Examining the Relationship Between Cannabis and Mental Wellness in First Nations

FNIGC | CGIPN

First Nations Information Governance Centre
Le Centre de gouvernance de l'information des Premières Nations

FNIGC Research Series

ABOUT FNIGC

The First Nations Information Governance Centre (FNIGC) is an incorporated, non-profit organization committed to producing evidence-based research and information that will contribute to First Nations in Canada achieving data sovereignty in alignment with their distinct world views. FNIGC is strictly technical, apolitical, is not a rights-holding organization, and does not speak directly for First Nations. Mandated by the Assembly of First Nations' Chiefs-in-Assembly (AFN Resolution #48, December 2009), FNIGC's Mission is to assert data sovereignty and support the development of information governance and management at the community level through regional and national partnerships. We adhere to free, prior, and informed consent, respect Nation-to-Nation relationships, and recognize the distinct customs of First Nations, to achieve transformative change. Our work includes research and analysis of the technical elements of First Nations data sovereignty.

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LIST OF ABBREVIATIONS

AFN	Assembly of First Nations
CBD	Cannabidiol
FNIGC	First Nations Information Governance Centre
FNMWCF	First Nations Mental Wellness Continuum Framework
INAC	Indigenous and Northern Affairs Canada
IRS	Indian Residential School
NIHB	Non-Insured Health Benefits
OCAP®	Ownership, Control, Access, and Possession, the First Nations principles that establish how First Nations data should be collected, protected, used, or shared
OR	Odds ratio
RHS	Regional Health Survey
SME	Subject Matter Expert
THC	Δ9-tetrahydrocannabinol
TPF	Thunderbird Partnership Foundation

EXECUTIVE SUMMARY

BACKGROUND

With Canada's legalization of recreational cannabis use in 2018, First Nations are asserting their jurisdiction to develop cannabis laws to meet the specific needs and goals of their communities. Further, while cannabis has been legal for medical purposes for over 20 years, in 2017 the Assembly of First Nations (AFN) called for access inequities for medical cannabis for First Nations to be addressed. First Nations in Canada experience a distinct set of historical and current circumstances that shape their experiences of mental wellness, and their worldview lends a more wholistic and interconnected perspective of mental health compared to Western views. Currently, there is a critical need to understand the relationship between cannabis use and mental and wholistic wellness factors in First Nations to inform relevant laws, policies, and programs in communities.

Much of the existing research points to a relationship between cannabis use and mental health challenges, but it also shows that the direction of the relationship is complex and unclear. For First Nations populations, research shows that both substance use and mental wellness are linked to intergenerational trauma and the impacts of colonialism, cultural connection and identity factors, and factors found to be associated in the broader Canadian population. Yet, for many of these, the findings are inconsistent, and there is much to be learned about the nature of these relationships as well.

The medical use of cannabis for therapeutic benefit is supported by robust evidence for only a few health conditions, and by limited or inconsistent evidence for several other conditions. It is important to know the wholistic health and social determinant factors associated with self-labelled medical cannabis use in First Nations communities to understand the circumstances under which individuals themselves perceive therapeutic benefit. The goal of this research paper is to address knowledge gaps in the relationship between cannabis and mental wellness among First Nations adults and youth living on reserve and in northern communities across Canada. This research, conducted by the First Nations Information Governance Centre (FNIGC), in partnership with the AFN, examines cannabis use in relation to mental and wholistic wellness in First Nations in Canada by addressing the following research questions:

1. What key mental, physical, spiritual, and emotional well-being factors are associated with cannabis use in First Nations communities?

2. What health and health care access factors are associated with medical and non-medical cannabis use in First Nations communities?

3. What possible motivators and impacts of cannabis use in First Nations communities are reflected in the findings of associations of cannabis use with key mental wellness, wholistic health, and social determinant factors?

METHODS

This research involves a mixed-method approach that includes a literature review, a quantitative component using Regional Health Survey (RHS) data, and a qualitative component involving interview and focus group data. It also incorporates elements of community-based research through the formation of a project advisory group that guided the research design, co-developed the

overall findings, and participated in reciprocal knowledge sharing activities conducted by FNIGC, such as data literacy and OCAP®[1] training.

The literature review draws from previous research, involving First Nations populations where possible, examining cannabis use and mental wellness, wholistic wellness, and social determinants of health to provide background and context on the associations explored in this study. The quantitative component uses data from the RHS Phase 3 dataset and includes logistic regression and descriptive bivariate analyses of cannabis use and wellness indicators in five thematic areas. With the participation of project advisory group members, as well as additional Subject Matter Experts (SMEs) and community Knowledge Holders working with AFN project partners, the qualitative component involved a series of engagements exploring insights on the preliminary statistical data findings. These discussions were intended to ensure that the interpretation of findings appropriately reflects the lived experiences of First Nations people.

KEY FINDINGS

Youth (12–17 Years Old)

- Approximately one-quarter (27%) had used cannabis in the past year.

- Demographic and environmental factors associated with cannabis use include older age, female sex, cisgender[2] female gender identity, living in a community with a population of 1,500 or less, and having parents and/or grandparents who had attended Indian Residential School (IRS).

- Well-being and personal safety factors

associated with cannabis use include having fair/poor self-rated mental health, wholistic balance, and self-esteem; experiencing psychological distress; anxiety or mood disorders; and having experienced bullying or cyberbullying.

- First Nations language and culture factors associated with cannabis use include having participated in traditional physical activities, not participating in extracurricular traditional activities, and having First Nations language ability.

- Health behaviour factors associated with cannabis use include prescription-strength pain reliever, sedative, or stimulant use; prescription drug misuse; and other illicit drug use.

- Health and health care factors associated with cannabis use include having fair/poor self-rated general health and having chronic health conditions, particularly those for which medical cannabis may have some therapeutic benefit.

Adult (18 Years and Older)

- Nearly one-third (30%) had used cannabis in the past year: 19% had used non-medical cannabis, and 11% had used medical[3] cannabis.

- Demographic and environmental factors associated with non-medical and medical cannabis use include younger age, male sex, cisgender male gender identity, living in a community with a population of 1,500 or less, and having parents and/or grandparents who had attended IRS. Personal IRS attendance (i.e., being a Survivor) is associated with medical cannabis use only.

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[1] Standing for Ownership, Control, Access, and Possession, the First Nations principles of OCAP® are a set of standards that establish how First Nations data should be collected, protected, used, or shared. See https://fnigc.ca/ocap-training/ for more information.

[2] Cisgender refers to a person whose gender identity corresponds with the biological sex they had or were assigned at birth.

[3] Note: Available data does not indicate whether all cannabis use was for medical purposes, what those purposes were, or whether it had been prescribed or advised by a health care professional.

- Well-being and personal safety factors associated with non-medical and medical cannabis use include having fair/poor self-rated mental health and wholistic balance, psychological distress, anxiety or mood disorders, having a weak sense of community belonging, and having experienced verbal or physical aggression.

- The only First Nations language and culture factor associated with non-medical cannabis use is not attending community cultural events. Language and culture factors associated with medical cannabis use include having participated in traditional physical activities, agreeing that traditional spirituality is important, interest in traditional medicine, and having basic First Nations language ability.

- Health behaviour factors associated with non-medical and medical cannabis use include prescription-strength pain reliever, sedative, or stimulant use; prescription drug misuse; and other illicit drug use.

- A key health and health care factor associated with both non-medical and medical cannabis use is having fair/poor self-rated general health. Non-medical cannabis use is also associated with having no chronic health conditions and with not using traditional medicine. Additional health and health care factors associated with medical use include having chronic health conditions, particularly those for which medical cannabis may have some therapeutic benefit; experiencing health care access difficulties; and having used traditional medicine.

Key Qualitative Insights

- Each First Nation varies in how these factors are associated, and the distinct historical, cultural, and social determinant circumstances within each community affect how these associations should be interpreted.

- Mental wellness, from a First Nations perspective, is interconnected with physical, emotional, and spiritual wellness and cannot be understood in isolation from these dimensions. Further, wellness in all four spheres is affected by impacts of colonialism and historical trauma, which continue to play a role in cannabis use behaviours.

- The associations between medical cannabis use and several indicators of connection to First Nations language and culture may be indicative of the perception of cannabis as a traditional medicine in certain Nations. While awareness of the health risks of cannabis use is important, so is awareness of the potential benefits to health and wellness, with consideration of the unique health and health care challenges present in First Nations.

LIMITATIONS

The RHS data in this study are representative of First Nations youth and adults living on reserve and in northern communities at the national level and was collected in 2015/2016 prior to cannabis legalization. As such, it is not generalizable to First Nations people living off reserve and may not reflect current post-legalization circumstances and attitudes toward cannabis use. National-level data cannot capture variations in cannabis use and wholistic wellness indicators that occur at the regional and community levels, so the findings of this research are limited in their potential to inform local policy and program decisions.

While the overall RHS sample size is robust, it is not large enough to accommodate detailed analyses for each level of cannabis use frequency. For this reason, this study combined cannabis use "once or twice" in the past year with "monthly" and "weekly" cannabis use to form the "occasional" cannabis use category, so meaningful differences in associations with mental and wholistic wellness that may exist between each frequency level cannot be

examined. Similarly, the smaller subset of adults who used cannabis for medical purposes could not be broken down into frequency categories for analysis. Further, medical cannabis use was self-labelled as such, so it is unknown whether all an individual's cannabis use was for medical purposes, what those purposes were, or whether it had been prescribed or advised by a health care professional.

RECOMMENDATIONS AND CONCLUSIONS

While the findings of this research are invaluable in filling a knowledge gap on cannabis use and mental wellness in First Nations, a consistent recommendation from the qualitative engagements was to replicate the analyses with data that reflects the post-legalization reality at the regional and community levels. This is necessary to examine the associations with consideration of each community's unique cultural, historical, and social determinant circumstances. In particular, this research shows that the relationship between cannabis use and connection to First Nations language and culture is complex and nuanced. Focused qualitative research is necessary to better understand the interplay between cannabis use—especially medical use—and the distinct culture of each Nation.

For adults who use medical cannabis, these findings show a need to address the health challenges and health care access difficulties that First Nations adults are more likely to experience compared to adults who use cannabis non-medically or not at all. The data on the associations between medical cannabis use and the presence of chronic health conditions for which medical cannabis may provide therapeutic benefit support AFN's call for the Government of Canada's Non-Insured Health Benefits program to include cannabis in their drug benefit formulary to address health benefit inequities for First Nations.[4] Community

experts noted the importance of assessing the risks and benefits of medical cannabis use with consideration of the health and health care challenges present in many communities, such as historical trauma, opioid and other substance addictions, and inadequate health care services. They recommended building on these findings by qualitatively examining the experiences and perspectives of individuals who use medical cannabis themselves.

It is also clear from this project's data that cannabis use and mental wellness are interconnected. The findings suggest that risks and challenges with both should primarily be addressed through culturally appropriate, trauma-informed mental wellness programs and services. In alignment with a First Nations worldview, these services should aim to promote wholistic wellness and hope, meaning, purpose, and belonging in individuals' lives, families, and communities.

Engagement participants recommended sharing the project findings with decision makers at federal, regional, and community levels of government but also with community members themselves. Promoting awareness of the associations revealed in this research, they emphasized, can reduce stigma and encourage discussions and reflection to support healthy decisions surrounding non-medical and medical cannabis use in First Nations communities.

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4   See Resolution no. 03/2017 in AFN 2017 Annual General Assembly Final Resolutions at https://www.afn.ca/wp-content/uploads/2017/08/2017-AFN-AGA-Resolutions_EN.pdf

INTRODUCTION

Cannabis has been legal in Canada for medical purposes since 1999 (Health Canada, 2016). In 2000, the Supreme Court of Canada deemed access to cannabis for medical purposes a human right (Hawley et al., 2020). However, legal medical cannabis was generally more expensive than illegal cannabis products and the process for accessing it was quite onerous, resulting in a lucrative and unregulated cannabis supply industry with no medical oversight, no standards, highly variable quality of product, and inconsistent or inappropriate guidance for medical users (Hawley et al., 2020). Since the early 2000s, Canada has implemented a series of regulations to enable individuals with a medical need and the authorization of their health care practitioner to access quality-controlled cannabis (Health Canada, 2016). However, First Nations in Canada still encounter additional barriers to accessing cannabis for medical purposes. The Non-Insured Health Benefits (NIHB) program, which provides eligible First Nations and Inuit clients with coverage for a range of health benefits, does not cover medical cannabis, therefore creating an inequity amongst comparable drug benefit programs. In 2017, the Assembly of First Nations (AFN) called on the First Nations and Inuit Health Branch of Health Canada to provide coverage of medical cannabis through the NIHB program to ensure First Nations have access (AFN, 2017).

In October 2018, the *Cannabis Act* legalized and regulated the sale, distribution, and taxation of cannabis for recreational use in Canada. The intent of the *Cannabis Act* is to reduce the negative health and social outcomes related to recreational cannabis use, and to rectify the serious implications resulting from the criminalization of cannabis possession (Canadian Public Health Association, 2017). Provinces and territories have authority to set rules on the sale and distribution of cannabis within their jurisdictions, yet the federal, provincial, and territorial governments failed to adequately consult and accommodate First Nations prior to enacting these laws and regulations (Crosby, 2019). The AFN has called upon Canada to recognize that First Nations jurisdiction supersedes provincial legislation and regulation as it pertains to cannabis licensing, production, distribution, and sale (AFN, 2019). Further, as First Nations continue to assert jurisdiction and develop their own cannabis laws to ensure that the specific needs and goals of their communities are served, there is a critical need to better understand the relationship between cannabis and mental and wholistic wellness among First Nations adults and youth living on reserve and in northern communities.

Research on cannabis and mental health indicates a relationship between using cannabis and having mental health conditions; however, the direction of the relationship is unclear. Given that cannabis was previously considered an illicit drug, much of the existing research focuses on the adverse consequences of use, including its association with poorer mental health outcomes (Konefal et al., 2019). In more recent years, attitudes around cannabis use are changing and research has begun to examine the possible health benefits to using cannabis, including the treatment of some mental health conditions (National Academies of Sciences, Engineering, and Medicine [NASEM], 2017; Walsh et al., 2017). There is a growing body of evidence to suggest that cannabis is an effective alternative to opioids for the treatment of pain, greatly reducing the risk of dependence and eliminating the risk of fatal overdose (Reiman et al., 2017). However, many health care practitioners express the need for further scientific evidence around the risks and benefits surrounding the use of medical cannabis (Cahill et al., 2021). Given the pressing mental health and substance

use issues—notably the opioid crisis—in First Nations communities, understanding the association between cannabis use and mental wellness is necessary.

