

# Legalizing Recreational Cannabis & Drug Impaired Driving In Canada

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President & CEO  
Traffic Injury Research Foundation

TRAFFIC INJURY RESEARCH FOUNDATION



Applying research to the real world.





# About TIRF

TIRF is registered charity providing the following services:

- > Research on road crashes;
- > Program and policy development;
- > Evaluation plans, program, and policy evaluations; and
- > Knowledge transfer



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The **vision** of TIRF is to ensure people using roads make it home safely every day by eliminating road deaths, serious injuries and their social costs.

TIRF's **mission** is to be the knowledge source for safer road users and a world leader in research, program and policy development, evaluation, and knowledge transfer.





# Overview

- > Status of cannabis legislation in South & North America, Australia, Europe
- > Canadian trends in drugs and cannabis in fatal crashes
- > ICADTS Drugged Driving Work Group – Fact Sheet Series
- > Important issues to address
  - » Enforcement challenges
  - » Toxicology resources
  - » Cannabis consumption spaces



# Cannabis Legislation Update

## Cannabis legislation evolution:

- > South & North America
  - » Uruguay, Mexico
  - » Canada, United States (19+2)
- > Australia
  - » Australian Capital Territory
  - » Other states
- > Europe
  - » Germany, Malta, Netherlands, Luxembourg
  - » Spain, Italy, Portugal, France





# Testing for drugs in fatal crashes in Canada



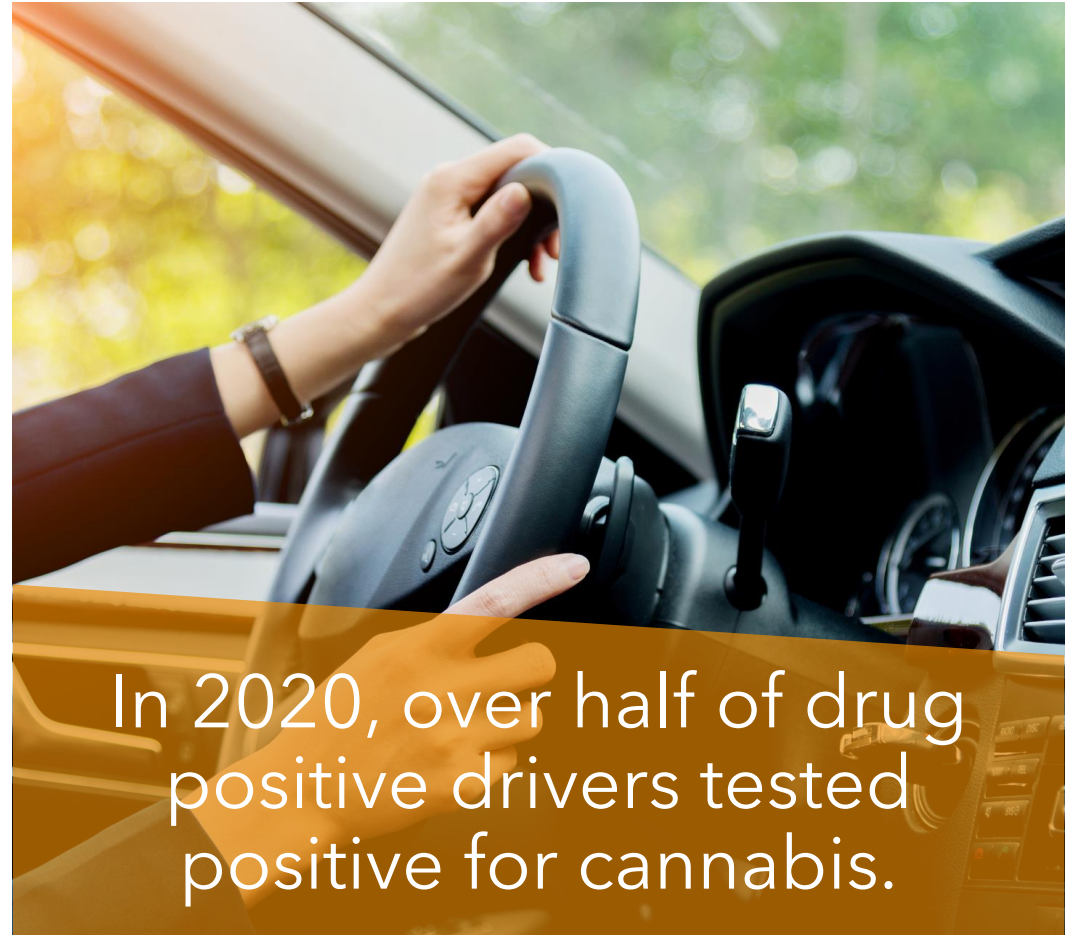
Testing rates for drugs among drivers in fatal crashes have increased.

