



Cannabis Use and the Risk of Workplace Injury: Findings From a Longitudinal Study of Canadian Workers

Nancy Carnide

Institute for Work & Health Speaker Series
March 8, 2022

Please type your questions and comments into the chat box. We will address them at the end of the presentation.

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Acknowledgements

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- Nova Scotia Trucking Safety Association

Employer associations

- Office of the Employer Advisor, Nova Scotia
- Federally Regulated Employers-Transportation and Communication

Workers' compensation

- WorkSafeBC

Labour organizations

- Unifor
- Provincial Building and Construction Trades Council of Ontario

Government departments and agencies

- Health Canada
- Labour Program, Employment and Social Development Canada
- Transport Canada
- Ontario Ministry of Labour
- Canadian Centre for Occupational Health and Safety
- Canadian Centre on Substance Use and Addiction

Key messages from today's presentation

When we ask about cannabis use in general:

- Cannabis use in the past-year marginally associated with greater risk of workplace injury

BUT

When we ask about cannabis use in proximity to work:

- Use before and/or at work in the past year significantly associated with greater risk of workplace injury
- Use in the past year, but not before/at work not associated with risk of workplace injury

Substance use in working populations

- Occupational health and safety implications of substance use traditionally not a focus of occupational health research
- Renewed interest in understanding cannabis use among workers
 - Legalization and decriminalization of medical and/or non-medical cannabis around the world
 - Increasing public interest in the use of cannabis for therapeutic purposes

Workers are using cannabis

Drug and Alcohol Dependence 218 (2021) 106386

Contents lists available at ScienceDirect

Drug and Alcohol Dependence

journal homepage: www.elsevier.com/locate/drugalcdp

Patterns and correlates of workplace and non-workplace cannabis use among Canadian workers before the legalization of non-medical cannabis

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IWH Workplace Cannabis Study (2018):

- 29% of workers reported using cannabis in the past year
 - 25% of these workers reported using before or at work = 7% of all workers

- Statistics Canada's *National Cannabis Survey (Q1 2019)*:
 - 13% of all respondents using cannabis in the past 3 months also reported using before or at work
- Health Canada's *Canadian Cannabis Survey (2020)*:
 - 29% of employed respondents using cannabis in the past year also reported using before or at work

