

# Perceptions of effectiveness and believability of pictorial and text-only health warning labels for cannabis products among Canadian youth.

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**Prof. David Hammond: Paid expert testimony – Public Health Litigation**

**Legal challenge to restrictions on cannabis promotion on behalf of the Province of Quebec.**

## BACKGROUND

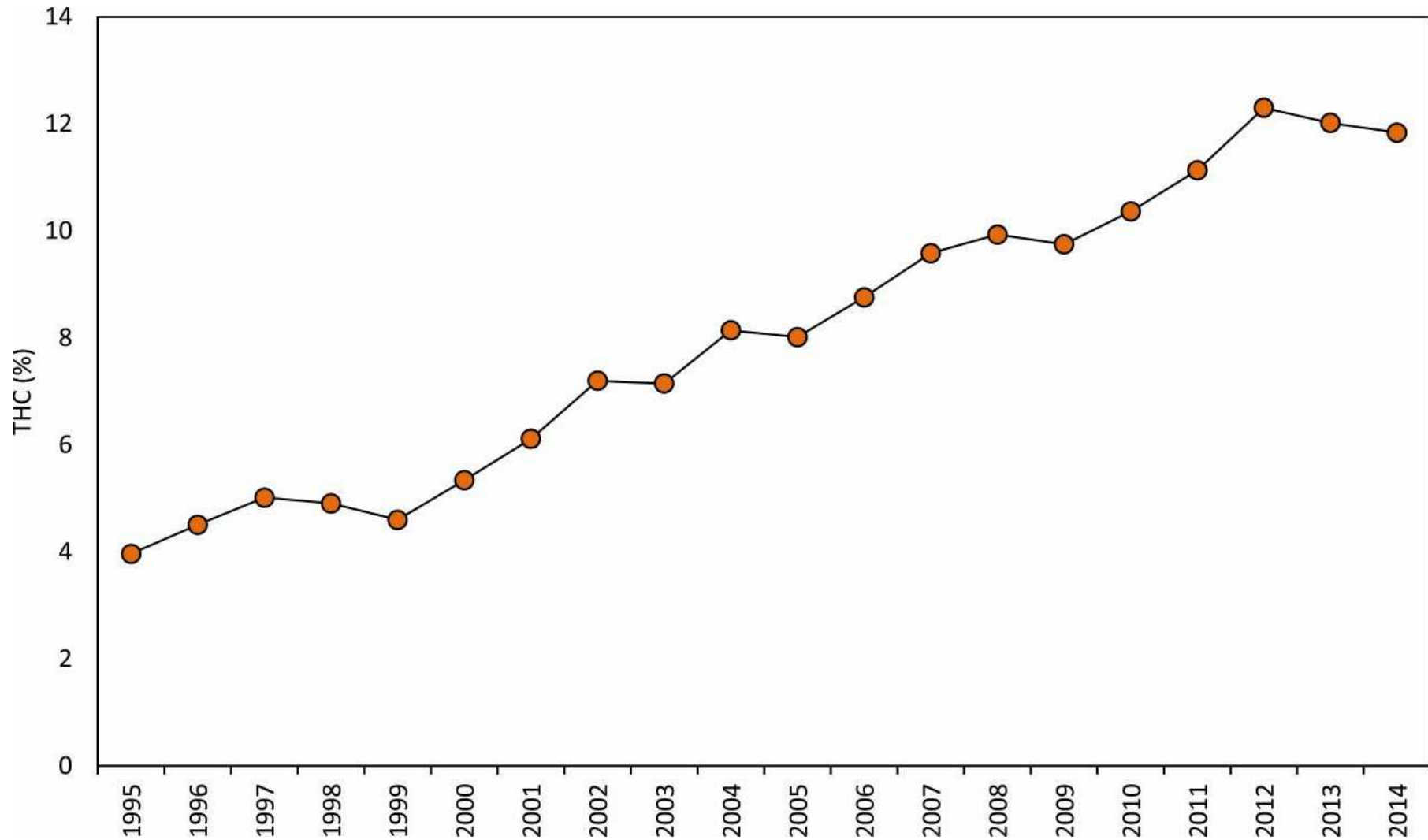
# Non-medical cannabis in Canada

- Canada has among the **highest rates of use** among developed countries<sup>1,2</sup>
- Overall, **19% of youth** (15-19 yrs) and **33% of young adults** (20-24 yrs) report past-year use of cannabis<sup>3</sup>
- **THC** (tetrahydrocannabinol,  $\Delta^9$ -THC)<sup>4,5,6</sup>