- > Testing rates for drugs fatally injured drivers have increased:
  - » 37% were tested in 2000;
  - » 56% were tested in 2010;
  - » 77% were tested in 2020.
- > Among all drivers tested:
  - » 34% tested positive for any drug in 2000
  - » 55% tested positive for any drug in 2020.



# Drug test results for fatally injured drivers in Canada

- > Test results for drug positive fatally injured drivers in 2020 showed:
  - » 54.7% tested positive for cannabis;
  - » 36.0% for CNS depressants;
  - » 35.8% for CNS stimulants;
  - » 19.4% for narcotic analgesics.





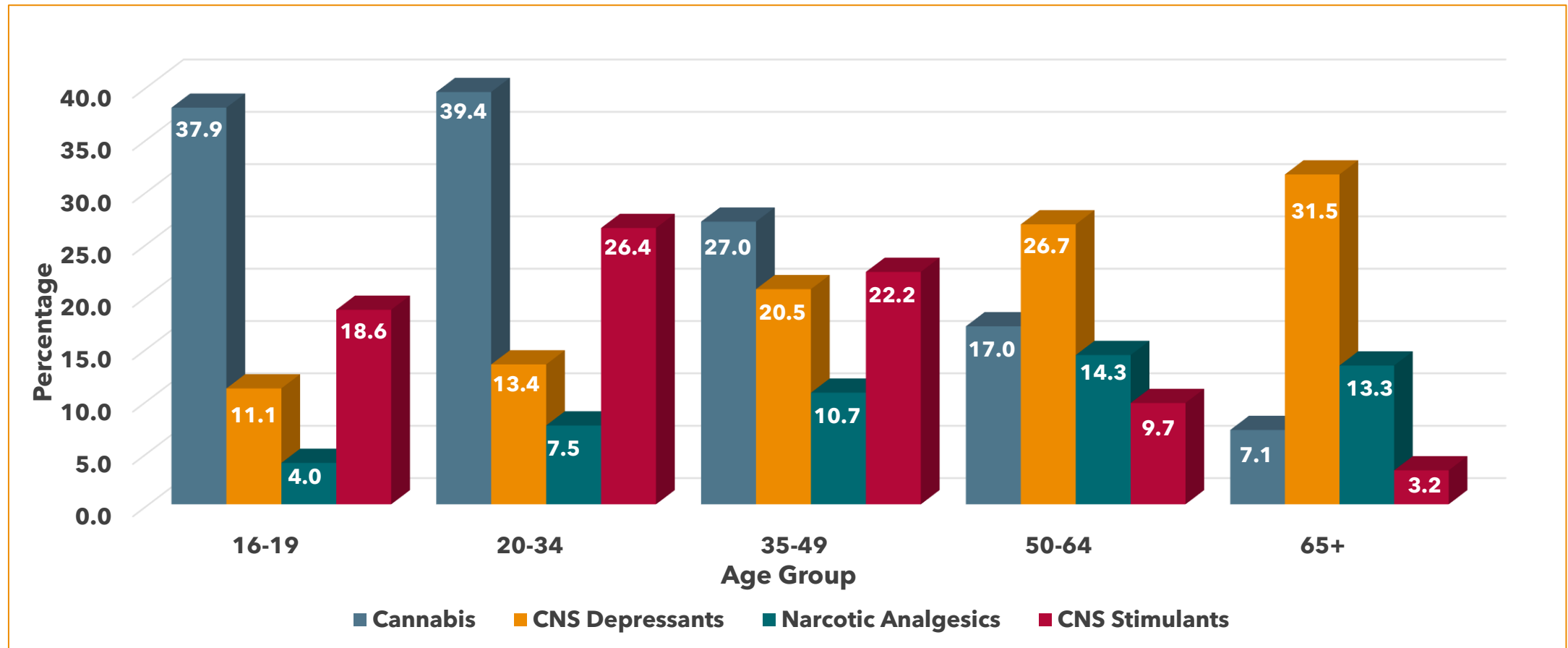
# Prevalence of drugs in fatal crashes in Canada

- > Among fatally injured drivers, females were more likely than males to test positive for drugs (58% vs 54%).
- > Males were more likely to test positive for cannabis and CNS stimulants.
- > Positive tests for drugs were more prevalent in younger drivers (under age of 35) in comparison to those older than age 35.
- > **Drivers aged 20-34 years are most likely to test positive for drugs.**
- > Cannabis was more prevalent among young drivers whereas older drivers were more likely to test positive for CNS depressants.
- > Fatality data show on weekends 56% of fatally injured drivers tested positive for drugs; 50% in weekday crashes.





