



An overview of results from the epidemiological studies

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Publication date:
2011

Document Version
Publisher's PDF, also known as Version of record

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Citation (APA):
Bernhoft, I. M. (Invited author). (2011). An overview of results from the epidemiological studies. Sound/Visual production (digital) http://www.druid-project.eu/cln_031/nn_107534/sid_47A55984E846D6D6D6E63D20A4D8DE35/nsc_true/Druid/EN/Final_20Conference/final-conference-node.html?__nnn=true

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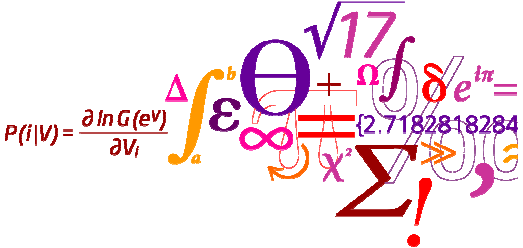
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An overview of results from the epidemiological studies


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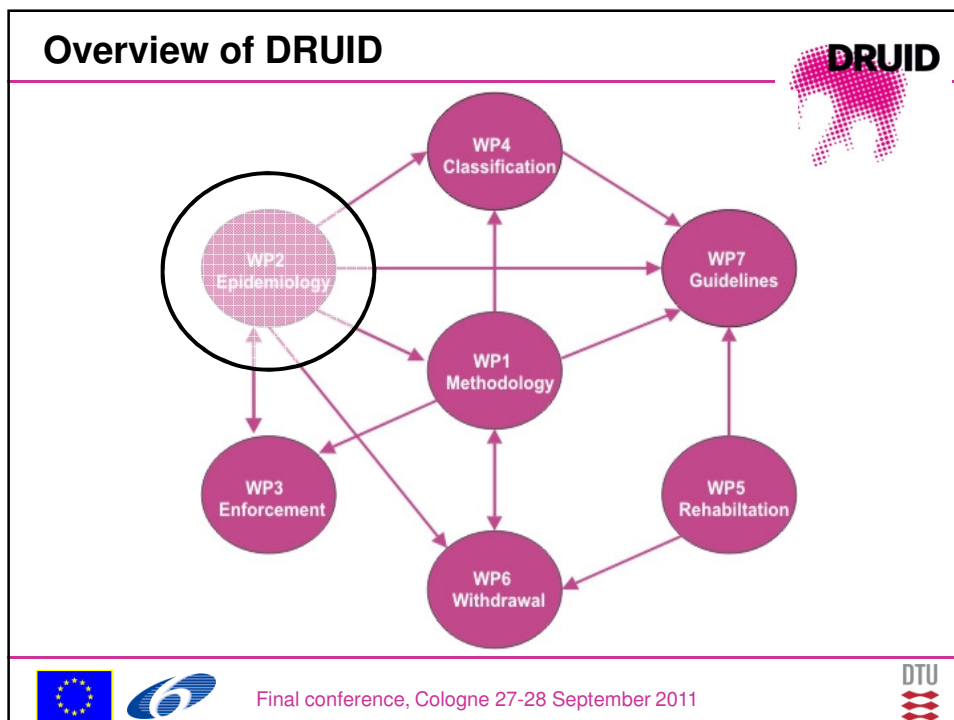


DTU Transport
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DRUID PROJECT - Epidemiology




- Objectives:
 - To assess the situation in Europe regarding the problem of alcohol and/or other psychoactive substances relation to road safety
 - Prevalence in the general population
 - Prevalence in the driving population
 - Risk of injury for drink and/or drug drivers
 - Characteristics of drink and drug drivers



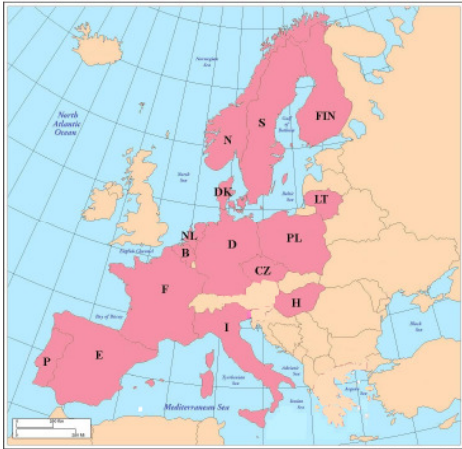
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DRUID PROJECT - Epidemiology




