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## **New Hampshire (2024) Testimony opposing the imposition of THC per se limits**

I am submitting this testimony to members of the Committee to express my opposition to Senate Bill 418.

I have worked professionally in the field of marijuana policy for nearly 30 years, and I am currently the Deputy Director of NORML – the National Organization for the Reform of Marijuana Laws, a public interest advocacy organization based in Washington, DC.

During my professional career, I have authored several books on cannabis policy, and my writing has been featured in over two dozen academic anthologies. My work specific to the issue of cannabis and psychomotor performance has been published in various peer-reviewed journals, including *Drug Testing and Analysis*,<sup>1</sup> and in several legal textbooks. I have been retained as an expert in numerous legal cases specific to issues involving cannabis use, its pharmacokinetics, and its influence on driving behavior. I have also attended multiple training seminars pertaining to this issue, including symposiums sponsored by the American Academy of Forensic Sciences (AAFS), the Society of Forensic Toxicologists (SOFT), the International Council on Alcohol, Drugs, and Traffic Safety (ICADTS), and the National Institute on Drug Abuse (NIDA).

Senate Bill 418 imposes an unscientific, arbitrary *per se* limit of 2ng/ml of THC in blood upon any adult who operates a motor vehicle. NORML opposes the imposition of such inflexible *per se* limits for the presence of THC in blood, as does virtually every traffic safety organization that has weighed in on this issue.

### **Traffic Safety Experts Oppose Per Se Limits for THC**

Specifically, the premier traffic safety agency in the United States, the National Highway Traffic Safety Administration (NHTSA), acknowledges: "It is difficult to establish a relationship between a person's THC blood or plasma concentration and performance impairing effects. ... **It is inadvisable to try and predict effects based on blood THC concentrations alone.**"<sup>2</sup>

A study conducted by the American Automobile Association (AAA) also concludes, "**There is no evidence** from the data collected, particularly from the subjects assessed through the DRE exam, **that any objective threshold exists that establishes impairment, based on THC concentrations.**"<sup>3</sup>

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<sup>1</sup> Armentano. 2013. Cannabis and psychomotor performance: A rational review of the evidence and implications for public policy. *Drug Testing & Analysis* 5: 52-56.

<https://pubmed.ncbi.nlm.nih.gov/22972702/>

<sup>2</sup> NHTSA. Drugs and Human Performance Fact Sheet: Cannabis/Marijuana

[https://www.wsp.wa.gov/breathtest/docs/webdms/DRE\\_Forms/Publications/drug/Human\\_Performance\\_Drug\\_Fact\\_Sheets-NHTSA.pdf](https://www.wsp.wa.gov/breathtest/docs/webdms/DRE_Forms/Publications/drug/Human_Performance_Drug_Fact_Sheets-NHTSA.pdf)

<sup>3</sup> AAA. *An Evaluation of Data from Drivers Arrested for Driving Under the Influence in Relation to Per Se Limits for Cannabis*. May 2016.

<https://aaafoundation.org/wp-content/uploads/2017/12/EvaluationOfDriversInRelationToPerSeReport.pdf>



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A Congressional Research Service report entitled *Marijuana Use and Highway Safety* similarly determines: **“Research studies have been unable to consistently correlate levels of marijuana consumption, or THC in a person's body, and levels of impairment.** Thus, some researchers, and the National Highway Traffic Safety Administration, have observed that using a measure of THC as evidence of a driver's impairment is not supported by scientific evidence.”<sup>4</sup>

Most recently, researchers at the University of California at San Diego conducted the largest-ever controlled study assessing cannabis' influence on driving behavior. Scientists concluded unequivocally: **“There was no correlation between THC in blood, OF [oral fluid], or breath and driving performance. ... The complete lack of a relationship between the concentration of the centrally active component of cannabis in blood, OF, and breath is strong evidence against the use of per se laws for cannabis.”**<sup>5</sup>

### **Why Per Se Limits Are Inadvisable for Cannabis**

Unlike alcohol, which may be detected in a person's blood for limited periods following ingestion, **THC is fat-soluble. Therefore, it may remain present in blood at residual levels for several days following past exposure** – long after any impairing effects of the drug have worn off. This extended period of detection is most common among patients and others who consume cannabis regularly.

For example, a peer-reviewed study by Odell and colleagues<sup>6</sup> (*Residual cannabis levels in blood, urine and oral fluid following heavy cannabis use. Forensic Science International*) identified numerous subjects who tested positive for THC in blood at levels at more than twice those proposed in SB 418 following multiple days of monitored abstinence. Authors concluded: **“In some subjects THC was detectable in blood for at least 7 days.** ... The implications for forensic practitioners who have to interpret THC toxicology from the witness box are challenging. THC kinetics in heavy users appears to be highly variable and there is no easy interpretation which will allow a useful estimation of time of use from a single measurement.”

Further complicating this matter is the fact that many patients grow tolerant of cannabis' behavioral effects. According to a literature review published in the official journal of the German Medical Association, **“Patients who take cannabinoids at a constant dosage over an extensive period of time often develop tolerance to the impairment of psychomotor performance, so that**

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<sup>4</sup> Congressional Research Service. *Marijuana use and Highway Safety*. May 14, 2019.

<https://crsreports.congress.gov/product/pdf/R/R45719>

<sup>5</sup> Fitzgerald et al., 2023. Driving under the influence of cannabis: Impact of combining toxicology testing with field sobriety tests. *Clinical Chemistry* 69: 724-733.

<https://pubmed.ncbi.nlm.nih.gov/37228223/>

<sup>6</sup> Odell et al. 2015. Residual cannabis levels in blood, urine and oral fluid following heavy cannabis use. *Forensic Science International*: 173-180.

<https://www.sciencedirect.com/science/article/abs/pii/S0379073815000407?via%3Dihub>



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**they can drive vehicles safely.”<sup>7</sup>** Similarly, regarding the consumption of dronabinol (oral, synthetic THC) before driving, the US Food and Drug Administration acknowledges that persons acclimated to the effects of the drug “are able to tolerate the drug and to perform such tasks safely.”<sup>8</sup>

### **In Conclusion**

**SB 418’s proposed *per se* limit is not evidence-based, is opposed by most experts in the traffic safety field, and it is inconsistent with separate state statutes that legally permit the consumption of cannabis by authorized patients.** Because many qualified medical cannabis patients in New Hampshire consume marijuana either daily or near daily, most, if not all, of them will be vulnerable to criminal prosecution under this inappropriate legislation for doing nothing more than consuming their physician-authorized medicine.

Driving while impaired by cannabis or other controlled substances is already illegal in New Hampshire, and law enforcement has ample tools to identify, arrest, and prosecute DUI offenders. There is no need for the passage of this problematic legislation. Therefore, I urge this Committee to reject SB 418.

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<sup>7</sup> Grotenhermen and Muller-Vahl. 2012. The therapeutic potential of cannabis and cannabinoids. *Duetsches Arzteblatt International*: 495-501.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3442177/>

<sup>8</sup> Online at: <http://www.fda.gov/ohrms/dockets/dockets/05n0479/05N-0479-emc0004-04.pdf>