KNOWLEDGE, PERSPECTIVES, AND USE OF CANNABIS AMONG INDIGENOUS POPULATIONS IN CANADA IN THE CONTEXT OF CANNABIS LEGALIZATION: *A review of literature*

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CHILD, YOUTH, AND FAMILY HEALTH

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GLOSSARY

Cannabinoid
The property of cannabis that influences human cell communication and subsequent behaviour (Government of Canada, 2019).

Cannabidiol (CBD)
A cannabinoid known to induce calming effects (Government of Canada, 2019).

Cannabis
A plant that has been cultivated for human medicinal, recreational, and practical use for the past 12,000 years (Lewis, 2019).

Cannabis Substitution Program (CSP)
Programs often run by non-profit organizations to provide cannabis products to individuals in place of opioids. (Nichol et al., 2019).

Delta-9-tetrahydrocannabinol (THC)
The psychoactive cannabinoid of cannabis. Potency of THC in cannabis products may shift depending on the strain. (Government of Canada, 2019).

Harm reduction
A strengths-based public health approach aimed at reducing harms and risks associated with addiction and drug use to save lives. (First Nations Health Authority [FNHA], 2020).

Hybrid
Refers to a cannabis strain that includes both THC and CBD cannabinoids (Canadian Public Health Association [CPHA], 2020).

Indica
A common species of the cannabis plant that is often consumed for eliciting calming effects (CPHA, 2020).

Marijuana
Refers to the buds of dried flowers produced by the cannabis plant (Lewis, 2019).

Medical cannabis
Cannabis products prescribed to individuals by a doctor.

Non-medical cannabis
Legally purchased cannabis from a government-regulated dispensary that is not prescribed by a doctor.

Opioid
Drugs that can be prescribed (e.g., morphine) or acquired illegally (e.g., heroin). Often consumed to manage chronic/severe physical pain. Opioids can become addictive if used regularly (National Institute on Drug Abuse, 2020).

Sativa
A common species of the cannabis plant that is often consumed for its psychoactive effects (Pellati et al., 2018).

INTRODUCTION

Cannabis use was legalized in Canada on October 17, 2018. Legalization offers tremendous potential to change the trajectories of Indigenous[1] communities, many of which continue to experience the ongoing effects of colonization,[2] such as a high burden of disease, intergenerational trauma, and socio-economic marginalization (Greenwood, et al., 2018; Smallwood et al., 2021). With billions of dollars expected to be generated in the cannabis industry, through both direct revenue and indirect economic spinoffs, cannabis legalization presents an opportunity for economic self-determination in Indigenous communities (Donovan, 2019; Koutouki & Lofts, 2019; Indigenous Cannabis Cup, 2018). These revenues can be used to expand employment opportunities; enhance park spaces; improve infrastructure; strengthen social, health and addictions treatment services; fund community services (e.g., Elder and youth programming, Indigenous language and culture programs); and transform communities from a reliance on government transfers to a position of self-sufficiency (Petrow, 2018; Reynolds, 2018). However, embracing the cannabis industry as an economic generator also poses potential risks to public health and safety. Indigenous communities across the country have been working to balance the potential harms and benefits of cannabis legalization. Much of this work is influenced by the unique social, economic, geographic, and cultural contexts of Indigenous communities, including their different values, priorities, and concerns around cannabis.

This literature review identifies First Nations, Inuit, and Métis peoples' diverse knowledge(s), perspectives, and uses of cannabis as they work to achieve a balance between economic opportunity and health and wellness. Its main focus is on non-medical[3] uses of cannabis, though discourse around involvement in the cannabis industry also focuses on medical cannabis. It is important to note as well that many Indigenous people may be reluctant to seek medical support for physical and psychological illnesses due to barriers accessing culturally safe care, such as distance, previous negative experiences with mainstream healthcare systems, and feelings of shame

[1] The term "Indigenous" is used throughout this paper to refer to First Nations (on- and off-reserve, status- and non-status), Inuit, and Métis peoples inclusively. When referring to each group distinctively, the terms First Nations, Inuit, and Métis will be used.

[2] Colonial practices that have been harmful to Indigenous Peoples' individual and collective health and well-being have included forced displacement from lands and resources, the removal of children from families through residential schools and child welfare practices, environmental destruction, and eradication of Indigenous social, cultural, and spiritual practices, among others.

[3] In this paper, medical use of cannabis is any use that has been recommended and prescribed by a physician for the treatment of a medical condition, while non-medical use refers to any consumption of cannabis that falls outside a medical use, which typically is referred to as recreational use.

or stigma. As such, they may use cannabis obtained without a medical prescription to mitigate pain associated with illness or to cope with unresolved trauma (First Nations Health Authority [FNHA] & First Nations Health Directors Association [FNHDA], n.d.; Medicine Wheel Natural Healing, 2020). Following a brief overview of cannabis, cannabis legislation and regulation, and the methods used to identify literature, the paper discusses key findings of the review. These are organized into four primary themes:

1. Cannabis use and health and wellness in Indigenous communities;
2. The Cannabis industry as an economic generator;
3. Self-determination and reconciliation; and
4. Cannabis legalization, social justice, and social equity.

The paper then identifies key knowledge gaps that must be addressed in designing culturally relevant and high-quality public health initiatives in First Nations, Inuit, and Métis communities. The paper concludes with a list of cannabis tools and resources that may be useful in Indigenous communities.

BACKGROUND

This section provides information about cannabis use and the importance of cannabis in Indigenous communities. This includes a brief overview of key terminology surrounding cannabis and the history of legalization and regulation of the substance in Canada.

Cannabis terminology defined

It is helpful to understand cannabis terminology when engaging in conversations about the substance. As explained by Cherokee scholar Courtney Lewis (2019), there are three primary species of the cannabis plant: sativa, indica, and ruderalis. These species contain different levels of the chemicals tetrahydrocannabinol (THC) and cannabidiol (CBD) (AZ Big Media, 2022). THC often causes psychoactive effects upon consumption, whereas CBD sometimes offsets the energy induced from THC due to its calming effects. Most cannabis products include both THC and CBD. The ratio of THC to CBD influences one's reaction to the substance. For example, THC may offset the effects of physiological ailments such as chronic pain and reactions to chemotherapy, including nausea, vomiting, and muscle spasms, while CBD can alleviate some symptoms of psychological stress, including anxiety and irritability (Lewis, 2019). Individuals may choose a cannabis product based on the effects they hope to induce from using the substance. As a general principle, a product with more CBD may result in a calming effect, whereas a product with more THC may be more energizing (Sarill, 2020). Sativa is often consumed to induce energy and creativity, while indica is usually consumed for its relaxation properties (Sarill, 2020). Ruderalis, an overlooked smaller strain of cannabis that is often crossbred with other species to create hybrids because it is auto flowering,[4] is also consumed for its relaxation properties (Medical Marijuana Inc., 2021). According to Health Link BC (2018), individuals who use cannabis should be advised that the effects vary relative to one's body weight and how regularly the substance is consumed.

The terms "cannabis" and "marijuana" are often used interchangeably. However, there are slight differences. The term "cannabis" refers to 170 different plant species, with both marijuana and hemp being species of cannabis plants (Edde, 2022). Marijuana, which is made from the dried flowers, leaves, stems, and seeds of the cannabis plant, is the cannabis product that contains CBD and THC. There are a wide range of cannabis products (Legalline.ca, n.d.).

[4] Auto flowering means that it produces flowers regardless of the amount of light it receives and does not need to be grown in strict light conditions, making it a desirable medicinal plant to grow in northern regions (Medical Marijuana, 2021).

The legalization and regulation of cannabis in Canada

The *Cannabis Act,* passed in October 2018, legalized dried cannabis and cannabis oils, plants, and seeds. The legalization of cannabis edibles, topics, and extracts followed a year later (FNHA & FNHDA, n.d.). The *Cannabis Act* establishes a legal framework for jurisdiction over the distribution and sale of cannabis (Parliament of Canada, 2018). The Act primarily adopts a public safety approach; it aims to keep cannabis away from youth, prevent people from profiting from the illegal sale of cannabis, and ensure adults can legally access safe cannabis (Crosby, 2019).

The *Cannabis Act* establishes federal government jurisdiction over the growing and processing of cannabis and prohibitions on cannabis-related activities, while provincial and territorial governments have jurisdiction over consumer issues, including restrictions to where cannabis can be consumed, the maximum quantities that can be possessed or produced, minimum age requirements,[5] the licensing of cannabis businesses, and retail display and marketing practices (Koutouki & Lofts, 2019; Lafond & Eggerman, 2019). This legal framework suggests that federal and provincial/territorial governments have authority over the production and regulation of cannabis on First Nations reserves, even though First Nations reserves are not considered provincial jurisdiction. The framework thus poses significant challenges and barriers to self-determination, reconciliation, and Indigenous rights around cannabis use and regulation, as the cannabis needs and priorities of Indigenous communities may be subverted by federal and provincial/territorial governments.

[5] In all provinces other than Alberta and Quebec, the legal age at which cannabis can be legally purchased and consumed is 19 (Health Canada, 2018). In Alberta and Quebec, the legal age for cannabis use and possession is 18.

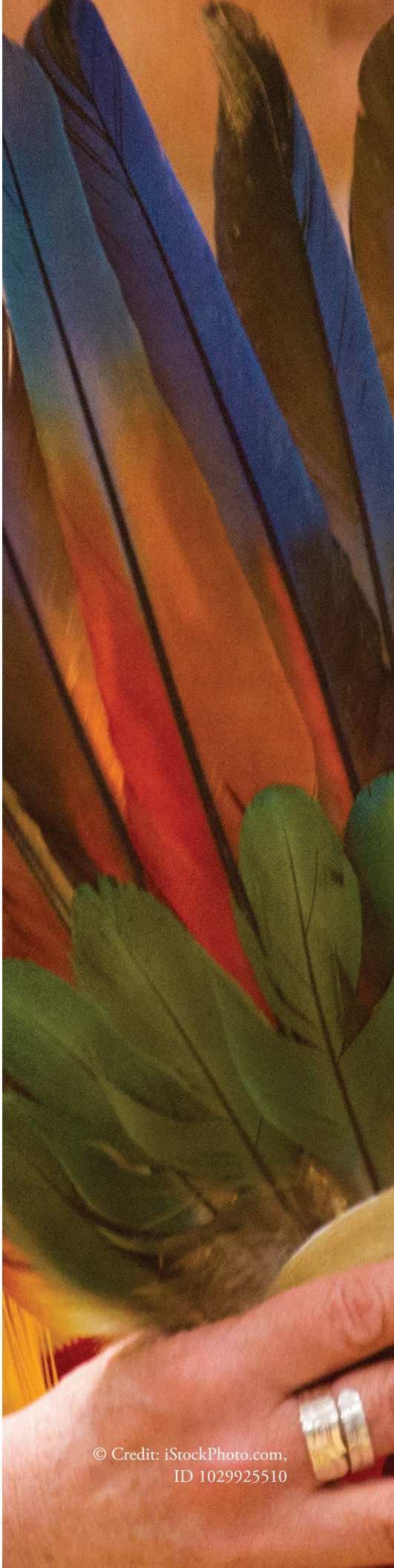
METHODS

This review is based on a broad search for academic and grey literature pertaining to Indigenous Peoples' perspectives on and use of cannabis. Relevant literature was identified using the University of British Columbia's library search engine, Summon, as well as Google and Google Scholar. Search terms included: First Nations/Inuit/Métis/ Indigenous/reserve + Cannabis + Canada. The primary focus of the search involved Indigenous populations in Canada, though some literature involving American Native Indians was also included where appropriate.

