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Cannabis use and workplace cannabis availability, perceptions and policies among Canadian workers: a comparison before and after the legalisation of non-medical cannabis

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ABSTRACT

Objectives Little data exist examining the impact of non-medical (recreational) cannabis legalisation among a working population. The objective was to compare cannabis use patterns and workplace risk perceptions, cannabis availability and workplace use policies before and almost 1 year after legalisation in Canadian workers.

Methods Two overlapping cross-sectional samples of Canadian workers were surveyed 4 months before legalisation (time 1 (T1), n=2011) and 9–11 months after legalisation (time 2 (T2), n=4032), gathering information on cannabis use (overall and workplace use), workers' perceptions regarding risks of workplace use, availability of cannabis at work and awareness of workplace substance use policies. The marginal distributions of these variables at T1 and T2 were compared, adjusting for sociodemographic, work and health and lifestyle factors.

Results Cannabis use status changed from prelegalisation to postlegalisation (p<0.0001), with fewer respondents reporting former use (ie, more than 1 year ago; 40.4% at T1, 33.0% at T2) and a greater proportion of workers reporting past-year use (30.4% at T1, 39.3% at T2). Never use remained stable (29.2% at T1, 27.6% at T2). Workplace cannabis use also remained stable (9.4% at T1, 9.1% at T2; p=0.4580). At T1, 62.7% of respondents reported being aware of their workplace having a substance use policy, increasing to 79.0% at T2 (p<0.0001). Small magnitude changes occurred in perceptions of risk and workplace availability.

Conclusions Results point to a lack of substantive changes in the short-term from prelegalisation to postlegalisation. Longer-term data among workers are needed given the evolving nature of this legislative policy.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Some data suggest cannabis use among adults has increased in jurisdictions that have legalised non-medical (recreational) cannabis.
⇒ However, virtually nothing is known about the impact of legalisation specifically among a working population, on use (including workplace use) and on related modifiable factors.

WHAT THIS STUDY ADDS

⇒ A large sample of Canadian workers was surveyed before and after non-medical cannabis was legalised. Results suggest that, almost 1 year after non-medical cannabis use was legalised in Canada, past-year cannabis use increased, but the prevalence of workplace use remained unchanged.
⇒ After legalisation, more respondents reported awareness of a workplace substance use policy and small magnitude changes also occurred in perceptions of risk and workplace availability, but few other changes were seen.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The findings of this study offer important insights on how legalisation impacted workers in Canada, with results pointing to a lack of substantive changes in the short term from prelegalisation to postlegalisation.
⇒ While longer-term data among workers are needed, results are reassuring and may be an early indication of what might be expected in other jurisdictions that legalise non-medical cannabis.

INTRODUCTION

On 17 October 2018, the use and purchase of cannabis for non-medical (recreational) purposes officially became legal in Canada.[1] Leading up to legalisation, survey data suggested that approximately 85% of Canadian employers were concerned about the workplace implications of legalisation, namely increased use, work impairment and impacts on workplace safety.[2–4] Yet, as the legal status of cannabis continues to evolve worldwide, the gaps in knowledge on cannabis use among workers and the implications for occupational health and safety (OHS) are evident.[5]

In Canada and the USA (where several states have legalised cannabis for non-medical purposes[6]), the literature evaluating changes in use among working-aged adults after legalisation is still emerging. The available research provides some evidence of a trend towards increases in

both prevalence of use and daily use among adults soon after the legalisation of non-medical cannabis.[7–13] However, little data exist examining the impact of legalisation on use specifically among a working population, including workplace use. According to results from the Canadian Cannabis Survey (CCS),[12–14] the prevalence of overall past-year cannabis use among employed Canadians increased in the first 2 years after legalisation (25% in 2018 to 27% in 2019 and 29% in 2020). Among respondents reporting past-year use, 26% reported using cannabis for non-medical purposes to get high before or at work before legalisation, decreasing to 21% and 18% one and 2 years, respectively, after legalisation.