Call for more research on cannabis and work

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COMMENTARY

AMERICAN JOURNAL OF INDUSTRIAL MEDICINE WILEY

Cannabis and work: Needs for research

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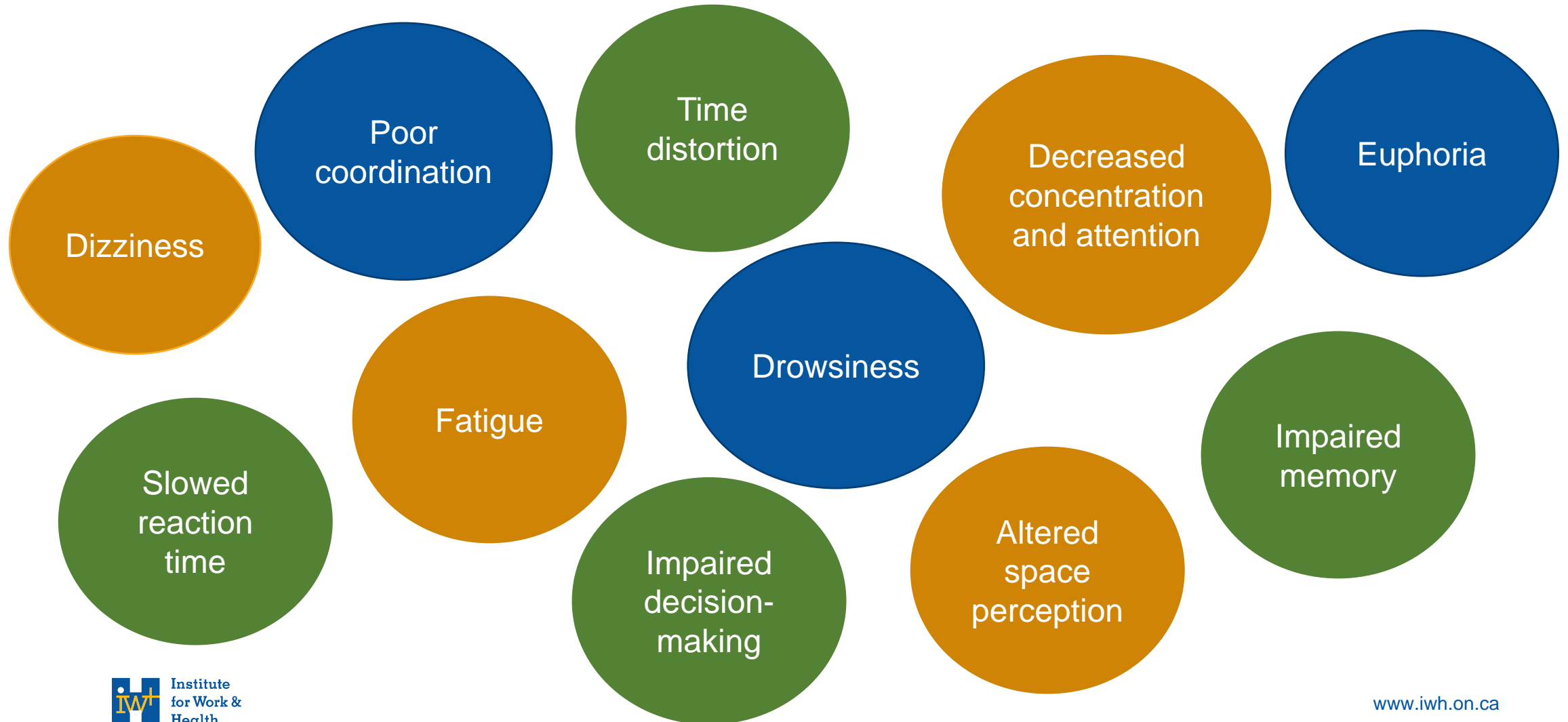
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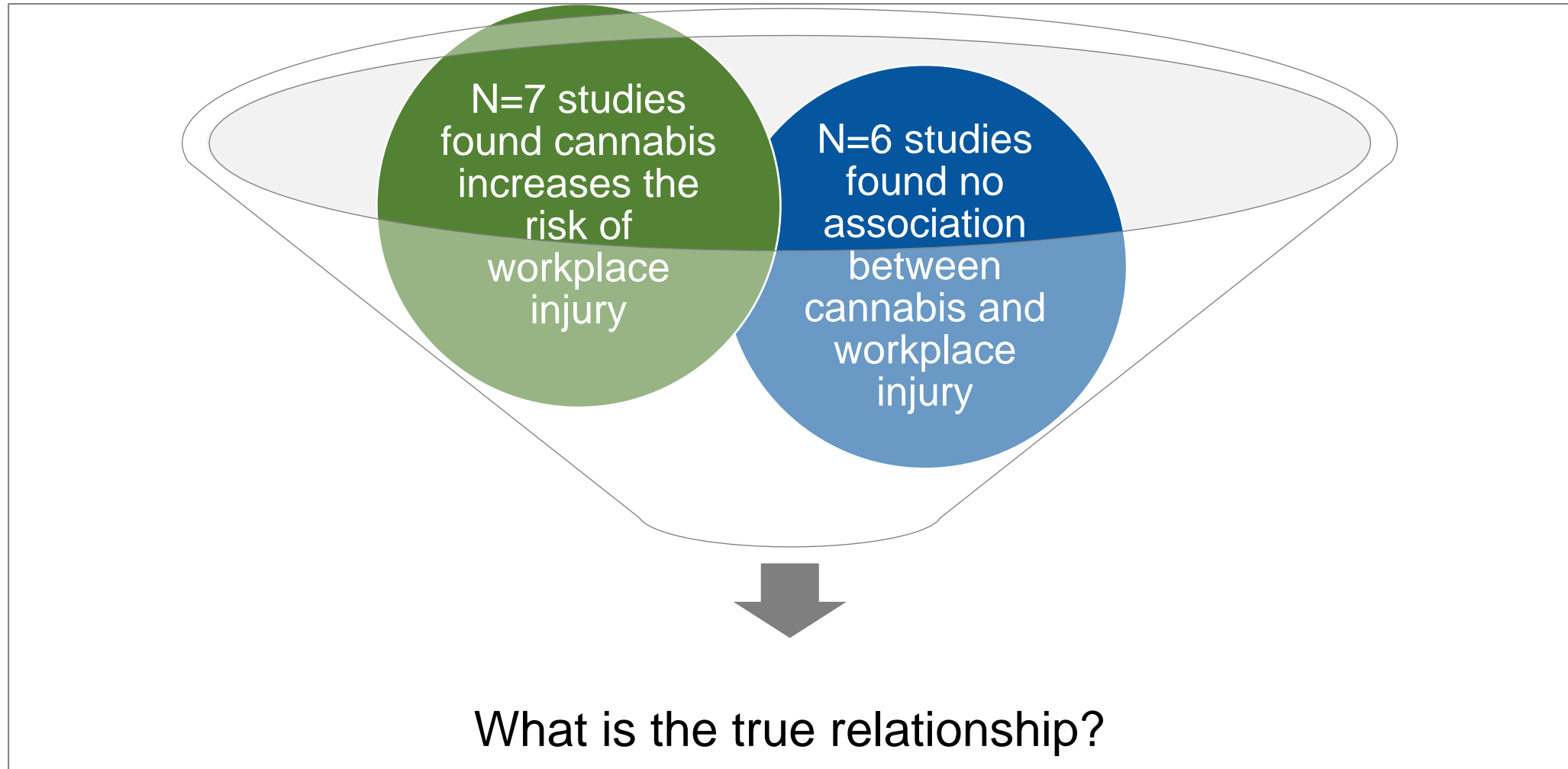
and work. This commentary suggests research needs in the following areas: (a) data about industries and occupations where cannabis consumption among workers is most prevalent; (b) adverse health consequences of cannabis consumption among workers; (c) workplace supported recovery programs; (d) hazards to workers in the emerging cannabis industry; (e) relationship between cannabis consumption and occupational injuries; (f) ways to assess performance deficits and impairment from cannabis consumption; (g) consumption of synthetic cannabinoids to evade detection by drug testing; (h) cannabis consumption and its effect on occupational driving; and (i) ways to craft workplace policies and practices that take into consideration conflicting state and federal laws pertaining to cannabis.

cannabis-derived products remain a source of controversy across the fields of

Acute effects of cannabis of relevance to workplace safety



What does the literature tell us about cannabis and work injury?



Key limitations of previous studies

Appropriateness of study design

- Two thirds of studies were cross-sectional – issue of temporality

Relevance of exposure

- Broad measures of (mostly self-reported) use of cannabis in past year or lifetime
- Lack of consideration for important exposure metrics e.g., potency, timing of use, impairment

Residual confounding

- Incomplete control of important sources of potential confounding, such as use of other substances, health, fatigue, and nature of the job (e.g., work schedule, hazardous work, work schedule, hours worked)

Objectives

To examine the relationship between cannabis use, including workplace use, and the risk of workplace injury in a longitudinal sample of Canadian workers