- Reviews**
 - An overview of the prevalence in general consumption in Europe
- Prevalence studies of drugs**
 - In the driving population
 - In injured/killed drivers
 - In drivers in fatal accidents
- Risk while drink and drug driving**
 - Risk of being injured or killed
 - Risk of being crash responsible
 - Accident risk for medicine users
- Interviews**
 - Motives to impaired driving



Produced by the European Research Laboratory, University of Alabama



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Psychoactive substances in question



- Alcohol
- Illicit drugs
 - Amphetamines, including methamphetamines and MDA, MDEA and MDMA
 - Cocaine and benzoylecgonine
 - Cannabis
 - Illicit opiates
- Medicines
 - Benzodiazepines
 - Z-drugs
 - Medicinal opioids
- Alcohol in combination with other drugs
- Multiple drugs
- Positive concentrations are based on the same uniform cut-offs in all studies



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Review



- **Prevalence of psychoactive substances in the general population (D 2.1.1)**

Method:

Literature study

Main results:

An increase in psychotropic medicines and medicines with central nervous system side-effects was observed, a.o.
 benzodiazepines
 Z-drugs
 opioids

The major increase in the consumption of antidepressants and drugs used in addictive disorders was observed

For the other classes of interest either a slight increase or no increase was noted



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Prevalence studies



- **Alcohol and other psychoactive substances in drivers in the general traffic (D 2.2.3)**

Aim of the roadside surveys:

To estimate the prevalence of psychoactive substances, including alcohol in the general driving population

To identify similarities and differences in the involved countries

To estimate the size of the problem on a European basis

Method:

Roadside surveys in 13 countries by means of a uniform protocol in all countries



In total data from more than 50.000 drivers was collected at the roadside



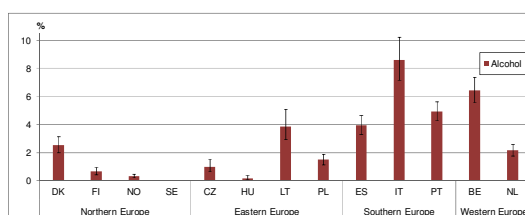
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Prevalence studies

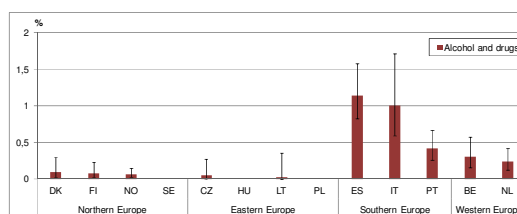


Alcohol in the general traffic



Prevalence of alcohol

Prevalence of alcohol in combination with other drugs



Alcohol is still the most prevalent substance in the driving population
- but most of the drink driving is with concentrations below 0.5 g/L

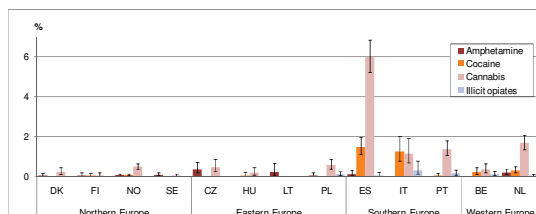


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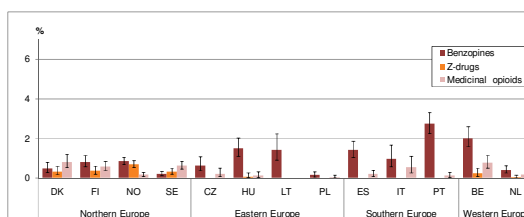
Prevalence studies

Illicit and medicinal drugs in the general traffic



Prevalence of illicit drugs

Prevalence of medicines



Illicit drugs are most prevalent in southern and western Europe
Driving with medicines is observed all over Europe



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Prevalence studies

• Psychoactive substances and consumption patterns in traffic (D 2.2.2)



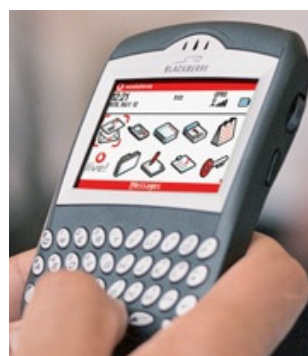
Aim of the smart phone study:

To investigate the frequency of drug driving incidences among drug users compared with non-users

To investigate situational aspects of drug driving incidences

Method:

Data collection of information on driving patterns by means of smartphones



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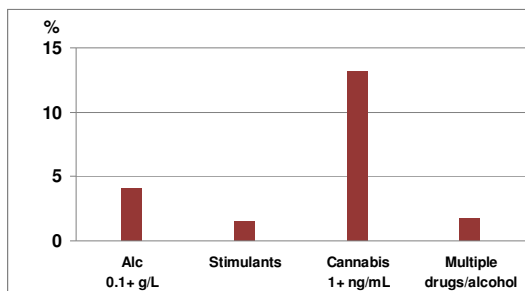


Prevalence studies



- Drug users compared to non-users
 - More mobile at night
 - But less nighttime drives
 - Consumption of alcohol more frequently and in higher doses
 - Double prevalence of drink driving

Prevalence when driving
for drug users



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Prevalence studies



- Alcohol and other drugs in injured and killed drivers (D 2.2.5)

Aim of the studies on accident involved drivers:

To estimate the prevalence of psychoactive substances including alcohol in seriously injured drivers and in killed drivers

To identify similarities and differences in the involved countries

To estimate the size of the problem on a European basis

Method:

Study of seriously injured drivers in 6 countries and study of killed drivers in 4 countries, by means of a uniform protocol for all countries



The results are based on data from app. 2600 seriously injured and 1000 killed drivers



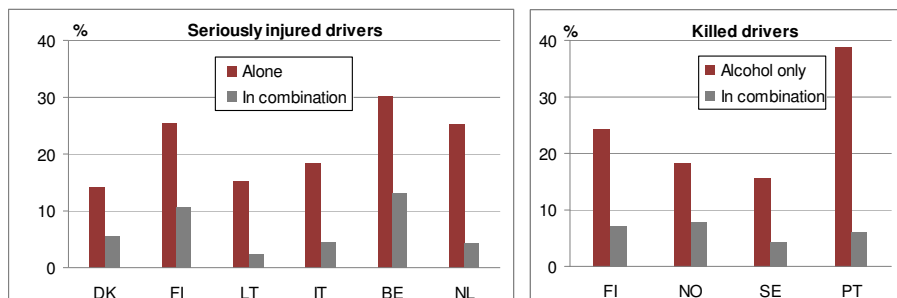
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Prevalence studies



Alcohol in injured and killed drivers



Among the alcohol positive drivers – both seriously injured and killed, the majority had a blood alcohol concentration equal to or above 0,5 g/L

Combined use of alcohol combined with other drugs is considerable in a number of countries



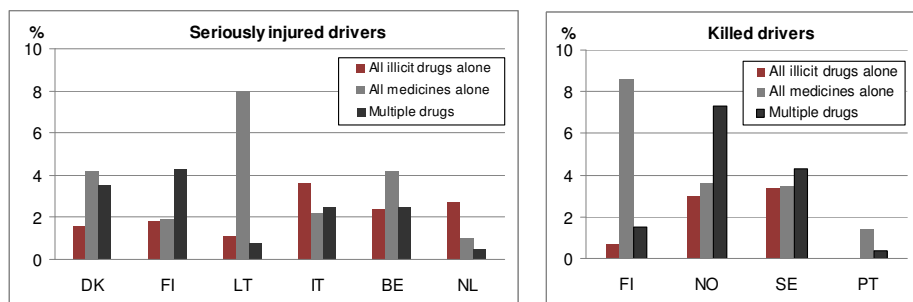
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Prevalence studies



Illicit and medicinal drugs in injured and killed drivers



For most illicit drugs and medicines, the percentage of combined drug use exceeded that of single drug use



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Prevalence studies



• Alcohol and illicit drugs in drivers in fatal accidents (D 2.2.4)

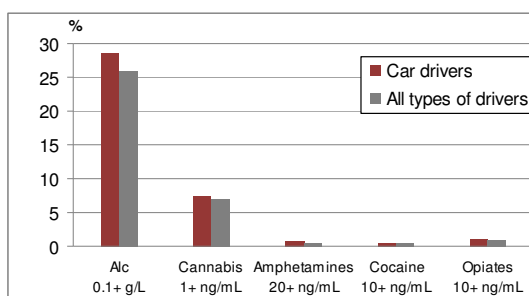
Aim of the prevalence study:

To estimate the prevalence in all types of drivers in fatal accidents

Method:

Systematic testing of all drivers in a fatal accident in France

- Killed, injured and non injured
- Alcohol and illicit drugs
- Data from 10,519 drivers



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Relative risk studies



• Risk of injury by driving with alcohol and other drugs (D 2.3.5)

Aim of the risk study:

- To assess the risk for
 - alcohol
 - illicit drugs and medicines
 - alcohol combined with drugs
 - multiple drug use

To demonstrate the relation between drug impairment and traffic accidents

To serve as input to the discussion on impairment thresholds

Method:

Case-control study based on data from seriously injured /killed drivers (cases) and data from road side surveys (controls)

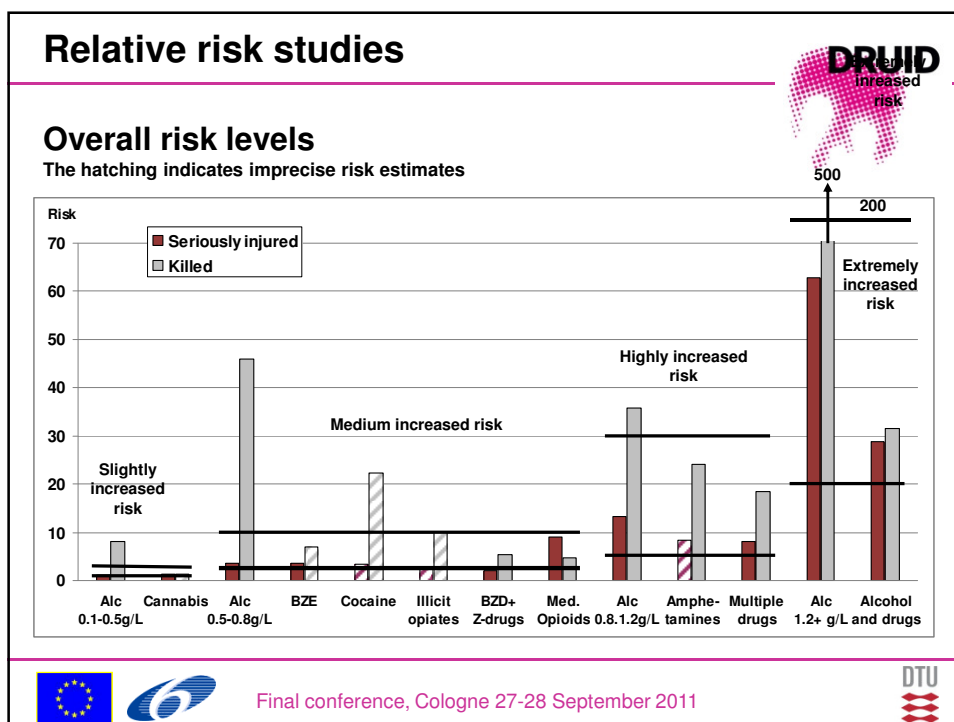
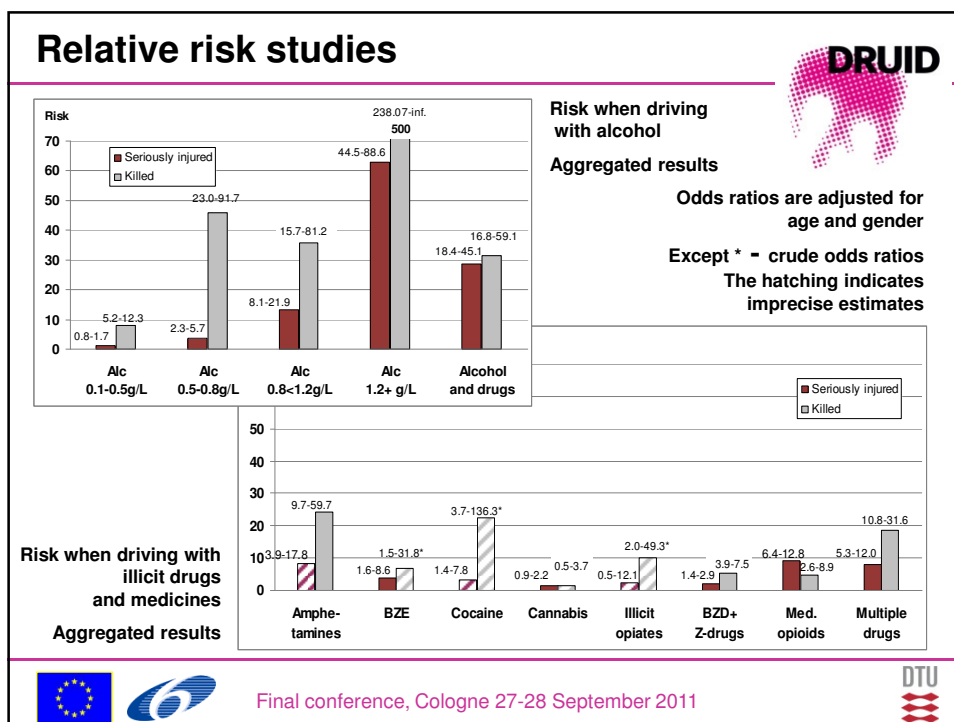


