

Third International Symposium on Drug-Impaired Driving

Drug level and impairment – how do we measure this

Mário Dias

National Institute of Legal Medicine and Forensic Sciences

Lisbon, 23 October 2017

Third International Symposium on Drug-Impaired Driving



European Monitoring Centre
for Drugs and Drug Addiction



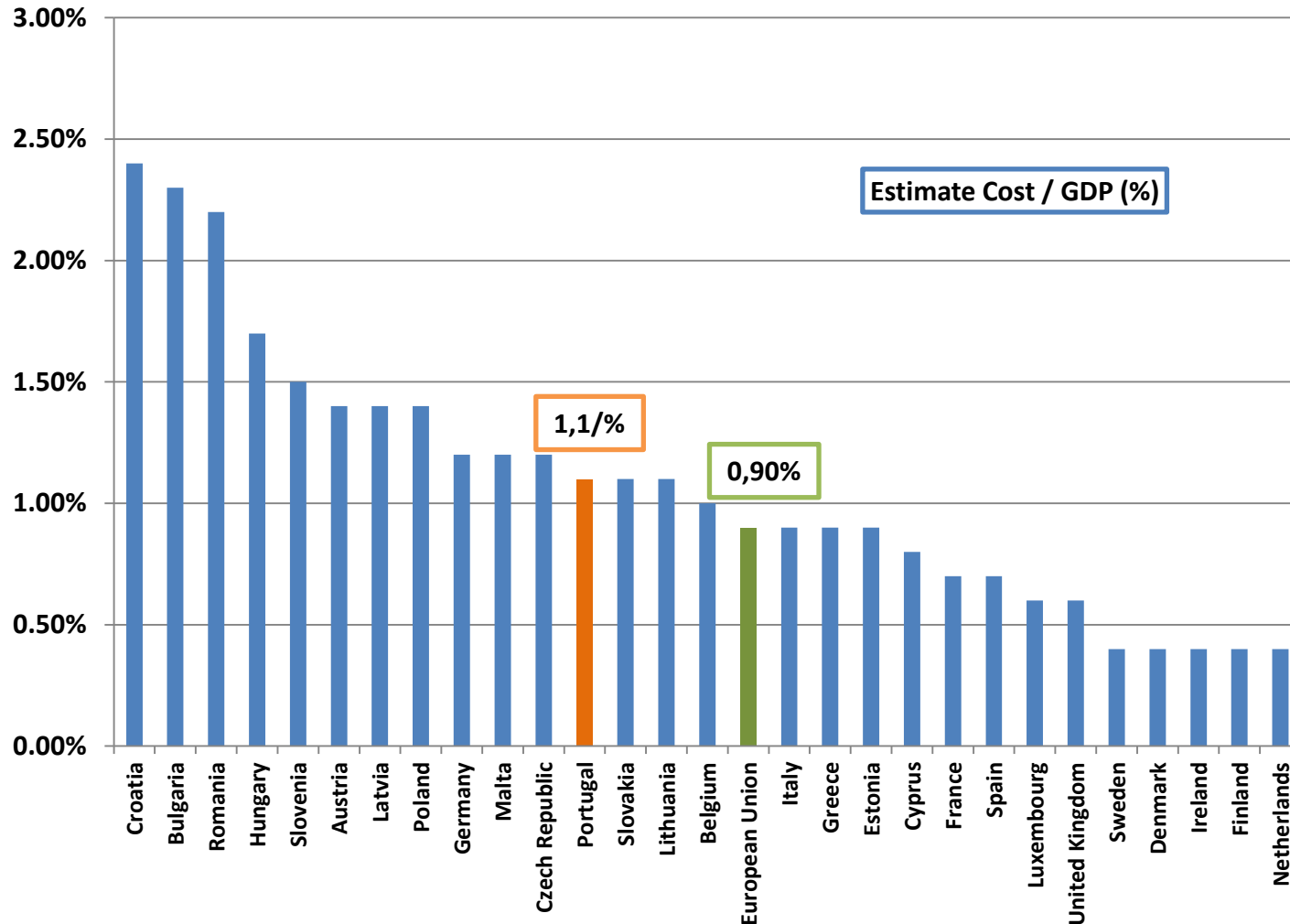
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Summary:

- Introduction
- Economic and Social Impact of Road Accidents
- Prevalence of Cannabis use
- DUID: Impairment vs Zero Tolerance
- Rate of prosecutions
- Conclusions

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ECONOMIC AND SOCIAL IMPACT OF ROAD ACCIDENTS

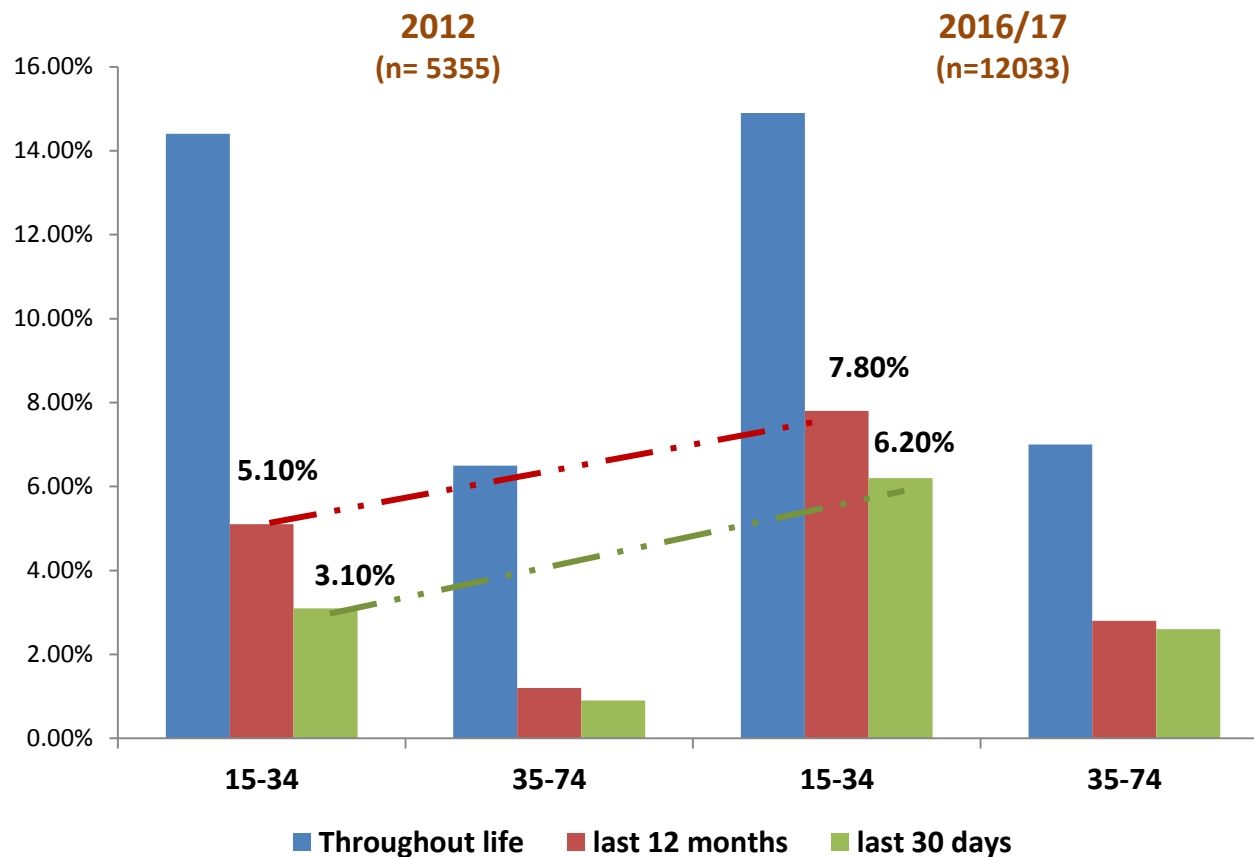


(Source: ANSR)