There has been some evidence of people consuming more cannabis since the COVID-19 pandemic was announced on March 11, 2020 by the World Health Organization. A 2021 study found that during the first wave of the COVID-19 pandemic, about half of Canadians who used cannabis increased their consumption (Imtiaz et al., 2021). As the pandemic has had devastating impacts on mental health, studies suggest that individuals may be coping with stress, loneliness, depression, and anxiety through increased cannabis use (Chong et al., 2022; Vidot et al., 2021).

Studies confirmed the negative impacts of COVID-19 on the mental health of Indigenous Peoples (Arriagada et al., 2020), with a high prevalence of self-reported symptoms of depression and anxiety, particularly among those who reported a lower sense of community belonging (Burnett et al., 2022). However, even prior to the pandemic, mental wellness and substance use issues have long been a concern for many First Nations communities. These issues are understood to result from a combination of socioeconomic inequities as well as Indigenous-specific factors involving historical and ongoing impacts of colonization (Greenwood et al., 2015; King et al., 2009).

As described in the First Nations Mental Wellness Continuum Framework (FNMWCF), mental wellness, in a First Nations worldview, involves balance in the interconnected physical, mental, emotional, and spiritual spheres (Health Canada & AFN, 2015). Enriching this balance, purpose, hope, belonging, and meaning in individuals' lives, futures, families, communities, and histories can lead to optimal mental wellness (Health Canada & AFN, 2015). These concepts guided research design and data interpretation throughout the project.

Building on the current literature, leveraging the Regional Health Survey (RHS) Phase 3 data, and guided by First Nations community Knowledge Holders and subject matter experts (SMEs), this report will examine cannabis use in relation to mental and wholistic wellness in First Nations in Canada by addressing the following research questions:

1. What key mental, physical, spiritual, and emotional well-being factors are associated with cannabis use in First Nations communities?

2. What health and health care access factors are associated with medical and non-medical cannabis use in First Nations communities?

3. What possible motivators and impacts of cannabis use in First Nations communities are reflected in the findings of associations of cannabis use with key mental wellness, wholistic health, and social determinant factors?

LITERATURE REVIEW

This research aims to address some key knowledge gaps in cannabis use and mental wellness in First Nations, but it is informed by the existing body of literature on the subject, much of which is not focused on First Nations on-reserve populations. After a review of cannabis use patterns among First Nations youth and adults, findings on cannabis use and its relationship to demographic, environmental, social, and cultural determinants of health are explored. A summary of research on cannabis and mental wellness will be provided before moving on to research on cannabis and wholistic wellness. Finally, cannabis and the topic of harm reduction will be discussed, and a summary of the key research gaps will conclude the literature review.

CANNABIS CONSUMPTION PATTERNS AMONG FIRST NATIONS IN CANADA

Cannabis Use Among First Nations Youth

In Canada, cannabis is the second most common substance, after alcohol, used among both Indigenous and non-Indigenous youth. Recent research has indicated that Indigenous youth are more likely than non-Indigenous youth to use cannabis (Zuckermann et al., 2019), especially among females (Sikorski et al., 2019). Further, Indigenous youth are more likely to start using cannabis at a younger age, and more likely to use cannabis daily, than non-Indigenous youth (Sikorski et al., 2019).

A study using data from the 2014/2015 Canadian Student Tobacco, Alcohol and Drugs Survey found that 22% of non-Indigenous students, and 45% of off-reserve Indigenous students, in grades 9–12 had tried cannabis

in the past year, with daily use at 2% and 16% of these groups, respectively (Sikorski et al., 2019). Youth cannabis use rates in First Nations communities appear to be higher than the rate among non-Indigenous youth but lower than off-reserve Indigenous youth: The RHS Phase 2 (2008/10) data indicated that 36% of First Nations youth had used cannabis in the past year and one in ten (10%) reported using cannabis daily or almost daily (FNIGC, 2012). No sex differences were found in the prevalence of past-year cannabis use or frequency of use. However, the prevalence of near-daily/daily cannabis use in the past year increased with age: this frequency of use was reported by 6% of youth aged 12 to 14 years, compared to 26% of youth 15 to 17 years of age (FNIGC, 2012). At 27% in the RHS Phase 3 (2015/16), the rate of youth cannabis use shows a significant decrease since RHS Phase 2 and is not representative of cannabis use after legalization (FNIGC, 2012).

Cannabis Use Among First Nations Adults

There appears to be a trend in rising cannabis usage in the general Canadian population since legalization. In 2017, the Canadian Tobacco, Alcohol and Drugs Survey found cannabis use in the past year was 33% for young adults between the ages of 20 and 24 and 13% among adults over the age of 25 (Health Canada, 2018). More recently, in 2020, the Canadian Cannabis Survey found that 52% of young adults between the ages of 20 and 24 and 24% of individuals 25 and older had reported using cannabis in the past year (Health Canada, 2021).

Cannabis use among on-reserve First Nations adults has remained relatively stable over time: In the RHS Phase 2 (2008/10), approximately one-third (32%) of First Nations adults had

used cannabis in the past year. The most recent data from the RHS Phase 3 (2015/16) show that cannabis use among First Nations adults is 30%, indicating no statistically significant changes since RHS Phase 2 (FNIGC, 2018).

The RHS Phase 3 data also show that among seniors aged 55 and older, a minority (12%) reported that they had used cannabis in the past year (FNIGC, 2021a). The proportion of older seniors aged 70 years and older (3%[E],[5]) who had used cannabis in the past year was significantly lower than that of younger seniors aged 55–59 (20%), 60–64 (13%), and 65–69 (8%[E]). Of those seniors who had used cannabis in the past year, approximately half (52%) had done so for medical purposes with no significant differences found between age and sex groups (FNIGC, 2021a). It is important to note that the data for the RHS Phase 3 was gathered before the legalization of cannabis. Therefore, at the time of writing, there is no post-legalization national data of First Nations cannabis use among adults or seniors living on reserve and in northern communities.

There are some additional studies that examine the rate of cannabis use among First Nations adults. For example, a study among a cross-sectional sample of 340 people aged 18 and over from a First Nation in Ontario found that more than half of the sample reported having used cannabis more than once a week at some point in their lives (Spence et al., 2014). While national statistics for off-reserve First Nations adults are also lacking, one study similarly found that 50% of Hamilton, Ontario First Nations adults had used cannabis in 2009/10 (Firestone et al., 2015). Overall, beyond the FNIGC's survey data, there are little to no other national surveys that examine cannabis use rates among First Nations living on or off reserve. A report by the Thunderbird Partnership Foundation (TPF), based on a non-random sample of approximately 230 First Nations adults over the age of 25 across Canada who completed the 2018 Indigenous Community Cannabis Survey, found that 75% of respondents reported no past-year cannabis use (TPF, 2019b).

FACTORS ASSOCIATED WITH CANNABIS USE AMONG FIRST NATIONS YOUTH AND ADULTS

Wellness, from an Indigenous perspective, is wholistic, encompassing the physical, mental, emotional, and spiritual well-being of individuals, families, and communities (Gallagher, 2019; Health Canada & AFN, 2015). The FNMWCF connects individual, family, community, and cultural elements within each of these four spheres to one's senses of purpose, hope, belonging, and meaning—emphasizing that these enrich wholistic balance and wellness (Health Canada & AFN, 2015). This wholistic perspective also implicates the social, cultural, economic, and environmental determinants of wellness often understood as social determinants of health (Health Canada & AFN, 2015). Research on cannabis use among First Nations in Canada indicates a variety of motivations: among First Nations adults who reported past-year cannabis use in a 2018 survey, primary reasons included relieving pain, reducing or avoiding the use of other drugs, getting high, and coping during a difficult time (TPF, 2019b). Therefore, understanding the relationship of cannabis to mental wellness in First Nations requires taking a wholistic approach, examining a variety of factors that may directly or indirectly affect overall well-being and how they are interrelated.

In general, existing literature indicates that the factors associated with cannabis use among First Nations youth and adults are congruent with studies on the general population that have examined comparable indicators (Copeland & Swift, 2009; Degenhardt et al., 2008; Peters et al., 2012; Stone et al., 2012). However, some studies involving Indigenous populations examine the relationship between cannabis use and Indigenous- or First Nations-

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[5]   [E] High sampling variability, interpret with caution.

specific factors. Some key associations found in previous research on factors associated with cannabis use among First Nations youth and adults are presented below.

Young adulthood appears to be the age at which the highest proportion of people, in First Nations and the general Canadian population, engaged in past-year cannabis use; studies show that the late teen/early adult years are associated with higher cannabis use compared with other age groups (Government of Canada & Health Canada, 2021; Lemstra et al., 2013; Spence et al., 2014; Wennberg et al., 2021).

Among First Nations adults, higher proportions of males have been found to use cannabis compared to females (FNIGC, 2012), which is similar to findings for the general Canadian population (Government of Canada & Health Canada, 2021). A key discrepancy, however, between the Indigenous and non-Indigenous population findings on cannabis use is the higher prevalence of cannabis use among female youth as compared to male youth (Health Canada, 2018; Sikorski et al., 2019). However, as with an FNIGC study that found a higher prevalence of tobacco use among female than male youth (FNIGC, 2021c), other research has suggested that sex differences may disappear once other factors are accounted for (Lemstra et al., 2013).

There is a scarcity of research examining cannabis use among Two-Spirit individuals, but studies indicate that transgender and gender diverse identities are associated with higher cannabis use than cisgender identity among youth and adults (Day et al., 2017; Somé et al., 2022). However, a 2018 Statistics Canada survey found that there is no statistically significant difference between transgender and cisgender Canadians when it comes to past-year non-medical cannabis use (Jaffray, 2020).

In First Nations, personal or family attendance at IRS can be factors in cannabis use. FNIGC's RHS Phase 3 report notes that significantly higher proportions of First Nations adults with at least one parent or grandparent who attended IRS reported past-year cannabis use compared to adults without personal or family attendance. Interestingly, Survivors, who had attended IRS themselves, had the lowest rate of cannabis use (FNIGC, 2018). However, a study of IRS Survivors' case files found evidence of marijuana abuse following their Canadian IRS experience in 63% of the files (Corrado et al., 2003). In the United States, a study with Indigenous youth found that historical trauma, intergenerational trauma, and institutionalized oppression may be associated with cannabis use (Hilton et al., 2018). Further, another study from the United States found that former boarding school attendees among an urban Two-Spirit American Indian/Alaska Native adult sample reported a higher likelihood of current illicit drug use, alcohol use disorder, general anxiety disorder, posttraumatic stress disorder symptoms, and lifetime suicidal ideation or attempts compared to non-attendees (Evans-Campbell et al., 2012). Although not specific to cannabis, this study suggests that residential school attendance may be associated with substance use and mental health conditions.

On the other hand, another study on cannabis use in an Ontario First Nation found that Indigenous-specific measures related to colonialism and racism were not associated with cannabis use (Spence et al., 2014). The researchers suggested that "because the entire community is exposed to historical loss, intergenerational trauma, and racism, the experience of these social processes is not perceived as unique, but a way of life, and so pervasive that it is difficult to find an effect" (Spence et al., 2014, p. 252). Further, they recommend that qualitative research would better capture the lived experiences and perspectives of individuals with respect to these issues.

Other household and community characteristics may also affect cannabis use behaviours. Generally, studies in Canada have not found meaningful differences between urban and rural populations in cannabis use, although regional variations were noted

(McInnis et al., 2015; Pirie & Simmons, 2014). Personal and household socioeconomic factors are also relevant: living in a low-income neighbourhood was found to be associated with cannabis use among off-reserve First Nations youth in Saskatchewan (Lemstra et al., 2009), and unemployment, low income, and financial instability are associated with cannabis use among adults in the general population (Thompson et al., 2019).

Having high self-esteem is generally considered a protective factor against cannabis use among youth (Hodder et al., 2016; Lemstra et al., 2009). Additional psychological factors associated with abstaining from cannabis use among youth include having problem-solving ability and coping mechanisms for dealing with stress (Hodder et al., 2016; Rothenberg et al., 2020).

For youth, cannabis use is also linked to several school factors. High academic achievement, strong connection to school, and positive involvement in extracurricular activities may be associated with lower cannabis use among youth (Hodder et al., 2016; Rothenberg et al., 2020). Whereas, poor educational outcomes, skipping class, and dropping out have been found to be associated with higher cannabis use rates (Degenhardt et al., 2008; Lemstra et al., 2009; Thompson et al., 2019).

Relationships with family and peers play a role in cannabis use behaviours. Parental factors such as discipline, monitoring, communication, support, and bonding can decrease the chances of youth cannabis use (Kosterman et al., 2000; Tucker et al., 2006). Further, having prosocial peers is linked to a lower likelihood of cannabis use (Hodder et al., 2016), but having friends who have tried cannabis is associated with a higher likelihood of cannabis use among First Nations youth (Lemstra et al., 2009). For adults, being single or having an unhappy home life can be associated with cannabis use (Spence et al., 2014; Wennberg et al., 2021).

A study examining cannabis use among First Nations youth living off reserve in Saskatchewan found that being bullied was linked to cannabis use. Other studies with Indigenous youth have reported that discrimination may be linked to early substance use initiation (Whitbeck et al., 2001) and substance use disorder (Armenta et al., 2016) although not specific to cannabis.

Much of the existing literature exploring aspects of Indigenous culture or spirituality found inconclusive associations with resilience and mental wellness (Andersson & Ledogar, 2008; Hahmann et al., 2022). Overall, previous research suggests that strong cultural identity, group belonging, engagement, and exploration can predict positive mental health and lower substance use (Hahmann et al., 2022; Snijder et al., 2021; Snowshoe et al., 2015; Unger et al., 2020). However, this finding is inconsistent across studies; in fact, combined with factors like low self-esteem and perceived discrimination, this relationship may be reversed (Hahmann et al., 2022; Snowshoe et al., 2015). In addition, the protective effect of cultural engagement seems to depend on the specific nature of the engagement or activity (Ryan et al., 2016).

CANNABIS AND MENTAL WELLNESS

Mental wellness and substance use issues continue to be a priority concern for many First Nations communities. It is also well known that First Nations face significantly poorer mental health and substance use outcomes compared to the rest of the Canadian population, including higher rates of depression, alcohol and drug use, and suicide (Nelson & Wilson, 2017). For example, suicide rates among Indigenous youth are five to seven times higher than those among non-Indigenous youth (Ansloos, 2018). Further, the opioid crisis disproportionately affects First Nations. In British Columbia, the First Nations Health Authority (2020) reported that in 2020, First Nations people made up nearly 15% of the toxic drug deaths in British Columbia despite comprising only 3% of the population (First Nations Health Authority, 2020).