To date, few academic studies have been published about the role of non-medical cannabis in Indigenous communities, particularly pertaining to the health and wellness of Indigenous Peoples. Academic literature focuses primarily on the prevalence of cannabis use in this population. Therefore, this literature review depends heavily on information from grey literature.[6] Many non-academic sources are referenced and analyzed with the goal of situating Indigenous voices at the centre of conversations relating to cannabis. In addition to select scholarly texts, sources reviewed include band council-published cannabis toolkits, cannabis-related policy statements by Indigenous non-profit organizations, and newspaper articles featuring Indigenous voices, event pages, and blogposts.

Since non-medical cannabis use was only legalized in 2018, its use is still an emerging field of research. Consequently, cannabis literature focuses primarily on British Columbia (BC), Manitoba, and Ontario, as little information is available on the influence of legalization in other provinces. The literature also focuses primarily on First Nations populations, with much concentration on Aboriginal rights and self-determination with respect to cannabis jurisdiction. The literature in this field is extremely limited for Inuit and virtually non-existent for Métis populations.

[6] "Grey literature" is used to refer to sources that are not academic; for example, online documents, blogposts, newspaper articles, and public statements made by non-government organizations.



DISCUSSION OF KEY THEMES

Indigenous Peoples are incredibly diverse and hold similarly diverse views on cannabis and cannabis legalization (Koutouki & Lofts, 2019; Roscoe & Perron, 2022). These diverse perspectives are rooted in their individual histories with cannabis and their social and cultural contexts. Some Indigenous groups have had a long history with cannabis, valuing it as a food, spinning it into fibres, and/or applying it ceremonially, recreationally, therapeutically, and medicinally (Crosby, 2019; Koutouki & Lofts, 2019; National Indigenous Medical Cannabis Association [NIMCA], n.d.). Some Indigenous groups have played a role in the cultivation and preservation of specific cannabis strains, developing an associated traditional knowledge around this role (Koutouki & Lofts, 2019). For other First Nations, the therapeutic use of cannabis is considered a relatively new practice in the Western World (Boyd, 2017; Peguis First Nation, 2019). While there may be uncertainty and debate about the origins and historical use of cannabis in Indigenous communities, cannabis continues to play an important role in many Indigenous cultures and medicines (Crosby, 2019).

This section discusses four key themes that dominated the discourse in the literature. These themes include:

1. Cannabis use and health and wellness in Indigenous communities;
2. The cannabis industry as an economic driver;
3. Self-determination and reconciliation; and
4. Cannabis legalization, social justice, and social equity.

Cannabis use and health and wellness in Indigenous communities

This section focuses on what is known about cannabis use in relation to individual and community health and wellness in Indigenous communities. Specifically, it examines the prevalence of cannabis use among Indigenous populations, identifies the risk and protective factors associated with cannabis use, discusses health outcomes associated with cannabis use and the populations considered particularly at risk of harms, and describes the diverse perspectives Indigenous people hold about cannabis use and legalization.

Prevalence of cannabis use among Indigenous Peoples

Data on the prevalence of cannabis use among Indigenous Peoples suggest that Indigenous populations may be at increased risk of non-medical cannabis use (Wennberg et al., 2021; Windle et al., 2019). However, substantive variation exists across regions, contexts, genders, and age groups, and there are considerable data gaps, particularly with respect to Inuit and Métis populations.

Cannabis use is prevalent among Indigenous populations and considered to be the most frequently used substance[7] (Wolfson et al., 2020). A

[7] The term 'substance' is used here to refer to the use of alcohol, prescription drugs, illegal drugs, cannabis, inhalants, and solvents.

systematic review of literature conducted by Wennberg et al. (2021) on the prevalence of non-medical cannabis use among Indigenous adults revealed wide variations, ranging from 27-32% among on-reserve First Nations adults,[8] to 50% among off-reserve First Nations,[9] and as much as 57-60% of Nunavik Inuit.[10] Among on-reserve First Nations adults across Canada, 12.4% (16.9% of men, 7.8% of women) reported using cannabis daily or almost daily in 2017 (FNIGC, 2017, as cited in Thunderbird Partnership Foundation [TPF], n.d., p. 1). A similar proportion of urban Indigenous adults in Edmonton used cannabis daily or almost daily (16.2%), while 8.7% used it weekly (Currie et al., 2013). Spence et al. (2014) found even higher rates among a sample of adults from one First Nation in Ontario, with 53.2% reporting marijuana use more than once per week. A scoping review of literature on cannabis use among Inuit populations found rates up to four times higher than for non-Indigenous people (Wolfson et al., 2020). The authors attributed these high rates to the lower costs of cannabis relative to other substances in Inuit Nunangat,[11] particularly

Some Indigenous groups have had a long history with cannabis, valuing it as a food, spinning it into fibres, and/or applying it ceremonially, recreationally, therapeutically, and medicinally

(Crosby, 2019; Koutouki & Lofts, 2019; National Indigenous Medical Cannabis Association [NIMCA], n.d).

in remote communities. The 2012 Aboriginal Peoples Survey (APS) revealed nearly 60% of First Nations people living off reserve, Inuit, and Métis people had tried marijuana, cannabis, and other illicit drugs (Cao et al., 2018). This finding is similar to Currie et al.'s (2013) finding, which revealed that 56.1% of the urban Indigenous adults in their study reported using cannabis in the past 12 months. Research on the prevalence of cannabis use among Indigenous people during pregnancy is scarce, with only one study identified in this review. This study found that approximately 36% of Inuit women living in Nunavik had used marijuana during pregnancy over the 1995-2000 study period (Muckle et al., 2011).

Cannabis use has fluctuated over time. Among on-reserve First Nations people, cannabis use increased from 27% to 32% over 2002-03 to 2008-10, then declined to 30% in 2015-16, with slight increases since that time (FNIGC, 2005, 2012, 2018; Hop Wo et al., 2020). Among Nunavik Inuit, rates of past year cannabis use increased from 55% to 60% over 1992-2004 (Fortin et al., 2015). No corresponding data are available for Métis people.

[8] FNIGC (2005, 2012, 2018).
[9] Firestone et al. (2015).
[10] Fortin et al. (2015); Muckle et al. (2007); Ngueta et al. (2015).
[11] Inuit Nunangat is considered the traditional homeland of the Inuit people and is comprised of four northern regions: the Inuvialuit Settlement region (Western Arctic region), Nunavut, Nunavik (northern Quebec), and Nunatsiavut (Newfoundland & Labrador).

The seemingly high rates of cannabis use in many Indigenous communities signals a potential public health problem, given the risk of dependence for frequent users and its associated social and health effects

(Spence et al., 2014).

Cannabis use during childhood can increase the risk of harms later in life due to its impacts on the developing brain (Hurd et al., 2019; Lorenzetti et al., 2020; Posis et al., 2019). Numerous studies have shown particularly high prevalence of cannabis use among Indigenous youth; however, rates vary considerably and there are exceptions. Again, there is a paucity of research on the prevalence of cannabis use among First Nations, Inuit, and Métis youth, with most of the research focused on Indigenous youth inclusively.

Generally, research has shown the prevalence of cannabis use ranging from approximately 1.2 to over 20 times higher among Indigenous youth compared to non-Indigenous youth (Beauvais et al., 2004; Duff et al., 2011; Hop Wo et al., 2020; Lemstra et al., 2009; Leos-Toro et al., 2019; PROPEL, 2017; Swaim & Stanley, 2016, 2018; Waechter et al., 2011; Wennberg et al., 2021; Whitbeck et al., 2008; Zuckermann et al., 2019). In Cotton and Laventure's (2013) study describing alcohol and drug use among youth (9-12 years) residing in eight Quebec Innu communities, 38% of youth had initiated cannabis use. Rates of cannabis use among off-reserve youth ranged from 27% of First Nations youth aged 12-17 years to 45% of Indigenous youth in Grades 9-12 (Wennberg et al., 2021). Highlighting the importance of mental health as a predictor of cannabis use, a study involving psychiatric inpatients over the period 2005-10 revealed that 70% of Indigenous youth had used cannabis over the past year, a rate that was 2.22 times higher than for non-Indigenous youth patients (Baiden et al., 2014).

Surveys of cannabis use among students in Grades 9-12 across Canada revealed a declining trend of cannabis use among off-reserve Indigenous youth, from 53% in 2008/09 to 44% in 2014/15 (Elton-Marshall et al., 2011; Sikorski et al., 2019, see also McCreary Centre Society [MCS], 2005, 2012, 2016), with a gradual reversal of this trend following the discourse regarding cannabis legalization (Zuckermann et al., 2019). Despite these seemingly high rates of cannabis use among Indigenous youth, Hop Wo et al. (2020) found Indigenous post-secondary students were only slightly more likely to have consumed marijuana in the past 30 days compared to non-Indigenous students. The Thunderbird Partnership

Foundation (2019a) also found, in 2018, 75% of their youth sample had not used cannabis in the past 12 months.

Few studies have examined cannabis use among Inuit youth specifically. Among Inuit from Nunavik, cannabis use has ranged from 78% of youth (15-19 years) who used cannabis during the previous year in a 2004 study (Fortin et al., 2015) to 69% of youth (aged 16-22 years) who used cannabis during the past year in a study conducted over the period 2013-16 (Desrochers-Couture et al., 2019). In a study examining the links between Inuit mothers living in Nunavik who used cannabis and cannabis use by their adolescent children, 70% of the adolescents reported using cannabis in the previous year, with 60% initiating use before the age of 14 years and 45% engaging in cannabis use daily (Simard et al., 2018).

Research on gender differences among Indigenous youth shows mixed results, with some studies reporting higher use among males, some showing higher use among females, and some showing similar rates among the two genders. Among youth aged 9-12 years residing in Quebec Innu communities, 43.1% of girls and 34.9% of boys had initiated cannabis use (Cotton & Laventure, 2013). Novins and Mitchell (1998) found that among a sample of American Indian high school students (Grades 9-12), males were no more likely than females to use marijuana; however, they were more likely to do so at a high frequency. Walls (2008) also found that females among their American Indian/ First Nations youth sample used marijuana at rates similar to or greater than their male peers. However, there are differences based on the youths' age.

Indigenous youth often begin using cannabis at an earlier age than non-Indigenous youth (Cotton & Laventure, 2013; Hautala et al., 2019; Rumbaugh Whitesell et al., 2014; Rumbaugh Whitesell & Kaufman, 2017; Sittner, 2016; Spillane et al., 2020; Stanley & Swaim, 2015; Walls et al., 2021; Zuckermann et al., 2019). While results are mixed, most studies showed a greater proportion of earlier users were female (Cheadle & Sittner Hartshorn, 2012; Cotton & Laventure, 2013; Sittner, 2016; Sittner et al., 2021), but by late adolescence, males were using cannabis at rates that exceeded girls (Sittner et al., 2021). In general, cannabis use increases progressively throughout adolescence, before tapering off in later adolescence (Sikorski et al., 2019; Walls et al., 2021; Wolfson et al., 2020; Zuckermann et al., 2019). Indigenous youth are also more likely to use cannabis frequently compared to non-Indigenous youth (Rumbaugh Whitesell et al., 2014; Rumbaugh Whitesell & Kaufman, 2017; Walls, 2008). They also suffer greater negative consequences from using cannabis compared to non-Indigenous youth, including dropping out of school, family conflict, and substance use disorders (Spillane et al., 2020; Walls et al., 2021).