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PREVALENCE OF CANNABIS IN THE GENERAL POPULATION

DISTRIBUTION BY AGE GROUPS



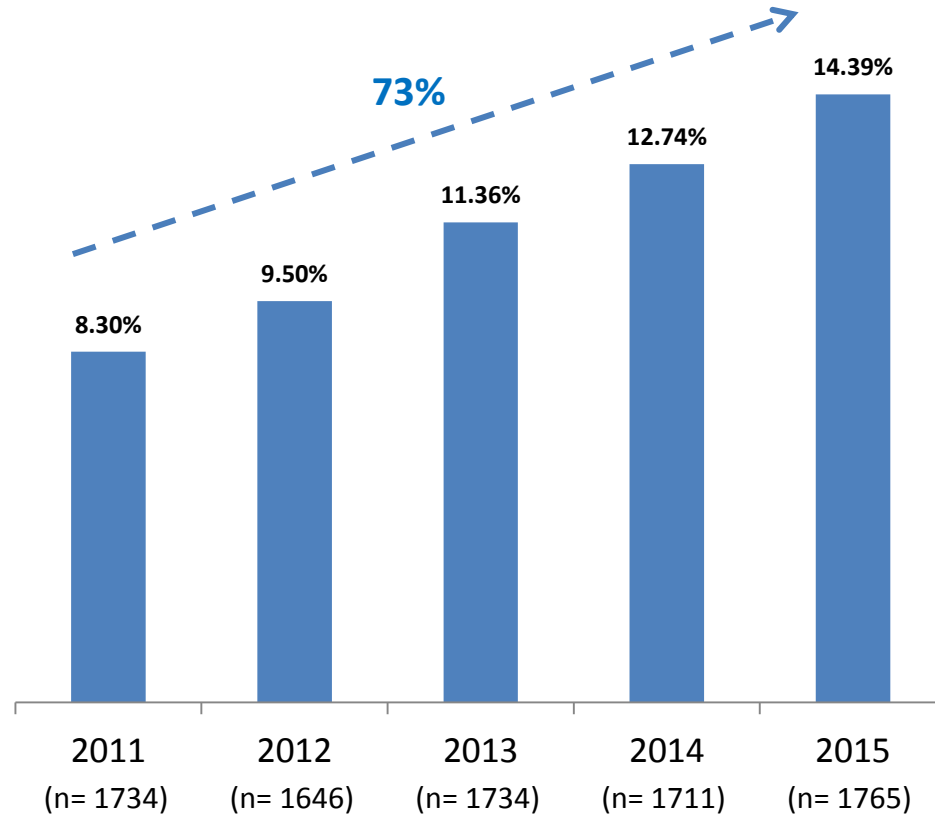
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(Source: SICAD)

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PREVALENCE OF CANNABIS AMONG INJURED DRIVERS



(Source: INMLCF)