According to RHS Phase 3 data, more than half of First Nations youth (56%) and adults (51%) living on reserve and in First Nations communities rated their mental health as very good or excellent; in comparison, 72% of Canadians aged 12 and older reported very good or excellent self-rated mental health in 2015 (Government of Canada, 2017). These mental health inequities result from a combination of the socioeconomic determinants of health and Indigenous-specific factors that include colonization, loss of traditional languages, culture, and connection to the land, as well as racism and marginalization (Greenwood et al., 2015; King et al., 2009). Substance use and addictive behaviours can provide a form of self-medication to cope with or escape the pain of trauma, abuse, grief, and stress related to these greater systemic issues (King et al., 2009).

Individuals under the influence of cannabis may experience acute effects on mental functioning including perceptual distortions, euphoria and relaxation, increased sensory perception, dizziness, and hunger (Green et al., 2003). Other acute adverse effects that cannabis can induce include severe anxiety, panic, and paranoia, which are dose related and more common in new users and/or psychologically vulnerable individuals (Ashton, 2001). Cannabis can also impair a range of cognitive processes including short-term and working memory, coordination, decision-making, attention, learning, processing speed, and other executive functions (Crean et al., 2011; Karila et al., 2014; Solowij & Pesa, 2012). Longer term, studies have also demonstrated impairments in learning and memory that persist beyond the period of acute intoxication (Solowij & Battisti, 2008), although others have suggested that the long-term effects of cannabis exposure on cognition may be subtle and not clinically disabling for most people (Pope et al., 2001). Research also suggests that learning, memory, and cognitive impairments may be reversible after a period of cannabis cessation and abstinence (TPF, 2019a).

In the literature, there is strong evidence that cannabis use and mental health are associated with one another, although the direction of the relationship is unclear. For example, a 2017 report by the First Nations of Quebec and Labrador Health and Social Services Commission (FNQLHSSC) on cannabis use and mental wellness among First Nations people aged 12 and over in Quebec, using regional RHS Phase 3 data, found twice as many cannabis users had signs of moderate psychological distress (13% vs. 6%), and more than three times as many had signs of severe psychological distress (10% vs. 3%), compared to non-users (First Nations of Quebec and Labrador Health and Social Services Commission, 2017). Further, while 8% of non-users said they had attempted suicide in their lifetime, this proportion was more than double among those who used cannabis (19%) (FNQLHSSC, 2017). Among First Nations youth, cannabis use has been found to be associated with suicide ideation, lower self-esteem, poor mental health, behavioural problems, depression, and lower emotional well-being (i.e., feeling lonely or stressed) (Lemstra et al., 2009, 2013). Another study with urban First Nations adults found that high levels of anxiety and depression and experiences of trauma, self-harm, and suicide ideation and attempts were associated with substance use, with 50% reporting using cannabis in the past 12 months (Firestone et al., 2015).

The research remains unclear on whether cannabis use causes poorer mental health outcomes or if individuals use cannabis to cope with pre-existing mental health conditions. Recent research suggests medical cannabis may improve symptoms of depression, anxiety, posttraumatic stress disorder, and other mental health conditions (Black et al., 2019; Hindocha et al., 2020; NASEM, 2017; Scherma et al., 2018; Turna et al., 2017). According to a recent study on how cannabis affects common mental illnesses, about 90% of users reported decreased symptoms of depression, anxiety, and stress after using cannabis (Cuttler et al., 2019). However, the

study's authors concluded that while cannabis reduces perceived symptoms of negative affect in the short-term, long-term use may exacerbate symptoms of depression over time (Cuttler et al., 2019). In fact, for many of these conditions, it is somewhat inconclusive as to whether cannabis is helpful or harmful in the long term (Scherma et al., 2018).

Regarding another aspect of mental health, a 2019 systematic review suggested that medical cannabis may effectively treat neuropsychiatric symptoms associated with dementia (Peprah & McCormack, 2019). Generally, however, this and other studies suggest that the present evidence in the emerging field of cannabis as treatment in mental health or psychiatry is too premature to recommend cannabis-based interventions (Peprah & McCormack, 2019; Sarris et al., 2020). The research is more conclusive that cannabis is harmful for conditions that involve psychosis, such as schizophrenia (Hamilton & Monaghan, 2019).

A strong body of literature shows associations between cannabis use and psychosis, mood disorders, anxiety disorders, and personality disorders (Hasin & Walsh, 2021). The strongest evidence of a potential causal relationship exists between cannabis use and psychotic disorders (Hasin & Walsh, 2021). Studies have found that heavy cannabis users experience a greater number of psychotic symptoms and elevated rates of depression and anxiety when compared to infrequent or non-users (McLaren et al., 2010; Richardson, 2010). Reviews of longitudinal studies suggest that heavy cannabis use increases risk for later psychosis (Large et al., 2011; McLaren et al., 2010) and, to a lesser extent, depression (Lev-Ran et al., 2013).

Despite these findings, it is important to highlight that it remains unclear whether cannabis use can induce psychotic disorders that would have otherwise not occurred (McLaren et al., 2010). The presence of pre-existing risk factors is an important issue to consider when examining the association between cannabis use and psychosis (Hamilton & Monaghan, 2019). Studies show that cannabis use is associated with poor outcomes in those with existing psychotic illness (Grech et al., 2005). Furthermore, individuals who are predisposed to the development of psychosis may be at an increased risk of experiencing psychotic symptoms as acute effects of cannabis. (Verdoux et al., 2003).

Youth may be at a heightened risk of a range of adverse psychological outcomes (Jacobus et al., 2009), including increased risk of psychotic symptoms (Stefanis et al., 2004). Research suggests that the adolescent brain may be particularly vulnerable to the effects of cannabis exposure since it is a critical period regarding brain development (Downer & Campbell, 2009). Younger age of initiation increases the risk of developing mental health disorders (Copeland et al., 2013). For example, cannabis use in adolescence is associated with higher rates of depression and anxiety in young adulthood (Patton et al., 2002). Further, longitudinal research suggests that cannabis use in adolescence is associated with the development of anxiety disorders, depression, suicidal ideation, certain personality disorders, and interpersonal violence (Copeland et al., 2013).

While the risk of dependence and abuse is generally lower for cannabis than for other drugs—including opioids—cannabis dependence is often more prevalent than dependence on other illicit drugs due to the high prevalence of cannabis use (Hasin et al., 2015). Withdrawal can often occur after regular heavy cannabis use is stopped or decreased (Hasin et al., 2008). Cannabis users can also develop cannabis use disorder (CUD), which is characterized as a "continued problematic pattern of use despite negative consequences that cause significant distress or impairment on functioning" (Sherman & McRae-Clark, 2016, pp. 1–2). It has been estimated that about one in ten cannabis users, and up to half of people who consume cannabis daily, become dependent (Hall & Pacula, 2003). There is evidence that the likelihood of developing

CUD increases with earlier age of cannabis initiation (Moss et al., 2014).

It appears that one of the two most prevalent cannabinoids, and the main psychoactive component of cannabis, Δ9-tetrahydrocannabinol (THC), is primarily responsible for adverse mental health effects and risks of cannabis use (Niesink et al., 2015). Acute THC exposure has been found to increase anxiety and induce unpleasant cognitive and perceptual experiences (Carlini, 2004). There is also evidence that suggests THC exposure can lead to heightened social anxiety over an extended period of use and can worsen depression over time (Cuttler et al., 2019). However, research suggests that cannabidiol (CBD), the other most prevalent cannabinoid in cannabis, may reduce anxiety symptoms (Bergamaschi et al., 2011; NASEM, 2017) and may act as an antipsychotic (Zuardi, 2006). The research indicates that assessment of the mental health impacts of cannabis use must consider the varying effects within the wide range of available potency and balance of cannabinoids (Niesink et al., 2015), distinctions largely lacking in the older literature.

CANNABIS AND WHOLISTIC WELLNESS

It is important to understand that cannabis may play an important role in Indigenous culture and medicine in some First Nations. There is evidence suggesting the historical use of cannabis and hemp for a variety of purposes, including in North America (Koutouki & Lofts, 2019; National Indigenous Medical Cannabis Association, 2017). Further, Indigenous organizations such as the National Indigenous Medical Cannabis Association (NIMCA) and the TPF note the traditional role and spiritual and medicinal significance of cannabis to First Nations cultures (National Indigenous Medical Cannabis Association, 2017; TPF, 2019a). According to the TPF, some Indigenous Elders have said that cannabis has been used in culturally appropriate ways by Indigenous Peoples in Canada to create a topical solution to treat pain, such as arthritis, and within ceremony to lessen symptoms of psychosis (TPF, 2019a). The Elders cautioned, however, that for cannabis to be effective as a medicine, it cannot be misused or abused, and its spiritual importance must be respected (TPF, 2019a).

In addition to potential therapeutic mental health applications as discussed in the above section, cannabinoids and cannabis may have medicinal application for a range of physical health conditions, although the robustness of the evidence on therapeutic benefit varies by condition (NASEM, 2017).

Medical cannabis is widely used to treat nausea and vomiting caused by anti-cancer and anti-HIV chemotherapy and is also approved in Canada for appetite stimulation in AIDS patients (Kalant & Porath-Waller, 2016). There is also substantial evidence that cannabis or cannabinoids are effective for chronic pain, neuropathic pain, and pain due to inflammation (Kalant & Porath-Waller, 2016; NASEM, 2017). For example, cannabis is known for its efficacy in treating rheumatoid arthritis by acting as an analgesic and reducing inflammation (Blake et al., 2006). Cannabis has been found to be effective in providing relief for symptoms such as pain, stiffness, and sleep disturbance due to multiple sclerosis (Kalant & Porath-Waller, 2016; NASEM, 2017). Although a 2021 meta-analysis of studies investigating the effectiveness of cannabinoids for treatment of inflammatory bowel diseases (IBD) did not find that they induced remission or affected inflammation in IBD patients, it did find that cannabis significantly improved reported symptoms and quality of life (Doeve et al., 2021). Similarly, a 2012 study found that patients who used cannabis for pain relief reported higher pain tolerance, increased positive mood, improved sleeping patterns, and an overall improvement in quality of life compared with patients in the placebo condition (Collen, 2012). There is also some evidence for the efficacy of cannabinoids in reducing seizure frequency in treatment-

resistant epilepsy, including among children (Kalant & Porath-Waller, 2016; Reis et al., 2020).

On the other hand, cannabis use can pose physical health risks. Inhaling cannabis smoke, as with smoke from other sources such as tobacco, can have negative effects on the respiratory system (Renard, 2020). There is evidence of an association between chronic cannabis use and respiratory symptoms and chronic bronchitis episodes, although some residual confounding due to smoking tobacco is possible (Moore et al., 2005). While cannabis use has not been associated with lung cancer, cannabis smoke contains known carcinogens and other chemicals implicated in the development of respiratory disease (Moir et al., 2008). Vaporizing cannabis has the potential to reduce toxic emissions, respiratory symptoms, and lung damage compared to smoking cannabis, but vaping has been associated with lung injury, and evidence on its long-term effects on lung health is lacking (TPF, 2019a). Ingesting cannabis is a form of consumption without risk to respiratory health, but appropriate dosing and onset/duration of effects can be difficult to predict (TPF, 2019a).

Modest evidence of an association between cannabis use and a testicular cancer subtype exists, but otherwise the evidence does not suggest that cannabis use increases the risk of cancer (Mehra et al., 2006; NASEM, 2017). Limited and inconclusive evidence links cannabis use with ischemic stroke and cannabis smoking with the triggering of acute myocardial infarction (NASEM, 2017). Interestingly, limited evidence indicates an association between cannabis use and increased risk of prediabetes but decreased risk of metabolic syndrome and diabetes (NASEM, 2017). Additionally, the effects of cannabis intoxication on motor skills and reaction time have been linked to health risk behaviours and outcomes such as injuries (Gerberich et al., 2003) and automobile accidents resulting in hospitalization or death (Hartman & Huestis, 2013). However, there is insufficient evidence to suggest an association between cannabis

use and all-cause mortality (Calabria et al., 2010).

Although cannabis use may pose some wholistic health risks, it also has potential benefits in terms of treating illnesses and diseases. As with applications in mental health treatment, consumption methods and the role of different cannabinoids are emerging as important factors in the risk of harm and the therapeutic possibilities of cannabis, and further research is needed to establish optimal use and dosage (Kalant & Porath-Waller, 2016; NASEM, 2017; TPF, 2019a).

CANNABIS USE AND HARM REDUCTION

Harm reduction is an approach intended to reduce the negative consequences associated with risky behaviours such as drug use while recognizing that for some users, abstinence may be neither realistic nor desirable (Marlatt et al., 2011; TPF, 2019a). Harm reduction policies, programs, and practices are aimed at minimizing the negative health, social, and legal impacts associated with drug use (Marlatt et al., 2011). Harm reduction practices, such as substitution, replacement, and safe use programs, have been widely used with various other substances, such as alcohol, tobacco, and opioids (Logan & Marlatt, 2010).

Legalization is an important step for reducing the harms of recreational cannabis use. Not only can it decrease social harms associated with criminalization, but it can also provide a framework for regulating products and access. While maintaining that abstinence is the most effective way to avoid risks of cannabis use altogether, the Government of Canada and several other organizations have published evidence-based Lower-Risk Cannabis Use Guidelines aimed at reducing its harms, including recommendations on products and their cannabinoid composition; delaying age of initiation; methods, frequency, and techniques of consumption; avoiding combining use with other risky behaviours; and considering

personal health circumstances (Fischer et al., 2017).

A growing body of evidence indicates that increasing access to both medical and recreational cannabis has substantial benefits to public health and safety, including reductions in opioid use and associated morbidity and mortality, homicides and violent crime, suicides, and automobile-related fatalities (Lucas, 2017). Research supports the prospective role of medical cannabis in harm reduction strategies, especially as a potentially safer alternative to opioids used to relieve pain, reducing the overall harms associated with opioid use (Lau et al., 2015; Lucas et al., 2016). There is evidence of the efficacy of cannabis as an adjunct or substitution for alcohol, illicit drugs, and pharmaceuticals for individuals unwilling or unable to abstain from drug use (Lau et al., 2015; Lucas et al., 2016). Further, studies have found that many individuals who have partially or completely replaced their use of pharmaceutical drugs with the medical cannabis consider cannabis better in terms of effectiveness at relieving symptoms, adverse side effects, safety, risk of addiction, availability, and cost (Kruger & Kruger, 2019; Lau et al., 2015; Reiman, 2009; Reinarman et al., 2011). Cannabis and its extracts have been found to be effective in harm reduction for a wide range of substance use disorders, including abuse of alcohol, opioids, cocaine, and prescription medications (Siklos-Whillans et al., 2021).