The seemingly high rates of cannabis use in many Indigenous communities signals a potential public health problem, given the risk of dependence for frequent users and its associated social and health effects (Spence et al., 2014). This risk is especially pronounced for Indigenous youth who are at risk of increased harms from early and frequent cannabis use. The research findings highlight the need for a gendered approach to preventing cannabis use and targeted approaches for Indigenous youth. They also highlight a need, stressed in many Indigenous communities,[12] for relevant and accessible cannabis treatment and prevention programs and public education resources.

[12] See for example, Anishinabek Nation, 2018; FNHA, n.d.-a; TPF, n.d.

Factors associated with cannabis use in Indigenous communities

A considerable body of literature focuses on factors associated with non-medical cannabis use and problematic cannabis use in First Nations communities, with less research on Inuit communities and none, to the authors' knowledge, focused on Métis communities. Some of these factors are common to both adult and youth populations; others are unique to specific groups. Most of the research focuses on deficits-based factors rather than strengths-based factors that protect against cannabis use.

Adults

Among Indigenous adults and peoples generally, there is fairly strong evidence that the following factors are associated with non-medical cannabis use or problematic cannabis use:

- Younger age (Muckle et al., 2007; Spence et al., 2014; Wennberg et al., 2021);
- Single marital status (Fortin et al., 2015; Muckle et al., 2007);
- Poor mental health/ psychological distress (Kirmayer et al., 2000; Roscoe & Perron, 2022; Wolfson et al., 2020);
- Male sex (FNIGC, 2012; Fortin et al., 2015; Muckle et al., 2007; Ngueta et al., 2015; Spence et al., 2014; Wennberg et al., 2021; Wolfson et al., 2020);
- Use of tobacco (FNIGC, 2005; Ngueta et al., 2015; Spence, et al., 2014; Wolfson et al., 2020); and
- Use of alcohol (Muckle et al., 2011; Ngueta et al., 2015; Wolfson et al., 2020).

There is some evidence that other factors may also be associated with cannabis use among Indigenous adults. Intergenerational trauma, a high number of sexual partners, testing for sexually transmitted infections, and a lack of chronic health conditions appeared to be associated with cannabis use among on-reserve First Nations people (FNIGC, 2012). Lower body mass index (BMI) appeared to be associated with cannabis use among Inuit (Ngueta et al., 2015), while lower educational attainment, current unemployment, and greater life course poverty were risk factors for illicit[13] drug problems among urban Indigenous adults (Currie et al., 2013). Additionally, residential mobility, lack of timely counselling, and lack of Christian beliefs appeared to be associated with cannabis use among off-reserve First Nations, Inuit, and Métis respondents in the 2012 APS (Cao et al., 2018).

Research on strengths-based, protective factors against cannabis use among Indigenous adults is extremely limited. This review identified only one study which focused on the role of traditional culture in protection and resilience in relation to illicit drug use among urban Indigenous adults in Edmonton (Currie et al., 2013). The study found that participation in cultural events, spiritual ceremonies, and smudging promoted resilience, particularly among individuals with low educational attainment. The authors posit that Indigenous spiritual practices may be protective because they are often based on cultural teachings that promote abstinence from psychoactive substances or moderate use, while involvement in cultural events provides opportunities to interact socially in environments free of drug use and helps build self-esteem, which in turn acts to mediate illicit drug problems.

[13] Prior to legalization, cannabis was considered an illicit drug.

Youth

A strong body of evidence also exists regarding factors associated with non-medical cannabis use and problematic cannabis use among Indigenous youth. These factors include:

- Older age (Lemstra et al., 2013a; MCS, 2005; FNIGC, 2005, 2012; Romano et al., 2019; Wennberg et al., 2021; Wolfson et al., 2020);
- Poorer mental health (MCS, 2012; Lemstra et al., 2013a; Spence et al., 2014; Wennberg et al., 2021);
- Suicide ideation (FNIGC, 2005; Lemstra et al., 2009; Lemstra et al., 2013a; MCS, 2005);
- Externalizing disorders, emotional dysregulation, and behavioural problems (e.g., conduct disorder, oppositional defiance disorder, attention deficit hyperactivity disorder) (Desrochers-Couture et al., 2019; Hautala et al., 2019; Romano et al., 2019);
- Poorer self-reported health (FNIGC, 2005; Lemstra et al., 2013a; MCS, 2012);
- Having a deceased parent/ parents not living together (FNIGC, 2012; Swaim & Stanley, 2016; Wall, 2008);
- Lower family connectedness/ negative relationship with parents/family conflict/ unhappy home life/not getting along with parents (Lemstra et al., 2013a; MCS, 2005, 2012; Swaim & Stanley, 2016; Wolfson et al., 2020);
- Lower school connectedness/ attachment (FNIGC, 2005, 2012; Heavyrunner-Rioux & Hollist, 2010; MCS, 2005; Lemstra et al., 2009; Wennberg et al., 2021);
- Deviant peer relationships, delinquent peers, peer pressure, more permissive attitudes to substance use among friends, having friends who use, perception of peer use (Heavyrunner-Rioux & Hollist, 2010; Lemstra et al., 2009; MCS, 2012, 2016; Nalven et al., 2022; Prince et al., 2017; Rumbaugh Whitesell et al., 2014; Spillane et al., 2020; Stanley et al., 2017; Wolfson et al., 2020);
- Normalization and use of cannabis among family members, kinship group, and community members/lack of modelling behaviour (Hurdle et al., 2008; Spillane et al., 2020; Spillane et al., 2021b; Waller et al., 2003);

- Perception of easily accessible cannabis, particularly through friends and family (Spillane et al., 2020; Spillane et al., 2021b);
- Lack of discipline/monitoring from parents and family members (Moon et al., 2014; Spillane et al., 2020; Swaim & Stanley, 2016);
- Lower income/ neighbourhood income/ family financial strain (Lemstra et al., 2009; Sittner, 2016; Wall, 2008; Wolfson et al., 2020);
- Alcohol use/dependence (Desrochers-Couture et al., 2019; FNC, 2005; Hautala et al., 2019; Lemstra et al., 2013a; Novins & Mitchell, 1998; Romano et al., 2019; Sittner et al., 2021; Spillane et al., 2020);
- Nicotine dependence/ tobacco use (Hautala et al., 2019; Spillane et al., 2020; Whitbeck & Armenta, 2015); and
- Use of other illicit substances (Novins & Mitchell, 1998; Romano et al., 2019; Spence et al., 2014; Thompson et al., 2021; TPF, n.d.).

Studies examining associations between depression and cannabis use among Indigenous youth have shown mixed results, with some showing associations (Romano et al., 2019; TPF, n.d.) and others showing no associations (Spence et al., 2014). Additionally, some evidence shows a potential association between the following:

- Intergenerational trauma, poor diet/BMI/lower physical activity, learning problems/ having to repeat a grade, smaller household size (less than 4), and levels of cannabis use among First Nations youth residing on reserve (FNIGC, 2012, 2018);
- Living on the street, living in custody, current life challenges, and exposure to second-hand smoke and cannabis use among Indigenous youth (Grades 7-12) in mainstream schools in BC (MCS, 2005, 2012);
- Exposure to stress and early puberty with cannabis use among young American Indian adolescents (Rumbaugh Whitesell et al., 2014); and
- Being bullied and cannabis use among Indigenous adolescents between Grades 5 and 8 in Saskatoon (Lemstra et al., 2009).

Gender was generally not found to be a factor associated with cannabis use among Indigenous youth (Elton-Marshall et al., 2011; FNIGC, 2012; Hop Wo et al., 2020; Lemstra et al., 2013a; MCS, 2005, 2012). Other factors that have been associated with more frequent cannabis use among youth generally include peer victimization (Maniglio, 2015) and too much screen time (Doggett et al., 2019; Romano et al., 2019).

The research on resilience or protective factors associated with non-medical cannabis use among Indigenous youth is much more limited and focused largely on American Indian populations. There is some evidence that the following factors are potentially associated with non-medical cannabis use among this youth population:

- Strong relationships with parents/parental support (Rumbaugh Whitesell et al., 2014; Spillane et al., 2020);
- Parental norms related to cannabis use (ie. higher family disapproval) and family sanctions (Stanley et al., 2017; Swaim & Stanley, 2016);
- Parental monitoring (Moon et al., 2014; Swaim & Stanley, 2016);
- Living with both parents (Swaim & Stanley, 2016);

- Increased per capita family income (Hautala et al., 2019);
- Prosocial peers and positive role models who do not use cannabis (Moon et al., 2014; Rumbaugh Whitesell et al., 2014; Spillane et al., 2020; Waller et al., 2003);
- Greater perceived risks in relation to cannabis use (Nalven et al., 2022; Prince et al., 2017);
- Greater subjective happiness (Schick et al., 2022);
- Greater school bonding/ sense of belonging/interest in school (Henry et al., 2022; Napoli et al., 2003);
- Academic aspirations and future goals (Henry et al., 2022; Spillane et al., 2020);
- Greater valuing and availability of extracurricular activities (Spillane et al., 2021a);
- Positive identification with a Child Protection Services caseworker, for Indigenous youth who are involved with the child welfare system (Waechter et al., 2011);
- More intense sense of ethnic pride/cultural identity (Kulis et al., 2001; Markstrom et al., 2011; Rumbaugh Whitesell et al., 2014; Unger et al., 2020; Whitesell et al., 2005); and

- Presence of culturally-based activities and programming within the community, commitment to cultural practices (Spillane et al., 2020).

In addition to evidence that cultural identity may be a protective factor against cannabis use specifically, there is considerable evidence that greater interest and participation in cultural activities and other efforts that strengthen cultural identity (e.g., land-based camps and education) can build self-esteem and improve mental health, which in turn can protect against problematic substance use (Naseba Marsh et al., 2015; Nutton & Fast, 2015; Petrasek MacDonald et al., 2013).

The review of literature in this area points to the need for further research on the impact of stressors and resilience factors that may influence cannabis use, particularly among Inuit and Métis youth. This type of research will be critical for developing prevention programs and educational resources. In the context of legalization and more readily available marijuana, the research also suggests a need to address perceptions about the acceptability and safety of engaging in cannabis use among youth when there is a high prevalence of substance use among family and community members (Spillane et al., 2021b). Given that Indigenous cultures place strong emphasis on family relations and the role of family as the primary source of learning about healthy and acceptable behaviours (Ivanich et al., 2020), the increasingly easy access that Indigenous youth may have to marijuana through legalization is especially concerning (Spillane et al., 2021b). Finally, the research suggests the need for comprehensive public health promotion approaches related to concurrent substance use, including tobacco, alcohol, illicit drugs, and cannabis.

Cannabis use and Indigenous Peoples' health and well-being

Cannabis affects people differently depending on the health and social contexts of users. Some people experience benefits; others experience harms. Cannabis is generally perceived as being safe, particularly since it has been legalized, but cannabis use can become problematic if cannabis is used frequently and in large quantities; initiated at an early age; used to cope with mental health challenges rather than socially; used when driving or doing other physical activities; interferes with work, home life, or relationships; or becomes more important than other parts of life (FNHA, n.d.-b; Native Women's Association of Canada, 2021). This section focuses on the harms associated with cannabis use generally, the populations most vulnerable to harms from using cannabis, health outcomes associated with cannabis use among Indigenous populations specifically, and cannabis use in relation to Indigenous harm reduction approaches.