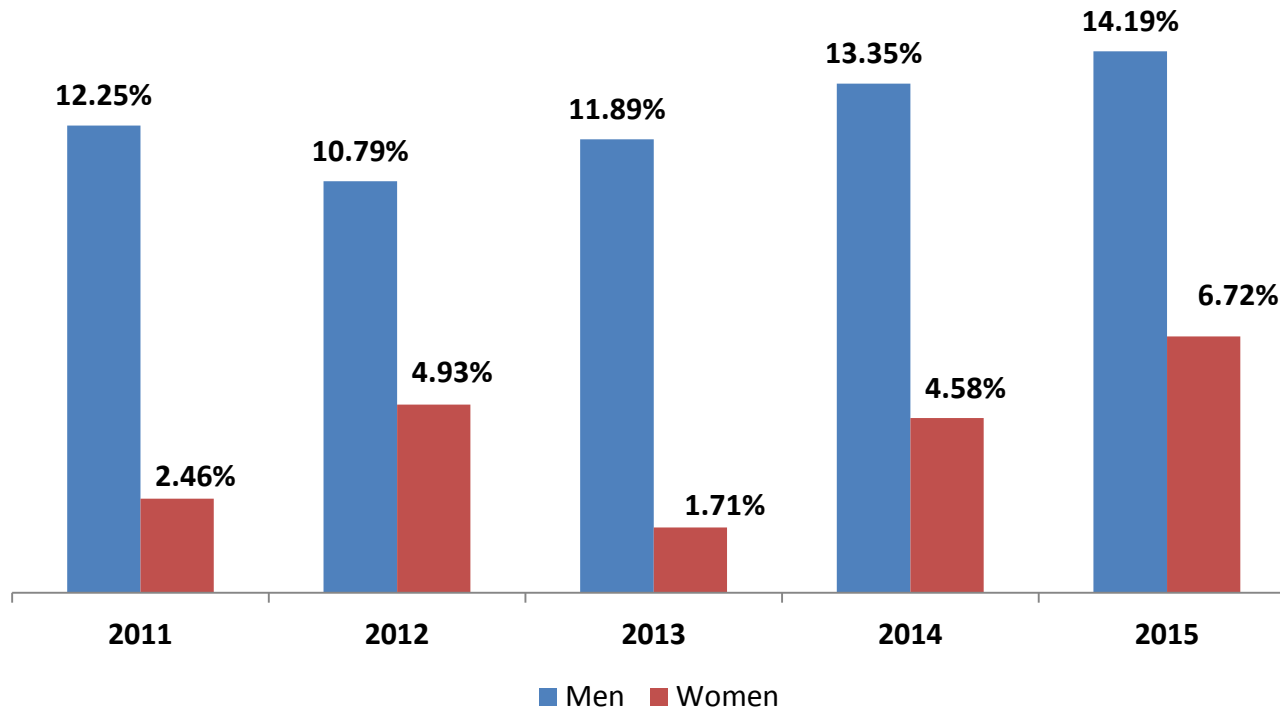
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PREVALENCE OF CANNABIS AMONG INJURED DRIVERS