Sample recruitment

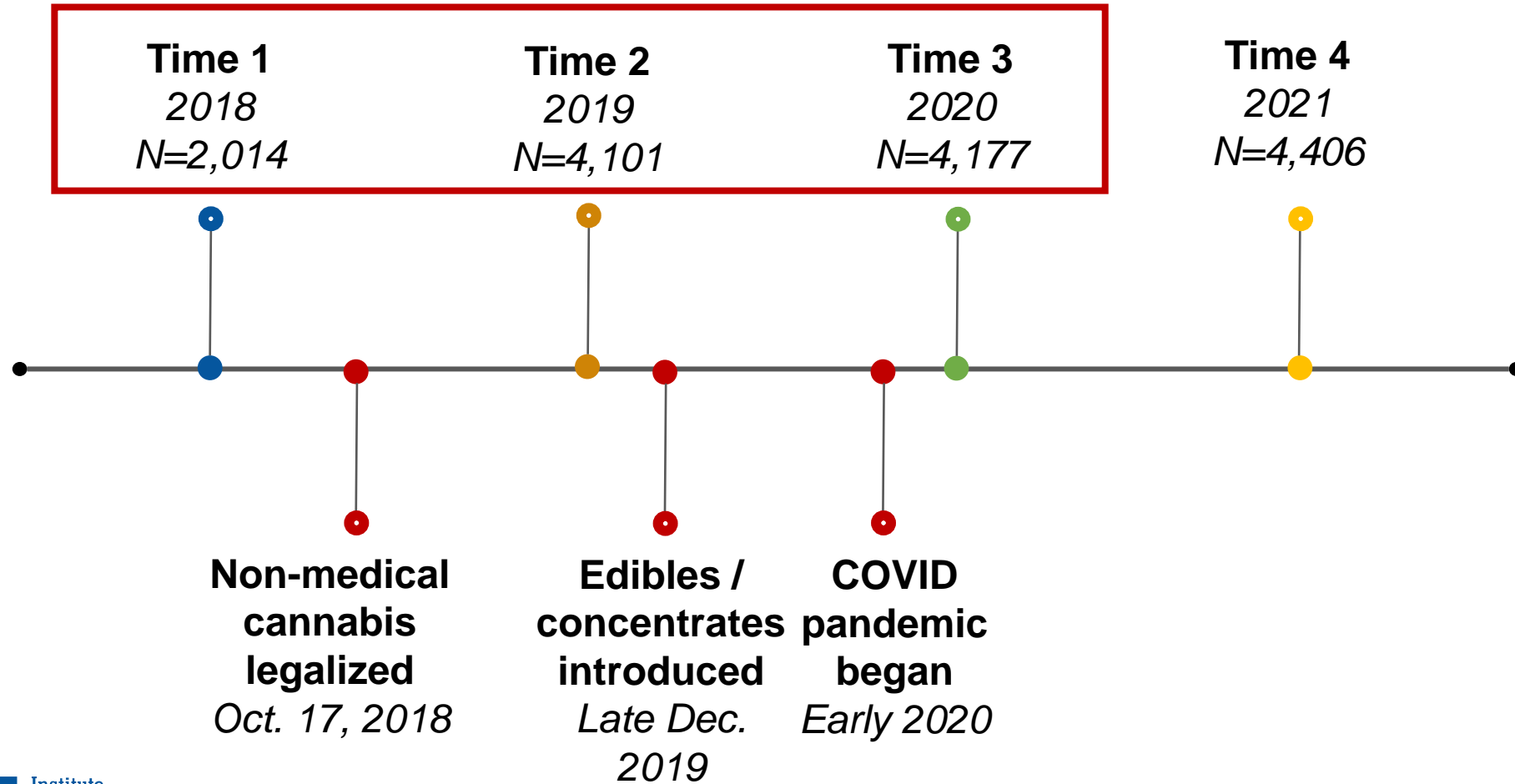
Worker surveys conducted yearly from 2018 (pre-legalization) to 2021

- Workers from across Canada
- Employed for at least 15 hours per week in workplaces with 5 or more employees
- Various occupations and industries
- Workers who used and did not use cannabis

Recruitment of sample by EKOS Research Associates

- Primarily obtained from pre-existing panel of ~100,000 households
- Small proportion obtained using traditional random digit dialing approach

Study timeline



Exposures

Two main exposures derived from survey questions on lifetime cannabis use, frequency of past-year cannabis use, and frequency of use before and at work

General cannabis use



- Never use
- Former use (>12 months ago)
- Past-year use (\leq 12 months ago)

Workplace cannabis use



- No past-year use
- Non-workplace past-year use
- Workplace past-year use (2 hours before work, while working and/or on breaks)

Outcome

- Outcome was whether the worker experienced an injury while working in the past year (yes/no)
- Based on responses to the following question:

During the past 12 months, have you experienced an incident that resulted in injury to yourself while working?

Covariates

- Age
- Sex
- Region
- Highest education

Sociodemographic



- General health
- Alcohol consumption
- Smoking

Health



Covariates

- Work hours
- Work schedule
- Job permanence
- Job tenure
- Hazardous work
- Supervisory role
- Contact with supervisor
- Job visibility