Beyond use, there is an absence of data on whether modifiable factors with the potential to influence workplace cannabis use may have changed with legalisation, such as the physical availability of cannabis at the workplace, as well as awareness of substance use policies.[15] Risk perceptions of workplace use may also change with legalisation, but have not been measured.

The objective of this study was to compare cannabis use patterns, workplace use risk perceptions, workplace cannabis availability, and knowledge of workplace use policies reported before and almost 1 year after cannabis legalisation in a sample of Canadian workers.

METHODS
Study design and sample recruitment
Data for this analysis come from an ongoing research programme on cannabis use among Canadian workers.[16] Two partially overlapping cross-sectional samples are used for the current analysis. Recruitment and data collection for time 1 (T1) was completed in June 2018 (approximately 4 months before cannabis legalisation), while data collection for time 2 (T2) was completed between July and September 2019 (approximately 9–11 months following legalisation).

Individuals were eligible for the study if they were at least 18 years of age, currently working for another person or business with five or more employees, and working at least 15 hours per week. A private research firm conducted recruitment and survey administration. Respondents were recruited mainly from preexisting panels of households from across Canada who agreed to participate in surveys from time to time, with a small number also recruited through random digit dialling (RDD). The survey was administered online or by telephone based on respondent preference.

A total of 2014 individuals participated at T1. Of this group, 1910 agreed to be recontacted for future surveys, with 1098 respondents (1082 originally recruited from the panels, 16 from RDD) meeting eligibility and participating at T2. An additional replenishment sample of 3002 individuals who met eligibility criteria was recruited and participated at T2 (2850 from the panel, 152 from RDD). The final sample at T2 was 4101. Compared with the Canadian labour force population in 2018 and 2019, participants were older, were more highly educated, worked in larger workplaces, and had a longer job tenure. There was also some variation by industry. However, sex, region, weekly hours and job permanency were similar (details available on request).

Measures
Dependent variables
Outcomes were measured at both T1 and T2.

Cannabis use patterns
Respondents were queried about their lifetime cannabis use and past-year frequency of cannabis use (ranging from never to 5–7 days/week) using questions adapted from the Canadian Tobacco, Alcohol and Drugs Survey[17] and the CCS.[18] Responses were used to create two outcome variables. The first outcome, cannabis use status, categorised respondents into one of three categories of use: never use, former use (use more than 1 year ago), and past-year use. The second outcome classified respondents into whether they used cannabis daily or almost daily (5–7 days/week) in the past year (yes/no).

Respondents were also asked about their frequency of using cannabis within 2 hours before work, during work (excluding breaks), during breaks and at the end of a workday at the workplace, as informed by prior studies.[19 20] Responses to each item were dichotomised (yes/no). An overall workplace cannabis use variable was also derived, with the endorsement of any one item indicating workplace use.

Risk perceptions and availability of workplace cannabis use
Two survey items were developed to assess workers' perceptions of the risk of interfering with job performance and productivity when using cannabis within 2 hours before work and while working or on breaks (no risk, slight risk, moderate risk, great risk, don't know). An additional item with similar options measured perceived risk of harm (to themselves or others) when using cannabis within 2 hours before performing safety-sensitive work. These items were informed by similar measures.[14 21]

Perceived ease (difficult, neither easy/difficult, easy, don't know) of using cannabis during lunch or other breaks, using cannabis while working (excluding breaks), and getting, buying or selling cannabis at work was measured using three items adapted from the National Survey of Workplace Health and Safety.[22]

Awareness of workplace substance use policies
Two items were included to measure workers' awareness of a formal substance use policy and drug testing programme in their workplace (yes, no, don't know), adapted from The Alberta Survey of Addictive Behaviours and Mental Health in the Workforce.[23]

Covariates
Data on sociodemographic factors were collected, including age (continuous), sex (male, female), region (British Columbia/Yukon, Alberta, Saskatchewan/Manitoba, Ontario, Quebec, Atlantic Canada) and highest level of education (high school diploma or below, at least some postsecondary). Measures of self-rated general health (good/fair/poor, very good/excellent), current frequency of cigarette smoking (not at all, occasionally, daily) and past-year frequency of alcohol consumption (never/less than once a month, 1–3 times/month, 1–3 times/week, ≥4 times/week) were taken from the Canadian Community Health Survey.[24]