Harms associated with cannabis use

There are both direct and indirect potential harms associated with using cannabis, including feelings of anxiousness, panic attacks, withdrawal from others, impaired memory for several hours after use, and other short- and potentially long-lasting impacts to mental health; increased risk of injuries, accidents, and even death if driving or operating machinery while under the influence of cannabis; negative impacts to the health of babies if using cannabis during pregnancy or breastfeeding; increased risk of sexually transmitted infections if engaging in high-risk sexual behaviour while using cannabis; and impacts to the lungs and throat tissues caused by toxins in cannabis (FNHA, n.d.-c). Cannabis can also increase the risk of COVID-19 infection in several ways. It can destroy some of the lungs' natural defence mechanisms; the act of smoking and sharing cannabis products can potentially increase COVID-19 transmission; and black-market cannabis tainted with other harmful substances can lead to increased risk of

Early cannabis use has been associated with challenges to educational success, including delayed memory, adverse learning impacts, lower grades and school satisfaction, negative school attitudes, dropping out, and antisocial behavior

(Walls, 2008).

overdose and hospitalizations, exposing patients to risk of COVID-19 infection (Assembly of First Nations [AFN], 2020). Other harmful health impacts of cannabis use can include impaired attention, motor skills, and reaction time; impaired neurological development and cognitive decline; accidental poisoning for children with unintentional exposure; increased respiratory diseases; cannabis dependence, with subsequent impacts to educational attainment, labour market participation, and life trajectories (Chen & Klig, 2019; Grant & Bélanger, 2017; Windle et al., 2019); oral disease (Tambe Keboa et al., 2020); and bronchitis and changes in lung function (Gracie & Hancox, 2021).

Additionally, the cannabis industry can pose potential risks to public health and safety through environmental risks associated with the growing and processing of cannabis. This includes the release of toxic pollutants and chemical contaminants in the community's water supply, soil, and air, as well as the depletion of scarce natural resources in the operation of production sites and processing plants (FNHA & FNHDA, n.d.).

Populations particularly at risk of harms

Cannabis poses a serious health hazard to certain populations. Because it can hinder healthy brain development, children and youth are at heightened risk of health harms (FNHA, n.d.-b; Stanley & Swaim, 2015; TPF, n.d.; Walls, 2008). Early cannabis use has been associated with challenges to educational success, including delayed memory, adverse learning impacts, lower grades and school satisfaction, negative school attitudes, dropping out, and antisocial behavior (Walls, 2008). In turn, lack of school success may contribute to later drug abuse and alcoholism, as well as problems with employment and socioeconomic marginalization of Indigenous Peoples. Cannabis use during adolescence has been strongly linked to cannabis dependence and other substance use disorders (Grant & Bélanger, 2017). This association is also evident among young adults who use cannabis concurrently with alcohol (Thompson et al., 2021). There is a strong association between cannabis

use and adverse mental health effects among youth, including depression, anxiety disorder, psychosis, suicide ideation, and schizophrenia (Al Iede et al., 2017; Bohanna & Clough, 2012; Lemstra et al., 2013b). There is also the potential that long-term cannabis use may increase the risk of lung cancer in young adults (Adlington et al., 2008; Baumeister et al., 2021), though this evidence is not conclusive (Jett et al., 2018).

Consuming cannabis during pregnancy or while breastfeeding can have harmful impacts on infant development (Cook & Blake, 2018; FNHA, n.d.-f; Graves et al., 2022; Martínez-Peña, et al., 2021). Cannabis use during pregnancy has been associated with negative birth outcomes, including low birth weight, preterm birth, small for gestational age, and admissions to neonatal intensive care, which can have both short- and long-term implications for the health of babies (Brown et al., 2016; FNHA, n.d.-b; Hayatbakhsh et al., 2012). Cannabis use can thus amplify existing disparities between Indigenous and non-Indigenous birth outcomes (Chen et al., 2019; Luo et al., 2010; Shapiro et al., 2018; Smylie et al., 2010). In addition to these direct adverse effects on infants and children, the side effects for adults using cannabis, including impaired decision making, inability to pay attention, and sleepiness, can affect their ability to care for young children, leading to potential secondary harms, such as injuries (FNHA, n.d.-d). Second-hand smoke may also lead to the same health problems as tobacco products and accidently eating cannabis products can be very harmful to young children's health (FNHA, n.d.-d).

Also at risk of potential harms from consuming cannabis are individuals with psychotic illnesses, individuals who have a history of trauma or mental health issues, those who co-use cannabis with alcohol or other drugs, and those who consume cannabis with high frequency, quantity, and potency (FNHA, n.d.-e). Cannabis use may worsen symptoms of psychosis among those with pre-existing psychotic disorders and lead to the development of both short and longer-lasting psychosis or chronic illnesses, such as schizophrenia (FNHA, n.d.-e). Given the high prevalence of mental health issues in many Indigenous communities, including high suicide rates (Nelson & Wilson, 2017), the potential for cannabis legalization to increase the risk of adverse mental health outcomes, particularly among Indigenous youth, is a concern raised by some Indigenous governments and organizations (MHCC et al., 2019; Sanguins, 2022; TPF, n.d.; Wolfson et al., 2020).

Cannabis-related health outcomes among Indigenous populations in Canada

Most outcomes data on cannabis use among Indigenous populations focuses on substance use disorders, with some research on adverse mental health outcomes, particularly among First Nations youth. There is a paucity of research on other health-related impacts, particularly among Inuit, Métis, and urban Indigenous populations.

In studies involving First Nations youth from the Midwest (USA) and Canada, youth who initiated cannabis use early were found to be at risk of developing multiple substance use disorders by the end of adolescence (Hautala et al., 2019; Sittner, 2016; Walls et al., 2021; Whitbeck et al. 2008). Likewise, North American Indian adolescents who initiated cannabis at a young age were 6.5 times more likely to develop marijuana dependence than abstainers (Cheadle & Sittner Hartshor, 2012). Sittner (2016) found that 22.1% of First Nations youth in their study met the criteria for conduct disorder. In a study of mental disorders in American Indian and First Nations communities, Wall et al. (2021) found disproportionately high rates of lifetime substance use disorder among First Nations youth, with rates of marijuana abuse and dependence at 19.6% and 22.7%, respectively.

Likewise, Whitbeck et al. (2008) found that 27.2% of Indigenous adolescents developed a lifetime substance abuse disorder, a rate that was three times that reported in the 2004 National Survey on Drug Use and Health for individuals 12 years or older.

Similar outcomes were found among Indigenous adults. Sittner et al. (2021) found that North American Indigenous people who co-used marijuana and alcohol had poorer outcomes in adulthood pertaining to marijuana use disorder and depressive symptoms, as well as in relation to full-time employment, levels of income, and self-rated physical health. Cannabis use is also connected to potentially stigmatizing markers of identity, which may act as a deterrent to seeking mental health treatment (Buttazzoni et al., 2020).

In other research on mental health impacts of cannabis use, Lemstra et al. (2013b) found that marijuana use was a risk factor for suicide ideation among on-reserve First Nations youth from the Saskatoon Tribal Council, while Okoro (2007) attributed heavy, persistent use of cannabis to the development of psychotic symptoms among Indigenous people in the Northwest Territories. Some studies found higher rates of anxiety, depression, or mental health issues among Indigenous cannabis users (see for example Lee et al., 2008; Sittner et al., 2021), but the cause-and-effect nature of this relationship remains unclear.

Indigenous harm reduction approaches to cannabis

Both Indigenous and non-Indigenous organizations have advocated for a harm reduction approach to cannabis use (Canadian Medical Association [CMA], 2022; FNHA, n.d.-e; FNHA & FNHDA, n.d.; MHCC et al., 2019; NIMCA, n.d.; TPF, n.d.). A harm reduction approach is based on the notion that "society benefits most when drug policy is designed to help people with drug problems live better lives rather than punish them" (Melamede, 2005, p. 1). Legalization of cannabis is critical to harm reduction because it regulates the supply to protect consumers from toxins and additives, restricts the age of cannabis purchase to those over the age of 18 or 19 (depending on province), and reduces cannabis-related crimes (FNHA & FNHDA, n.d.). Harm reduction approaches can lead to more realistic and effective policies than simply banning cannabis outright (TPF, n.d.).

Mainstream harm reduction approaches involve four key pillars: prevention, treatment, harm reduction, and enforcement (Native Youth Sexual Health Network, 2016). While these approaches have helped save lives, they tend to focus narrowly on substance using behaviours, without addressing the structural and systemic issues that "contribute to and intersect with substance use for Indigenous Peoples" (Canadian Aboriginal AIDS Network [CAAN] & Interagency Coalition on AIDS and Development [ICAD], 2019, p. 4).

Indigenous stakeholders have called for an Indigenous-focused cannabis harm reduction strategy, developed and implemented by or in partnership with Indigenous communities (Paplo, 2020; TPF, 2019b). Rather than focusing on substance use, an Indigenous harm reduction strategy focuses on reclaiming Indigenous knowledge systems and ways of life that were disrupted by the historic and ongoing impacts of colonialism that contribute to substance use in Indigenous communities. As such, Indigenous harm reduction policies, programs, and practices are decolonizing, indigenizing, holistic, inclusive, innovative, and evidence based. That is, they must be community-based, trauma-informed, distinctions based, and culturally safe; grounded in local Indigenous knowledges and cultures; focused on addressing the social determinants that affect Indigenous Peoples' mental, physical, emotional, and spiritual health; inclusive of all individuals; and draw on the best evidence, using both Indigenous and mainstream approaches to ensure Indigenous Peoples have access to programs and services that meet

their needs and priorities (CAAN & ICAD, 2019). An Indigenous-focused harm reduction strategy could help Indigenous communities better address the potential harms that may arise from legalization, a consideration that was noticeably absent from the cannabis legalization framework (Paplo, 2020). However, there is uncertainty about which approach works best for ensuring wellness among those populations considered at risk of poorer health outcomes from cannabis use, and for promoting safe cannabis use while ensuring its use is not normalized (TPF, n.d.).

The Native Youth Sexual Health Network (2014) developed an Indigenous Harm Reduction model that shifts the focus away from interventions common to mainstream harm reduction approaches, including policing, prisons, court-mandated care, and assumptions based on individual risk rather than systemic risk, to guidelines based on community well-being and restoration of Indigenous knowledge systems, cultures, and governance structures. This model – referred to as the four-fire model – is based on four core components: cultural safety, reclamation, self-determination, and sovereignty. The model involves taking actions to: address power differences between service providers and clients/patients; reclaim cultural practices that were uprooted by colonialism; allow individuals, communities, and Nations to make decisions that work best for them; and ensure that principles like non-interference are adhered to by courts, service providers, community members, and advocates.

It is imperative that Indigenous communities have a strategy for addressing the health and social harms of cannabis, as well as culturally appropriate resources and supports. This review found only one initiative by Indigenous communities to develop a cannabis health strategy, though there may be others. The Anishinabek Nation hosted an engagement gathering to discuss the challenges associated with legalization of cannabis in relation to health and community wellness, and to identify gaps in services and resources to support the health and well-being of its members. Recommendations from this gathering will inform the development of an Anishinabek Nation Cannabis Health Strategy (Barrios, 2020).