# Percentage of fatally injured drivers testing positive for drug categories by age group: Canada, 2016-2020



\* Source: TIRF's National Fatality Database, 2022



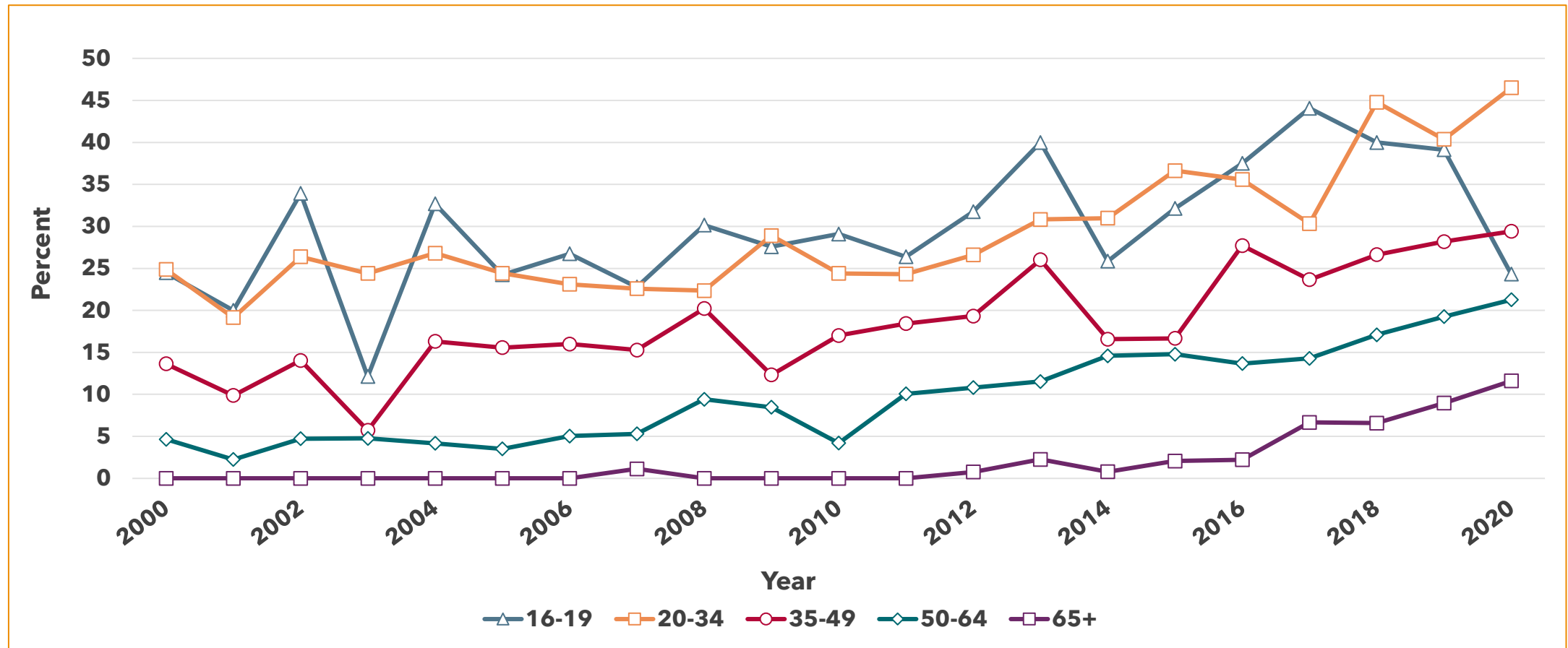
# Prevalence of cannabis in fatal crashes in Canada

- > Among fatally injured drivers tested for drugs:
  - » 15.9% tested positive for cannabis in 2000;
  - » 15.9% tested positive for cannabis in 2010;
  - » **30.1% tested positive for cannabis in 2020.**
- > Between 2000 and 2020:
  - » Males - 17.5% tested positive in 2000, rising to 31.6% in 2020.
  - » Females - 8.1% in 2000, rising to 23.2% in 2020.