Data on work-related factors were also collected using questions from the Canadian Labour Force Survey (LFS),[25] including average weekly work hours (continuous), usual work schedule (regular day/evening/night shift, non-regular shift), job tenure with current employer (continuous), permanent job (yes/no) and workplace size (5–19, 20–99, 100–499, ≥500). Participation in hazardous work tasks at least weekly in the past 12 months (yes/no) was measured with a newly developed item, informed by the OHS Vulnerability Measure.[26] Finally, a measure of industry was adapted from the LFS[25] and the North American Industry Classification System Canada 2017 V.3.0.[27]

Analysis

Three respondents at T1 reporting gender as transgender or other were excluded from the analysis due to the inability to analyse them as a separate category. At T2, 69 respondents who participated at both waves, but were unemployed at the second wave were excluded. The final analytic sample at T1 and T2 was 2011 and 4032 (1030 from T1 respondents, 3002 from the replenishment sample), respectively.

Initial analyses included calculating descriptive statistics for the covariates, comparing the distribution of each variable at T1 and T2. Data analyses were generated using SAS software V.9.4 (SAS Institute Inc., Cary, NC, USA).

Percentages and 95% CIs were calculated for each outcome at T1 and T2. The effect of time (prelegalisation to postlegalisation) on the outcomes was assessed by fitting binary and multinomial logistic regression models to each outcome (as appropriate), with an indicator for survey timing (T1, T2) as the primary independent variable. A cluster statement was included in PROC SURVEYLOGISTIC in SAS to account for repeated observations for respondents participating at both time points.[28] The F test of equal marginal means for the effect of time was calculated for each model. Crude models included only the indicator for survey timing, while adjusted models included all covariates previously described and survey mode (online, telephone). In addition, for analyses examining outcomes of perceptions, availability and workplace policies, cannabis use status was included as a covariate in adjusted models.

In a comparison of respondents who participated at both waves with those who were lost to follow-up at T2, respondents participating at both waves were significantly more likely to be older, male, work more weekly hours, be in permanent jobs, and be non-smokers. Some variation was also seen by industry. No other differences were seen (details on request). Weights were developed to address unit non-response. First, a naïve weight was obtained as the ratios of the estimated labour force population meeting our eligibility criteria from the LFS in 2018 and 2019 (approximately 15.5 million) to the sample size at T1 and T2, respectively. Next, inverse probability weights were calculated to account for non-response among T1 respondents at T2. Using the sample of T1 respondents, propensity scores were estimated using logistic regression, modelling the association between all covariates plus cannabis use status from T1 with participation at T2 as the outcome. The final weight for respondents participating at T1 and T2 was the product of the naïve weight and the inverse of the estimated propensity score. Results from unweighted and weighted models were similar (details on request). Only the weighted results are reported.

Information on covariates was missing for 62 respondents at T1 (3.1%) and 95 respondents at T2 (2.4%). While online respondents were asked all outcome measures, telephone respondents were randomly assigned one of the three items measuring workplace cannabis availability at T1. Excluding those outcomes, 115 respondents at T1 (5.7%) and 170 respondents at T2 (4.2%) were missing data on one or more of the dependent variables. Including those outcomes, an additional 346 respondents at T1 (17.2%) and 15 respondents at T2 (0.7%) were missing data on the dependent variables.

Multiple imputation was used to address item non-response and was implemented using a fully conditional specification approach[29] with IVEware software V.0.3.[30] The imputation models contained all dependent variables and covariates and were run using 20 imputation cycles. Percentages of each outcome and their standard errors were estimated in each

imputed dataset and combined with PROC MIANALYZE in SAS to create pooled estimates of proportions and 95%CIs. F test values were estimated in each imputed dataset and combined by adapting a method used to pool type-III analyses from multiple imputations.[31]

RESULTS

Participant characteristics

The distributions of sociodemographic, health and work characteristics of the sample at T1 and T2 (stratified by original and replenishment respondents) are presented in online supplemental table 1. Respondents at both time periods were similar on most characteristics, though small differences were seen for age, sex, education, alcohol use and industry.