BACKGROUND

THC concentrations **tripled** in the past 20 years<sup>7,8</sup>



## BACKGROUND

# Short-term health effects

- Acute effects have been **recognized for many years**<sup>9,10,11</sup>
- Impairment of **cognitive abilities**<sup>12</sup>
- Impairment of **psychomotor skills**<sup>13</sup>

## BACKGROUND

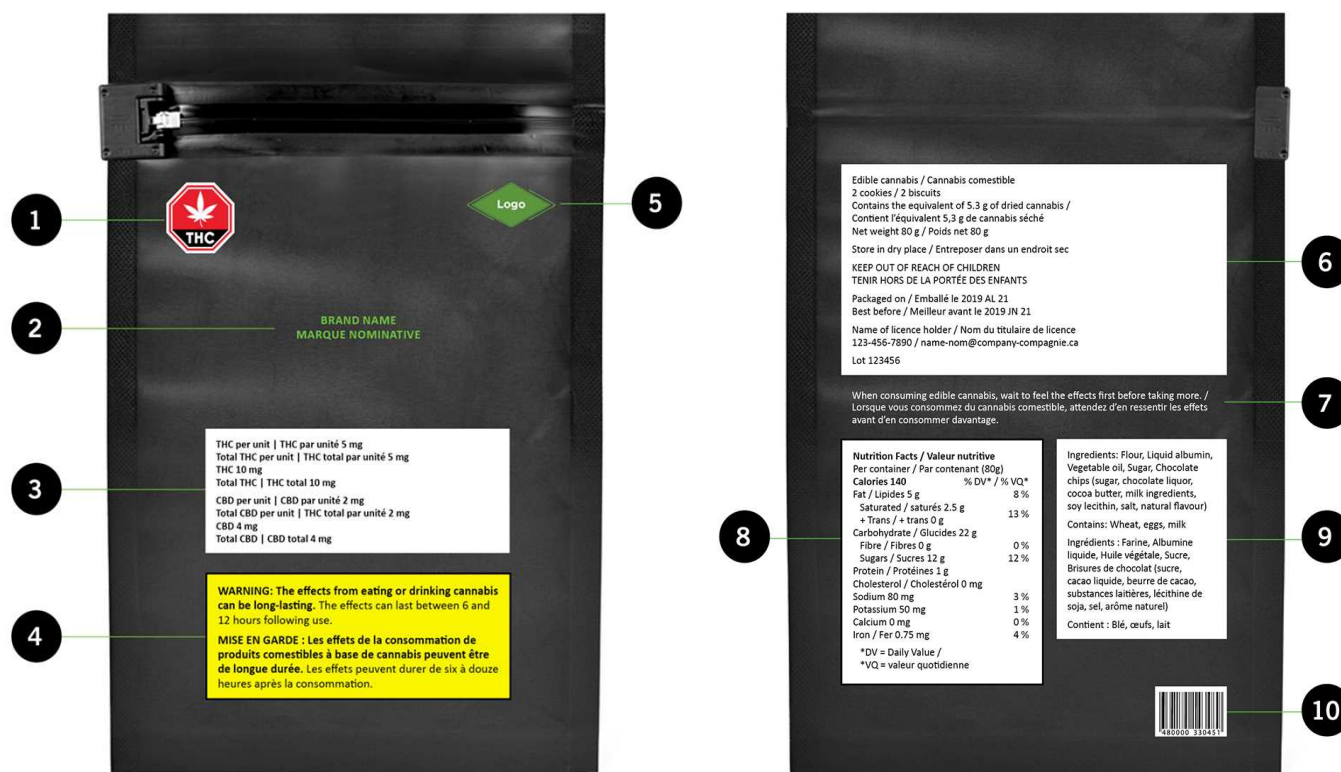
# Long term health effects

- Difficulty **integrating complex information**<sup>9</sup>
- Changes in **brain structures**<sup>9,14</sup>
- Cannabis dependence<sup>11, 14</sup>
  - **~9%** of users, overall
  - **~17%** of those who begin in adolescence
  - **~25-50%** of those who report daily use