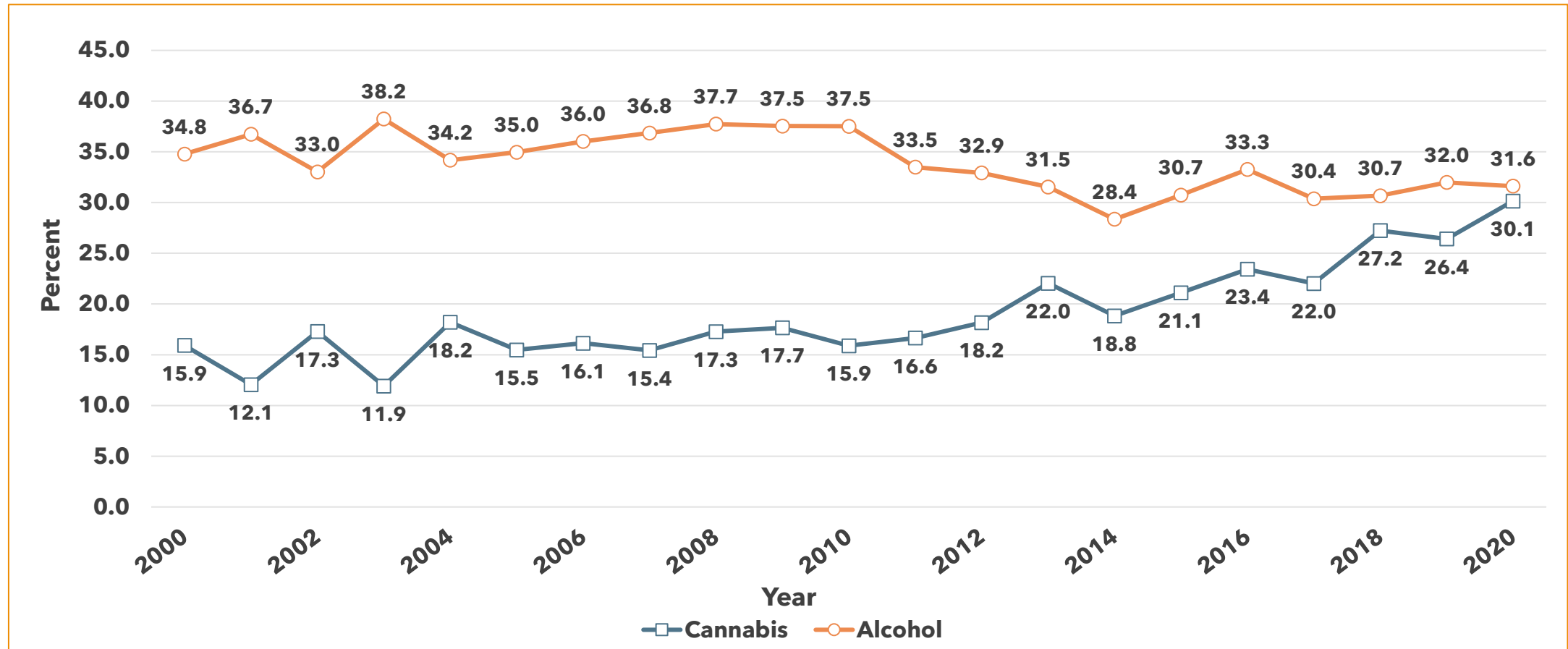


# Percentage of fatally injured drivers testing positive for cannabis by age group: 2000-2019





# Percentage of fatally injured drivers testing positive for cannabis and alcohol: Canada, 2000-2020

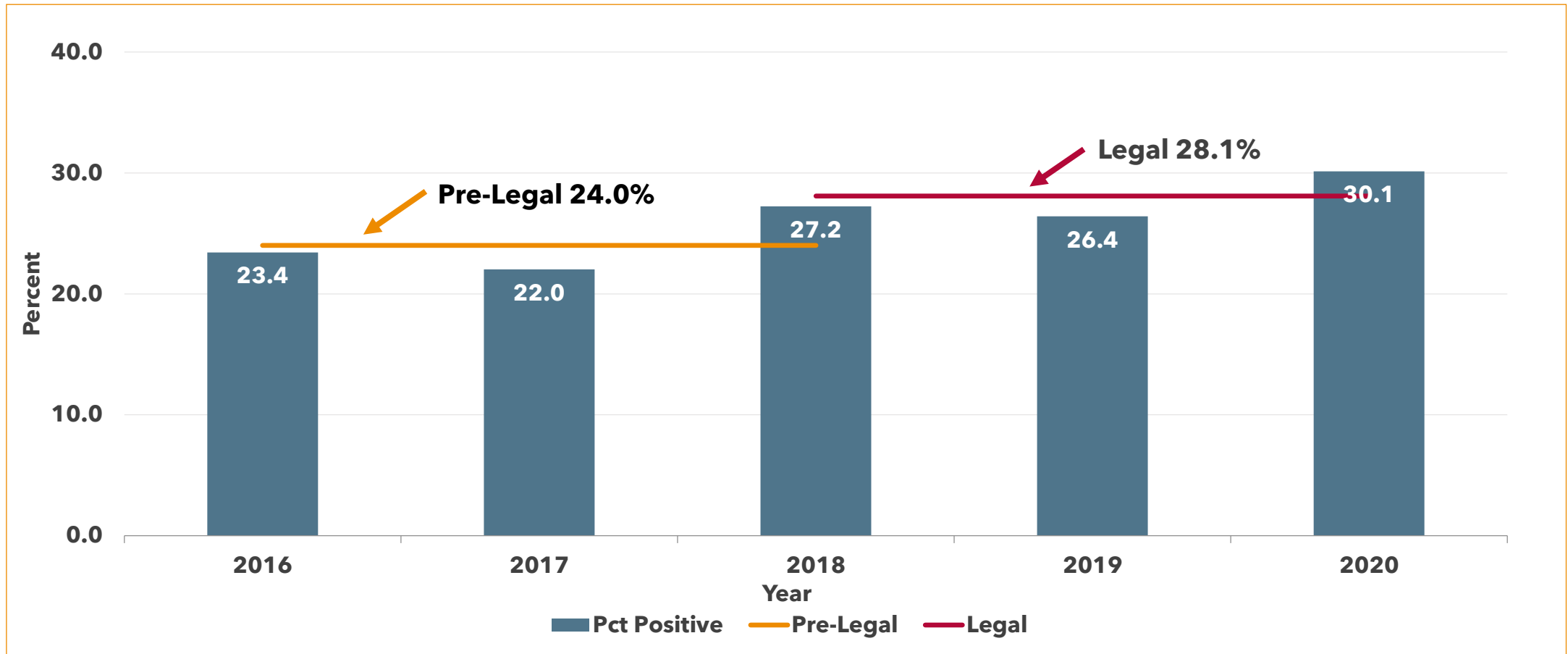


\* Source: Brown et al. 2022



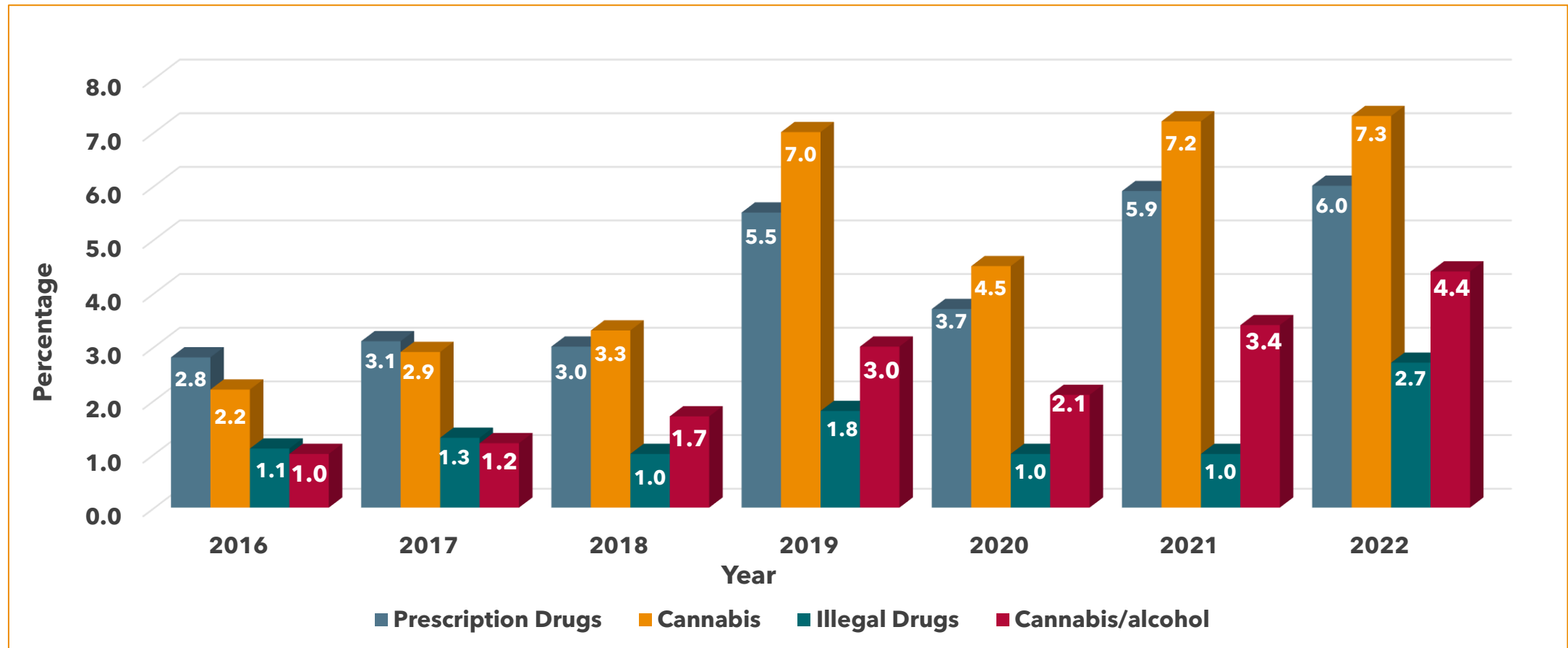