DISTRIBUTION BY GENDER



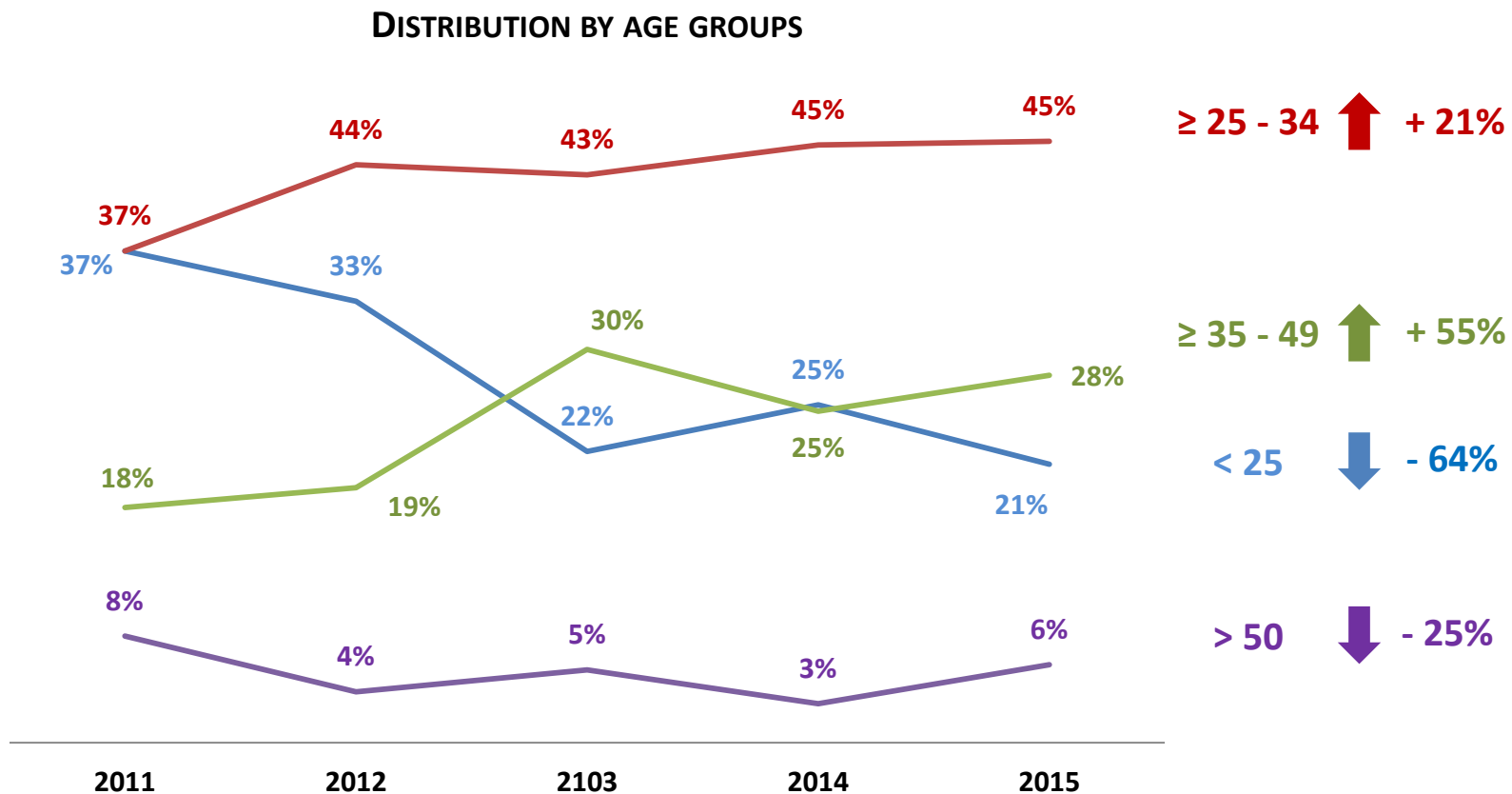
(Source: INMLCF)

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Portaria 902-B/2007

Article 22

1 - The blood confirmation test is intended to identify the substance or substances and or its metabolites that in the screening test showed positive results.

Article 23

The confirmation test is considered **positive** whenever reveals the presence of any psychotropic substances (Table 1 of Annex V) or other substance or product, with similar effect, able to disturb the physical, mental or psychological conditions for driving motor vehicle safely.



Group	Substance
Cannabinoids	Δ 9 Tetrahydrocannabinol (THC) 11-hidroxy- Δ 9 Tetrahydrocannabinol (11-OH-THC) 11-Nor-9-Carboxy- Δ 9 Tetrahydrocannabinol (THC-COOH)
Opiates	Morphine 6 Monoacetylmorphine (6MAM)
Cocaine e metabolites	Cocaine Benzoilecgonine
Amphetamines	Amphetamine Metamphetamine 3,4-methylenodioxymphetamine (MDA) 3,4-methylenodioxymethamphetamine (MDMA) 3,4-methylenodioxymethamphetamine (MDE; MDEA) 3,4-methylenodioxymphenyl-2-butamine (MBDB)

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Código da Estrada

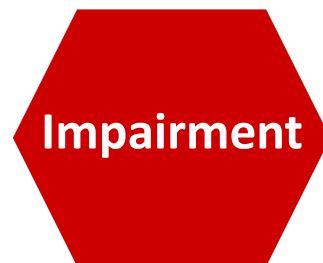
Article 134

1 - If the same circumstances simultaneously constitute a criminal and administrative offense, the driver shall always be punished by way of crime, without prejudice to the application of the accessory penalty for the administrative offense.

Código Penal

Article 292

2 - Incurs in the same penalty who, at least negligently, drive a vehicle, with or without motor on public roads, not being able to do it safely for being under the influence of narcotic drugs, psychotropic substances or similar products with physical, mental or psychological disturbing effect on fitness to drive



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How to interpret the analytical results in impairment approach?

