Where should the limit be? Defining per se laws

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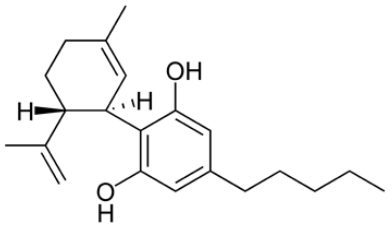

Legislative limits for non-alcohol drugs

from 2012 / revision in 2016

The Norwegian Road Traffic Act

*To **harmonize** the situation for alcohol and non-alcohol drugs <u>and</u>*

***signal** that drugs and driving are not compatible*

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Review

Impairment based legislative limits for driving under the influence of non-alcohol drugs in Norway

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ABSTRACT

Aims: When non-alcohol drugs are detected in blood samples from apprehended drivers in Norway, individualised expert opinions are required to evaluate degree of impairment. For alcohol, legislative limits have been in use since 1936. To harmonize the current practice for driving under the influence of alcohol and non-alcohol drugs, a judicial reform with legislative limits for non-alcohol drugs has been suggested.
Methods: Impairment limits, representing drug concentrations in blood likely to be accompanied by a

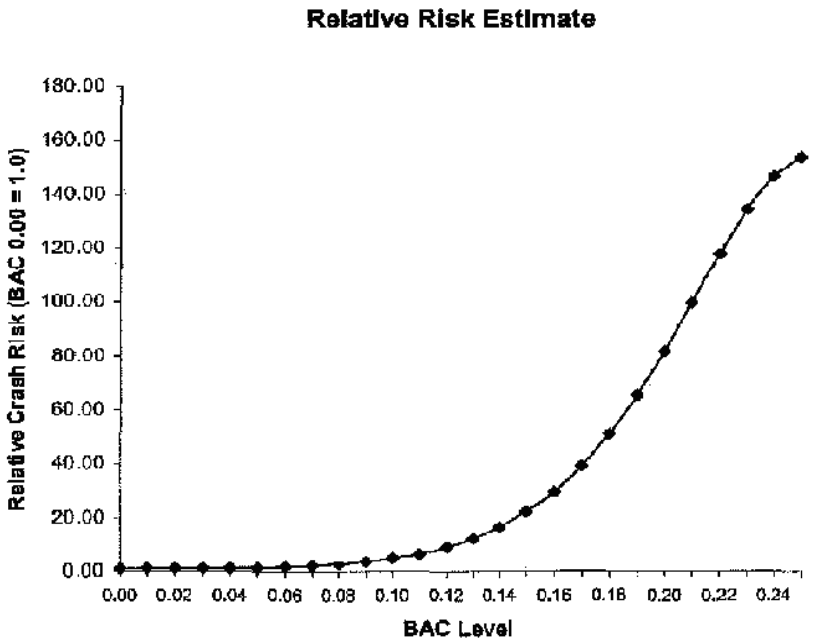
Norwegian Road Traffic Act

Legislative limits for **alcohol**:

BAC > **0.2 ‰** (fine)

BAC > **0.5 ‰** (loss of driving license, conditioned imprisonment)

BAC > **1.2 ‰** (unconditioned imprisonment)



Compton, Blomberg, Moskowitz, Burns, Peck and Fiorentino (2005)

Legislative limits for non-alcohol drugs from February 2012, revised in 2016

- Per se limits corresponding to **BAC 0.2 ‰**

  for 28 non-alcohol drugs incl. THC

- Limits for graded sanctions corresponding to

  BAC 0.5 and 1.2 ‰ for 22 of the 28 non-alcohol drugs incl. THC

The regulation is not applied if the driver has valid a prescription

Tolerance is not taken into account

Legislative limits for THC

	0.2‰	**0.5 ‰**	**1.2‰**
THC concentrations in **whole blood**	1.3 ng/ml / 0.004 µM	3 ng/ml / 0.010 µM	9 ng/ml / 0.030 µM

P/B ratio 2

Regulation in the Norwegian Road Traffic Act

DUI cases in Norway

- ✓ ~ 5.3 million inhabitants
- ✓ ~ 8.000 drivers apprehended by the police annually
  (blood samples and clinical test of impairment - CTI)
- ✓ THC detected in more than 2000 DUI-cases every year
- ✓ Around 95% of the cases contain at least one drug
- ✓ Mean number of drugs in each case is **almost 3**
- ✓ Almost 90% of the apprehended drivers are men
- ✓ Around 50% without a driving license
- ✓ Mainly drug addicts
- ✓ One or more drug > 1.2 limit : no need for expert witness statement
- ✓ Other cases: expert witness statements to evaluate individual degree of impairment (all concentrations, prescription? tolerance? CTI)
- ✓ Previous; a desire for a similar system for drugs and alcohol

Per se limits corresponding to BAC 0.2‰

- There is no literature investigating drug-impairment in this low concentration range
- No epidemiology studies
- Analytical approach?
- Zero tolerance?
- **Pragmatic approach**

Per se limits corresponding to BAC 0.2‰

the pragmatic approach:

- Alcohol: ”Drug dose”: ~1‰

  0.2‰-limit

- Other drugs than alcohol:

  Typical ”drug-dose” with corresponding concentration in blood

  Per see limit at 0.2‰ for alcohol:

  1/5 of the concentration in blood

Limits for graded sanctions corresponding to BAC at 0.5 and 1.2‰

Scientific literature was used to establish these limits, selected by certain criteria's, e.g.:

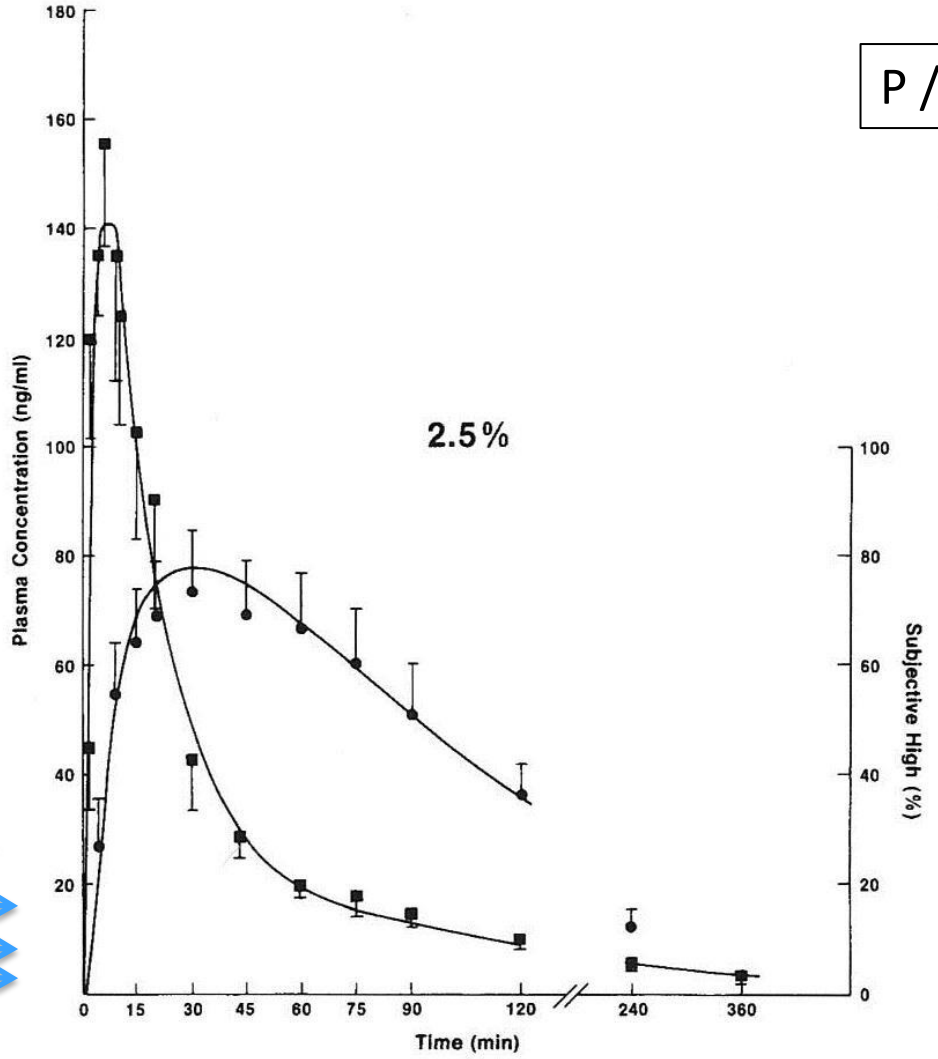
- Traffic relevant tests (speed, accuracy, vigilance etc.)
- Reference drug

  (Alcohol, but not necessary when SDLP was measured)

Impairment seen after ingestion of single doses to naïve users, and not chronic users with tolerance

A dose-response effect was obligate

P / B ratio 2



1.2 ‰ limit
0.5 ‰ limit
0.2 ‰ limit

Fig. 2. Plasma THC concentration–time (■) and subjective high–time (●) after smoking one 2.5% THC cigarette ($\bar{X} \pm SE$; n = 6). *Solid curves* are computer fits to the data.

THC legislation in DUI cases in Norway

- The measured concentrations can be used in court
  (safety margin **25** - 50%)
  A reduction in the number of expert witness statements with around 40% (reduced costs and faster handling of the cases)

- From the court reports; these cases seem to be handled as intended

- Increased focus on DUI-cases, and a slight annually increase in the apprehended drivers (around 20%)

- Decrease in DUI-cases (including cannabis) in normal traffic

THC legislation in DUI cases in Norway

- about 50% of the THC-cases have concentrations between the 0.5-1.2 limits
- about 10% of the THC-cases have concentrations higher than the 1.2 limit
- cases with more than one drug: individual evaluation of overall impairment; concentrations and clinical test of impairment. Impairment compared with legislative limits
- back calculation is done in a few cases
- similar limits for regular and recreational cannabis users