# Percentage of fatally injured drivers testing positive for cannabis: Canada, 2016-2020





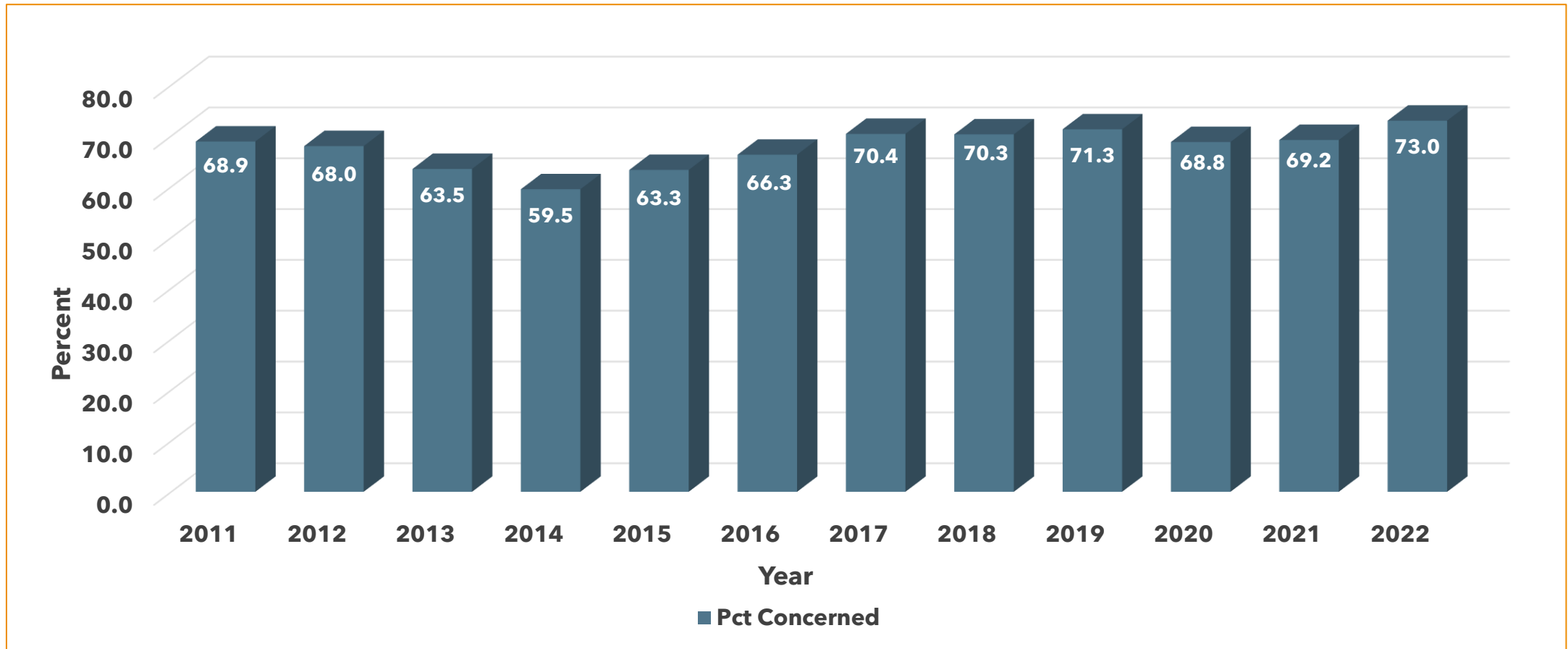
# Self-reported driving within two hours of using various drugs: Canada, 2016-2022



\* Source: TIRF 2022



# Trends in drivers concerned about drug-impaired driving: 2011-2022



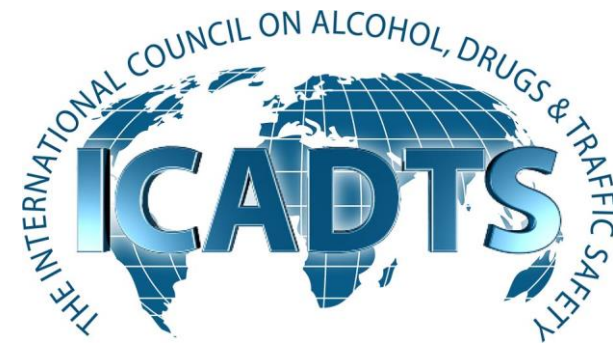


# ICADTS Drugged Driving Work Group



**Maastricht University**

- > Many countries are exploring legislative strategies for cannabis legalization.
- > Initiatives are more often led by health instead of transportation.
- > Impaired driving receives less attention.
- > Yet legislation and allocation of resources has the potential to dramatically impact impaired driving problem in the coming years.
- > ICADTS work group was formed to tackle this issue and inform policymakers around the globe.