## BACKGROUND

# Canadian non-medical cannabis legalization

- *Cannabis Act* came into effect on October 17<sup>th</sup>, 2018
- Established regulations for **packaging and labelling**





BACKGROUND

# Canadian non-medical cannabis legalization

- Feature **1 of 9** rotating health warning labels





## BACKGROUND

# Youth perceptions

- **Know very little** regarding the health effects of cannabis<sup>21,22</sup>
- Perceive that **use is more prevalent and widespread** than it is<sup>21,23</sup>
- Report that cannabis is **safe**, used by “**everybody**”, “**natural**”, “**not really a drug**”<sup>21,24</sup>
- Risk perceptions influence **intentions to use**, rely on beliefs of personal **susceptibility**

## BACKGROUND

# Health warning labels

- Effective in **reducing use** and consequent tobacco-related disease burden<sup>22</sup>
- High reach and frequency of exposure
- Cannabis users report consuming up to **3 cannabis cigarettes/day**<sup>23</sup>



## BACKGROUND

# Research questions

1. What are the differences in **perceived effectiveness** of **text** and **pictorial** health warning labels?
2. Is there **support for warning labels**, pictures on warning labels and calls to action?
3. Are certain health warning **themes** more likely to be **recalled** than others

## METHODS

# Study design

- Online cross-sectional survey: **October 2017**
- Inclusion criteria:
  - **16 to 30 years of age**
  - Canadian IP address
  - Cannabis users and non-users
- Commercial consumer panel (400,000 active members)
- Non-probability sampling across Canada

## METHODS

# Survey design

- Comprehensive survey on cannabis consumption and behaviours
- **Embedded 4 between-group experiments**