Work



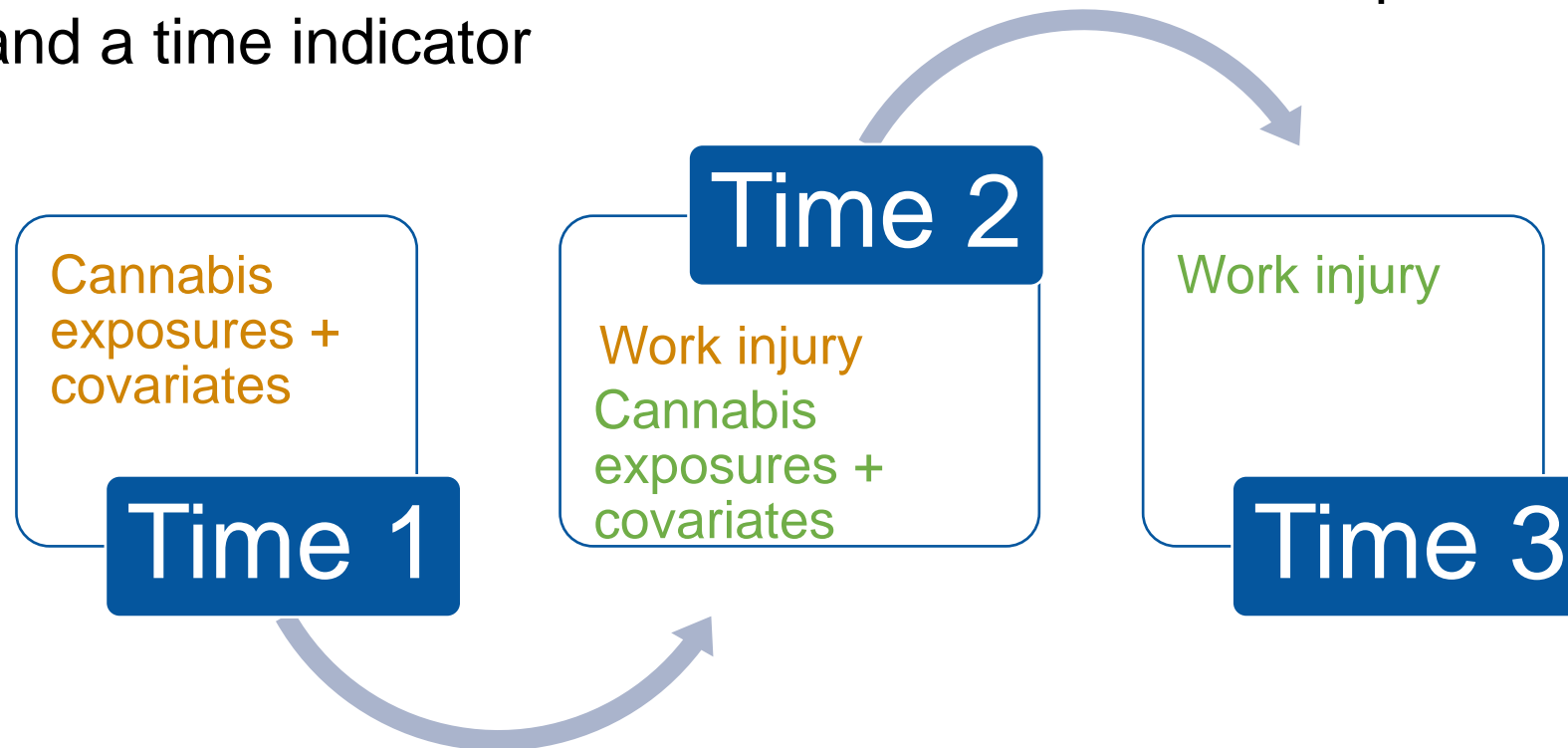
- Workplace size
- Industry
- Substance use policy
- Smoking restriction