There has been increasing interest in adopting Indigenous-specific harm reduction approaches to cannabis as a replacement for opioids (Wolfson et al., 2020). While there is not currently enough empirical evidence that cannabis can adequately replace use of opioids to mitigate chronic pain and combat addictions (Carlini, 2018), it has been shown to help alleviate symptoms of addiction and adverse effects of opioid use in some people, and many consider it a safer way to relieve pain as an alternative to opioids, as overdosing from cannabis is not fatal on its own (TPF, n.d.). For example, participants in a study involving street youth from Vancouver (approximately 14% identified as Indigenous) over the period 2017-2019 generally framed cannabis use as an effective and "healthier" form of mental health and substance use treatment over other medication-based substance use treatments (Paul et al. 2020). They emphasized the therapeutic value of cannabis rather than the harms generated, with some participants highlighting its medicinal value in curing hyperactivity, helping with scoliosis and back pain, and preventing use of other more harmful substances; however, some also viewed the medicinal uses of cannabis as a barrier to getting clean and sober. The study lends support to similar studies showing cannabis could be used to reduce prescription and illicit opioid use among people who inject drugs and help them transition away from using other more harmful substances. In contrast, the finding that frequent cannabis use is negatively associated with initiating other drug use challenges the assumption that cannabis is a 'gateway drug' (Paul et al., 2020, p. 9). Additionally, some anecdotal evidence indicates that CBD may relieve some of the effects of opioid withdrawal

An Indigenous-focused harm reduction strategy could help Indigenous communities better address the potential harms that may arise from legalization, a consideration that was noticeably absent from the cannabis legalization framework

(Paplo, 2020).

for those involved in harm reduction programs (Peguis First Nation, 2019).

For Indigenous Peoples who have been disproportionately burdened by the opioid crisis (FNHA, 2018; Nichol et al., 2019), employing cannabis may be an effective harm reduction strategy for addressing issues of opioid use and substance use addictions. This harm reduction strategy may include prescribing cannabis to manage withdrawals or providing it as a safer alternative to opioids when feasible (TPF, 2019a). Despite the legalization of cannabis, numerous barriers to accessing legal cannabis remain for individuals from marginalized communities who use drugs, exposing them to potentially unsafe, unregulated cannabis (Valleriani et al., 2020). Innovative grassroots cannabis distribution programs, such as the peer-run cannabis substitution program established in Vancouver's Downtown Eastside, can help bridge access to cannabis for such individuals (Nichol et al., 2019). The program provides safe access to cannabis as a substitute for opioid reliance by distributing cannabis free of charge, imposing few restrictions on who can access the cannabis, and providing a variety of otherwise inaccessible cannabis products (Nichol et al., 2019; Valleriani et al., 2020).

Indigenous perspectives of cannabis use and legalization

The literature on Indigenous perspectives of the harms and benefits of cannabis use and legalization is limited (Roscoe & Perron, 2022). The literature shows that some Indigenous communities place high value on cannabis for its therapeutic properties, while others are concerned about the health and social aspects of legalizing cannabis, particularly in the context of social and health inequalities, including a high burden of substance use and related harms due to colonization and cultural oppression.

Perceptions of cannabis use

Several sources documented Indigenous perceptions of cannabis use benefits, including a common opinion that cannabis is safe (Beauvais et al., 2004; FNHA, n.d.-b; MHCC et al., 2019). Some First Nations Elders emphasized the medicinal and spiritual uses of cannabis and how it can relieve pain, nausea, and muscle problems associated with some medical conditions and improve appetite when experiencing weight loss due to HIV/AIDS or cancer treatment (FNHA, n.d.-c). Other Elders stated cannabis was used to create

a topical solution to treat pain, but never ingested or smoked, or it was used in ceremony to reduce symptoms of psychosis (TPF, n.d.).

The Manitoba Métis Federation explored the experiences and perceptions of legal cannabis use in relation to mental health within the Métis population in Manitoba (Sanguins, 2022). Study participants highlighted several medicinal benefits of cannabis use, including relief of chronic migraines and nausea, use of THC in managing seizures and epilepsy, moderation of symptoms of autoimmune diseases, and improved quality of life for people undergoing cancer treatment. Other cited benefits included the therapeutic effects of CBD/THC on pain, appetite, sleep, and anxiety, as well as its role in managing other stressors.

Only two sources documented Indigenous perceptions of cannabis use harms. Among Inuit, observed harms from cannabis use included: withdrawal from family and mood swings; increased negative health outcomes (e.g., tuberculosis) due to shared substance use; overconsumption of cannabis; challenges in overcoming perceptions that cannabis is safe now that it is legal; increased psychosis and schizophrenia; increased acceptability of Elders and adults smoking cannabis with and in front of children, raising concerns about second-hand smoke and early cannabis use; and engagement in sex work or selling of personal items to obtain cannabis (MHCC et al., 2019). Deer (2018) wrote about a Mohawk Nation in Kahnawake who are morally opposed to cannabis because it interferes with behaviour and cognition, and do not consider it a medicine traditionally used by Mohawk people. She notes that in the Mohawk language, the term used for cannabis – *kaien'kwáksen* – translates to "bad smoke."

Few studies explored the reasons why Indigenous people use cannabis. In a survey of cannabis use among Indigenous people conducted by the Thunderbird Partnership Foundation (2019a), 19% of respondents who used cannabis in the past 12 months did so for pain relief, 14% used it to avoid or reduce the use of other drugs, 13% used it to get high, and 12% used it because they were experiencing difficulties in their lives. Davis et al. (2020) explored the motives of American Indian (AI) and White youth using cannabis and found that AI youth were more likely to endorse using cannabis for coping reasons while White youth were more likely to endorse cannabis use for recreational reasons or to expand their awareness and experience. Binion et al. (1988) found that the majority of eighth-grade Native American (NI) and Anglo youth used drugs to enhance positive affective states, for excitement, to party with friends, to relax, and to handle negative affective states; however, NI youth were more likely to use drugs to cope with boredom. Though their investigation was not part of a scientific study, the Mental Health Commission of Canada et al. (2019) identified boredom, limited recreational activities, community isolation, and socializing with peers as motivators for Inuit youth to use cannabis.

Perceptions of cannabis legalization

Findings from research and community engagement sessions generally highlight mixed Indigenous perspectives about cannabis legalization. For Inuit, perceived benefits to cannabis legalization include use of cannabis as a replacement for other, more harmful, substances; decreased violence when using cannabis over other substances; the affordability of cannabis over other substances, which leaves money for other essentials; improved quality (and safety) of cannabis since legalization; more education about cannabis for youth; and reduced workload for policing services, allowing them to focus on other problems (MHCC et al., 2019). The issue of cannabis safety is particularly important for Inuit given their unique barriers in accessing legal cannabis, including lack of cannabis retail outlets in Inuit communities, poor internet access, and lack of credit cards to order online (MHCC et al., 2019). Inuit are also concerned cannabis legalization will lead to increased cannabis use, particularly among youth and women during pregnancy, with implications for health and well-being across life trajectories.

A qualitative study examining cannabis use and legalization among marginalized communities, including First Nations, Inuit, Métis, and people of colour, identified the therapeutic and spiritual values of cannabis use and related concerns (CAMH, n.d.). These included:

1. systemic over-policing, racism and discrimination of marginalized people before and after cannabis legalization;
2. prioritizing profits from the sale of cannabis and maximizing THC levels over natural and respectful cultivation;
3. potential misuse of cannabis;
4. potential health and safety risks of cannabis use; and
5. the multiple barriers Indigenous people face in participating equally in the cannabis economy and the interplay between being included in this economy, social outcomes, and cycles of poverty.

Several First Nations have hosted community engagement sessions to discuss the opportunities and challenges of participating in the cannabis economy, including in relation to health and wellness. The First Nations Health Authority (FNHA) in BC identified substance abuse and treatment, medicinal benefits, keeping youth safe, second-hand smoke, safety for individuals and communities, drug-impaired driving, safe access to legal cannabis, self-determination, and the need for public education as key considerations for cannabis legalization (FNHA, n.d.-a). The Anishinabek Nation (2018) expressed mixed opinions on cannabis legalization, with some community members concerned about the increasing use of cannabis by youth because they are being told it is less harmful than opioids, and others exhibiting an "entrepreneurial spirit" that has arisen since legalization, but who are nevertheless wary of potentially associated health and safety issues. The Anishinabek Nation's priorities and concerns include the availability of treatment centres and supports; conflict between entrepreneurial spirit and health and safety issues; community resources needed to ensure people feel protected; policing and enforcement of laws; coverage of costs of cannabis for medical treatment under the Non-Insured Health Benefits (NIHB) program; control systems and addictions; youth cannabis prevention; testing for impairment; the influence of cannabis in the workplace; risk, security, and safety in the community; and the social impacts of cannabis legalization (Anishinabek Nation, 2018).

The Thunderbird Partnership Foundation (n.d.) notes that legalization imposes regulations that assure the quality and safety of cannabis through the control of THC content and other additives, which can prevent accidental overdoses, bad reactions, or deaths. However,

legalization requires more resources to reduce risks for populations who are vulnerable to increased risk of addiction. Since legalized cannabis is expected to increase risk of cannabis use among Indigenous Peoples, the risk of developing schizophrenia or other psychoses and mental health issues (e.g., depressive and anxiety disorders; suicide ideation, attempts, and completions) may also increase (TPF, n.d.). In the context of limited mental health resources and high rates of mental health issues, legalization thus has the potential to amplify an already significant health concern in many Indigenous communities.

There is a need to further understand Indigenous perspectives of cannabis use and legalization. Community engagement is critical for developing legislation and regulations for the production and distribution of cannabis to ensure the needs and contexts of Indigenous communities are addressed. Community-based research focused on the diverse perspectives of community members about cannabis use can also inform the development of culturally appropriate educational resources aimed at cannabis prevention and overcoming the stigma often associated with its use, particularly among the elderly, that may act as a barrier to discussing cannabis use (Wolfson et al., 2020).

The cannabis industry as an economic generator

Indigenous communities across Canada have been actively engaging in conversations and decision making about participating in the cannabis economy, while balancing individual and community safety with economic opportunity. These decisions are often difficult, given some communities' histories of substance abuse and addiction, inadequate information about the benefits and harms of the cannabis industry, and misconceptions about cannabis (Day, 2018), despite the fact that moneys generated from this economy can support social services, treatment options for drug and alcohol abuses, family counselling, and other programs and services that can enhance the health and well-being of individuals, families, and communities. Strong engagement with community members is needed to ensure that quality of life is not superseded by economic drivers (Hyslop, 2021). Some Indigenous communities have chosen to ban or delay cannabis production and/or sales in their communities; others have chosen to only participate in the medicinal cannabis economy, while many others have embraced the cannabis economy as an economic generator (Crosby, 2019; Harp, 2018).

Communities such as the Shawanaga First Nation, Inuitivaluit Development Corporation, Chippewas of the Thames First Nations, Whitefish River First Nation, Kitigan Zibi First Nation, Wendake First Nation, and Onion Lake Cree Nation have chosen to ban or delay, at least temporarily, participation in the cannabis economy (Harp, 2018; Shawanaga First Nation, 2021). The varying reasons for making this decision include: concerns about putting beneficiaries at risk if they try to cross the United States border and have a connection to the sale of cannabis (Inuvialuit Development Corporation); concerns over the links between drugs and alcohol with violence and poverty on reserve (Whitefish River First Nation); hesitation about waiting for the development of their own cannabis policies (Kahnawake Mohawk Territory); and apprehension about the cannabis industry ending up like the tobacco industry, with people selling it in an unregulated manner all over the place (Kitigan Zibi) (Harp, 2018).