## METHODS

# Health warning labels

## ● PREGNANCY



## Condition 1

## Condition 2

## ● DRIVING



## MENTAL HEALTH



## OTHER DRUG MIX



## EARLY USE



## ADDICTION



## ● DOSE



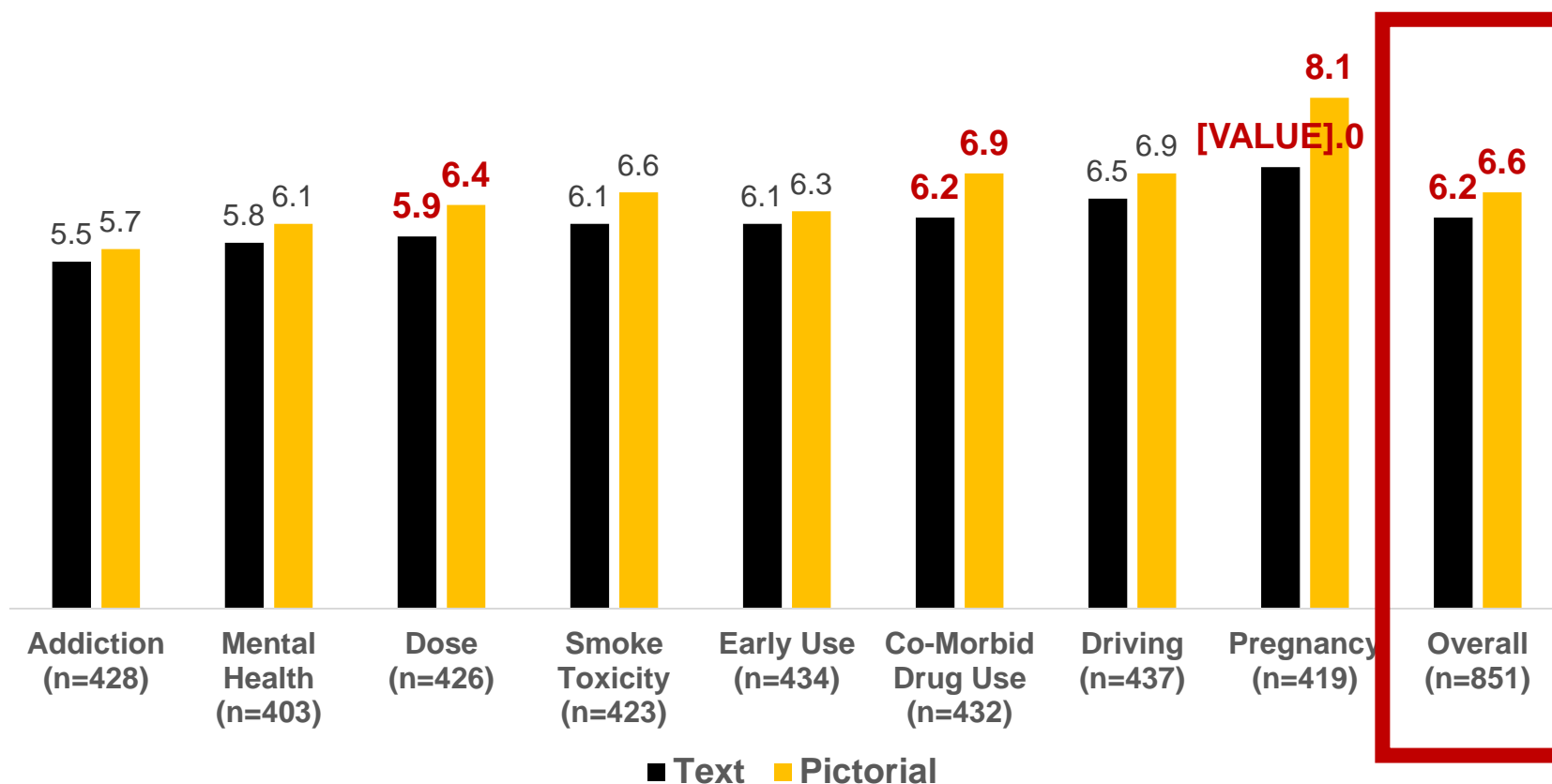
## ● SMOKE TOXICITY





## RESULTS

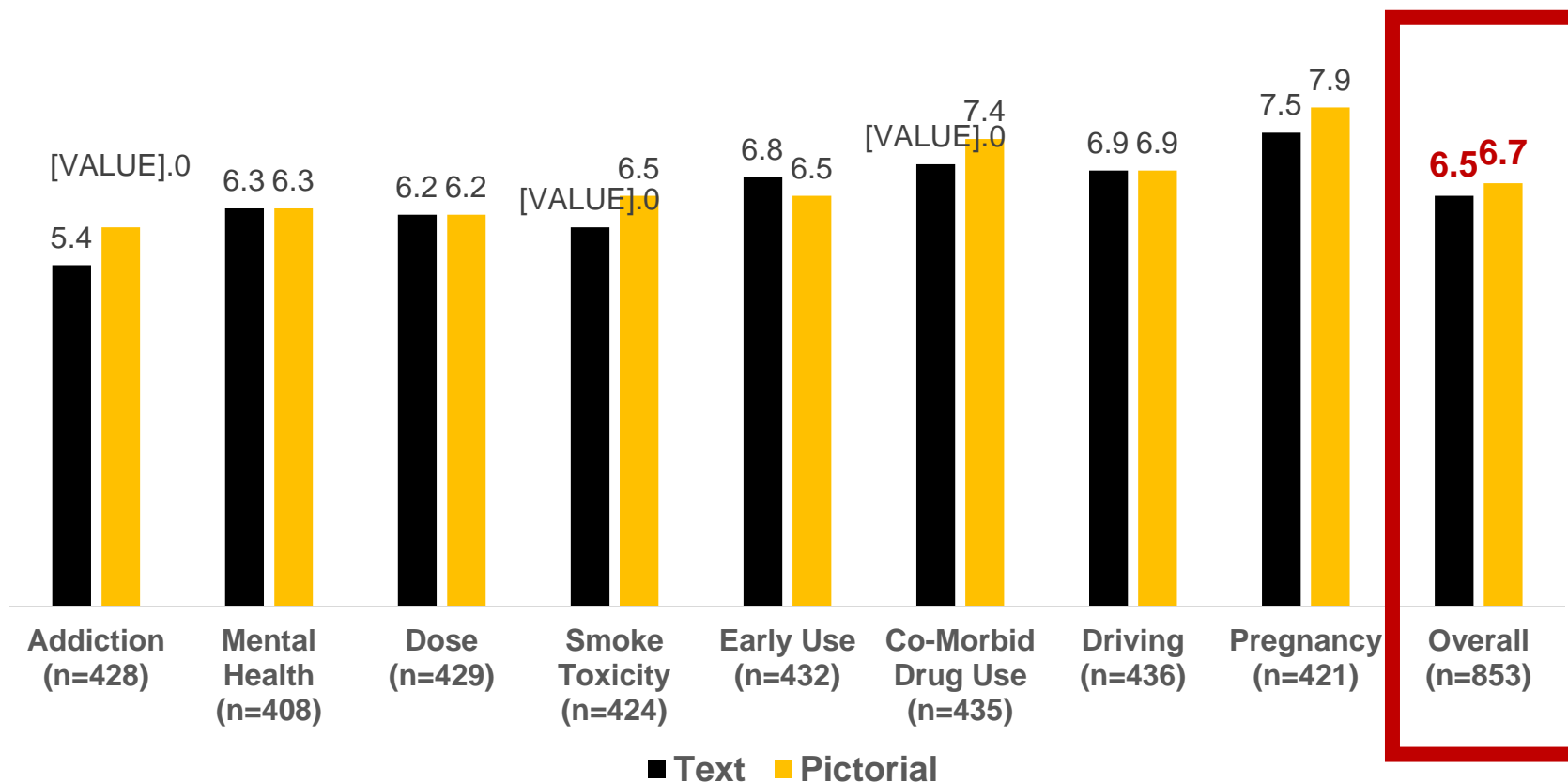
# Ratings of effectiveness (out of 10)