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Per-se approach can be based in three different type of limits:

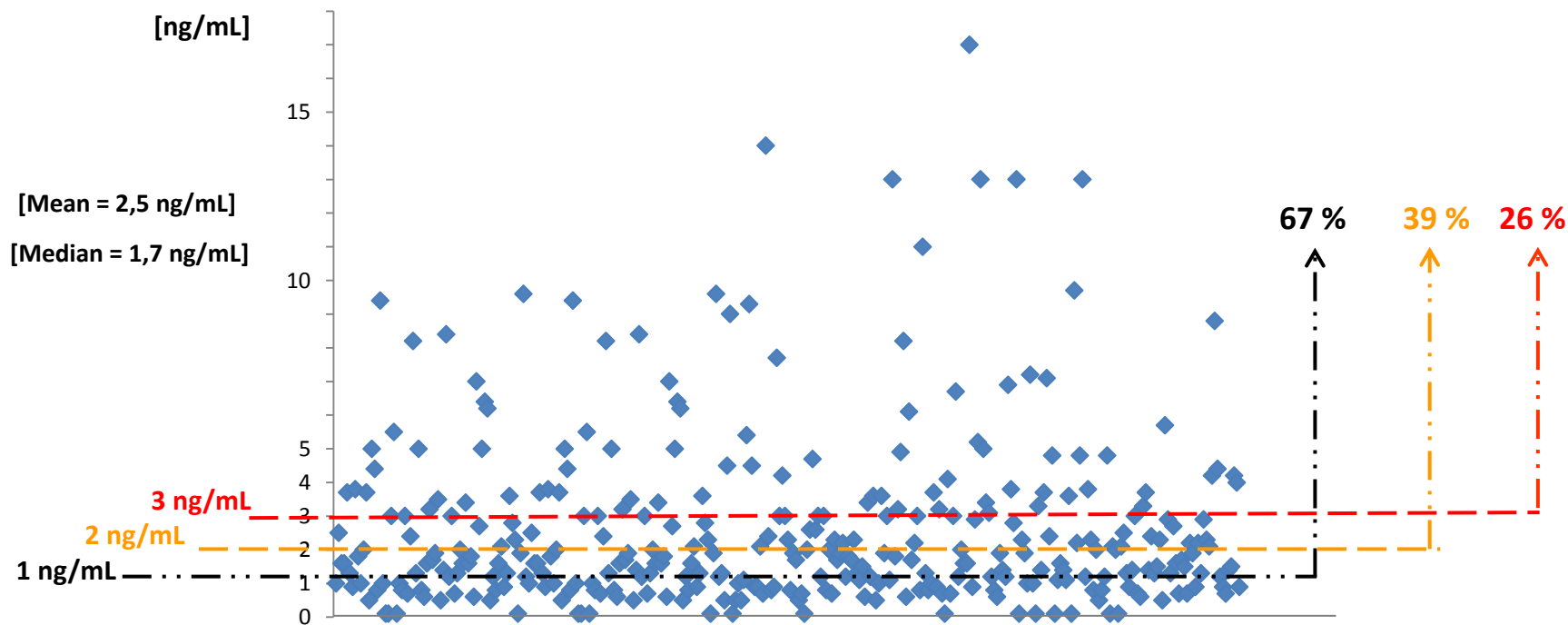
- The lowest limit of quantification or limit of detection (Zero Tolerance)
- The lowest limit of impairment
- The lower limit of risk