Cannabis use patterns prelegalisation and postlegalisation

Self-reported cannabis use patterns are presented in table 1. There was a statistically significant change in cannabis use status from prelegalisation to postlegalisation (p<0.0001), with fewer respondents reporting former use (40.4% at T1, 33.0% at T2) and a greater proportion of workers reporting past-year use (30.4% at T1, 39.3% at T2). Never use remained stable (29.2% at T1, 27.6% at T2). The proportion of respondents reporting daily or almost daily use between the two time points was statistically significantly different (7.0% at T1, 8.0% at T2; p=0.0267).

Workplace cannabis use remained stable. Before legalisation, 9.4% (95% CI 8.0% to 10.8%) of respondents reported using cannabis before and/or at work, compared with 9.1% (95% CI 8.0% to 10.3%) after legalisation (p=0.4580). Similarly, there were no significant changes in the four separate dimensions of workplace cannabis use.

Risk perceptions and availability of workplace cannabis use prelegalisation and postlegalisation

The results of analyses comparing self-reported workplace cannabis perceptions and availability from T1 to T2 are described in table 2.

At T1 and T2, nearly three-quarters of participants rated the risk of interference with productivity as moderate or great when using cannabis within 2 hours before work, while almost a quarter reported no risk or slight risk. When considering cannabis use while working or on breaks, two thirds considered there to be a great risk of productivity interference, one-fifth a moderate risk, and approximately 10% no risk/slight risk. Between T1 and T2, there was a small, but statistically significant difference in perceived risk for cannabis use before work (p=0.0295) and while working (p=0.0060). In both instances, the proportion of respondents rating risk as moderate increased slightly from T1 to T2 (use before work from 34.7% to 35.9%; use while working from 19.2% to 22.5%), while the proportion reporting no or little risk decreased (use before work from 23.5% to 22.1%; use while working from 11.4% to 9.9%). The proportion of respondents reporting a great risk of using cannabis in either of these situations remained similar. No significant differences were seen between T1 and T2 in perceived risk of harm when using cannabis within 2 hours before safety-sensitive work (p=0.1169). At both time periods, approximately 60% of respondents rated the risk as great, while an additional quarter considered there to be a moderate risk.

Perceptions around the ease of using cannabis during breaks were statistically different between T1 and T2, with 43.6% of respondents reporting it would be easy at T1 compared with

Table 1 Self-reported general and workplace cannabis use among all respondents before (time 1) and after (time 2) the legalisation of cannabis for non-medical purposes

	Time 1 (before legalisation)			Time 2 (after legalisation)			Unadj. P value*	Adj. P value*†
	%	95% CI From	To	%	95% CI From	To		
Cannabis use status							<0.0001	<0.0001
Never used	29.2	27.1	31.3	27.6	26.0	29.3		
Used >12 months ago	40.4	38.2	42.5	33.0	31.3	34.7		
Used ≤12 months ago	30.4	28.3	32.5	39.3	37.5	41.2		
Past-year frequency of cannabis use							0.0995	0.0267
Not daily use	93.0	91.9	94.2	92.0	90.9	93.0		
Daily or almost daily use	7.0	5.8	8.1	8.0	7.0	9.1		
Past-year cannabis use before and/or at work							0.6446	0.4580
Yes	9.4	8.0	10.8	9.1	8.0	10.3		
No	90.6	89.2	92.0	90.9	89.7	92.0		
Past-year cannabis use:								
Within 2 hours before work	8.1	6.8	9.4	6.9	5.9	7.9	0.1161	0.4951
Yes	91.9	90.6	93.2	93.1	92.1	94.1		
No								
At lunch or on other breaks							0.1842	0.5388
Yes	6.0	4.8	7.2	5.1	4.2	6.0		
No	94.0	92.8	95.2	94.9	94.0	95.8		
While working (excluding breaks)							0.1927	0.4759
Yes	5.2	4.1	6.4	4.3	3.5	5.2		
No	94.8	93.6	95.9	95.7	94.8	96.5		
After work at the workplace							0.5144	0.6177
Yes	6.5	5.3	7.8	6.1	5.2	7.1		
No	93.5	92.2	94.7	93.9	92.9	94.8		