Indigenous communities with high rates of substance abuse but want to derive economic benefits from the cannabis industry have opted to focus on medicinal cannabis only. For example, Cowichan Tribes opened cannabis retail stores that focus on healing ailments and illnesses, while taking illegal drugs off the reserve, enabling them to derive revenues from cannabis sales that can be used to tackle such community issues as housing and water while minimizing potential harms from cannabis legalization (CHEK News, 2019). Another example is Seven Leaf in Akwesasne, a Health Canada licensed producer of medicinal cannabis that employs more than 50 residents, while producing a safe product used only for healing (Day, 2019).

By and large, the literature suggests many Indigenous communities are embracing the cannabis industry as an economic generator. They are opening successful non-medical cannabis retail outlets and cultivation and processing facilities, both in adherence with and outside provincial regulations. Some have chosen to enter formal partnerships and investment arrangements with companies selected as provincial cannabis retailers (George-Cosh, 2021; Government of Manitoba, 2018; Welsh, 2021). Others, like the Anishinabek Nation, wanted a safe product with community control and ownership to ensure profits benefit the community rather than just one stakeholder (Anishinabek Nation, 2018). Several First Nations leaders from Ontario have launched the Red Market Brand, an Indigenous owned and operated cannabis project that aims to make Indigenous-owned cannabis brands available in the Canadian retail, recreational use market

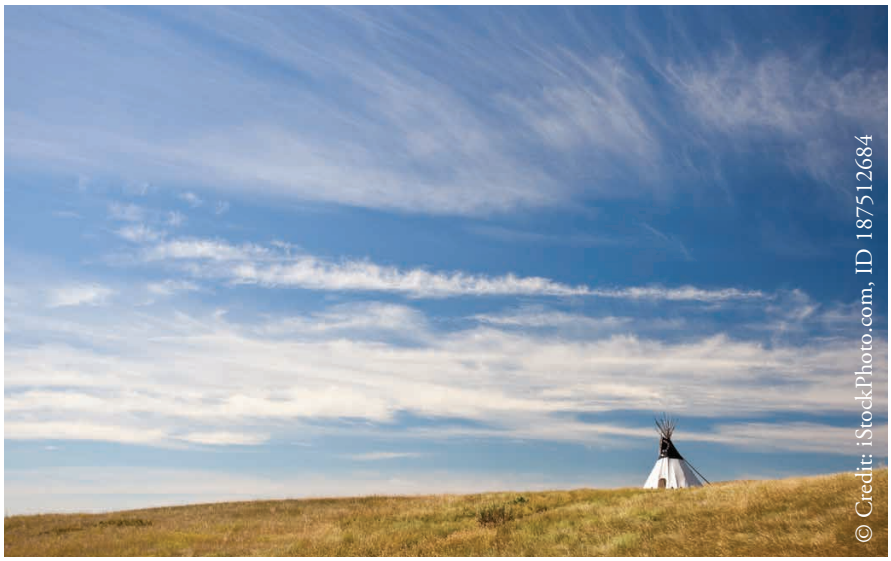
(Red Market Brand, 2021). Their goal is to pursue economic reconciliation across Canada, with profits from sales compliant with federal regulations enriching First Nations communities. Eventually, they hope to establish a national network of First Nations licensed producers who will supply the Red Market and other Health Canada approved First Nations cannabis products. Indigenous cannabis producers and processors in British Columbia might also benefit from the provincial government's BC Indigenous Cannabis Product program, launched in early 2022. The program highlights cannabis products from federally licensed cannabis producers and processors in BC that meet Indigenous ownership requirements in private retail and BC Cannabis stores (Public Safety & Solicitor General, 2022).

While formal impact evaluations are lacking, informal assessments show that Indigenous cannabis enterprises bring significant economic and social benefits to some Indigenous communities. In the Mohawk territory of Tyendinaga, in Ontario, the cannabis industry employs everyone who wants a job and construction is booming (Hunter, 2019). In the Chilliwack, BC area, Chief Gladstone of the Shxwha:y First Nation notes the creation of a cannabis retail store and Health Canada licensed cultivation facility has changed everything in the community, from having only four people working in the village prior to cannabis legalization, to creating jobs for more than 100 people, taking them off social assistance and improving the standard of living from "abject poverty to closer to middle class" (Feinberg, 2020, n.p.). Indigenous Bloom, an unlicensed cannabis store in BC, employs a staff of 20 (Shore, 2018). In Manitoba, investment in the cannabis industry has been given credit for relieving the Opaskwayak Cree Nation from bankruptcy (Ward, 2019).

Taxation remains a key issue for Indigenous communities, particularly First Nations. Because First Nations were not properly consulted on the cannabis tax framework and regulatory control, they have been excluded from benefitting from the excise tax formula (Crosby, 2019). This has led some First Nations to press for powers similar to the provinces, with a similar provincial-sized allotment of 75% of the excise tax to share revenue from the distribution of cannabis on reserves (Shore, 2018). The First Nations Tax Commission (FNTC) has been working to advance a cannabis tax jurisdiction proposal that generates revenue for First Nations, provides a framework to support jurisdiction, and recognizes First Nations government jurisdiction over cannabis (FNTC, 2019). Some First Nations have also been active in advancing cannabis revenue sharing proposals to their respective provinces (FNTC, 2018a, b).

Communities who chose to participate in the cannabis industry need a public health approach that: focuses on preventing problematic drug use; makes assessment, counselling, and treatment services more available; and improves safety through harm reduction programs and awareness (CMA, 2022). A culturally informed approach is also needed to remind Indigenous people that their culture and traditional values are a source of strength and can help them make the best health choices (Feinberg, 2018). Such an approach is "built on Indigenous values of personal and family responsibility, healthy relationships, and a culture of choices" (para. 6).

Regardless of the participation choices made, barriers embedded within the *Cannabis Act* and provincial cannabis regulations prevent many Indigenous entrepreneurs from entering the cannabis trade and need to be eliminated (Donovan, 2019). These barriers are discussed in greater detail in the section, "Cannabis legalization, social justice, and social equity" below.



A culturally informed approach is also needed to remind Indigenous people that their culture and traditional values are a source of strength and can help them make the best health choices

(Feinberg, 2018).

Self-determination and reconciliation

The cannabis economy is closely tied to issues of sovereignty and self-determination for First Nations, which are at the heart of reconciliation (Koutouki & Lofts, 2019). There is consensus that Indigenous Peoples were not adequately consulted on the development of the Act that legalized cannabis (Crosby, 2019; Canadian Broadcasting Corporation [CBC], 2019; Donovan, 2019; Koutouki & Lofts, 2019; NIMCA, n.d.). While they may potentially benefit from legalization, there is concern the current framework for legalization supports a *de facto* recolonization of Indigenous populations (Crosby, 2019; Fischer et al., 2020). First Nations see inadequate consultation on cannabis legalization as a lack of respect for their sovereign rights and for engagement with First Nations on a "nation-to-nation" basis (NIMCA, n.d). The cannabis legalization process thus represents a missed opportunity for reconciliation (Lafond & Eggerman, 2022; Shore, 2018).

The current cannabis legalization framework establishes provincial and federal jurisdiction over aspects of cannabis production, processing, and sales; however, it does not provide adequate guidance with respect to these activities on First Nations reserves. The legislative framework implies First Nations are subject to provincial government rules and regulations around cannabis, despite being governed under federal purview, which supersedes provincial legislation (George-Cosh, 2021). First Nations are thus excluded from making key economic and political decisions regarding cannabis in their own territories, which can result in profits for large corporations being prioritized over the needs of Indigenous communities, thus perpetuating existing injustices (Koutouki & Lofts, 2019; Shore, 2018). Despite how well-intentioned this framework might be, such commercially-driven, profit-based approaches can be difficult to control and may have catastrophic impacts on public health, particularly in Indigenous communities where substance abuse and mental health issues may be prevalent (Fischer et al., 2020). Further, while adhering to rules and regulations might prevent financial penalties being imposed on Indigenous communities or police actions, these policies may be inconsistent with the "cultural, economic or political values" of communities (Donovan, 2019, para. 7). For example, despite having voted more than 30 years ago to ban alcohol and drug use on reserve, the Onion Lake Cree Nation

was told by the Saskatchewan government it was approved to open a cannabis store (Harp, 2018). Self-determination in the regulation, production, and distribution of cannabis in their territories, as well as a share of the taxes, would enable First Nations to develop regulations that better consider the uniqueness of their community contexts, promote community health and safety, and optimize economic opportunities in culturally appropriate ways (AFN, 2018; NIMCA, n.d.; Reynolds, 2018). It would also empower First Nations to use the increased revenue to support cannabis prevention and treatment programs and address some of the factors that increase risk of substance use among Indigenous Peoples.

The right to self-determination in the production and sale of cannabis is embedded in several legal documents and precedents. Some First Nations, such as the Mohawks of the Bay of Quinte, argue their right to self-determination is rooted in various treaties that give specific First Nations communities the right to run cannabis businesses without a licence from the provincial government (Hageman & Galoustian, 2021). For First Nations without a treaty, self-determination related to the growing and selling of cannabis may be rooted in other legal documents and precedents. They may see it as rooted in Indigenous Peoples' long-standing use of cannabis for a variety of purposes for thousands of years before colonization, and thus an Aboriginal right (Donovan, 2019, NIMCA, n.d.). They may view it as as part of their inherent right to self-government under Section 35 of the *Constitution Act* (1982), or as embedded in the right to self-determination under Article 3 of the United Nations' 2007 Declaration on the Rights of Indigenous Peoples (UNDRIP) (Donovan, 2019; Hageman & Galoustian, 2021), which the Government of Canada fully endorsed in 2016.[14] Additionally, the Truth and Reconciliation (TRC) Commission of Canada's (2015) recommendations for redressing the legacy of residential schools and advancing reconciliation – including specific calls to action for economic development and the reaffirmation of the nation-to-nation relationship – are particularly relevant in the context of cannabis legalization and First Nations self-determination (Koutouki & Lofts, 2019). The right to self-determination is nevertheless conspicuously absent from the current cannabis legislative framework.

First Nations have diverse perspectives and concerns about how they want to respond to cannabis legalization in their communities, but regardless of these views, there is consensus that they have the right to self-determination in this area (Crosby, 2019). Some First Nations view opening cannabis enterprises through provincial regulations as the best way to ensure illegal activities do not take place on reserve (CHEK News, 2019) and that the product being sold on reserve is safe (White, 2021). Many others have questioned the validity and applicability of settler cannabis laws on their territories. In BC, the Lhtako Dené Nation and the provincial government signed an agreement allowing for some variation from the provincial cannabis framework, giving the Lhtako some flexibility to follow their own vision for participating in both the production and retail aspects of the cannabis industry while aligning with provincial regulatory rules (Barrowcliff, 2022). However, much of the cannabis industry on First Nations reserves operates in a flourishing grey market of unregulated and unlicensed retail outlets operating with little enforcement (CBC, 2021; Elijah, 2019; George-Cosh, 2021; Radford, 2021). Sovereign Indigenous cannabis dispensaries

[14] The federal government developed a roadmap for implementing UNDRIP when its *United Nations Declaration on the Rights of Indigenous Peoples Act* received Royal Assent in June 2021 (Government of Canada, 2021).

are also appearing in urban centres, such as the Mississauga's of the Credit Medicine Wheel dispensary in Toronto (Gallardo & Moon, 2021). The legalization of cannabis leaves the issue of these illegal vendors unaddressed (Hageman & Galoustian, 2021).