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THC LEVEL IN BLOOD



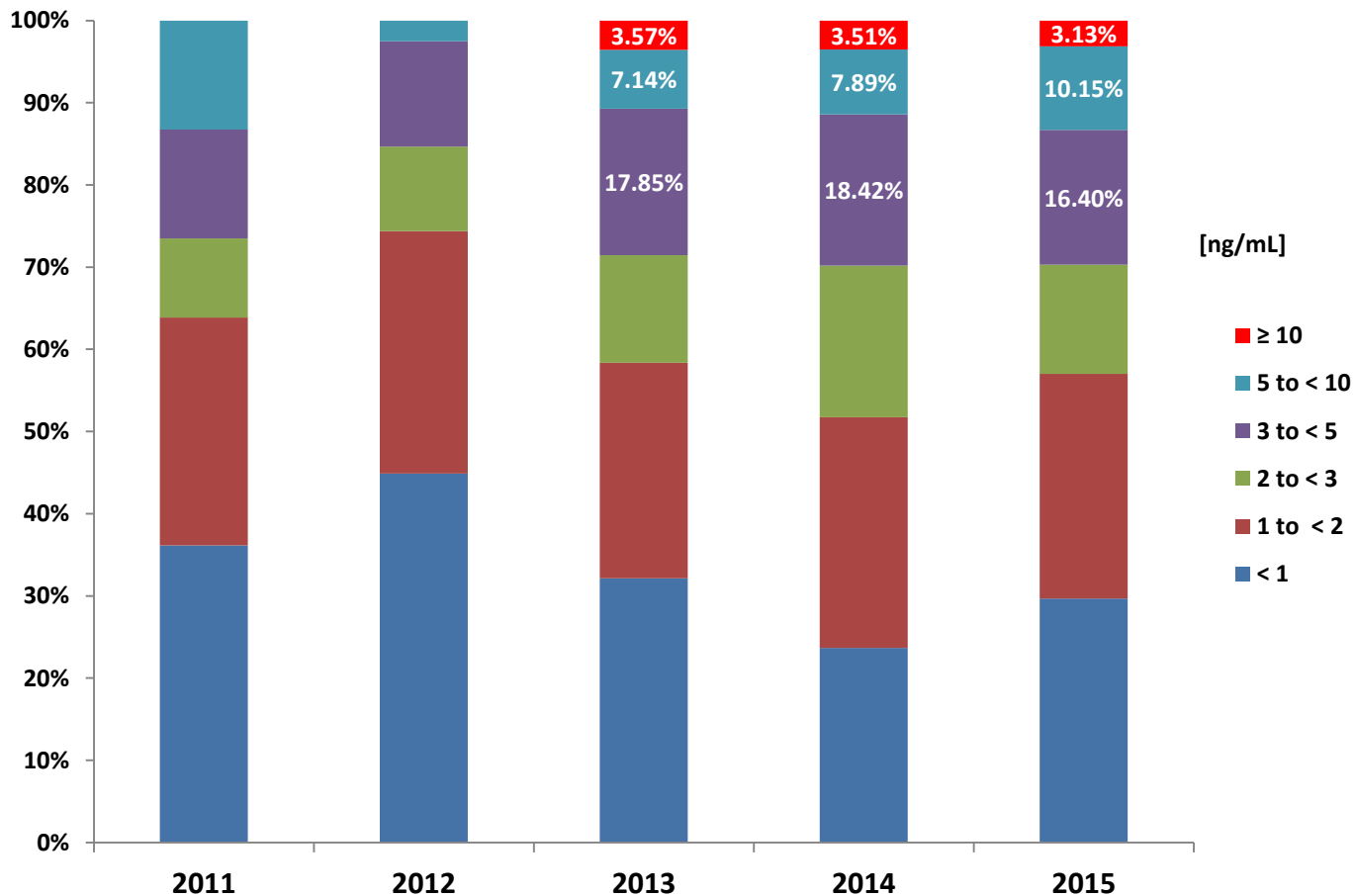
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THC LEVEL IN BLOOD