*P values correspond to the results of an F test testing the hypothesis of equal marginal means for the main effect of time (comparing time 1 with time 2 weighted for non-response).
†Adjusted for survey mode, age, sex, province, education, smoking, alcohol, general health status, hazardous work, workplace size, work hours, tenure, workshift schedule, job permanence, and industry.
Adj, adjusted; Unadj, unadjusted.

46.2% at T2 (p=0.0081). However, a larger proportion of respondents at T2 reported that use while working would be difficult compared with respondents at T1 (67.0% at T1, 71.4% at T2; p=0.0020). A greater proportion of respondents also reported it would be difficult to obtain cannabis at work (55.2% at T1 vs 59.7% at T2), though these estimates did not differ statistically (p=0.2045).

Awareness of workplace substance use policies prelegalisation and postlegalisation

The results of analyses comparing self-reported awareness of workplace substance use policies from T1 to T2 are described in table 3. At T1, 62.7% (95% CI 60.6% to 64.8%) of respondents reported being aware of their workplace having a substance use policy, increasing significantly to 79.0% (95% CI 77.5% to 80.5%) at T2 (p<0.0001). Among respondents reporting a policy at either time point, there was also an increase in the proportion reporting that the policy explicitly mentioned cannabis, from 31.7% at T1 to 73.4% at T2 (data not shown). On the other hand, there was no statistical difference in the proportion of respondents reporting their workplace had a drug testing programme (11.7% at T1 vs 13.1% at T2, p=0.1606).

DISCUSSION

Results of this analysis indicate that, almost 1 year after non-medical cannabis use was legalised in Canada, past-year cannabis

use increased, but prevalence of workplace use remained unchanged. After legalisation, more respondents reported awareness of a workplace substance use policy and small magnitude changes also occurred in perceptions of risk and workplace availability, but few other changes were seen.

The results of our study are consistent with those from other population-based data in Canada,[12 14] suggesting that the prevalence of past-year cannabis use among employed Canadians increased in the initial months following legalisation. We have further expanded this finding, demonstrating a corresponding decrease in the prevalence of former use and stability of never use in this employed sample. This suggests that the increase in past-year use was primarily driven by workers who had used cannabis previously, rather than workers initiating use for the first time. Whether this increase in past-year use reflects a true increase, greater comfort with reporting use after legalisation, or a combination of both is not yet known. Frequent cannabis use, on the other hand, while statistically different between T1 and T2, generally remained stable at 7% to 8%. This is a notable finding given the relationship of frequent use with health harms.[32]

Notably, we observed no changes in workplace cannabis use, with approximately 9% of all workers reporting using cannabis before and/or at work at both time points. This contrasts to the decrease in workplace use observed in the CCS.[12 14] Interpreting these differences is challenging, as the denominator in the CCS

Table 2 Self-reported workplace cannabis perceptions and availability of workplace cannabis use among all respondents before (time 1) and after (time 2) the legalisation of cannabis for non-medical purposes