There has been a growing push for First Nations to establish their own cannabis laws, regulations, and bylaws respecting the sale of cannabis on reserves. Some First Nations have developed their own laws and regulations that meet or exceed provincial regulations yet respond to the needs and values of their communities (see for example, Crosby, 2019; Gallardo & Moon, 2021; Harp, 2018; Reynolds, 2018; Shawanagan First Nation, 2022; Shore, 2018). There is also a push to convert essentially illegal "black market" cannabis dispensaries to a regulated "Red Market" (Kilawna, 2021). Some First Nations see this model as better than signing up for the provincial regulatory regime, because the latter comes with "tight margins" and high licensing costs (White, 2021, n.p.). For example, in Ontario, several dispensaries which opened without the permission of the First Nation formed the Six Nations People's Cannabis Coalition, which sets its own standards for quality testing and identification (White, 2021).

Provincial and territorial governments often resist the idea of sovereignty for First Nations as the relevant authority for on-reserve regulations, and they do so in a variety of ways. In BC, unlicensed stores are subject to enforcement by the community safety unit (Shore, 2018), while in Manitoba, the provincial government has launched a lawsuit aimed at shutting down an unlicensed cannabis retailer operating on the Long Plain First Nation reserve on the grounds it is defending public health and safety. The First Nation challenges this notion, pointing out that the cannabis being sold has been approved by Health Canada, and it continues to defend its sovereignty[15] (CBC, 2021). The emerging contestations between federal and provincial governments over cannabis jurisdiction have mirrored the regulation of tobacco on First

[15] The long-standing dispute between the Province of Manitoba and the Long Plain First Nation also pertained to aspects of Manitoba's cannabis regime, which included a "social responsibility fee" charged to retailers based on sales volume, which is seen by the First Nation as an "indirect tax," in contradiction with tax exemptions First Nations people have on reserve (CBC, 2021).

Nations reserves, a framework viewed by some First Nations as a settler colonial framework (Crosby, 2019). The ability of provincial governments to shut down dispensaries without provincial licences reflects a "hierarchy of laws that [devalue] and [delegitimize] the law-making capacity of Indigenous groups," and reinforce the need for further actions to support the law-making capacity of Indigenous groups (Donovan, 2019, para. 11).

Some progress has been made on addressing the shortcomings of the *Cannabis Act* with respect to self-determination and reconciliation. For example, the Mohawk Council of Kahnawà:ke and Health Canada signed a landmark memorandum of understanding that creates a unique dual-licensing regime where the Mohawk Council's Cannabis Control Board works cooperatively with Health Canada to control and regulate First Nations sovereignty in relation to cannabis within the territory (George-Cosh, 2021). However, provinces must embrace more widely the idea that First Nations have sovereignty in this area and work with them to achieve mutual understanding of how First Nations cannabis regulations can be developed and supported (Elijah, 2019). Some First Nations have recognized a need to harmonize the efforts of federal, provincial, and First Nations governments in establishing cannabis laws, regulations, and bylaws on First Nations reserves (Feinberg, 2020; White, 2021).

Cannabis legalization, social justice, and social equity

Cannabis legalization represents an "important first step in redressing past harms and presents Indigenous communities with new opportunities for greater political, economic, and cultural self-determination" (Koutouki & Loft, 2019, p. 727). However, it fails to address several key social justice and social equity issues for Indigenous Peoples. These issues focus on the disproportionate harms of criminalizing cannabis on Indigenous populations; inequitable access to the cannabis industry; and the non-consensual use of genetic strains of cannabis (and associated traditional knowledge) developed and cultivated by Indigenous Peoples over centuries. Without actions to redress these injustices, there is a risk past injustices will continue to be perpetuated.

Prior to cannabis legalization, drug criminalization disproportionally impacted racialized non-white Canadians (Vance, 2018). An analysis of cannabis arrest data obtained from five urban centres in Canada in 2015 revealed that, except for Halifax, Indigenous people were consistently over-represented in cannabis arrests (Owusu-Bempah & Luscombe, 2021),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The Cannabis Act not only maintains the status quo but also creates further potential for over-policing, criminalization, and racism to be perpetuated in practice.

particularly Indigenous males who were over-represented at rates ranging from 4.4 to 11.2 times greater than Caucasian males. The *Cannabis Act* contains no amnesty provisions to pardon convictions under the previous cannabis prohibition laws, despite inequities of these laws for Indigenous and other racialized populations. As a result, Indigenous people with criminal records cannot work in the cannabis industry or derive economic benefits from legalization, further disadvantaging marginalized communities (Koutouki & Lofts, 2019). While the federal government introduced plans for a no-cost, expedited record suspension process for cases of simple marijuana possession in 2019, seeking such a suspension is a cumbersome and complex process and the suspension continues to have limitations – including in relation to accessing other countries (Koutouki & Lofts, 2019; Public Safety Canada, 2020). In contrast, other jurisdictions that have legalized marijuana, such as California, have adopted a more progressive approach to cannabis legalization that includes social equity provisions aimed at addressing the disproportionate harms experienced by certain populations due to cannabis prohibition (Koutouki & Lofts, 2019).

The *Cannabis Act* not only maintains the status quo but also creates further potential for over-policing, criminalization, and racism to be perpetuated in practice. This latter issue is a result of the Act's focus on public safety, which results in restricting access to cannabis and imposing criminal penalties on individuals who do not abide by the rules of regulation, production, and distribution (Crosby, 2019; McAleese, 2019; Owusu-Bempah, 2021; Valleriani et al., 2018; Vance, 2018). Addressing the over-representation of Indigenous people and youth in custody is one of the TRC's recommendations for achieving reconciliation. Allowing First Nations communities to exercise self-determination in the production and distribution of cannabis will thus be a key strategy for reducing the over-representation of Indigenous people in the criminal justice system, as well as achieving reconciliation.

The current legalization framework also does not enable a level playing field for Indigenous entrepreneurs to participate in the cannabis industry (Lamers, 2021a), presenting a significant barrier to economic self-determination for Indigenous Peoples, particularly for First Nations living on reserve.[16] The restrictive trade and licensing practices embedded in the

[16] First Nations living on reserve face unique limitations to accessing capital, some of which are due to provisions contained in the *Indian Act* (Cafley & McLean, 2016). Specific provisions in the *Indian Act* and other agreements and legislation, including conditions imposed on their tax authority and restrictions on leveraging territorial lands and resources as collateral, limit their ability to raise revenues and inhibit the flow of capital to First Nations. Further, First Nations on reserve commonly face infrastructure deficits and rarely have access to cheap loans. These barriers discourage private investment.

Cannabis Act have favoured settler governments and select entities over Indigenous Peoples to date (Vance, 2018). Indigenous-owned or affiliated cannabis businesses make up only a small proportion of federal licence holders, and while the number of Indigenous cannabis companies has grown from 19 in 2020 to 31 in 2021, less than one percent of Canada's federal licences have been provided to First Nations businesses on reserve (Lamers, 2021a) and only four percent are Indigenous-affiliated [17] (Lamers, 2021b). The Centre on Drug Policy Evaluation (2020) found Indigenous people were one of several populations vastly under-represented in leadership positions in the legal cannabis market. The provincial governments' ability to control who is granted a cannabis licence can present a roadblock to First Nations communities seeking a pathway out of poverty by denying or delaying a licence (Feinberg, 2020); or opening government dispensaries near and in direct competition to provincially licensed First Nations dispensaries (Garland, 2019). This is especially the case in provinces that run their own cannabis retail outlets and have an incentive to restrict the number of licences they issue (Hageman & Galoustian, 2021). Indigenous communities have called for the removal of these restrictive regulatory barriers (Lamers, 2021a).

Indigenous licensees must meet the same eligibility requirements as other licensees, yet they face more systemic barriers to accessing needed investments and developing business partnerships with non-Indigenous groups (Lamers, 2021b). In addition to barriers in federal legislation that inhibit First Nations from raising revenues and accessing capital, Indigenous communities may lack access to financial institutions due to remoteness, have infrastructure deficits, and face higher costs of doing business; and Indigenous persons are more likely to have low rates of financial literacy and poorer credit scores (National Aboriginal Economic Development Board, 2017). Suggested ways of addressing this social equity issue include amending the *Cannabis Act* to provide First Nations with the ability to control production and retail of cannabis on reserve, setting aside a proportion of business licenses exclusively for Indigenous entrepreneurs, and doing more to accommodate Indigenous cannabis businesses (Lamers, 2021a). The latter option might entail expanding the capacity of the federal Indigenous Navigator service to expedite the process, providing help with access to financing or other credit opportunities, providing a financing portal to investors, and potentially partnering with an existing national Indigenous organization to "contract out" necessary support (Lamers, 2021b). With fewer systemic barriers to micro-class licences,[18] obtaining a micro class licence may be a pathway for Indigenous companies to get into the regulated market (Lamers, 2021b).

Hageman and Galoustian (2021) argue provinces should give up some of their control and revenue in favour of economically disadvantaged First Nations. They suggest different options, including:

1. allowing First Nations to grow and sell cannabis as they please, with some joint oversight to ensure quality and safety, freeing up the market to all entrepreneurs;

[17] Lamers (2021a) points out that there is no set criteria or percentage of Indigenous affiliation needed to qualify as an Indigenous-affiliated organization; such criteria could include having key staff be Indigenous, having Indigenous investment, or hiring Indigenous employees.

[18] Micro licenses are intended for businesses operating smaller budgets with fewer employees. There are two types: micro-cultivation and micro-processing licences. They allow cultivators to grow up to 200 square meters and processors to process up to 600 kg. of dried cannabis (Health Canada, 2021).

2. allowing Indigenous cannabis retailers to access urban locations; and
3. sharing excise tax revenues with First Nations or formally exempting them from excise taxes.

The Centre on Drug Policy Evaluation (2020) also suggests federal, provincial/territorial, and municipal governments should "adopt social equity programs that provide targeted avenues of entry into the cannabis industry and provide related business and financial support" for members of under-represented groups in the cannabis industry, using revenues generated from taxes collected from legal cannabis sales to support such programs (p. 1).

The legislative framework confers protection to commercial cannabis plant varieties, which excludes specific genetic strains cultivated and preserved by generations of Indigenous Peoples (Koutouki & Lofts, 2019). It does not set out any obligations on the part of non-Indigenous cannabis producers to seek prior informed consent of Indigenous and local communities and leaves them uncompensated when using their genetic strains and accessing their traditional knowledge in relation to these strains. This further reinforces and perpetuates injustices (Koutouki & Lofts, 2019).

KNOWLEDGE GAPS

When analyzing the academic literature surrounding Indigenous Peoples' use, knowledge(s), and perspectives of cannabis, several knowledge gaps were identified, including the lack of research conducted with Indigenous people who use cannabis, the focus on economic opportunities rather than health and wellness, and the prioritization of Western research findings over Indigenous ways of knowing. Specific knowledge gaps are highlighted within each of these key themes discussed below.