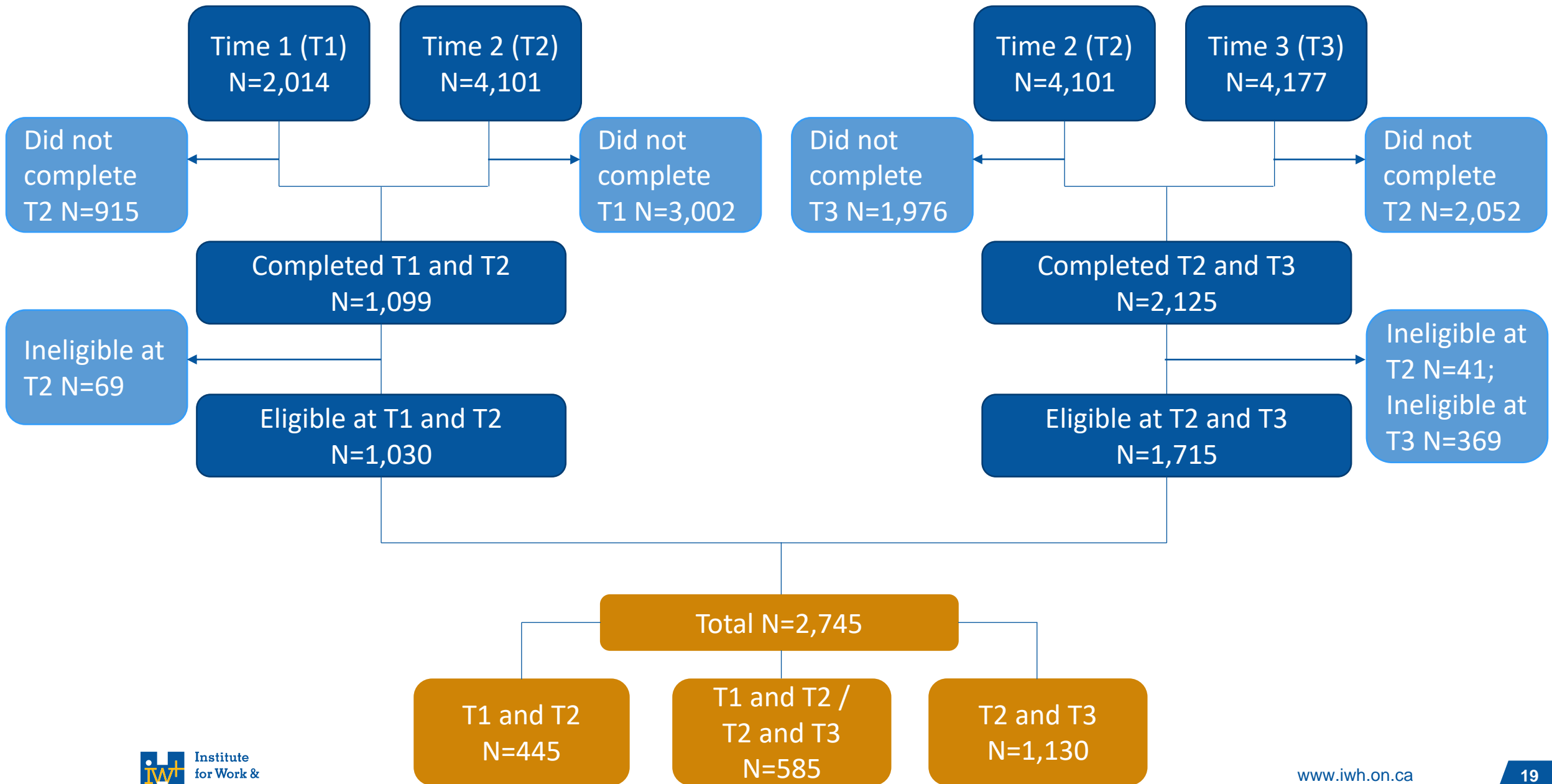
Workplace



Analysis

- Modified Poisson regression with robust error variance used to estimate relative risks and 95% confidence intervals between each exposure and injury
- Adjusted for all covariates in a series of nested models, plus survey mode and a time indicator





Sample description

- Mean age 46.2
- 58.5% male
- 89% at least some post-secondary education

Sociodemographic



- 56.2% very good/excellent general health
- 47.2% weekly alcohol consumption
- 85.6% non-smokers

Health



Sample description (2)

- Mean weekly hours 38.8
- 85.5% regular shift
- 91.9% permanent job
- 43.6% with supervisory role
- 66.8% performed job duties very often in front of others

Work

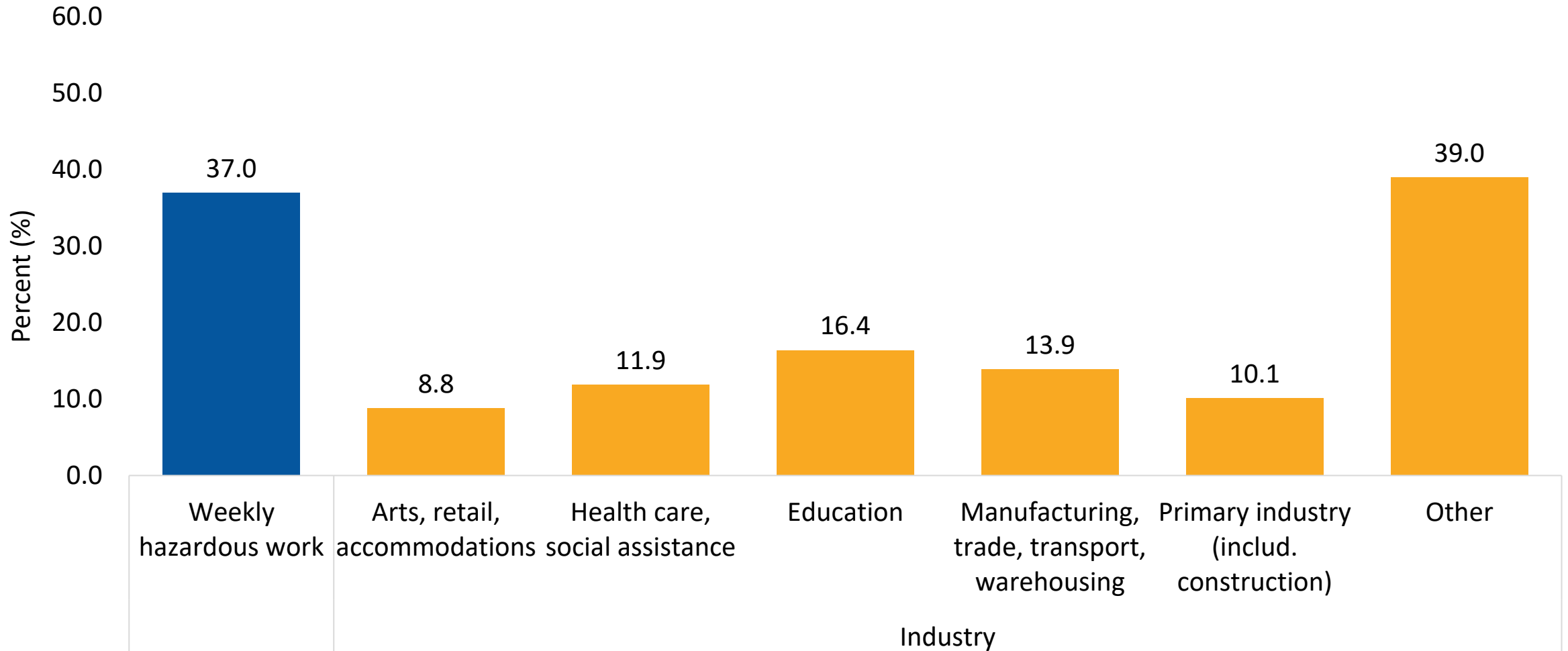


- 74.5% reported workplace has a substance use policy
- 55.2% 100+ workplace size