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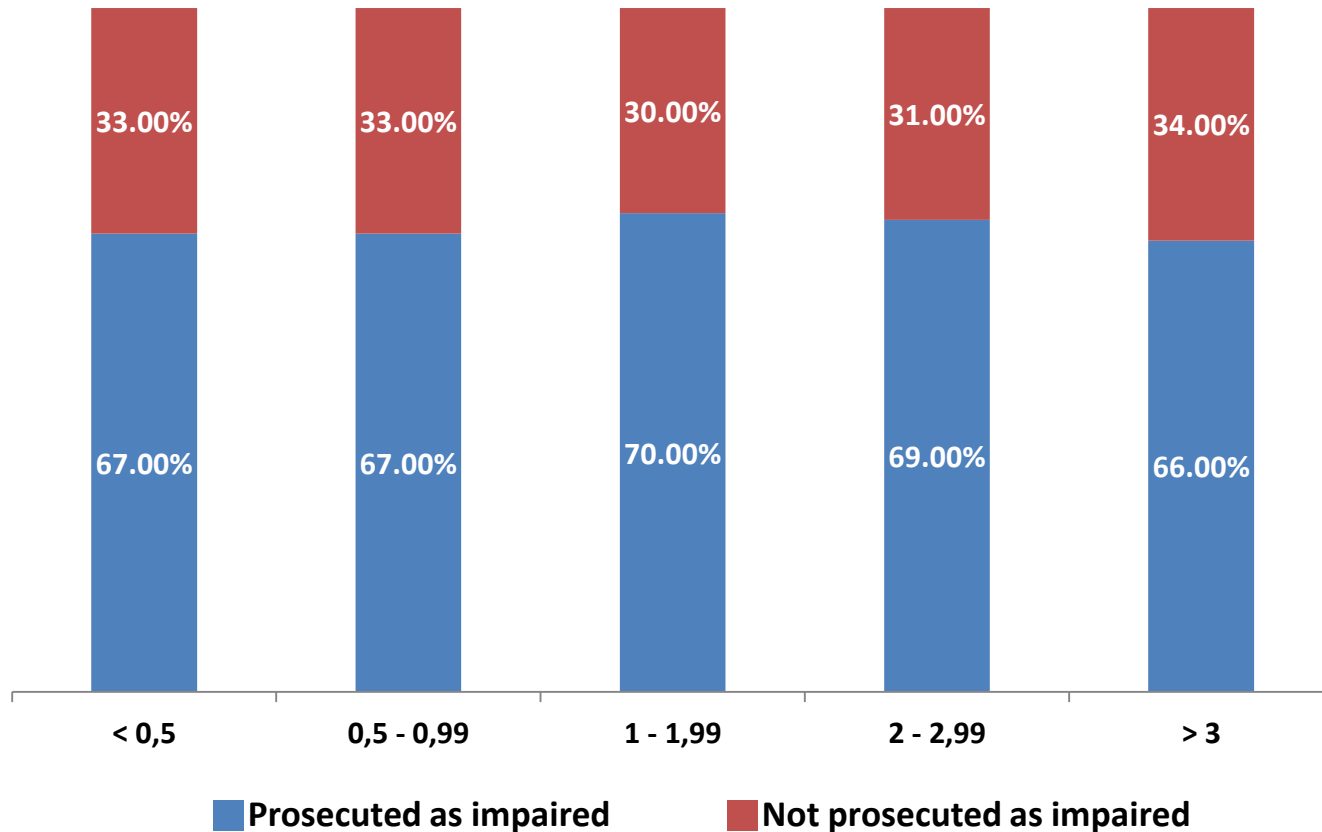
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Prosecuted [Mean] = 2,81 [0,25 -17]

Not prosecuted [Mean] = 2,3 [0,25 - 10]

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KEY ISSUES

- The presence of THC in blood affects the ability to drive
- There is a relationship between the concentration of THC in the blood and the degree of impairment, the risk of accident and culpability
- There is no agreement about the concentration of THC in blood that allows to distinguish the type of consumer and the moment of the last consume, despite several scientific studies
- The approach to driving under the influence of drugs should be made in a road safety perspective
- The consumption of illicit substances, being an individual option, has social and economic consequences for all road users and for the society
- Increases the public perception of the likelihood that drug drivers would be convicted
- Monitor the drug driving problem and updates the legal limits according to the scientific literature and guidelines