Paucity of research conducted with Indigenous Peoples who use cannabis

There appears to be a distinct lack of engagement with Indigenous Peoples, particularly youth, about cannabis use. There are few community-based studies, and most studies are either First Nations specific or focused on Indigenous populations collectively, with limited research with Inuit and none focusing specifically on Métis people. The research is largely oriented towards younger populations. Research on substance use among First Nations, Inuit, and Métis peoples often group together multiple substances, including alcohol, nicotine, cannabis, and illicit drugs, making it challenging to understand why cannabis may be used in isolation from other substances and what factors contribute specifically to cannabis use. Additionally, much of this research is deficit-oriented, with minimal research on strengths-based factors that promote cannabis abstinence.

Much of the research appearing in the literature was undertaken prior to the legalization of cannabis, and thus tends to frame cannabis use negatively, based on Western conceptions. Such a framing can result in stigmatization for users, making it challenging to discuss cannabis use and how to prevent and treat negative uses. While research tends to focus on the increased susceptibility to substance use Indigenous youth have, it fails to acknowledge the ongoing effects of colonialism that might lead Indigenous youth to use substances. Studies about substance use must engage research participants themselves – such as young Indigenous people – in collaborative or community-led studies, allowing them to determine what is important on this topic. While youth under certain provincially mandated age restrictions [19] are not legally permitted to use cannabis, some youth will nevertheless use the substance. As a result, youth voices matter and must be considered when developing best practices and regulations. There is also a need for further understanding the perspectives of adult Indigenous populations, including Elders.

[19] Ranging from 18-19 years depending on province or territory.

Dominance of literature on economic opportunities and rights to self-determination

Another distinct knowledge gap is the lack of information about Indigenous Peoples' perceptions about cannabis with regards to health and wellness. The current focus and priorities of many Indigenous people seem to be the assertion of legal rights in the cannabis industry and ways to facilitate economic profits in communities.

This literature review highlighted gaps in cannabis use and health and wellness among Indigenous populations, and in how cannabis legalization has impacted Indigenous communities. More research is needed on the relationship between cannabis and mental health (MHCC et al., 2019; Schizophrenia Society of Canada, 2021). For example, the MHCC et al. (2019) identified significant knowledge gaps related to Inuit, cannabis, and mental health including: qualitative and longitudinal studies clarifying the relationship between cannabis use and mental health, particularly studies on specific populations that take into account how health determinants, such as overcrowded housing, impact cannabis use; a balanced assessment of positive and negative health and social impacts; solutions to problematic cannabis use and its negative impacts that can inform culturally appropriate prevention, intervention, and postvention responses; the monitoring of cannabis use across various demographics, regions, and cultures; and motivations for using cannabis. These knowledge gaps exist across First Nations, Inuit, and Métis populations.

There are significant knowledge gaps in the prevalence of cannabis use, risks and benefits of non-medical cannabis use, and health outcomes of cannabis use in specific Indigenous populations. This includes research exploring the perspectives and experiences of Indigenous Peoples with cannabis, particularly at regional and community levels (Roscoe & Perron, 2022), or about the potential harms of long-term cannabis use (Cancer Care Ontario, n.d.). More research on health outcomes associated with cannabis use among Indigenous populations is needed, particularly in a post-legalization context (Wolfson et al., 2020). Inuit have expressed concerns about the lack of Inuit-specific statistics, particularly regarding cannabis use by certain sub-groups (e.g., youth), cannabis use during pregnancy, and the lack of information and resources related to harm reduction (Wolfson et al., 2020). The same applies to Métis populations and to First Nations, Inuit, and Métis older adults and pregnant women. Research identifying individual and subpopulation characteristics is a critical priority for assessing differential risks and benefits of cannabis use (MacKillop, 2019).

Better understanding of the impact of cannabis legalization on Indigenous communities is needed, including the health and social harms and whether communities are benefitting


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significantly from cannabis legalization. This would require the development of appropriate tools to monitor, measure, and assess public health impacts that ideally capture changes to the "social burden" carried by marginalized populations, including Indigenous Peoples (Fischer et al., 2018; Fischer et al., 2020).

More research is also needed to provide evidence on effective strategies for reducing harmful use of substances among Indigenous populations, as much of the research focuses on data describing drug types (Clifford & Shakeshaft, 2017). Additionally, the needs of Indigenous Peoples should be assessed with respect to cannabis education and resources and culture-based prevention initiatives (TPF, 2019a; Wolfson et al., 2020).

The lack of information about the impacts of cannabis use on the health and wellness of First Nations, Inuit, and Métis peoples is critical for the development of culturally appropriate programs, services, and educational resources. This information must continue to be gathered through engagement processes by, for, and with Indigenous Peoples to ensure they are their own agents in determining what kinds of health resources and services are offered to them in the future.

Prioritization of Western research findings over Indigenous ways of knowing

There is a lack of Indigenous-based research on cannabis, which has resulted in prioritizing Western perspectives on substance use and associated harms over more holistic, relational, and strengths based Indigenous ways of knowing. This prioritization of Western scientific studies is particularly notable in research on using cannabis as a strategy for avoiding use of other substances, which tends to view cannabis use negatively and emphasize deficit-based risk factors. Uniquely, Nichol et al.'s (2018) participatory study presents information about how cannabis replacement programs have been useful, allowing individuals who use opioids to control their own narratives. Moving forward, it will be important to consider diverse ways of studying the effects of cannabis use to ensure Indigenous interests are represented in health care and policy.

CONCLUSION

This review aimed to identify Indigenous Peoples' perspectives, knowledge, and use of cannabis. It highlighted the diversity of Indigenous Peoples' perspectives with respect to cannabis use and legalization, and the need for Indigenous communities to balance diversity in response to legalization, including potential harms and benefits of cannabis use, implications of legalization for community safety and public health, economic opportunities related to the cannabis industry, self-determination and reconciliation, and social justice and equity.

The review highlighted several concerns with cannabis use and legalization. Indigenous Peoples were not adequately consulted in this process. As a result, they have been excluded from economic and political decision-making regarding cannabis, and from benefitting from the excise tax formula. Indigenous people perceived both benefits and harms of cannabis use and legalization in their territories; yet the current framework has left them vulnerable to outside commercial interests, and it inhibits their capacity to respond to cannabis legalization in a way that balances their health and safety concerns with economic opportunity. It also leaves an important social justice issue unaddressed – the disproportionate harms Indigenous populations have experienced due to criminalized cannabis. Because cannabis licensing is within the purview of provincial governments, Indigenous entrepreneurs are not able to participate in the cannabis industry on a level playing field. The current framework thus has the potential to reinforce colonialism and perpetuate ongoing injustices and inequities against Indigenous Peoples.

There is consensus among First Nations peoples that, regardless of diverse perspectives on cannabis use and legalization, they have the right to self-determination in relation to cannabis production and distribution within their territories. The failure to engage First Nations on a nation-to-nation basis represents a missed opportunity for reconciliation. Moving forward, actions will need to be taken on the part of federal and provincial/territorial governments to:

1. ensure strong engagement with First Nations communities in the development of legislation and regulations related to production and distribution of cannabis on reserve;
2. incorporate a social justice approach that addresses the disproportionate harms Indigenous populations have experienced under prohibition;
3. support an Indigenous harm-reduction strategy and build capacity in Indigenous communities to respond to potential harms arising from cannabis legalization, including the development of culturally appropriate public education resources, access to and funding for addiction services, and capacity for enforcement and policing;
4. support the transitioning of illicit Indigenous operations into legal operations so they do not suffer economic harms; and
5. incorporate social equity measures to ensure Indigenous communities have equal opportunities to participate in the legal cannabis industry (McDonald, 2019; Valleriani et al., 2018).

Only through such actions can outcomes and futures be improved for Indigenous Peoples (McDonald, 2019).

TOOLS AND RESOURCES

This section identifies some tools and resources First Nations, Inuit, and Métis individuals and communities might find useful in relation to non-medical cannabis use and cannabis legalization.

Navigating non-medical cannabis in BC: A First Nations community guidebook to cannabis legalization
fnha.ca/Documents/FNHA-First-Nations-Community-Guidebook-to-Cannabis-Legalization.pdf

This guidebook provides information to community leaders about issues to consider in the context of cannabis legalization, including community health and safety, the opportunities and challenges that legalization of cannabis presents for First Nations communities, considerations for evaluating risks and opportunities related to cannabis legalization, and steps to take to participate in the cannabis industry.

Native Women's Association of Canada's Cannabis education for and by First Nations, Inuit and Métis Peoples website
nwaccannabised.ca

This website is a product of a project titled "A Community-Informed Approach to Cannabis Public Health Education and Awareness", funded by Funded by Health Canada's Substance Use and Addictions Program. The website provides culturally appropriate public health information about cannabis, cannabis use, and health outcomes.

First Nations Health Authority Cannabis portal
fnha.ca/cannabis

This online portal provides information about the positive and negative health impacts of cannabis use, vulnerable populations, and other downloadable resources for communities.

A path forward: BC First Nations and Aboriginal People's mental wellness and substance use 10 year plan
suicideinfo.ca/wp-content/uploads/2013/09/20130858-A-path-forward-BC-First-Nations.pdf

This report lists ways in which mental, physical, emotional, and spiritual balance can be achieved to benefit Indigenous Peoples who are affected by substance use. This information may be useful to consider in discussions about cannabis use to avoid stigmatization while developing strengths-based approaches to health and wellness.

Alderville First Nation Ailment and Treatment Guide
medicinewheel.ca/ailment-and-healing-guide

Written from an Indigenous perspective, this guide describes why cannabis may be consumed and outlines potential side effects.

Anishinabek Cannabis Report. (2018).
anishinabek.ca/wp-content/uploads/2018/10/AN_Cannabis_report_final.pdf

The Anishinabek Cannabis report provides information about the health concerns of the Anishinabek Nation people in Sudbury, Ontario regarding non-medical cannabis use and cannabis legalization. It highlights the diversity of perspectives about cannabis use within communities, as well as the complexities associated with substance regulation.

Assembly of First Nations Working Group on Cannabis Issue Updates
afn.ca/all-news/news/assembly-of-first-nations-update-on-canadian-human-rights-tribunal-decision-on-the-final-settlement-agreement-on-compensation

The Assembly of First Nations (AFN) Cannabis Task Force has released four Issue Updates of the work they have completed since legalization. These may be useful for tracking some of the AFN's progress since legalization, as well as identifying its priorities regarding cannabis.

Thunderbird Partnership Foundation. (2019). Cannabis Toolkit: A holistic approach to supporting healthy conversations about cannabis in first nations communities.
thunderbirdpf.org/?resources=cannabis-toolkit-a-holistic-approach-to-supporting-healthy-conversations-about-cannabis-in-first-nations-communities

Thunderbird Partnership Foundation's Cannabis Toolkit was created in collaboration with Indigenous individuals, families, and communities to engage in a process that outlines the priority areas surrounding cannabis use across the country. The toolkit has six sections: legalization, cannabis and you (referring to how the substance can be used); harm reduction; cannabis and pregnancy; common cannabis questions; and cannabis economics.

BC Assembly of First Nations. (2021). Cannabis Toolkit.
bcafn.ca/priority-areas/cannabis/cannabis-toolkit

Using a case study approach, this toolkit explores cannabis-related opportunities and challenges that will assist First Nations people in exploring how they may wish to regulate cannabis, or how they might want to make agreements or laws about cannabis in their territories.

First Nations Health Authority (n.d.). Indigenous strengths.
fnha.ca/what-we-do/mental-wellness-and-substance-use/non-medical-cannabis/indigenous-strengths

The First Nations Health Authority *Indigenous Strengths Videos* centre Indigenous voices in the discussion about cannabis use, potential health risks and benefits, as well as how it is perceived in communities.

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