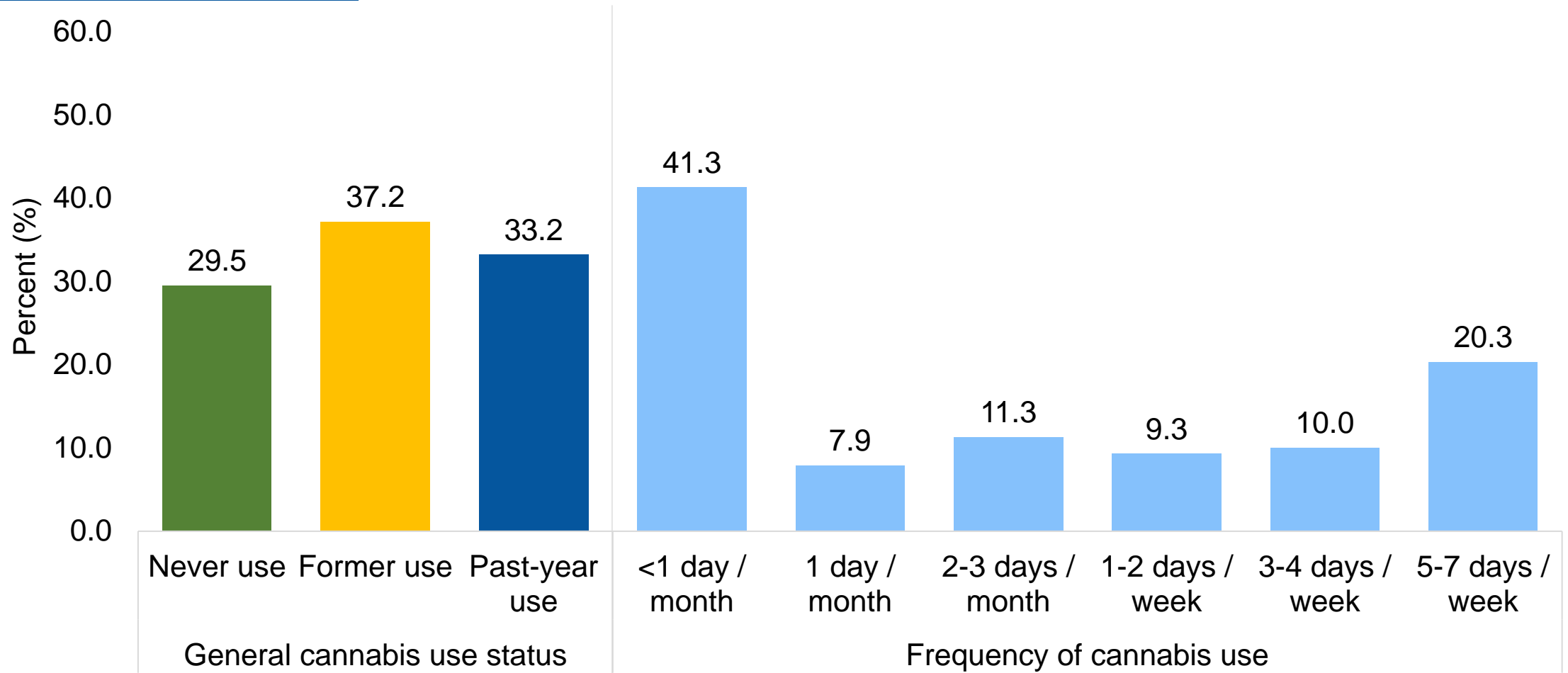
Workplace



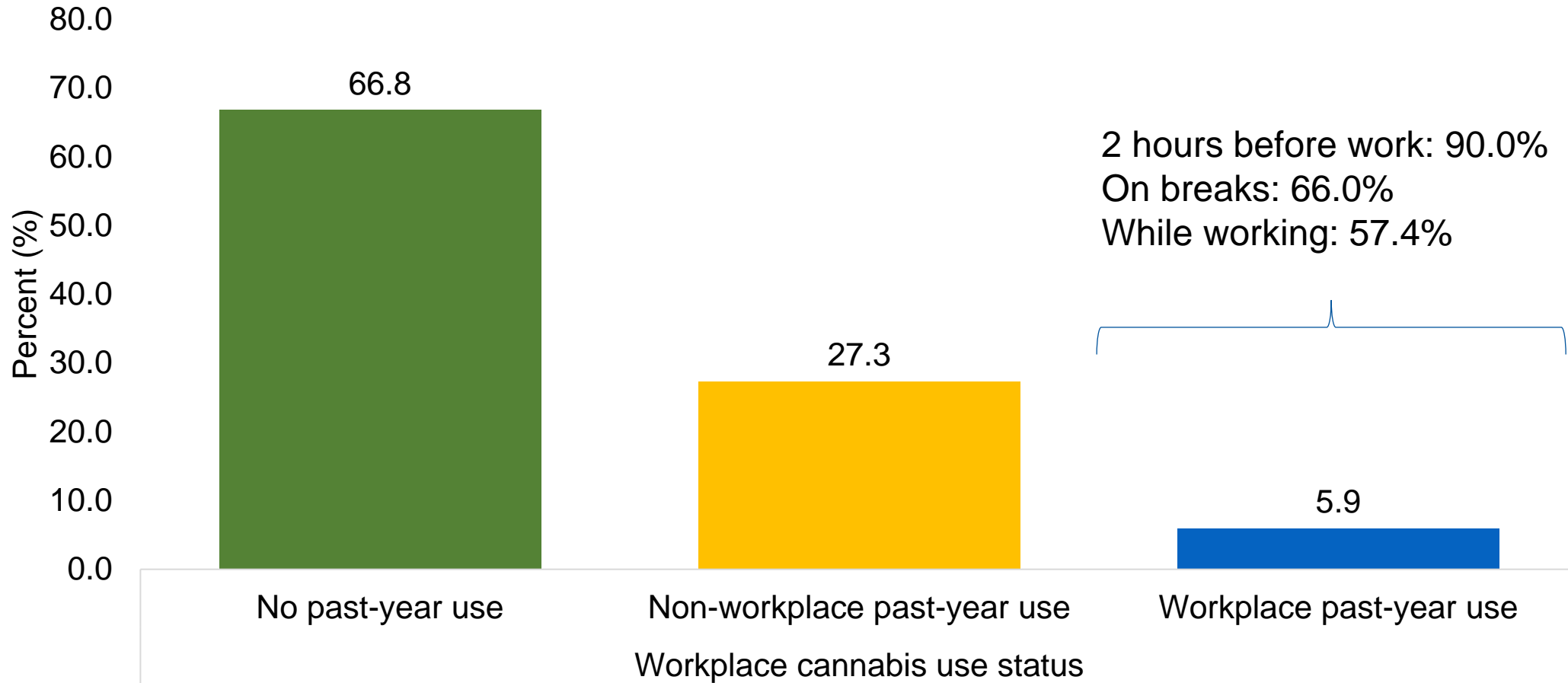
Hazardous work and industries



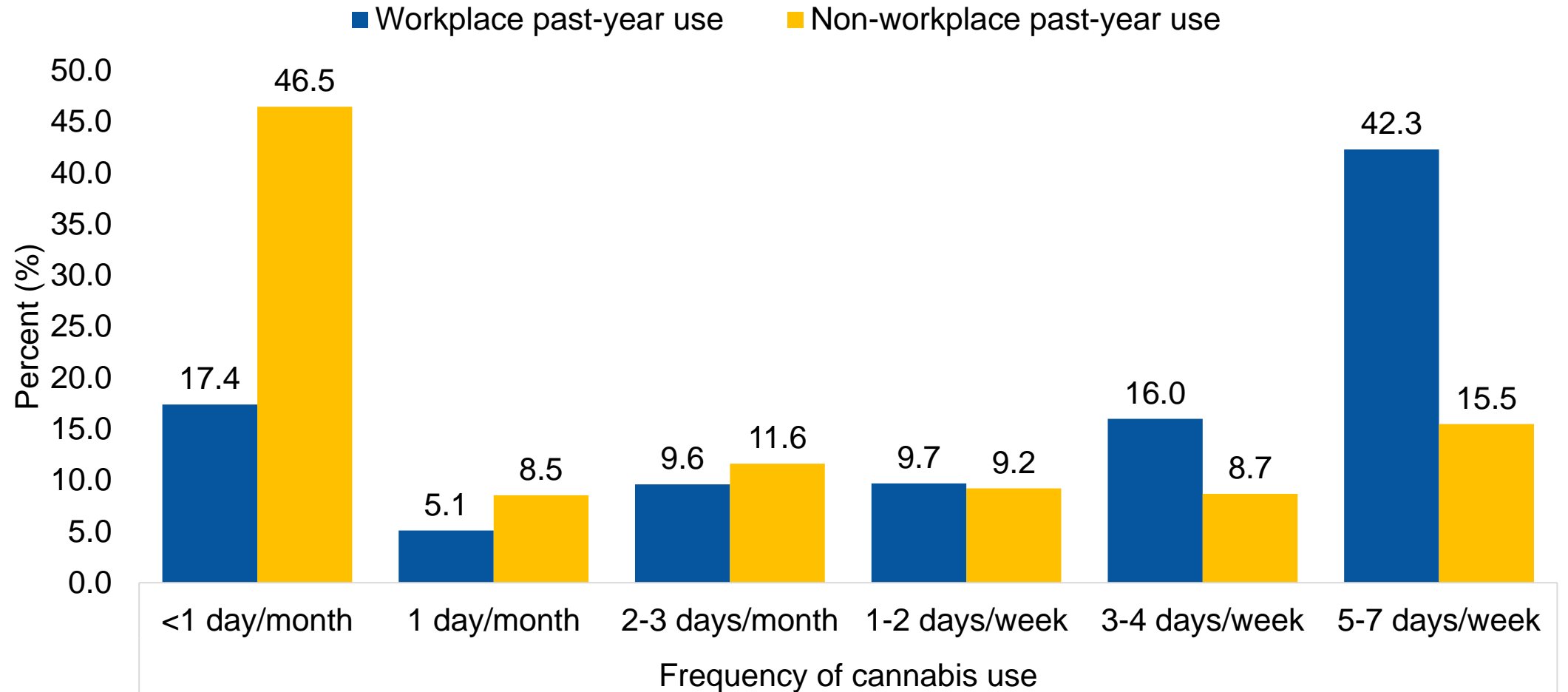
General cannabis use



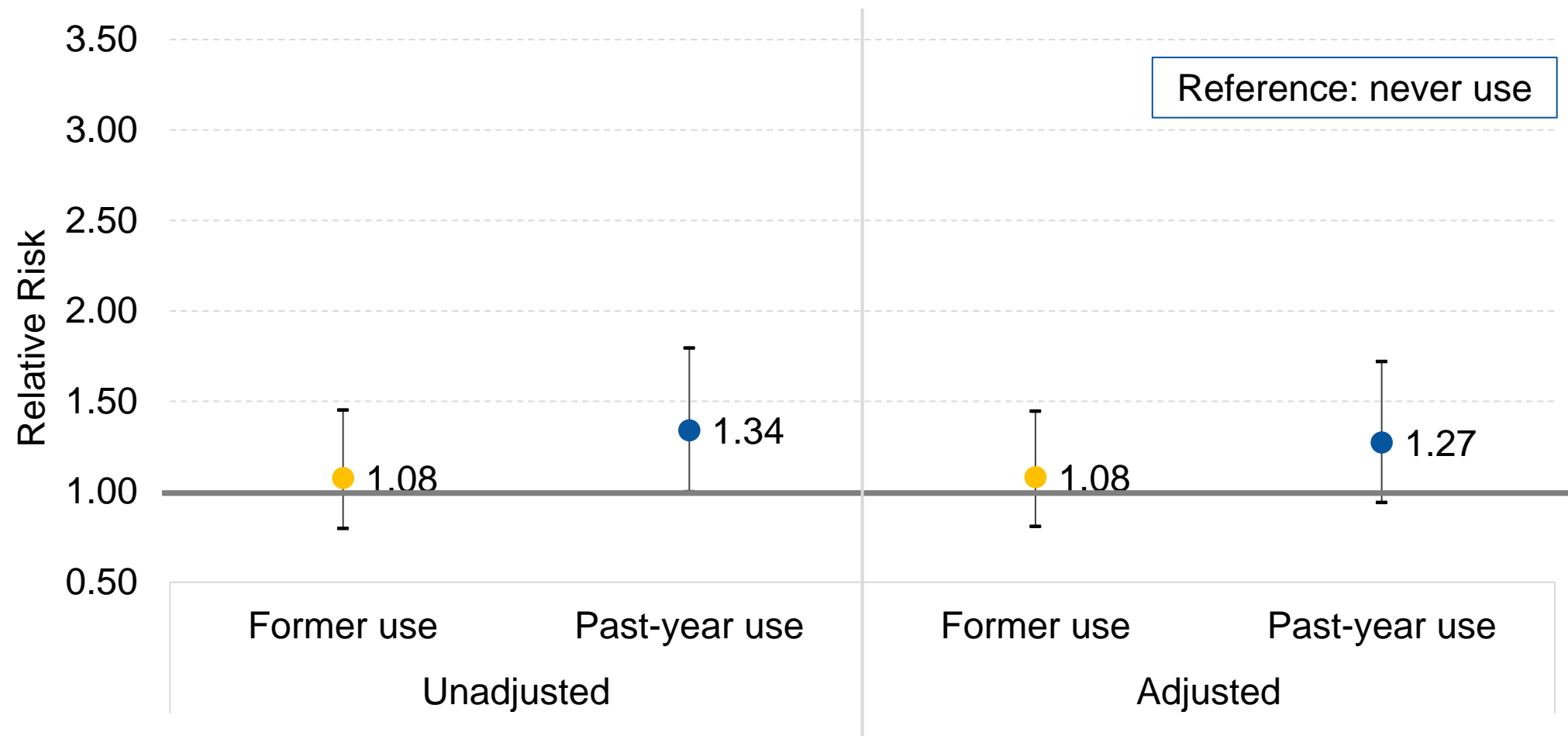
Workplace cannabis use



Frequency of cannabis use by workplace use



Relative risks for work injury by general cannabis use



Relative risks for work injury by workplace cannabis use



How well did we address the limitations of previous studies?

Appropriateness of study design

- ✓ Cohort study ensures temporality between exposure and outcome

Relevance of exposure

- ✓ Accounted for timing of use in relation to work
- ✗ Could not formally account for type of cannabis (THC/CBD, method of consumption)
- ✗ Workplace cannabis use may not adequately address use of edibles
- ✗ Did not directly capture impairment

How well did we address the limitations of previous studies?

Residual confounding

- ✓ • Controlled for a wide variety of potential confounders across sociodemographics, health, work, and the workplace
- ✗ • Did not collect information on fatigue or sleep
- ✗ • While we did control for alcohol use, did not have info on use of alcohol before/at work or prescription medications

Additional limitations

- Measure of workplace injury:
 - did not assess nature of injury
 - did not assess severity of injury (including need for healthcare, work absence)
 - did not capture incidents affecting others

Back to our key messages

- Cannabis use in the past-year marginally associated with greater risk of workplace injury

BUT it is important to consider where that use is taking place

- Only use before and/or at work in the past year significantly associated with risk of workplace injury
 - No relationship seen for workers using cannabis in the past-year outside of work