Seriously injured drivers: DK, FI, LT, IT, BE, NL, H, killed drivers: FI, NO, SE, PT



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Relative risk studies



- Risk of accident responsibility by driving with alcohol and other drugs (D 2.3.2, D 2.3.3, D 2.3.4)

Aim of the risk studies :

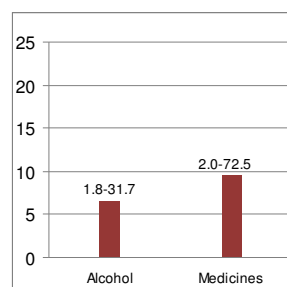
To assess the relative risk for killed drivers who were responsible for their accidents

or

To assess the relative risk for responsible drivers involved in a fatal road accident

Method:

- Three case-control studies
- killed drivers (2 studies)
- drivers in fatal accidents (1 study)



Responsible killed drivers in Finland



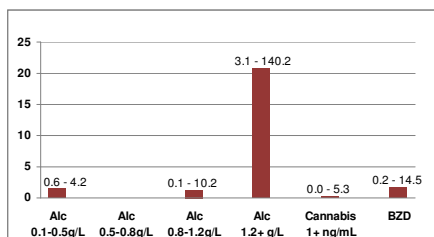
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Relative risk studies

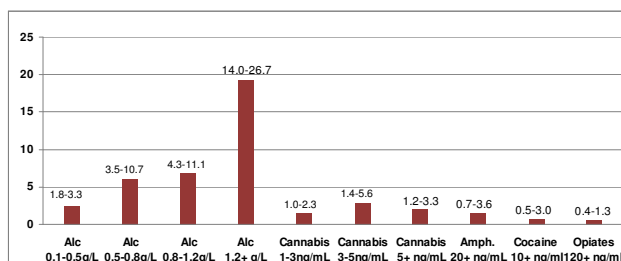


Risk of accident responsibility



Responsible killed drivers in Germany, Lithuania, Hungary, Slovakia

Responsible drivers in fatal accidents in France



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Relative risk studies



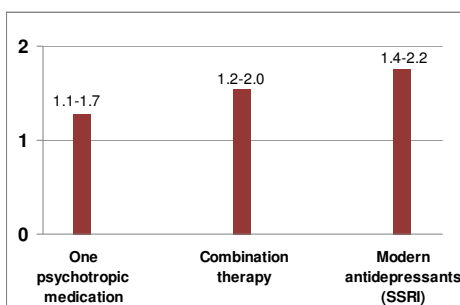
- Relative risk of patients using psychotropic medicines (D 2.3.1)

Aim:

- To assess
- accident risk of drivers using psychoactive medicines compared to non-users
 - risk when using a combination of (psychoactive) medicines

Method:

- A pharmacoepidemiological study, linking databases in the Netherlands
- pharmacy prescription
 - police registered traffic accidents
 - driving licenses



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Driver characteristics



- Motives behind risky driving - driving under the influence of alcohol and drugs (D 2.2.1)

Aim of the study:

- To explore the motives to drink and drug driving

Method:

- Qualitative interviews



- Drivers do not think that their driving is influenced
- alcohol does not impair driving
 - but drug improves driving

Drink drivers feel more ashamed than drug drivers

- Loosing the license or imprisonment would not have helped
- rehabilitation is recommend



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Thank you for your attention



For more information, see www.druid-project.eu



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