	Time 1 (before legalisation)			Time 2 (after legalisation)			Unadj. P value*	Adj. P value*†
		95% CI			95% CI			
	%	From	To	%	From	To		
Perceived risk of interference with productivity when using cannabis:								
Within 2 hours before work							0.5999	0.0295
No risk/slight risk	23.5	21.7	25.4	22.1	20.5	23.6		
Moderate risk	34.7	32.7	36.8	35.9	34.1	37.6		
Great risk	37.6	35.5	39.7	37.9	36.2	39.7		
Don't know	4.1	3.3	5.0	4.1	3.4	4.8		
While working, at lunch/other breaks							0.0157	0.0060
No risk/slight risk	11.4	10.0	12.8	9.9	8.7	11.0		
Moderate risk	19.2	17.5	20.9	22.5	20.9	24.0		
Great risk	65.6	63.5	67.7	64.4	62.7	66.2		
Don't know	3.8	2.9	4.6	3.3	2.6	3.9		
Perceived risk of harm of using cannabis:								
Within 2 hours before safety-sensitive work							0.1571	0.1169
No risk/slight risk	11.6	10.2	13.0	11.3	10.1	12.6		
Moderate risk	24.2	22.3	26.0	26.3	24.7	27.9		
Great risk	59.4	57.3	61.6	58.5	56.7	60.4		
Don't know	4.8	3.8	5.7	3.9	3.2	4.5		
Perceived ease of:								
Using cannabis during lunch/other breaks							0.0024	0.0081
Difficult	41.6	39.4	43.9	42.3	40.5	44.1		
Neither easy/difficult	9.1	7.8	10.5	8.1	7.1	9.0		
Easy	43.6	41.2	45.9	46.2	44.4	48.1		
Don't know	5.7	4.4	6.9	3.4	2.7	4.0		
Using cannabis while working (excluding breaks)							0.0081	0.0020
Difficult	67.0	64.5	69.5	71.4	69.8	73.1		
Neither easy/difficult	6.4	5.3	7.6	6.1	5.2	7.0		
Easy	20.6	18.1	23.2	19.0	17.6	20.4		
Don't know	5.9	4.0	7.8	3.5	2.8	4.1		
Getting/buying/selling cannabis at work							0.0016	0.2045
Difficult	55.2	52.8	57.6	59.7	57.9	61.5		
Neither easy/difficult	10.2	8.8	11.7	9.0	8.0	10.0		
Easy	21.3	19.3	23.3	20.8	19.3	22.3		
Don't know	13.3	11.8	14.8	10.5	9.4	11.6		

*P values correspond to the results of an F test testing the hypothesis of equal marginal means for the main effect of time (comparing time 1 with time 2 weighted for non-response).
†Adjusted for survey mode, age, sex, province, education, smoking, alcohol, general health status, hazardous work, workplace size, work hours, tenure, workshift schedule, job permanence, industry, and cannabis use status.
Adj, adjusted; Unadj, unadjusted.

included both working and non-working respondents and was restricted to respondents reporting past-year use. The increasing size of the denominator over time in the CCS analysis, due to the increasing prevalence of cannabis use, likely contributed to the reductions observed. Conversely, our analyses considered all workers in the denominator, regardless of cannabis use.

The proportion of workers in our sample reporting awareness of a substance use policy in their workplace increased significantly from 63% to 79%. This finding was expected, as the discourse prior to legalisation focused on encouraging employers to develop or update existing policies as a means to guard against the potential workplace consequences of legalisation.[4 33] Research conducted by the Canadian Centre on Substance Use and Addiction[3] found many organisations lacked comprehensive substance use policies before legalisation. The lack of change in workplace drug testing programmes

was also unsurprising, as no specific provisions in the legislation allowed for changes to current drug testing regulations in Canada.

Although we observed statistically significant changes in risk perceptions between T1 and T2, the magnitude of these changes was modest. There was a small increase in the proportion of respondents reporting that cannabis use before or at work could interfere with productivity. These findings are consistent with prelegalisation/postlegalisation increases in the proportion of Canadians who felt cannabis impairs one's ability to drive (from 81% to 85%).[12 14] We did not observe significant changes in risk perceptions of harm associated with cannabis use before safety-sensitive work. Nonetheless, the approximately 15% of respondents who feel there is minimal risk to using cannabis before safety-sensitive work, or who are not sure about the risk, points to a potential unmet need for education.