Implications

- Important to keep in mind the vast majority of workers do not use cannabis before or at work
 - Also, no early change from pre- to post-legalization in our sample (*Carnide et al., under review*)
- Important to make the distinction between non-workplace and workplace use when thinking about the workplace safety impacts of cannabis use
- Employee education on cannabis basics and safety risks
- Be aware of and address problematic workplace culture that may encourage or tolerate use in the workplace

Available resource



<https://www.ccsa.ca/substance-use-and-workplace-supporting-employers-and-employees-trades-toolkit>

▶ START HERE

WHY IT'S IMPORTANT TO ADDRESS SUBSTANCE USE WITH WORKERS IN THE TRADES

Many of us regularly use substances that may alter our ability to think clearly and act as we normally would. We use them for many reasons and in different ways. We may use prescribed medications to manage pain or alcohol for socializing with friends and family. However, sometimes we use substances in ways that can cause significant harms at home, at work and in our communities.

WHY THIS TOOLKIT?

Opioid overdoses and deaths are a public health crisis affecting many working Canadians. Use of alcohol, cannabis, cocaine and other substances also cause harms that affect employees, their families and workplaces.

Workers in construction, trades and transport are greatly impacted by deaths and harms caused by opioids. It is common for people in these types of jobs to experience work-related injuries, stress and pain. They may not have or know where to find the resources they need to take care of these issues. This could lead to using pain medications and other substances more often to cope. Some trades and construction workplaces foster a “work hard, play hard” culture. This culture can reinforce heavy alcohol and other substance use.