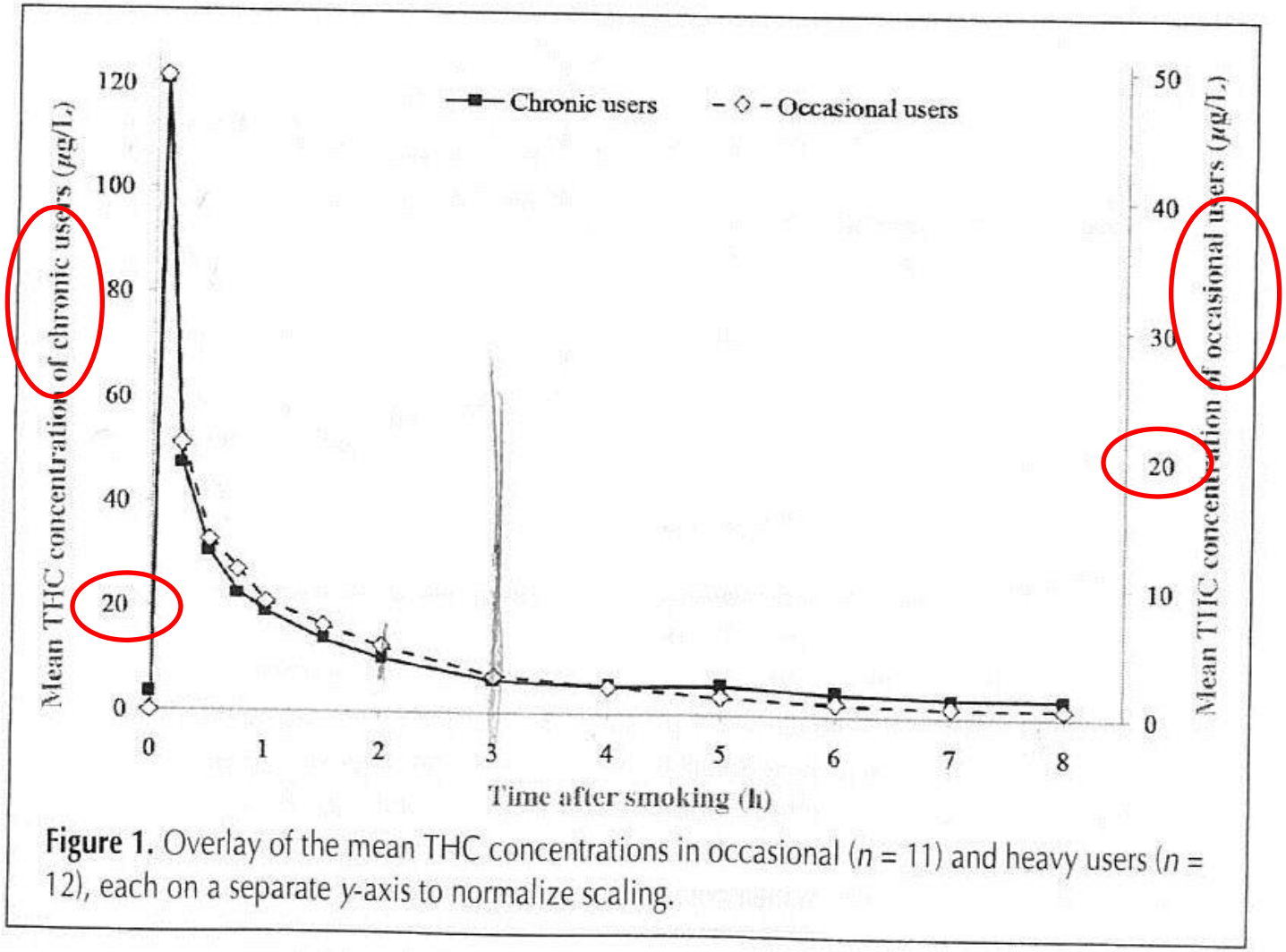


Figure 1. Overlay of the mean THC concentrations in occasional (n = 11) and heavy users (n = 12), each on a separate y-axis to normalize scaling.

Toennes et al 2008,
J of Analytical Toxicology

Summary

- Legal limits have been introduced successfully in Norway with a harmonization of the legislation for alcohol
  Per se limits corresponding to 0.2 ‰ for 28 non-alcohol
  Limits for graded sanction corresponding to 0.5 and 1.2‰ for 22 non-alcohol drugs

- Polydrug cases; an individual evaluation of impairment based on all drug concentrations, prescriptions and clinical test of impairment

- The number of apprehended drivers has increased with around 20% after introducing legal limits

- The number of expert witness statements has been reduced significantly (around 40%)

- The frequency of DUI-cases has been reduced ☺

Thank you for your attention!

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Scientific background for the THC-limits for graded sanctions

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Revision of the legislative limits in 2016; new THC-publications included

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Normal traffic in Norway

Road side study 2008-2009

Alcohol	0.3 %
Narcotics	1.5 %
THC 0.7 %	
Medicinal drugs	3.2 %

Around 10.000 oral fluid samples (Statsure)

Refusal rate 5.8%

Gjerde H. et al 2012 (DRUID project)