# Work Group Members

## Acknowledgements

Special thanks to ICADTS Drugged Driving Work Group Co-Chairs: Jan Ramaekers, [Maastricht University](#) (Netherlands) Robyn D. Robertson, [Traffic Injury Research Foundation](#) (Canada) & Thomas Arkell, [Swinburne University](#) (Australia) and the Members who contributed their expertise.

### Australia

Jeremy Davey | University of the Sunshine Coast

Iain McGregor | University of Sydney

Luke Downey | Swinburne University

Wayne Hall | University of Queensland

### Belgium

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### Canada

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Jeff Brubacher | University of British Columbia

Sarah Simmons | Traffic Injury Research Foundation

### Germany

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### Ireland

Denis Cusack | Medical Bureau of Road Safety, University College Dublin & Senior Coroner

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### Norway

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### Portugal

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Randy Atkins | National Highway Traffic Safety Administration

Tara Kelley-Baker | National Highway Traffic Safety Administration

Richard P. Compton | Traffic Safety Research LLC

Ryan Smith | National Transportation Safety Board

Staci Hoff | Washington Traffic Safety Commission

Eduardo Romano | Pacific Institute for Research & Evaluation



# Media Promotion

## INTERNATIONAL COUNCIL ON ALCOHOL, DRUGS & TRAFFIC SAFETY

### Cannabis & Driving 3: Recent Epidemiological Evidence



In roadside surveys, THC is the most commonly detected drug after alcohol. Limited data suggest that crash risk increases for drivers with  $\geq 5$  ng/mL THC in whole blood. Drivers combining cannabis & alcohol have a very high crash risk.



To access the fact sheets, visit [www.icadtsinternational.com](http://www.icadtsinternational.com)

## INTERNATIONAL COUNCIL ON ALCOHOL, DRUGS & TRAFFIC SAFETY

### Cannabis & Driving 2: Recent Experimental Evidence



Cannabis impairs driving despite slowed driving speeds. The degree of impairment varies substantially depending on the dose & the individual. More research is needed to fully understand its impact on driving.



To access the fact sheets, visit [www.icadtsinternational.com](http://www.icadtsinternational.com)



# Cannabis enforcement issues

Adequate numbers of officers: Canada

- > In 2020, there were more than 1,300 trained DREs and 27,300 SFST trained officers. There were almost 6,000 DRE evaluations.
- > Roadside process is complex:
  - » Different protocols for alcohol/cannabis.
  - » Delays in DRE testing means cannabis can 'disappear' before test sample is obtained.
- > Drugs represent growing proportion of driving cases, but drug cases proceed thru courts slowly.
- > Retention and re-certification are issues.





# Cannabis enforcement issues

Adequate numbers of officers: United States

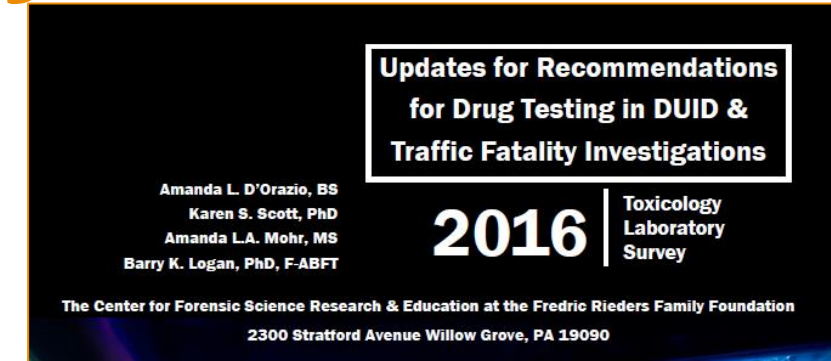
- > Approximately 1% of sworn officers are DREs (~8,000) and 35,000 evaluations are conducted annually.
- > In 2021, there were 1,355 new DREs trained at 96 DRE schools.
- > 8,132 DREs certified/re-certified.
- > 28,185 enforcement evaluations with about 3,000 determinations of no impairment; DRE calls are accurate about 80% of the time.
- > Labs may not confirm impairment due to time delays and different cut-off levels; blood draws earlier if cannabis detected.
- > Retention and re-certification are issues amplified by some high-profile media cases and discussion of de-funding police.





# Cannabis toxicology issues

- > Inadequate capacity of labs and backlogs in testing.
- > Whole versus serum blood versus oral fluid.
- > Test panels and cut-off levels are inconsistent.
- > Resources for new equipment and on-boarding of it.
- > Few labs can test for NPS.





