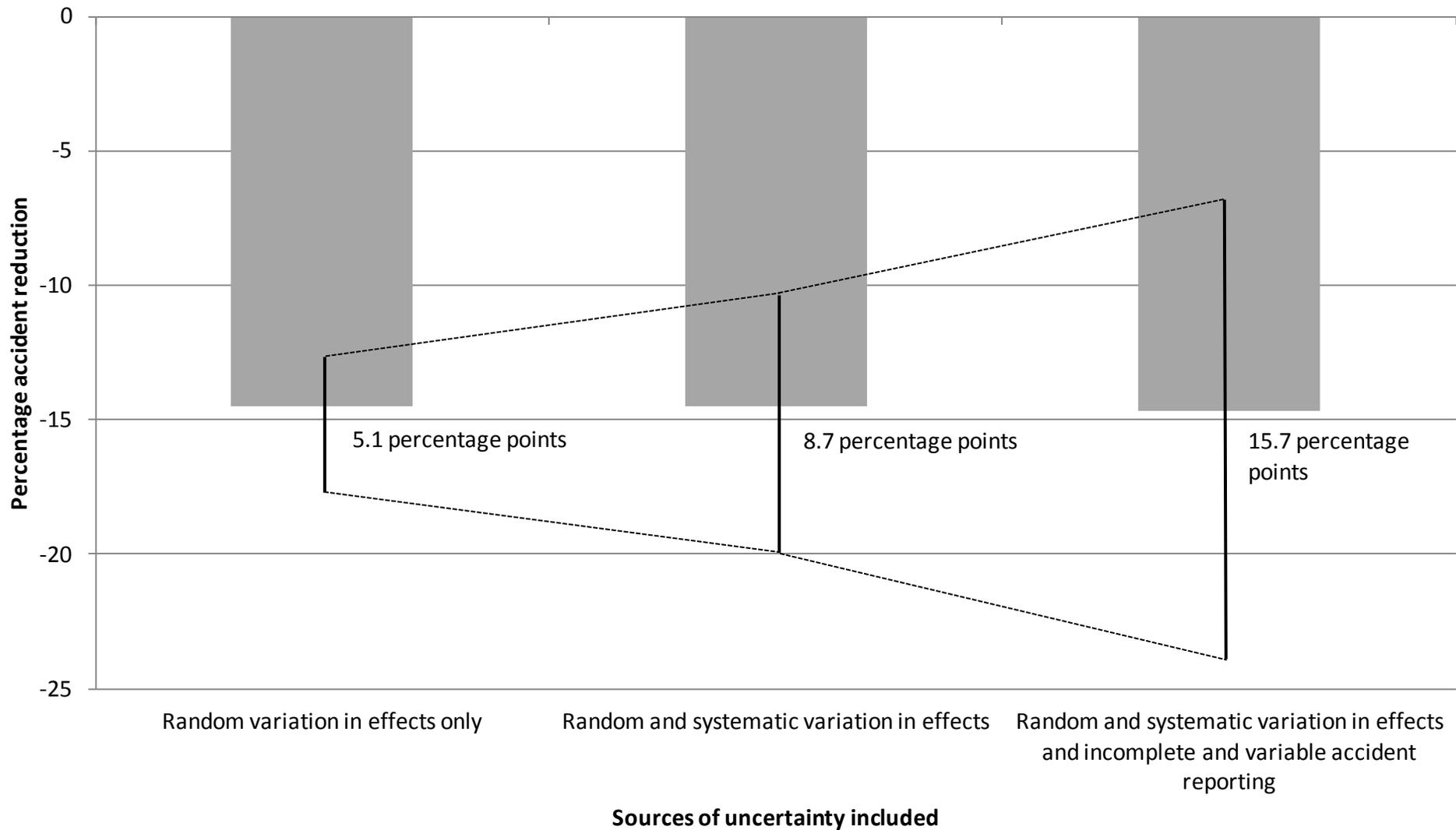
Difficulties of evaluation attributable to poor data

- On January 1, 2001, the BAC-limit (blood alcohol concentration) in Norway was lowered from 0.05 % to 0.02 %
- Evaluating the effects of this on accidents was difficult:
 - *The recording of accidents involving drinking drivers had been discontinued in 1995 – it was not known what share of accidents involved drinking drivers*
 - *No roadside survey of drinking and driving had been made since 1981-82, and no funding was available for making a new survey*
 - *There was no comparison group – the BAC-limit was lowered in the whole country*
 - *An initial evaluation was based on self-reported data only, collected by means of a questionnaire*
 - *Both the relevance and reliability of these data can be questioned*

Difficulties of evaluation, continued

- An evaluation of the effects on accidents of lowering the BAC-limit was performed only many years later
- The study had to rely on surrogate accidents, i.e. accidents that are known from other studies to involve a high proportion of drinking drivers, such as:
 - *Single vehicle accidents at night*
 - *Accidents during weekends*
- These surrogates are of course imperfect, i.e. they contain a mixture of accidents involving drinking drivers and accidents not involving drinking drivers – in unknown proportions

Contribution of three sources of uncertainty to summary estimates of effect of traffic calming on injury accidents



Knowledge is less certain than is commonly believed

- The statistical uncertainty of estimates of effect is underestimated, since it does not adjust for incomplete accident reporting
- In most cases, adjusting for incomplete accident reporting is not possible
- There are sources of systematic variation in the effects of road safety measures that have not been identified and not accounted for when developing estimates of effect
- Very little is known about the combined effects of several measures
- Very little is known about the long-term effects of measures

The support for road safety measures depends on knowledge about their effects

- Do you support mandatory seat belt wearing?
- Group 1:
 - *Your risk of dying on a given trip is 0.000000286*
 - *54 % support*
- Group 2:
 - *Your lifetime risk of dying in traffic is 0.01*
 - *78 % support*
- Politicians not told about the effects of seat belts:
 - *22 % support for seat belt law*
- Politicians told about the effects of seat belts:
 - *60 % support for seat belt law*