SUMMARY OF KEY GAPS

Cannabis research is well-established and growing. The literature on the short-term and long-term effects of cannabis use and factors influencing cannabis use in the general population is broad—especially on the risks and adverse side effects of cannabis use. A large proportion of this research examines factors specific to youth, who are considered a vulnerable group. There is a growing body of research on the benefits of medical cannabis use for the treatment of a variety of ailments

and as a harm reduction strategy, although much more research is needed on the use of medical cannabis to treat mental health conditions.

There is less research on cannabis use among First Nations in Canada, particularly among those living on reserve and in northern communities. Studies that examine the association of cannabis use with Indigenous-specific factors such as intergenerational trauma, IRS attendance, and language and cultural factors are limited. There is also very little published literature on First Nations' cultural practices and beliefs surrounding cannabis use, and caution must be made to avoid generalizing findings due to wide cultural variation across Nations and communities. Better understanding of each First Nation's teachings, cultural practices, and ceremonies associated with cannabis use would provide valuable insight into its spiritual significance and its medicinal and healing applications.

There is a need for evidence-informed, culturally appropriate public education initiatives on cannabis use in First Nations. There is also a need to better understand the health outcomes of cannabis use from a strength-based and non-stigmatizing approach. Strength-based wellness and resiliency-oriented factors influencing cannabis use behaviours, which are important elements when designing cannabis prevention and treatment programming for First Nations, are not adequately investigated and reported.

The existing literature indicates that there is an association between cannabis use and mental wellness in First Nations, although the direction of the association is not entirely clear. To design and develop culturally relevant and appropriate programs, services, education materials, and other community initiatives, further research is needed to better understand how cannabis use is related to mental and wholistic wellness factors among First Nations adults and youth.

METHODS

OVERVIEW

This research uses quantitative and qualitative methods to examine the association between cannabis use and factors relating to wholistic and mental well-being among First Nations youth and adults living on reserves and in northern communities. Leveraging data from the RHS Phase 3 dataset, the quantitative component includes logistic regression and descriptive bivariate analyses of indicators relevant to these topics. It will address research questions #1 and #2, exploring which mental, physical, spiritual, and emotional well-being factors, health factors, and health care access factors are associated with non-medical and medical cannabis use in First Nations communities.

The complementary qualitative component engaged Knowledge Holders and SMEs on cannabis and mental wellness in First Nations communities to ensure that the quantitative analysis findings appropriately reflect the data needs and lived experiences of First Nations people. This component will also explore research question #3 by gathering participants' insights on the possible motivators and impacts of cannabis use in First Nations communities that are suggested by the statistical findings. Comparison of quantitative and qualitative data allows for validation of statistical analyses, while also obtaining a more direct understanding of cannabis use and mental wellness issues in First Nations contexts.

ADVISORY GROUP

In March 2021, FNIGC began outreach with various AFN committees and councils, as well as other individuals and groups from our networks, including regional partners, academia, and First Nations communities, to recruit members for a project advisory group. The advisory group was formed to provide guidance on the research design and participate in qualitative engagements and research capacity-building training as a form of reciprocal knowledge exchange. Honoraria were provided for all meetings, which were held virtually.

Research design elements that benefited from advisory group input included development of research questions, selection of quantitative analysis themes and indicators, and finalization of qualitative engagement questions and format. As participants in qualitative engagements, knowledgeable in cannabis and mental wellness issues in First Nations communities, advisory group members provided insights and context on the statistical data analysis to complement and provide a "story" for the numbers rooted in community knowledge and lived experience, helping ensure the findings' accurate interpretation, relevance, and utility to First Nations leadership and communities. Aimed at building research knowledge and skills within First Nations organizations and communities, the capacity-building training included a data literacy workshop, an interactive presentation on the First Nations principles of OCAP®,[6] and enrolment in the Fundamentals of OCAP® online course offered by FNIGC.

Ultimately, the advisory group included nine individuals, varying in age, gender, and professional background, who had either lived experience in First Nations communities or professional experience working with a First Nations organization, or both. They

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[6]   Standing for Ownership, Control, Access, and Possession, the First Nations principles of OCAP® are a set of standards that establish how First Nations data should be collected, protected, used, or shared. See https://fnigc.ca/ocap-training/ for more information.

provided research design guidance during two planning meetings in the spring of 2021, with opportunities to submit further feedback through an indicator feedback form and by email. In recommending themes and indicators to examine in the survey data, the group asserted that a wholistic, strengths-based approach was necessary, and that mental wellness could not be sufficiently explored in isolation from physical, emotional, and spiritual wellness. This guidance is reflective of the definition of mental wellness described in the FNMWCF. The FNMWCF further elaborates that balance in these spheres is enriched when individuals have purpose, hope, belonging, and meaning, yet goes beyond the individual to consider connections to family, community, and culture within each of these elements (Health Canada & AFN, 2015). Further, it was of utmost importance that culture and language underpin the project, which also echoes the FNMWCF's assertion that culture must be the foundation of mental wellness as a key social determinant of health (Health Canada & AFN, 2015). There was also a strong interest in exploring the diverse motivations for cannabis use in First Nations communities. It was recommended that, while potential risks and harms of cannabis use could not be ignored, FNIGC should avoid an approach that would risk stigmatizing cannabis users and lacks recognition of the possible benefits of cannabis use.

With data analysis taking place in the summer, the advisory group reconvened in the fall for a combined data literacy workshop and preliminary data presentation. The OCAP® presentation was held in November 2021, and staff members of the AFN Health Sector were invited to attend along with advisory group members. Qualitative engagements were conducted throughout the fall of 2021.

Advisory group members were also given the opportunity to review and provide feedback on the report draft before it was finalized.

QUANTITATIVE COMPONENT

The quantitative component of this report is based on analyses of data from the FNIGC's adult and youth components of the RHS Phase 3. The RHS Phase 3 is a cross-sectional survey of First Nations living on reserve and in northern communities across Canada. The surveys are designed to collect information that is representative of on-reserve First Nations populations in all provinces and territories (except Nunavut). The data collection for RHS Phase 3 was conducted between March 2015 and December 2016. Surveys were typically self-administered in the home using customized computer-assisted personal interviewing software on laptop computers, although fieldworkers were present to assist or translate as needed.

The sampling frame for RHS Phase 3 was based on 2014 Indigenous and Northern Affairs Canada (INAC) Indian Registry counts of those living on reserves or on Crown land. According to these counts, there were 630 communities and nearly 467,800 people living on reserves and in northern First Nations communities. The sample design used complex sampling that incorporated a two-stage sampling strategy. The first stage involved the selection of communities to participate in the survey. First Nations communities were stratified by region, sub-region, and community size. The size of communities was determined by community population and were categorized into small (fewer than 300 people), medium (300 to 1,500 people), or large (more than 1,500 people) communities. Large communities were automatically included in the sample, while medium and small communities were randomly selected with equal probability within their respective strata. Communities with a population of less than 75 were not included in the survey. The second stage of the sampling process pertained to

the random selection of individuals within eight age and sex groups in each community in the national sample. Community members were identified using band membership lists. Individual responses were then weighted using the INAC Indian Registry counts to reflect the representation of the population (FNIGC, 2018a).[7]

The RHS Phase 3 achieved a 78.1% response rate, surveying 23,764 individuals in 253 communities in total. The final datasets included 4,968 surveys from youth (12 to 17 years old) and 12,137 surveys from adults (18 years and older), representing 47,918 youth and 282,129 adults in the population, respectively (FNIGC, 2018a). Adult and youth surveys had separate questionnaires with several items in common but certain questions were unique to each.

IBM SPSS[8] version 26 (or higher) was used for all analyses. Proportions of categorical variables were estimated overall and by cannabis use category. Estimates were weighted and 95% confidence intervals were calculated using the SPSS Complex Samples Module. The weights and specifications of the complex stratified sample of the RHS Phase 3 were programmed into the module to produce appropriate design-based variance estimates. For statistical reliability, the estimates with a coefficient of variation (CV) between 16.6% and 33.3% reflect moderate to high sampling variability and were noted with an "E" to advise cautious interpretation. The estimates with a CV greater than 33.3%, reflecting extreme sampling variability, or cell counts less than five were suppressed (denoted by an "F" within tables). In some instances, estimates were suppressed to avoid residual disclosure, which is deduction of suppressed estimates in the table based on available information (i.e., where estimates sum to 100% and a single suppressed estimate

can be calculated by subtracting available estimates from this total). These are also noted with an "F."

For bivariate analyses, the difference between groups or categories is considered statistically significant if the 95% confidence intervals for each estimate do not overlap. Where confidence intervals do overlap, differences in estimates may still be present; however, they are not to be interpreted as statistically significant. Not all the survey respondents answered all questions. In this report, those who reported "Don't know" or "Refused" are excluded from the estimate's calculation.

All odds ratios (ORs) calculated for the logistic regression analyses were age- and sex-adjusted to account for any effect on the association that could be attributable to age and/or sex and not the independent variable itself. When an OR is less than 1, the odds of a predicted outcome (e.g., cannabis use) are lower for the corresponding group than for the reference group; when the OR is equal to 1, the odds of the predicted outcome are the same for that group as for the reference group; and when the OR is greater than 1, the odds of the outcome are higher for that group than for the reference group.

Variables

Variables for analysis were selected based on relevance and knowledge gaps as revealed by the literature review, principles of strengths-based research, and guidance from the advisory group.

All analyses used a cannabis use variable indicating how often cannabis had been used in the past year, although the grouping of response options indicating frequency of use varied for different analyses. Analyses for adults also included a variable on whether any

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[7]   For more information about the RHS Phase 3 data and methods, please see pages 5–14 in FNIGC, 2018a at
       https://fnigc.ca/wp-content/uploads/2020/09/713c8fd606a8eeb021debc927332938d_FNIGC-RHS-Phase-III-Report1-FINAL-VERSION-Dec.2018.pdf
[8]   SPSS Statistics is a software package used for interactive, or batched, statistical analysis.

cannabis use had been for medical purposes,[9] to create a "medical user" analysis category.

Mental and wholistic wellness variables fell into five broad topic areas. *Demographic and Environment* factors included social determinants of health such as demographic, community, and household or family characteristics. *Well-Being and Personal Safety* factors include direct indicators of mental wellness, such as self-perceptions of mental health and the presence of mental health challenges, but also social indicators pertaining to relationships with others and interpersonal experiences in the community. Factors under the *Language and Culture* theme gauge connections to traditional First Nations activities and medicine, spirituality, cultural events, and language through varied indicators of participation, interest, and proficiency regarding these elements. *Health Behaviours* examined in this research include prescription drug use and misuse, other illicit drug use, and physical activity levels. Finally, *Health and Health Care* factors focused on general health and chronic health conditions, as well as frequency and difficulties in accessing various types of health care services.

Detailed information on each variable and its analysis is provided in Appendix A.

QUALITATIVE COMPONENT

This research undertook qualitative engagement with Knowledge Holders and SMEs to gather perspectives and culturally relevant contextual information on the statistical findings generated for the quantitative component.

The qualitative research design was guided by the study's three key research questions, which were informed by an initial literature review and guidance from the advisory group. This guidance further informed the development of six open-ended qualitative engagement questions (see Appendix C) that explored factors associated with cannabis use in First Nations communities, possible motivators and impacts of cannabis use in First Nations communities, and recommendations on knowledge translation and mobilization.

The 15 participants in the qualitative engagements included members of the project's advisory group and the AFN Mental Wellness Committee, all SMEs and/or First Nations Knowledge Holders whose knowledge and expertise is situated within the following organizations, communities, and regions:

- Algonquins of Pikwàkanagàn First Nation, Ontario

- Anishinaabe Algonquin Territory, Elder

- Assembly of First Nations

- Atlantic Policy Congress of First Nations Chiefs Secretariat

- Federation of Sovereign Indigenous Nations, Saskatchewan

- First Nations Health and Social Secretariat, Manitoba

- First Peoples' Wellness Circle

- Fort Albany First Nation, Ontario, Elder

- Mi'kmaq Confederacy of PEI

- Muscowpetung First Nation, Saskatchewan

- Secwepemc Nation, British Columbia

- Thunderbird Partnership Foundation

- Waakebiness-Bryce Institute for Indigenous Health (University of Toronto), Ontario

Engagement Sessions

A total of seven engagements were conducted between October and December of 2021 using videoconferencing software. Interviews

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[9]   Note: Available data does not indicate whether <u>all</u> cannabis use was for medical purposes, what those purposes were, or whether it had been prescribed or advised by a health care professional.

were conducted with advisory group members in groups of one or two, according to their preference, and ranged from 21 minutes to 1 hour 47 minutes in length, or 52 minutes on average.

Most participants attended a combined data literacy workshop and quantitative data presentation session, the latter involving a summary of the preliminary statistical findings on cannabis and mental wellness factors from the RHS Phase 3 dataset (see Appendix B for a high-level summary), so their engagement sessions included only a brief refresher on these findings before starting the discussions. Participants had been provided with the list of discussion questions prior to the sessions. A focus group session with the AFN Mental Wellness committee was an exception: With the participation of 10 members, some of whom were also in the advisory group, it involved a brief summary of the project and its quantitative findings to date immediately before transitioning into discussion of the engagement questions. The focus group and interviews followed semi-structured, open-ended interview styles and relied on conversational and storytelling sharing methods.

Conversational methods align with Indigenous research methodologies and place emphasis on orality as a means of transmitting and gathering knowledge (Kovach, 2010). This method is rooted in the relational, which maintains tradition that reflects First Nations ways of knowing and being. Conversational methods often employ storytelling as a non-structured method of collating knowledge. Storytelling is a relational process that provides an opportunity for First Nations to have their histories documented and included in writing, filling in the gaps in the present documentation of the lives of First Nations

people (Thomas, 2005).

These approaches are also relevant to decolonizing research. All methodological approaches for this research were framed within an Indigenous paradigm of research centring cultural safety and honouring the role of oral tradition in First Nations communities.

Analysis

Engagement sessions were conducted in English and recorded, with consent from participants, then transcribed. All qualitative data was analyzed using thematic-code analysis via manual coding and employed a flexible approach to exploring themes and meaning from the qualitative research data. Thematic analysis is the process of identifying patterns, trends, or themes within qualitative data and is useful for conducting many other kinds of analysis (Braun & Clarke, 2006).

In qualitative research, data coding is the process that focuses on the data analysis and approaches in defining and organizing collected data (Gibbs, 2007). Manual coding is the process of identifying a passage in the text or other types of qualitative data, searching and identifying concepts, and finding links and patterns between them.

In alignment with the principles of OCAP®, participants were given the opportunity to review and modify their contributions within the context of the draft qualitative analysis report section. All participants and quotations were kept anonymous so that they could speak freely on the sensitive subject matter. This review also served to ensure accuracy of the qualitative data and its analysis and to allow for further validation and expertise from participants.