# Cannabis consumption spaces

- > Some jurisdictions are exploring issue of recreational cannabis consumption standards. But there are concerns
  - » Modest crash risk increase at population level.
  - » Self-reported increases in cannabis, alcohol within 2hrs or driving in past 3 yrs.
  - » Cannabis-positive drivers are frequently detected in Canadian trauma centres.
  - » Roadside surveys suggest cannabis among drivers is a concern.

## NON-MEDICAL CANNABIS CONSUMPTION SPACE ENGAGEMENT

**Submitted to:**  
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**Submitted by:**  
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# Cannabis consumption spaces

- > Other concerns:
  - » Data show prevalence of cannabis and alcohol among fatally injured drivers are a concern.
  - » Cannabis and alcohol are also prevalent among fatally injured pedestrians.
  - » Police-reported data reveal an increase in drug-impaired driving.
  - » The presence of consumption spaces has real potential to increase drug-impaired driving.
  - » Enforcement is hard-pressed to keep up with issue and trained officers are challenged to detect impairment.
  - » Absence of server training program.



# Conclusions

- > Trend in legalizing cannabis (medical and recreational) will continue.
- > Several jurisdictions are showing evidence of the impact of legalization on drug-impaired driving; compounded by pandemic.
- > Greater allocation of enforcement, toxicological, court resources needed.
- > Collaboration and establishing greater uniformity in the types of tools used to assess impairment and the way in which results are recorded is a priority to enable researchers to pool data and better assess the impact of expanding legalization on traffic safety and accelerate learning.
- > Sharing research with policymakers to inform decision-making is essential.
- > Cannabis consumption spaces is an emerging issue that warrants attention.



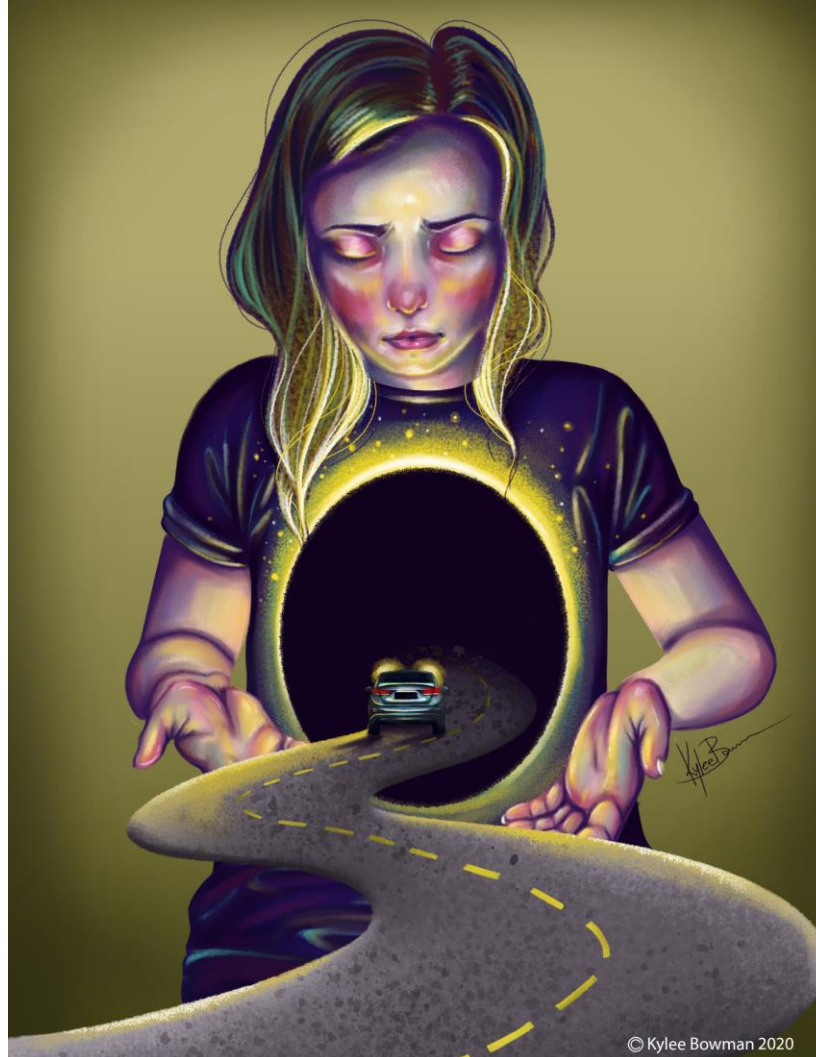


# Our team





# TIRF's Youth Advisor



# Thank you

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