Stigma (negative attitudes or beliefs) around getting help for substance use is also a challenge. Men make up a large part of the construction and trades workforce and may not try to change their substance use patterns or seek help when needed because they believe that it shows weakness.

The Canadian Centre on Substance Use and Addiction (CCSA), in collaboration with Health Canada's Opioid Response Team, prepared this toolkit of resources. Employers can use the resources in this toolkit to improve health and safety in the workplace around issues related to substance use. The overall goal of this resource toolkit is to help create workplaces where employers are able to support workers on issues related to substance use, health and safety.

WHO IS THIS TOOLKIT FOR?

This toolkit is for supervisors, managers and human resources professionals, and unions, associations and related organizations. It also contains ready-to-use resources for employees.

Substance use is the consumption of any psychoactive substance (illegal, legal, medical or non-medical), such as alcohol, cannabis or opioids. Substance use can range from prescribed or casual use, such as pain management or social drinking, up to more problematic use and addiction or substance use disorder — use even when it could risk one's life.

START HERE
Have Questions?

PREVENTION
RESOURCES

Stigma
Risk Factors

EDUCATION
RESOURCES

Opioids
Alcohol
Cannabis
Pain Management

ADDRESSING
SUBSTANCE USE AND
THE WORKPLACE

Policy and
Procedure Guidance
Workplace Peer
Support Programs

EMPLOYEE RESOURCES

Getting Help
Additional Employee
Resources

RELATED INFORMATION

RELATED
ORGANIZATIONS

CONTACT

Thank you

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