Table 3 Self-reported awareness of workplace substance use policies among all respondents before (time 1) and after (time 2) the legalisation of cannabis for non-medical purposes

	Time 1 (before legalisation)			Time 2 (after legalisation)			Unadj. P value*	Adj. P value*†
		95% CI			95% CI			
	%	From	To	%	From	To		
Aware of having a substance use policy in their workplace								
Yes	62.7	60.6	64.8	79.0	77.5	80.5	<0.0001	<0.0001
No	15.1	13.6	16.7	9.5	8.4	10.6		
Don't know	22.1	20.3	24.0	11.5	10.4	12.7		
Aware of having a drug testing programme in their workplace							0.1041	0.1606
Yes	11.7	10.3	13.1	13.1	11.8	14.3		
No	71.4	69.4	73.4	71.4	69.8	73.1		
Don't know	16.9	15.3	18.6	15.5	14.2	16.8		

*P values correspond to the results of an F test testing the hypothesis of equal marginal means for the main effect of time (comparing time 1 with time 2 weighted for non-response).
†Adjusted for survey mode, age, sex, province, education, smoking, alcohol, general health status, hazardous work, workplace size, work hours, tenure, workshift schedule, job permanence, industry, and cannabis use status.
Adj, adjusted; Unadj, unadjusted.

Likewise, changes in workplace availability were statistically significant, but small in size. There was a trend towards a greater number of respondents reporting use at work or obtaining cannabis at work to be difficult at T2 compared with T1, while more respondents at T2 felt it would be easy to use cannabis on breaks. In each measure, there was a corresponding decrease in respondents reporting 'Don't know'. Whether these small differences were true changes or due simply to greater awareness of issues around cannabis in the workplace is unknown.

These results, while encouraging, should be interpreted cautiously. Our analysis did not evaluate changes specifically in impairment at work, nor in workplace safety outcomes. Postlegalisation data were also collected only 9–11 months after legalisation. Longer-term data are needed to determine how these trends progress over time, given the evolving nature of this policy change. Specifically, retail availability was slow to expand in some provinces, particularly in the first year after legalisation, but has since increased.[34] Additionally, edibles and concentrates were only introduced to the legal market at the end of 2019. Conceivably, these measures could influence use behaviours and perceptions over time.

This study is one of the first national studies to report on the impact of the legalisation of non-medical cannabis use among workers. Our study captures data not only on workplace cannabis use, but also related modifiable factors, for which data at a federal level were virtually non-existent before legalisation. The sample was moderately large and included workers from a wide variety of industries. We also controlled for important sociodemographic, health, lifestyle and work factors in our comparisons.

However, this study has limitations. With the federal nature of legalisation, we were unable to collect information from a Canadian-based control group. Therefore, any reported changes cannot be explicitly attributed to legalisation. Data were also only collected from one time point before legalisation. Some data suggest cannabis use was already increasing in working-aged Canadians in the years leading up to legalisation.[35] Although these results were not specific to a working population, we cannot exclude the possibility that some changes seen in our study are a continuing trend from before legalisation. The prelegalisation survey was also conducted 4 months before legalisation and responses may have been influenced by awareness of impending legalisation. For instance, employers may

have already communicated expectations and policies around substance use to their employees. Workers may have also been more comfortable disclosing use. Discourse regarding legalisation may have also influenced perceptions regarding cannabis effects. Thus, changes between prelegalisation and postlegalisation may have been attenuated.

The survey response rate for new respondents was low at both time points (approximately 13%), mainly due to poor response to RDD recruitment. However, given we could not establish the eligibility of individuals when contact was not made, our response rates are likely conservative. Additionally, we were able to calibrate our sample to the LFS by asking relevant questions at each time point. Still, our study sample was recruited primarily from pre-existing survey panels of individuals who are more likely to participate in survey research. Potential respondents were also made aware of the survey topic. Thus, selection bias is possible, and estimates cannot necessarily be generalised to the overall Canadian workforce. Finally, data were based on self-report and social desirability bias may have impacted responses. However, surveys were primarily self-administered online, which typically lead to a greater willingness to disclose sensitive information.[36]

The period before legalisation in Canada was characterised by considerable employer apprehension about the impact of this policy change on workplaces. The results of this analysis, demonstrating a lack of substantive changes in workplace use patterns and perceptions in the short term from prelegalisation to postlegalisation, are reassuring. It is possible that the growing public dialogue around potential harms of workplace use and heightened employer engagement on the issue during this time period contributed to stability in these measures. However, longer-term data are needed to assess the true impact of legalisation on use and perceptions among workers.

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