- Pictorial warnings were rated as **more effective** than text-only warnings (AOR=1.59, 95%CI 1.33-1.89,  $p<0.001$ )

## RESULTS

# Ratings of believability (out of 10)



- Pictorial warnings were rated as **more believable** than text-only warnings (AOR=1.19 95%CI 1.002-1.41,  $p=0.048$ )

MEASURES

# Health warning labels



## RESULTS

# Support for cannabis health warnings

- **88%** reported support for cannabis health warnings
  - **69.8%** support pictures on warnings
- **84.0%** report support for calls to action/quitlines

## MEASURES

# Health warning labels



## RESULTS

# Recall Task

- **No significant differences in recall** between pictorial and text warnings



## DISCUSSION

# Health warning labels (pictorial vs text-only)

- Pictorial labels were perceived as **more effective and believable** than text-only health warning labels
- **No significant differences** were observed between text and pictorial warnings in the **recall task**
- Near universal **support for labels** and calls to action
- Future work should examine impact of cannabis health warning labels on **consumer knowledge** and **perceptions of risk**



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Research Paper



## ARTICLE INFO

### Keywords:

Cannabis labeling  
 Cannabis health communication  
 Cannabis product packaging  
 Cannabis use  
 Cannabis consumer behaviour

## ABSTRACT

**Background:** Health warnings have been shown to increase knowledge and awareness of health risks, influence social norms, and reduce consumption of tobacco products. With the legalization of non-medical cannabis in Canada and other subnational jurisdictions, there is a need for empirical studies to examine the impact of cannabis health warnings on consumer perceptions and behaviour relevant to cannabis.

**Methods:** In October 2017, a between-group experiment was conducted as part of an online survey of Canadians aged 16 to 30 years (N = 870) recruited from a national consumer panel. Participants rated the perceived effectiveness and believability of either text-only or pictorial cannabis health warnings and then completed a message recall task. Participants also reported their level of support for cannabis warnings, and support for including cessation information and a quitline on the warnings.

**Results:** Pictorial health warnings for cannabis products were perceived as more effective and believable than text-only warnings ( $p < 0.001$ ), and the superiority of pictorial warnings was found across different warnings: dose ( $p = 0.039$ ), co-morbid drug use ( $p = 0.006$ ), and pregnancy ( $p < 0.001$ ). Pictorial warnings were also rated as more believable ( $p = 0.048$ ). Overall, 87.7% respondents supported having health warnings on cannabis products, and 84.0% supported the inclusion of a quitline number on cannabis health warnings.

**Conclusion:** The current study provides the first empirical test of cannabis health warnings, consistent with the considerable body of evidence on the effectiveness of pictorial warnings on tobacco products. There was strong support for the inclusion of picture warnings and the inclusion of resources and quitlines on cannabis packaging.

# Thank you!



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## RESULTS

# Sample Characteristics (N=870)

**52.1%** female

**25.2%** aged 16 to 18

**30.7%** aged 19 to 24

**44.1%** aged 25 to 30

**64.5%** identified as white

**41.5%** never users

**36.0%** former users (not in past 30 days)

**22.5%** current users (use within past 30 days)