RESULTS

QUANTITATIVE FINDINGS[10]

This section includes analysis of the statistical associations and bivariate breakdowns for factors from the RHS Phase 3 dataset examined for their relationship with cannabis and medical cannabis[11] use among youth and adults.

Overall breakdowns of the prevalence of cannabis and medical cannabis use among youth and adults, as well as the frequency of use, provide a picture of cannabis use within First Nations communities. Within each of five thematic factor subgroups, factors shown to be significantly associated with cannabis and medical cannabis use, while controlling for age and sex, are identified using logistic regression analyses. Analysis of bivariate tables showing breakdowns of cannabis use types and associated factors within each of five themes then explore the relationship further.

Data tables showing the full set of logistic regression and bivariate estimates and their confidence intervals can be found in Appendix D.

Cannabis Use in First Nations

As shown in Figure 1, seven in ten First Nations youth (73%) and adults (70%) did not use cannabis in the past year. Among adults, 11% reported using cannabis for medical purposes, and 19% reported using cannabis without indicating it was for medical reasons; this is interpreted to be non-medical, or recreational use. More than a quarter (27%) of youth had used cannabis in the past year but no data is available on whether they considered their use to be for medical purposes. See Table 1 in Appendix D for all estimates and confidence intervals for this factor.

Figure 1: Cannabis and medical cannabis use in the past year among First Nations youth and adults

Youth (12-17)

73%   27%

Adult (18+)

70%   19%   11%

■ No cannabis use   ■ Non-medical cannabis use   ■ Medical cannabis use
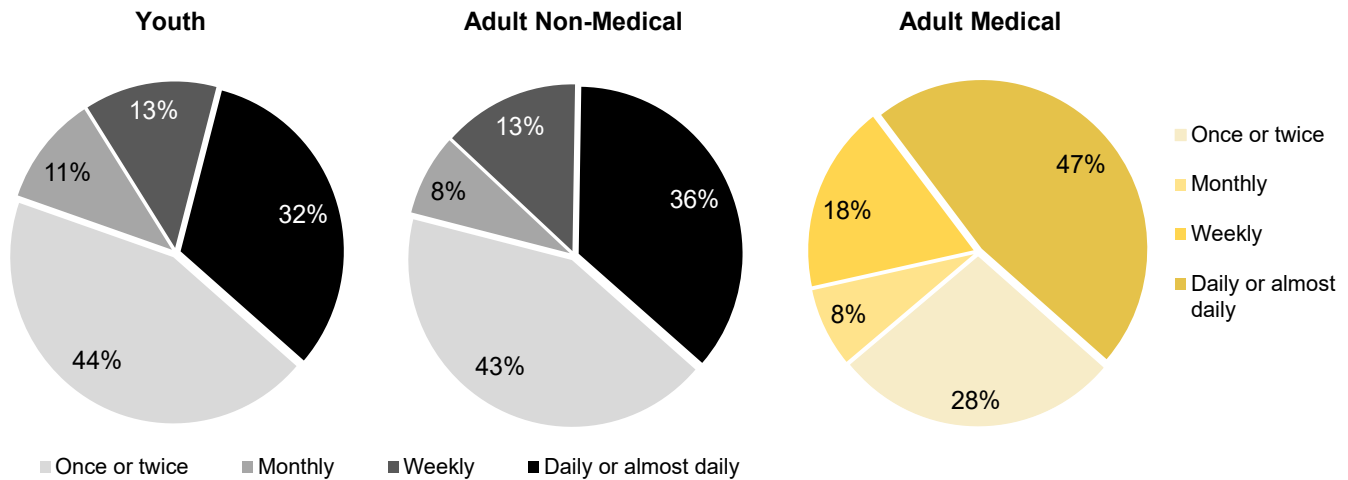
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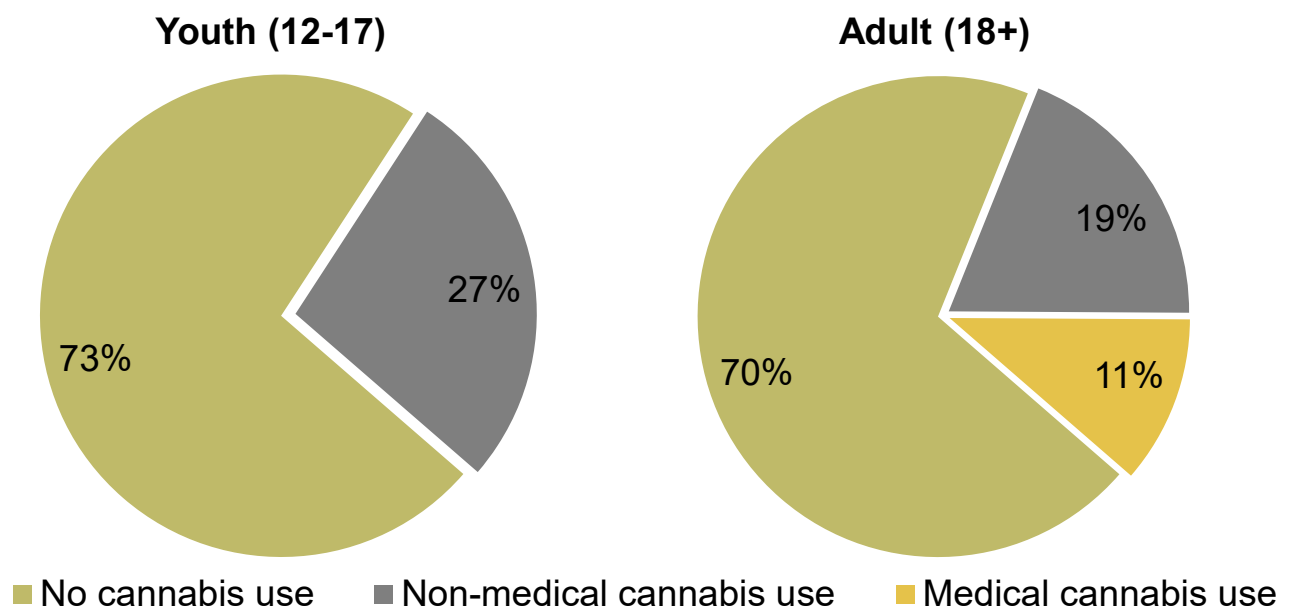
10   Throughout this section, some numbers may not add up to 100% due to rounding.
11   Data on medical cannabis use is available only in the Adult (age 18+) dataset.

Among youth and adults who used non-medical cannabis in the past year, more than half had done so once a month or less (see Figure 2). In both age groups, 13% had used cannabis weekly, and approximately one-third (32% among youth and 36% among adults) had used cannabis daily or almost daily.

Adults who used medical cannabis tended to use cannabis more frequently, with nearly half (47%) using daily or almost daily.[12] See Table 2 in Appendix D for all estimates and confidence intervals for this factor.

Figure 2: Frequency of use among First Nations youth and adults who had used cannabis/medical cannabis in the past year

Youth   **Adult Non-Medical**   **Adult Medical**

Youth: 13%, 11%, 44%, 32%
Adult Non-Medical: 13%, 8%, 43%, 36%
Adult Medical: 47%, 18%, 8%, 28%

Adult Medical legend: Once or twice, Monthly, Weekly, Daily or almost daily

■ Once or twice   ■ Monthly   ■ Weekly   ■ Daily or almost daily

Demographics and Environment

Logistic Regression[13]

Seven demographic and environmental factors were examined for their association with cannabis use among youth, and five were found to be significantly associated. Figure 3 shows the odds of youth using cannabis (as opposed to abstaining) when they have each of the significantly associated demographic and environmental factors. Some factors with multiple significantly associated outcomes (i.e., gender identity, family residential school attendance, community size) appear more than once.

Being in a higher age group (15–17 years old,

compared to 12–14 years old) was associated with 3.3 times the odds of cannabis use among youth. Females (compared to males) were 40% more likely (OR: 1.4) to use cannabis, when considering sex. However, when considering gender identity (examined for youth aged 15–17 only), cisgender females were 2.2 times as likely to use cannabis compared to those identifying as Two-Spirit or transgender, who were half as likely (OR: 0.5) to use cannabis compared to cisgender males.

Family residential school attendance was significantly associated with higher odds of cannabis use among youth. Those who had at least one grandparent (but no parent) attend were nearly twice as likely (OR: 1.9); those with at least one parent (but no grandparent) were

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12   In the following analyses and discussion, non-medical cannabis use reported to be weekly or less frequent will be referred to as "occasional use," while non-medical cannabis use reported to be daily or almost daily will be referred to as "daily use." These categories exclude all cases where respondents indicated that they had used cannabis for medical purposes in the past year, which are included in the "medical use" category, regardless of frequency. Where not otherwise specified, "cannabis use" is considered non-medical cannabis use.

13   See Table 3 in Appendix D for all odds ratio estimates and confidence intervals for the regression analysis of demographic and environmental factors.

more than three times as likely (OR: 3.4); and those with at least one parent and at least one grandparent were three times as likely (OR: 3.0) to use cannabis, compared to youth who had no parents or grandparents attend residential school.

Living in a small or medium community, compared to a large community, was associated with higher odds of cannabis use.

Youth living in a medium community were 60% more likely (OR: 1.6), and those living in a small community were 70% more likely (OR: 1.7) to use cannabis, compared to youth living in a large community. Community remoteness and the number of community strengths perceived by youth (not shown in Figure 3) were not found to be significantly associated with cannabis use.

Figure 3: Odds of cannabis use (vs. no use), based on demographic and environmental characteristics, among First Nations youth
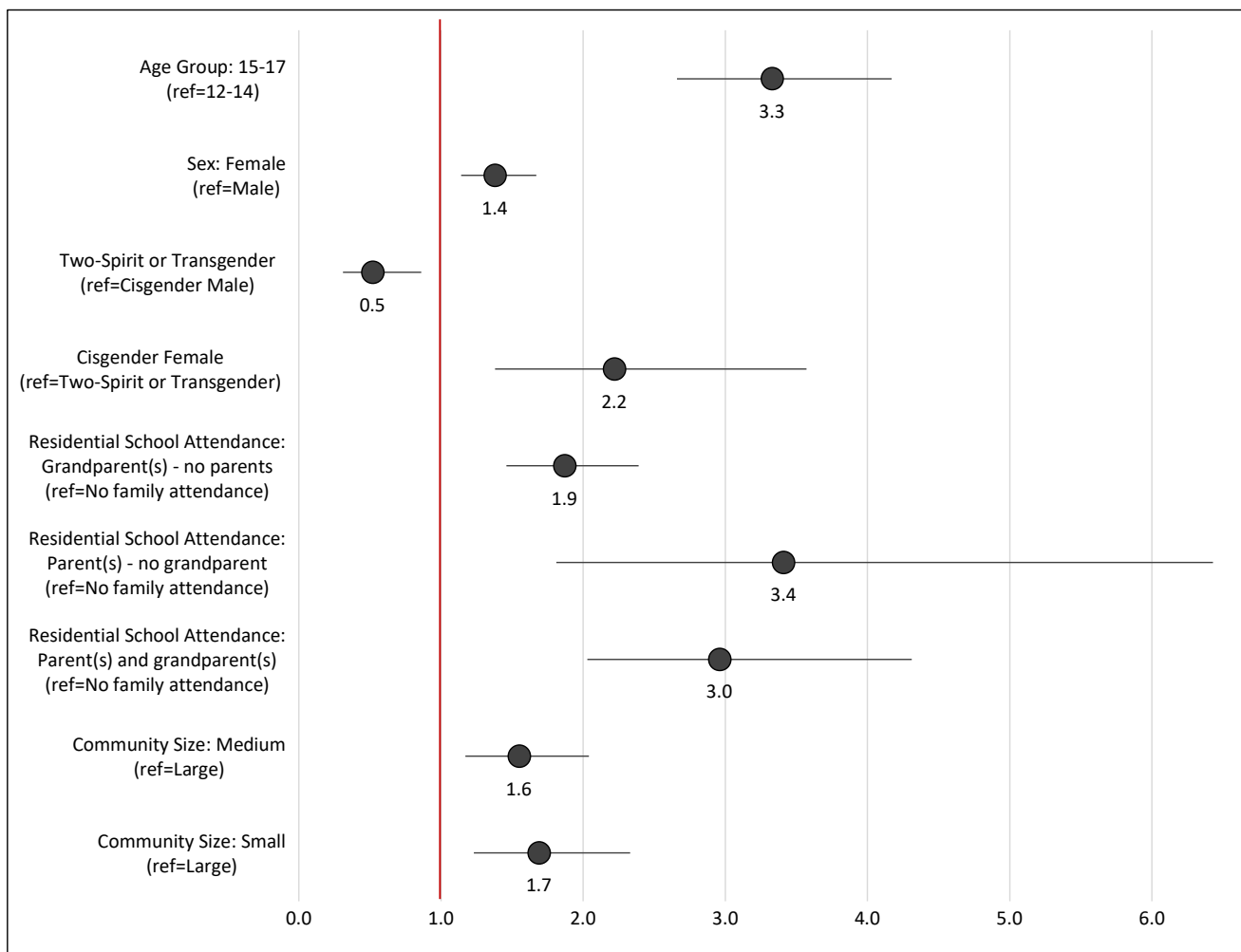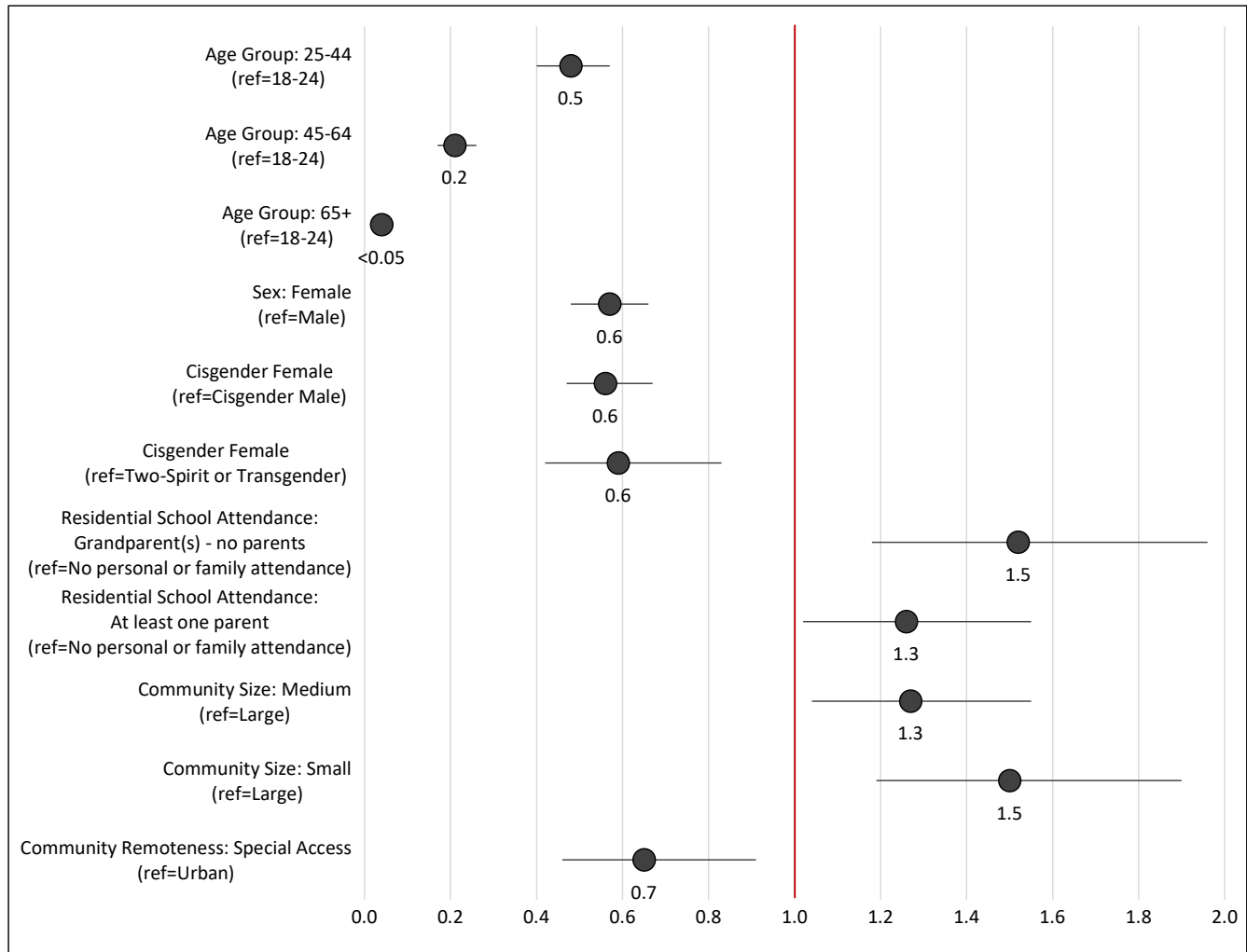

Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Eight demographic and environmental factors were examined for their association with non-medical cannabis use among adults, and six were found to be significantly associated. Figure 4 shows the odds of adults using cannabis (as opposed to abstaining) when they have each of the significantly associated demographic and environmental factors. Some factors with multiple significantly associated outcomes (i.e., age, gender identity, residential school attendance, community size) appear more than once.

Figure 4: Odds of non-medical cannabis use (vs. no use), based on demographic and environmental characteristics, among First Nations adults

Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Some of the associations for demographic characteristics contrast the findings for youth. For example, being in an older age group was associated with lower odds of cannabis use: 25–44-year-olds were 50% as likely (OR: 0.5), 45–64-year-olds were 20% as likely (OR: 0.2), and 65+ year-olds were approximately 0% as likely (OR: 0.0, rounded) to use cannabis, compared to 18–24-year-olds.

Also different from the youth findings are the associations with sex and gender identity. Females had 40% lower odds (OR: 0.6) of using cannabis compared to males, as did cisgender females compared to cisgender males (OR:

0.6). Cisgender females were also 40% less likely (OR: 0.6) to use cannabis compared to Two-Spirit or transgender individuals.

Associations between family residential school attendance and cannabis use were found: those with a grandparent(s) but no parent(s) who had attended were 50% more likely (OR: 1.5), and those with at least one parent who had attended were 30% more likely (OR: 1.3) to use cannabis, compared to those who did not attend, nor have parents or grandparents attend.

Like the youth findings, living in a small or

medium community, compared to a large community, was associated with higher odds of non-medical cannabis use. Adults living in a medium community were 30% more likely (OR: 1.3), and those living in a small community were 50% more likely (OR: 1.5) to use cannabis, compared to adults living in a large community. Unlike for youth, community remoteness was found to be significantly associated in that adults living in special access communities[14] were 30% less likely (OR: 0.7) to use cannabis, compared to those living in urban communities. However, household crowding and the perceived number of community strengths (not shown) were not significantly associated with cannabis use.

Eight demographic and environmental factors were examined for their association with medical cannabis use among adults, and six were found to be significantly associated, echoing the findings for non-medical cannabis use among adults. Figure 5 shows the odds of adults using medical cannabis (as opposed to abstaining) when they have each of the significantly associated demographic and environmental factors. Some factors with multiple significantly associated outcomes (i.e., age, gender identity, residential school attendance, community size) appear more than once.

Adults in older age groups were less likely to use medical cannabis: 25–44-year-olds were 40% less likely (OR: 0.6), 45–64-year-olds were 60% less likely (OR: 0.4), and 65+ year-olds were 90% less likely (OR: 0.1) to use medical cannabis, compared to 18–24-year-olds.

Females remained less likely to use medical cannabis, with 50% lower odds (OR: 0.5), compared to males. Regarding gender identity, cisgender males were most likely to use medical cannabis, with cisgender females having 50% lower odds (OR: 0.5), and Two-Spirit or transgender individuals having 40%

lower odds (OR: 0.6), compared to cisgender males. Unlike for non-medical cannabis use, however, no significant difference between cisgender females and Two-Spirit or transgender individuals was found regarding their likelihood of medical cannabis use.

As with non-medical cannabis use among adults, associations between family residential school attendance and medical cannabis use were found, but the effect was more pronounced, and personal attendance (i.e., being a Survivor) was associated with medical cannabis use only. Adults with a grandparent(s) but no parent(s) who had attended were 90% more likely (OR: 1.9), and those with at least one parent who had attended were 70% more likely (OR: 1.7) to use medical cannabis, compared to those who did not attend, or have parents or grandparents attend, residential schools. Notably, residential school Survivors had over twice the odds (OR: 2.1) of using medical cannabis, compared to adults without personal or family attendance.

Once more, living in a small or medium community, compared to a large community, was associated with higher odds of medical cannabis use. Adults living in a medium community were 30% more likely (OR: 1.3), and those living in a small community were 80% more likely (OR: 1.8) to use medical cannabis, compared to adults living in a large community. Community remoteness was found to be significantly associated as well: adults living in special access communities were 50% less likely (OR: 0.5) to use medical cannabis, compared to those living in urban communities. Household crowding and the perceived number of community strengths (not shown) were not significantly associated with medical cannabis use.

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[14]   These communities have no year-round road access to a service centre.

Figure 5: Odds of medical cannabis use (vs. no use), based on demographic and environmental characteristics, among First Nations adults
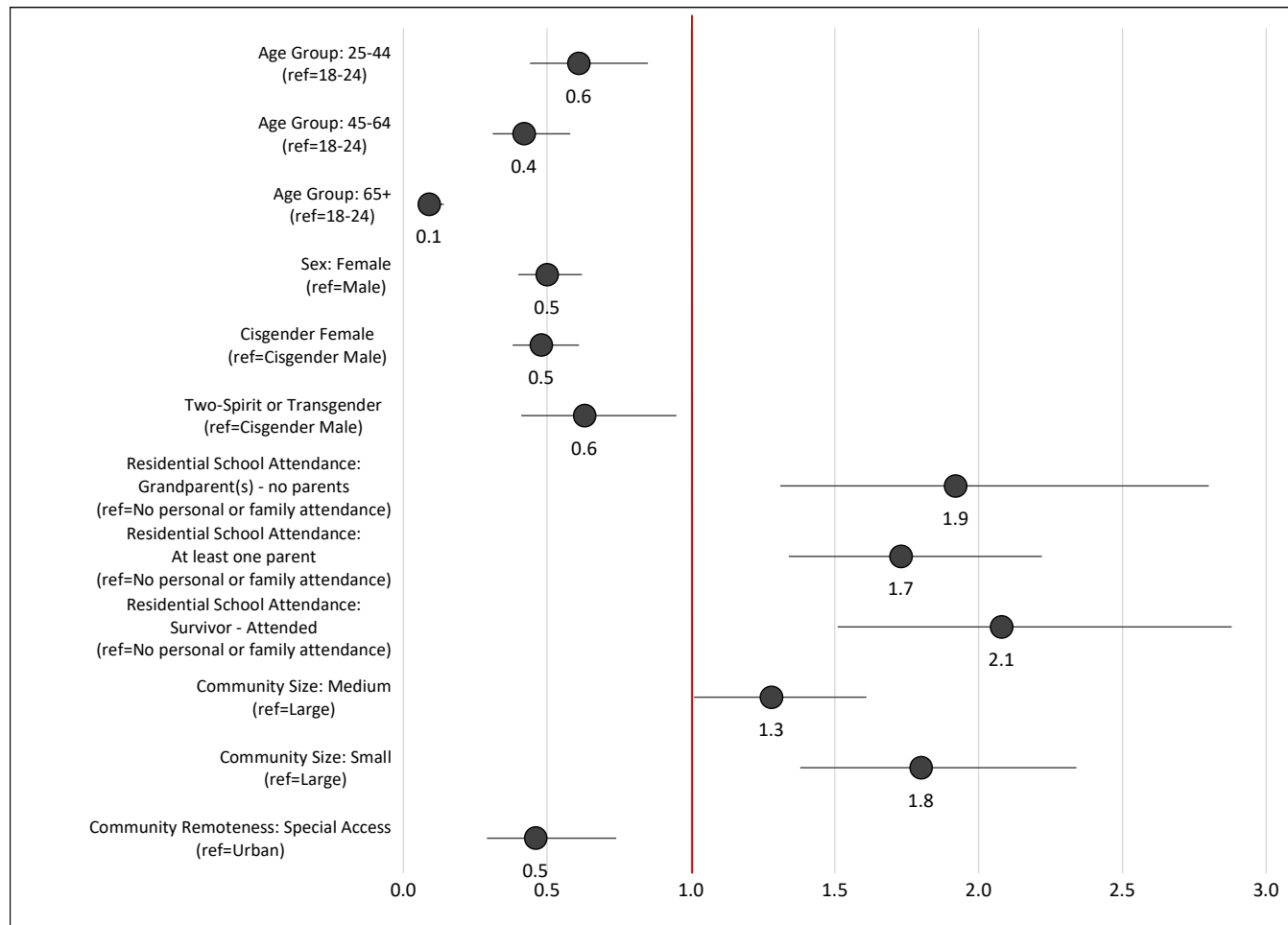
Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Bivariate Analysis[15]

Age Group.

As the regression analysis indicated, cannabis use was associated with older age groups among youth and younger age groups among adults, with 18–24-year-olds having the lowest proportion of non-users at 49%. As shown in Figure 6, the proportions of non-users increase in younger and older age groups compared to the 18–24 age range. At 95%, the 65+ age group had the highest proportion of non-users.

Sex.

In alignment with the regression findings,

among youth, higher proportions of females than males used cannabis occasionally (20% vs. 17%) and daily (10% vs. 8%), and lower proportions were non-users (70% vs. 76%). Among adults, the opposite trend was true: higher proportions of males than females used cannabis occasionally (13% vs. 11%), daily (10% vs. 4%), and medically (14% vs. 9%), and lower proportions were non-users (63% vs. 76%). Most of these differences were statistically significant among adults.

Gender Identity.

As Figure 7 shows, Two-Spirit or transgender youth had a larger proportion of non-users

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15   See Table 4 and Table 5 in Appendix D for all estimates and confidence intervals for the bivariate analysis of demographic and environmental factors.

(78%) than did cisgender male (64%) and female youth (61%). Among adults, however, cisgender females had a significantly higher proportion of non-users (77%) compared to Two-Spirit or transgender adults (67%) and

cisgender males (63%). Two-Spirit or transgender individuals had the highest proportion of occasional use (19%), and cisgender males had the highest proportions of daily (10%) and medical use (14%).

Figure 6: Cannabis and medical cannabis use among First Nations youth and adults, by age group
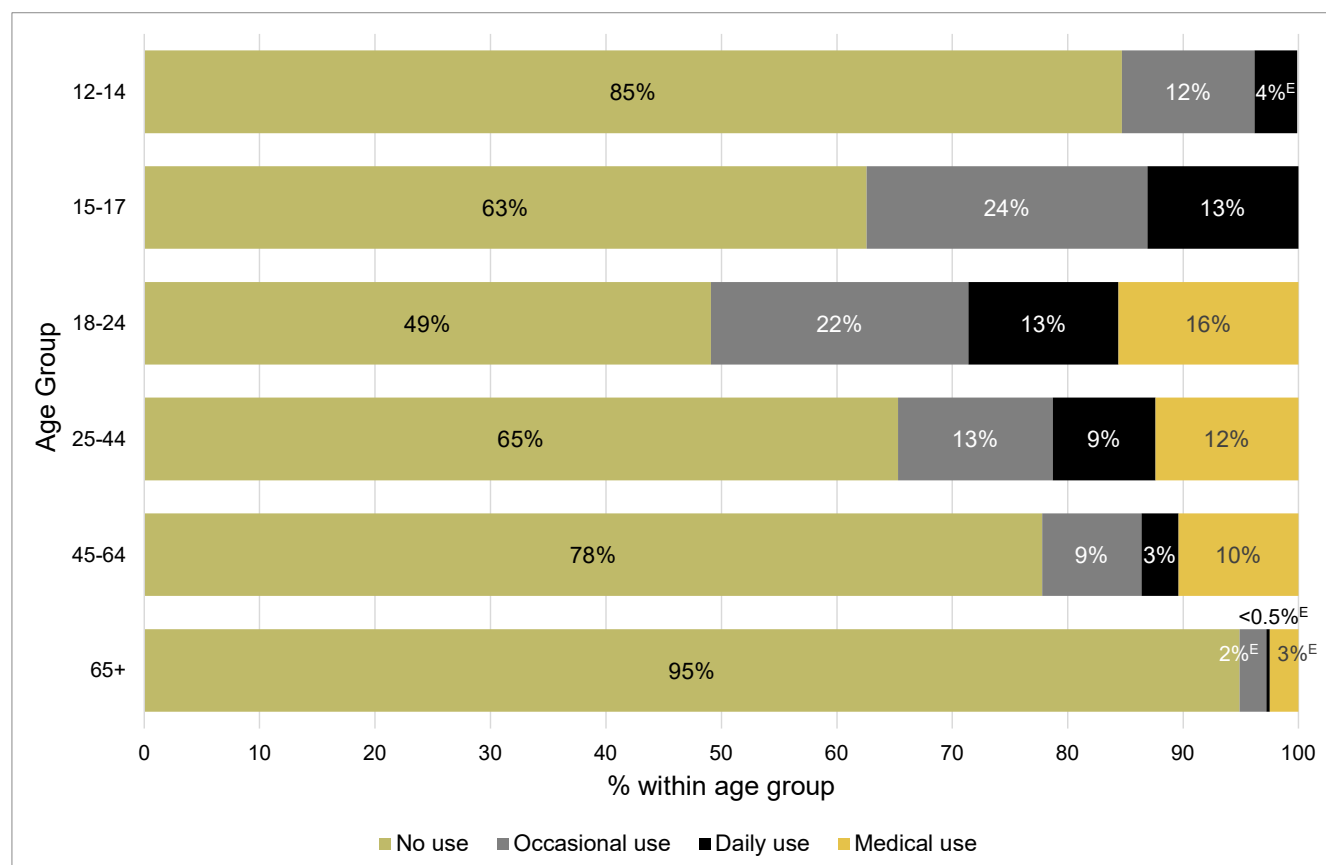
Note: ᴱ High sampling variability, interpret with caution.

Residential School Attendance.

With all categories of parental and grandparental residential school attendance shown to be significantly associated with cannabis use among youth, Figure 8 shows a significantly higher proportion of non-users among youth who had no parents or grandparents attend (83%) compared to those who had a grandparent but no parent (72%), a parent but no grandparent (58%), and both a parent and grandparent (61%) attend. There was a slight trend for youth who had aa grandparent but no parent attend residential school to have a lower proportion of cannabis use compared to those who had at least one parent attend,

but the differences were not significant.

The breakdown of cannabis use types within each category of family or personal residential school attendance for adults is shown in Figure 9. As the regression analyses showed, in contrast to youth, having a grandparent (but no parent) attend residential school (57% were non-users) appears to have a stronger association with all cannabis use types compared to those with at least one parent who attended (67% were non-users). Reflecting the association between medical cannabis use and personal residential school attendance found in the regression analysis, Survivors had the highest proportion of non-users (79%) but also a

higher proportion of medical users (11%) than adults with no personal or family attendance (8%). This is particularly notable due to the very low percentages of medical users who made up the older age groups most likely to include IRS Survivors (see Figure 6 above).

Figure 7: Cannabis and medical cannabis use among First Nations youth and adults, by gender identity[16]
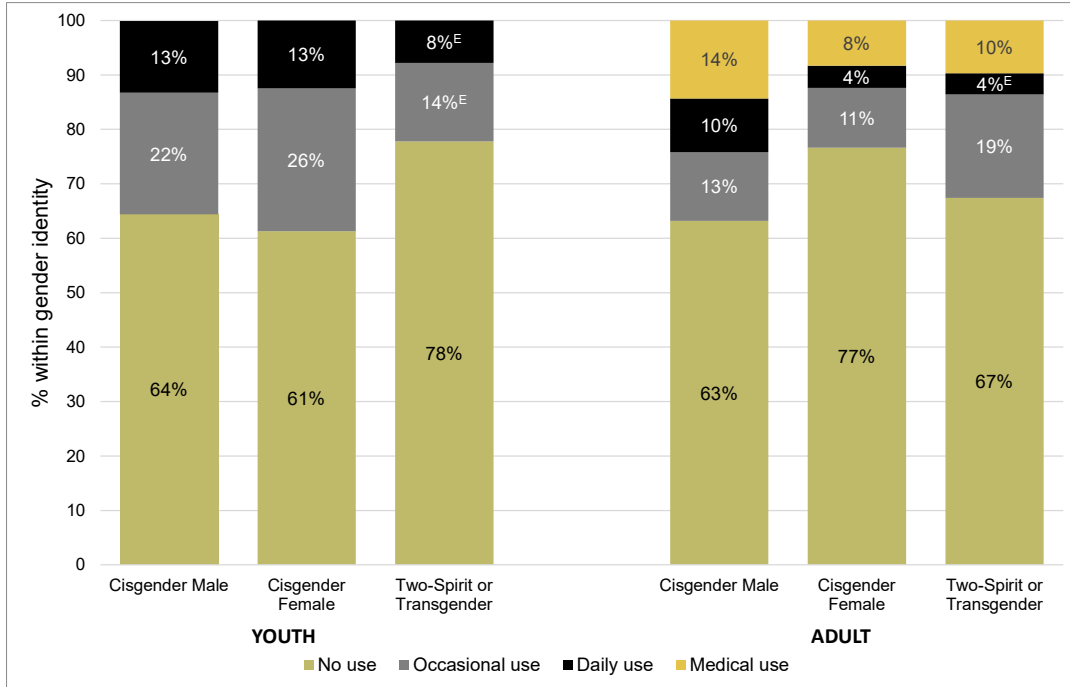
Note: [E] High sampling variability, interpret with caution.

Figure 8: Cannabis use among First Nations youth, by family residential school attendance
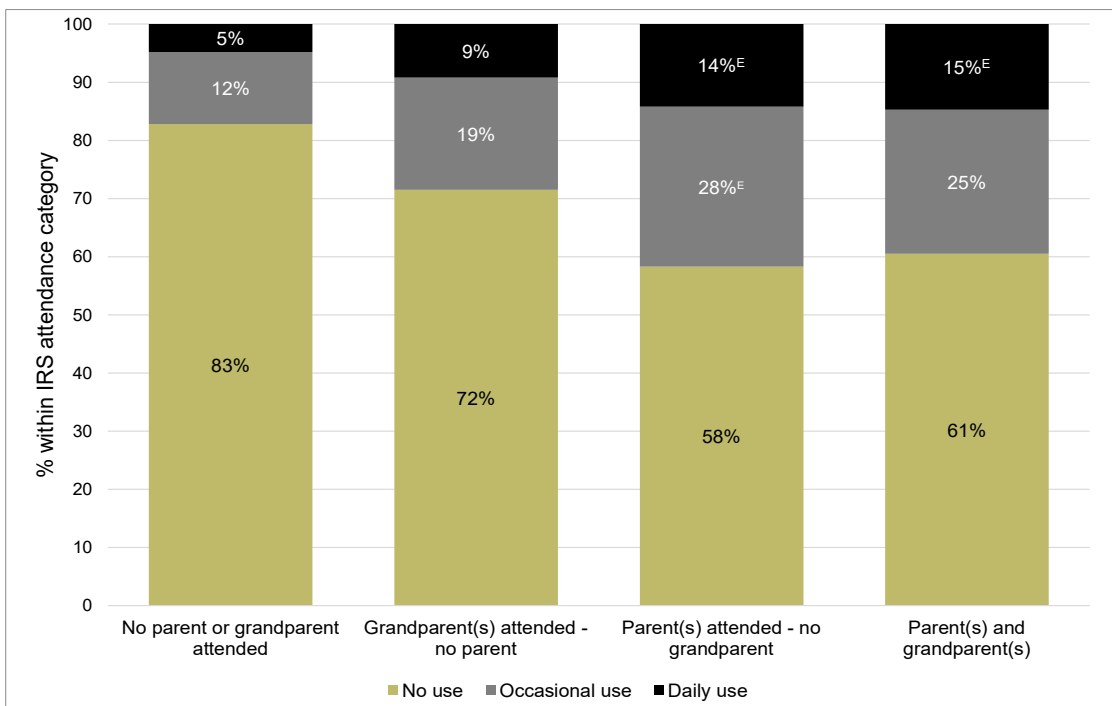
Note: [E] High sampling variability, interpret with caution.

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[16]   Cisgender refers to a person whose gender identity corresponds with the biological sex they had or were assigned at birth.

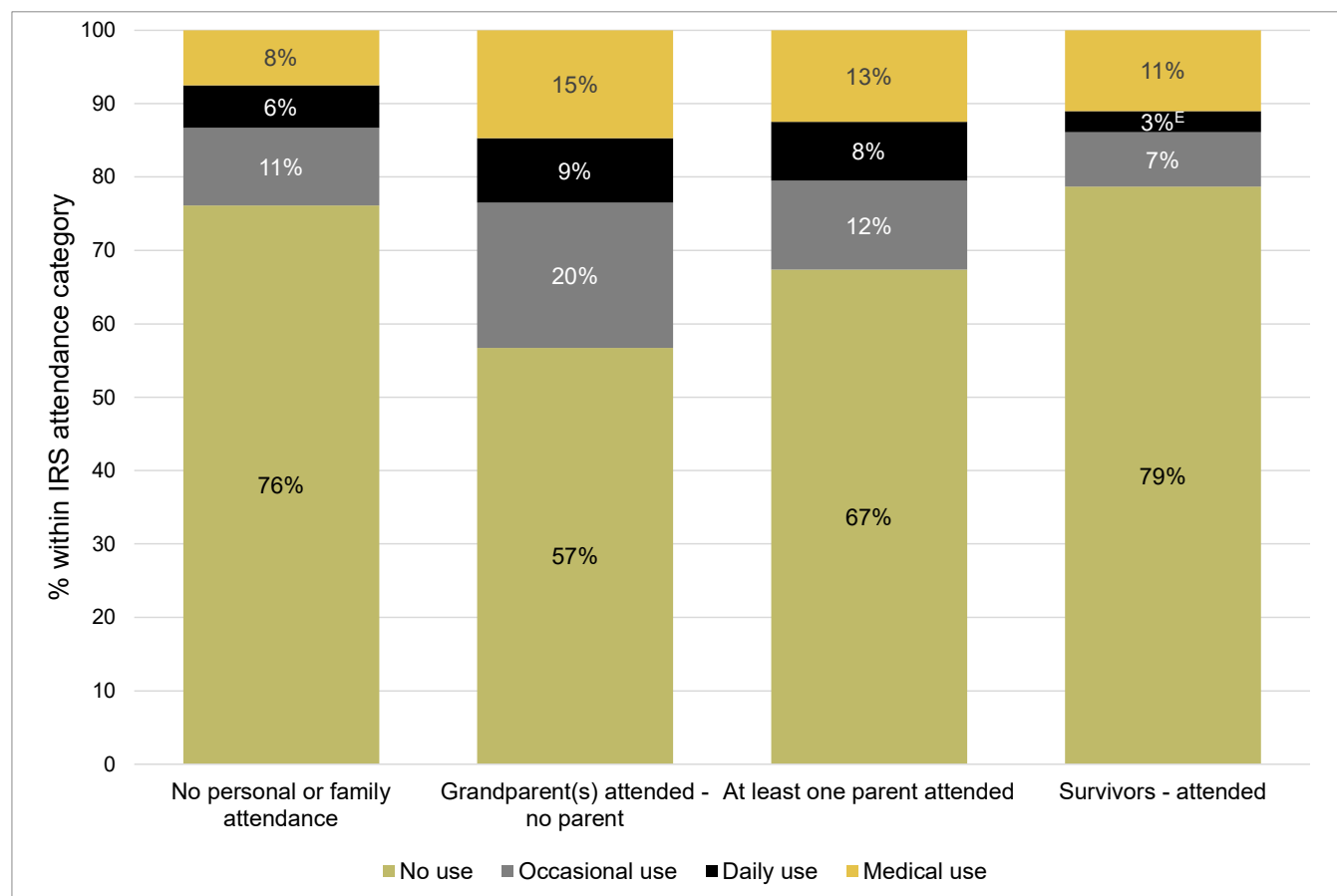**Figure 9: Cannabis and medical cannabis use among First Nations adults, by family and personal residential school attendance**

Note: [E] High sampling variability, interpret with caution.

Household Crowding.

This factor is not available in the youth dataset. No trends or significant differences were found between household crowding and cannabis use in the bivariate analysis for adults.

Community Size.

Among youth, there was a trend for occasional and daily cannabis use to increase as community size decreases: 77% of youth in large communities were non-users, a higher proportion compared to 70% in medium communities and a significantly higher proportion compared to 65% in small communities. A similar trend was seen in adults. These findings are consistent with the regression results.

Community Remoteness.

No significant differences were found between community remoteness categories and cannabis use among youth. For adults, lower proportions in special access communities tended to use cannabis occasionally, daily, or medically compared to less remote communities, but not all differences were significant.

Community Strengths.

No significant differences were found between the number of perceived community strengths and cannabis use among youth or adults. However, there was a slight trend for the proportion of non-users to increase with the number of perceived community strengths.

Well-Being and Personal Safety

Logistic Regression[17]

Nine well-being and personal safety factors were examined for their association with cannabis use among youth, and eight were found to have a significant correlation, with a consistent trend of cannabis use being associated with poorer mental wellness and personal safety. Figure 10 shows the odds of youth cannabis use (as opposed to no use) when they have each of the significantly associated well-being and personal safety factors. Some factors with multiple significantly associated outcomes (i.e., psychological distress) appear more than once.

Among youth, rating one's mental health as "good" or better (compared to "fair" or "poor") was associated with 70% lower odds (OR: 0.3) of cannabis use, and feeling wholistically balanced was associated with half the odds (OR: 0.5) of cannabis use.

Figure 10: Odds of cannabis use (vs. no use), based on well-being and personal safety factors, among First Nations youth
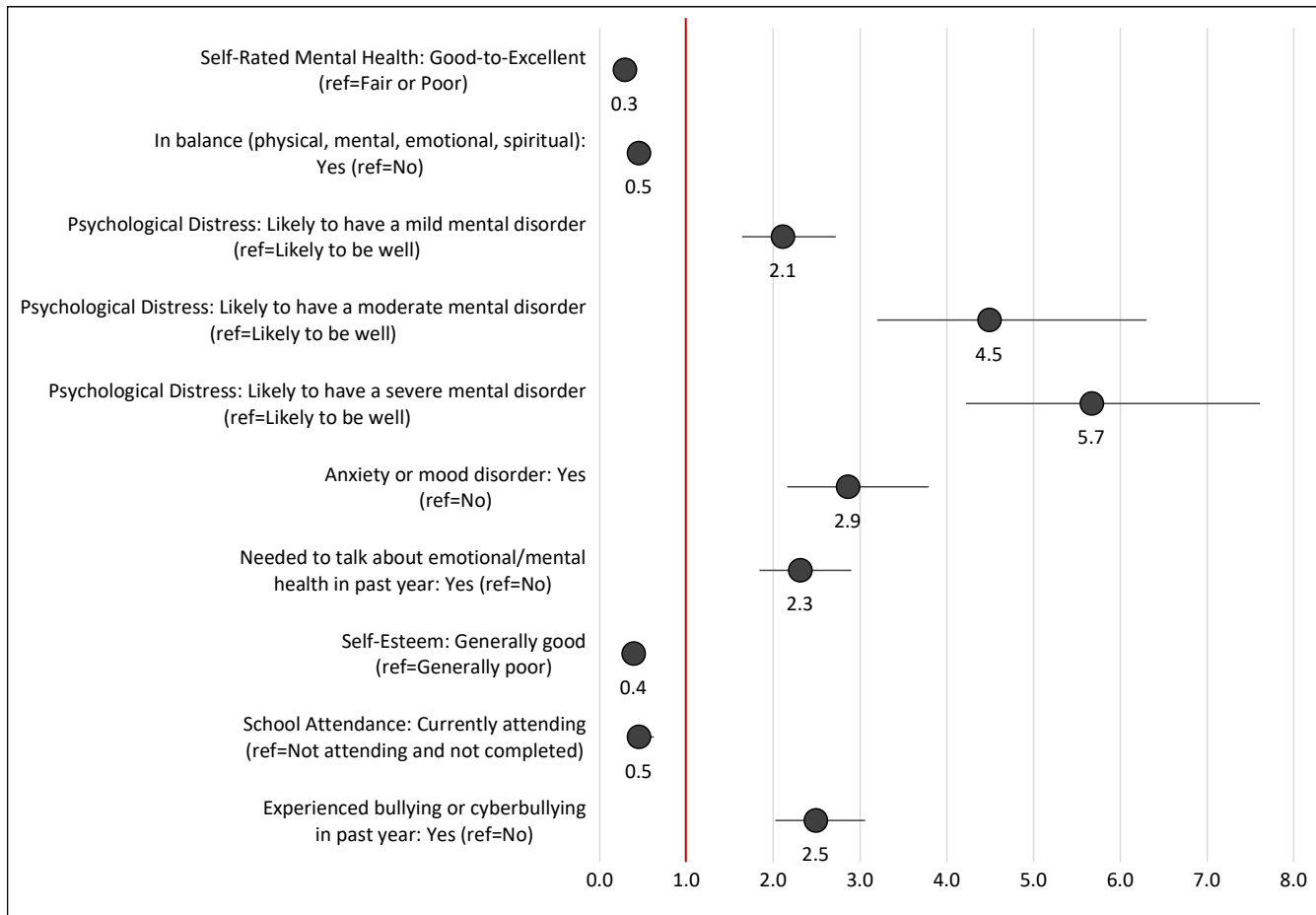
Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

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17   See Table 6 in Appendix D for all odds ratio estimates and confidence intervals for the regression analysis of well-being and personal safety factors.

Similarly, as youths' psychological distress increased, so did the likelihood of cannabis use. Those who were likely to have mild, moderate, and severe mental disorders were 2.1, 4.5, and 5.7 times as likely, respectively, to use cannabis compared to youth likely to be well. Having been diagnosed with a long-term[18] anxiety or mood disorder was associated with nearly three times the odds (OR: 2.9) of cannabis use.

Consistent with this trend, youth who said they needed to talk to someone about their emotional or mental health in the past year had higher odds (OR: 2.3) of cannabis use than those who did not, while those with generally good (vs. generally poor) self-esteem had lower odds (OR: 0.4) of cannabis use.

Youth who were attending school at the time of the survey were half as likely (OR: 0.5) to use cannabis, compared to youth who were not attending but had not completed high school (i.e., youth who had dropped out).

Past year experiences of being bullied or cyberbullied were associated with higher odds (OR: 2.5) of cannabis use among youth. Perceived level of community belonging (not shown) was not significantly associated with cannabis use.

Eight well-being and personal safety factors were examined for their association with non-medical cannabis use among adults, and seven were found to have a significant correlation. As with youth, there was a consistent trend of cannabis use being associated with poorer mental wellness and personal safety, but the associations were generally less strong. Figure 11 shows the odds of adults using cannabis (as opposed to abstaining) when they have each of the significantly associated well-being and personal safety factors. Some factors with multiple significantly associated outcomes (i.e., psychological distress) appear more than once.

Adults with "good" or better self-rated mental health had 40% lower odds (OR: 0.6) of cannabis use, and those who felt wholistically balanced had 30% lower odds (OR: 0.7) of cannabis use, compared to those with worse self-rated mental health and wholistic balance. Psychological distress was also associated with a higher likelihood of cannabis use. Those who were likely to have mild, moderate, and severe mental disorders were 1.6, 2.1, and 1.6 times as likely, respectively, to use cannabis compared to adults likely to be well. Having been diagnosed with a long-term anxiety or mood disorder was associated with having 40% higher odds (OR: 1.4) of cannabis use.

Having needed to talk to someone about their emotional or mental health in the past year was also associated with a higher likelihood (OR: 1.4) of cannabis use among adults. In contrast to youth, there was an association between cannabis use and weaker feelings of community belonging: adults feeling a "somewhat" or "very" strong sense of belonging were 30% less likely (OR: 0.7) to use cannabis, compared to adults who reported feeling a "somewhat" or "very" weak sense of belonging.

As with youth, past year experiences of verbal or physical aggression were associated with nearly twice the odds (OR: 1.9) of cannabis use. However, unlike for youth, no association was found between past year cyberbullying experiences and non-medical cannabis use among adults.

All eight of the well-being and personal safety factors that were examined for their association with medical cannabis use among adults were found to be significantly correlated. There was a consistent trend of medical cannabis use being associated with poorer mental wellness and personal safety, and the associations were generally stronger than for non-medical cannabis use among adults but less strong than for cannabis use among youth.

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[18] The First Nations RHS Phase 3 defines long-term health conditions as being those that are "expected to or have already lasted 6 months or more and that have been diagnosed by a health care professional."

Figure 11: Odds of non-medical cannabis use (vs. no use), based on well-being and personal safety factors, among First Nations adults
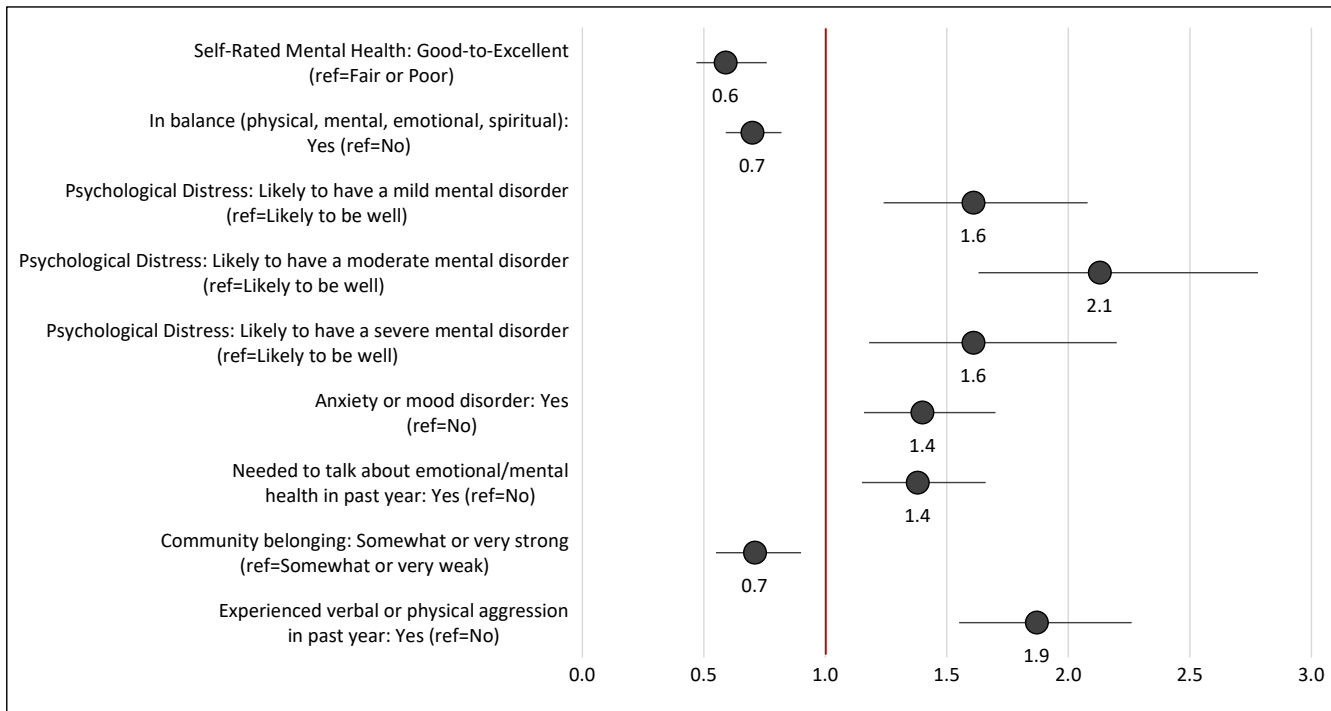
Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Figure 12 shows the odds of adults using cannabis (as opposed to abstaining) when they have each of the significantly associated well-being and personal safety factors. Some factors with multiple significantly associated outcomes (i.e., psychological distress) appear more than once.

Adults with "good" or better self-rated mental health had 60% lower odds (OR: 0.4) of medical cannabis use, and those who feel wholistically balanced had half the odds (OR: 0.5) of medical cannabis use. Increased levels of psychological distress were associated with increased likelihood of medical cannabis use: those likely to have mild, moderate, and severe mental disorders were 2.0, 2.4, and 4.0 times as likely, respectively, to use medical cannabis compared to those likely to be well. Having been diagnosed with a long-term anxiety or mood disorder was associated with having three times the odds (OR: 3.2) of medical cannabis use.

Adults who reported needing to talk to someone about their emotional or mental health in the past year had nearly twice the odds (OR: 1.9) of medical cannabis use. As with non-medical cannabis use among adults, there was an association between medical cannabis use and community belonging: adults feeling a "somewhat" or "very" strong sense of belonging were 60% as likely (OR: 0.6) to use medical cannabis, compared to adults who reported feeling a "somewhat" or "very" weak sense of belonging.

Also similar to the findings for non-medical adult cannabis use, past year experiences of verbal or physical aggression were associated with higher odds (OR: 2.5) of medical cannabis use. However, unlike the findings for non-medical adult cannabis use, medical cannabis use was also associated with 90% higher odds of past year cyberbullying experiences (OR: 1.9).

Figure 12: Odds of medical cannabis use (vs. no use), based on well-being and personal safety factors, among First Nations adults
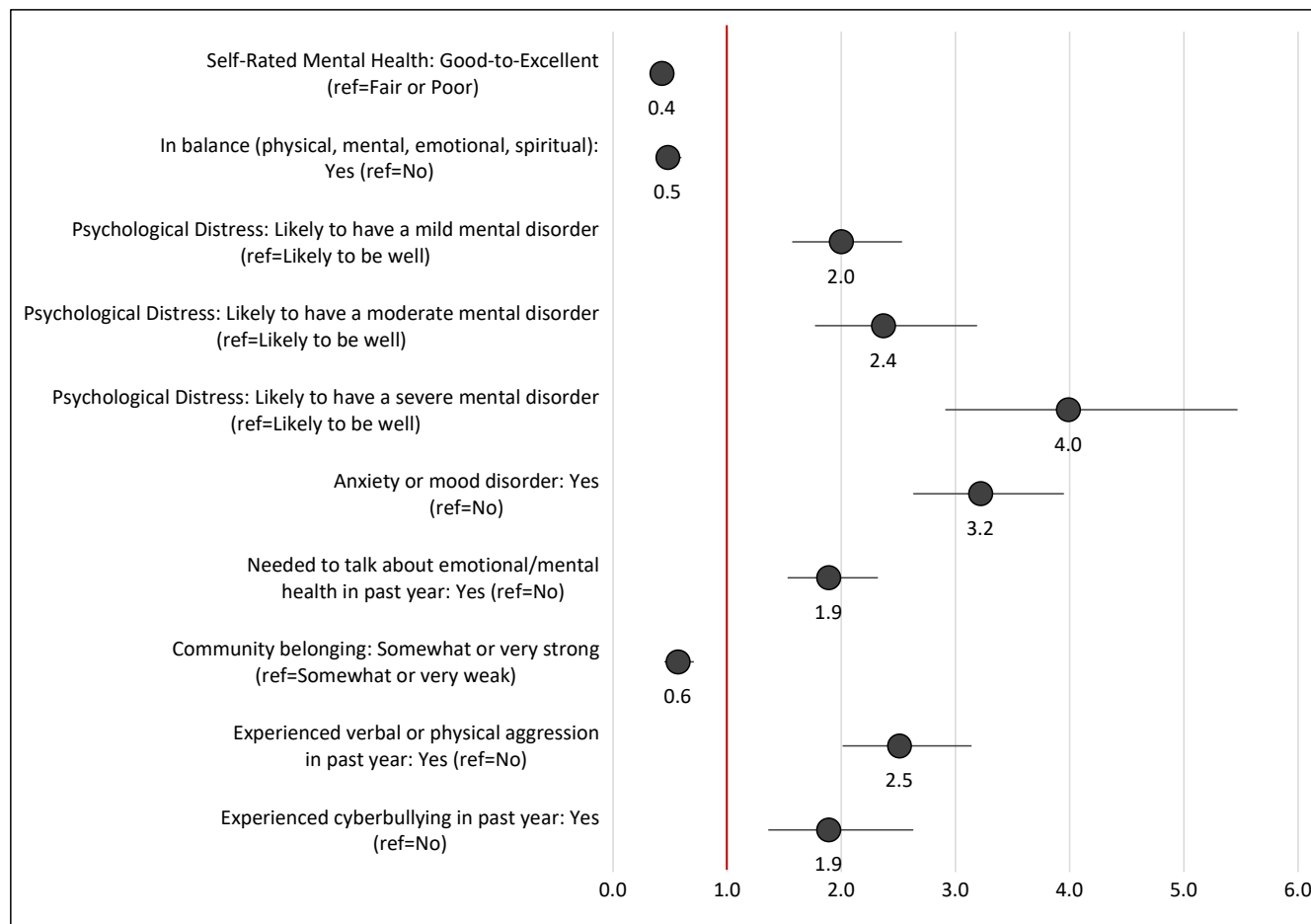
Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Bivariate Analysis[19]

Self-Rated Mental Health.

Shown in Figure 13, a significantly higher proportion of youth non-users (93%) rated their mental health as "good, "very good," or "excellent" compared to occasional (81%) and daily (70%) cannabis users. Both cannabis use groups had significantly lower proportions of youth reporting "good" or better mental health compared to the proportion among all youth (89%), while non-users had a significantly higher proportion compared to this broader population.

Self-rated mental health among adults shows a similar pattern of higher proportions reporting "good" or better mental health with less or no cannabis use (see Figure 14), but the differences between groups who used cannabis were not significant. However, the percentage of medical cannabis users reporting "good" or better mental health (79%) was significantly lower than that of non-users (89%) and all adults (87%).

Wholistic Balance.

As seen in Figure 13, a higher percentage of non-users reported feeling wholistically balanced (58%), compared to those who used

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19   See Table 7 and Table 8 in Appendix D for all estimates and confidence intervals for the bivariate analysis of well-being and personal safety factors.

Figure 13: Positive mental wellness factors among First Nations youth, by cannabis use type
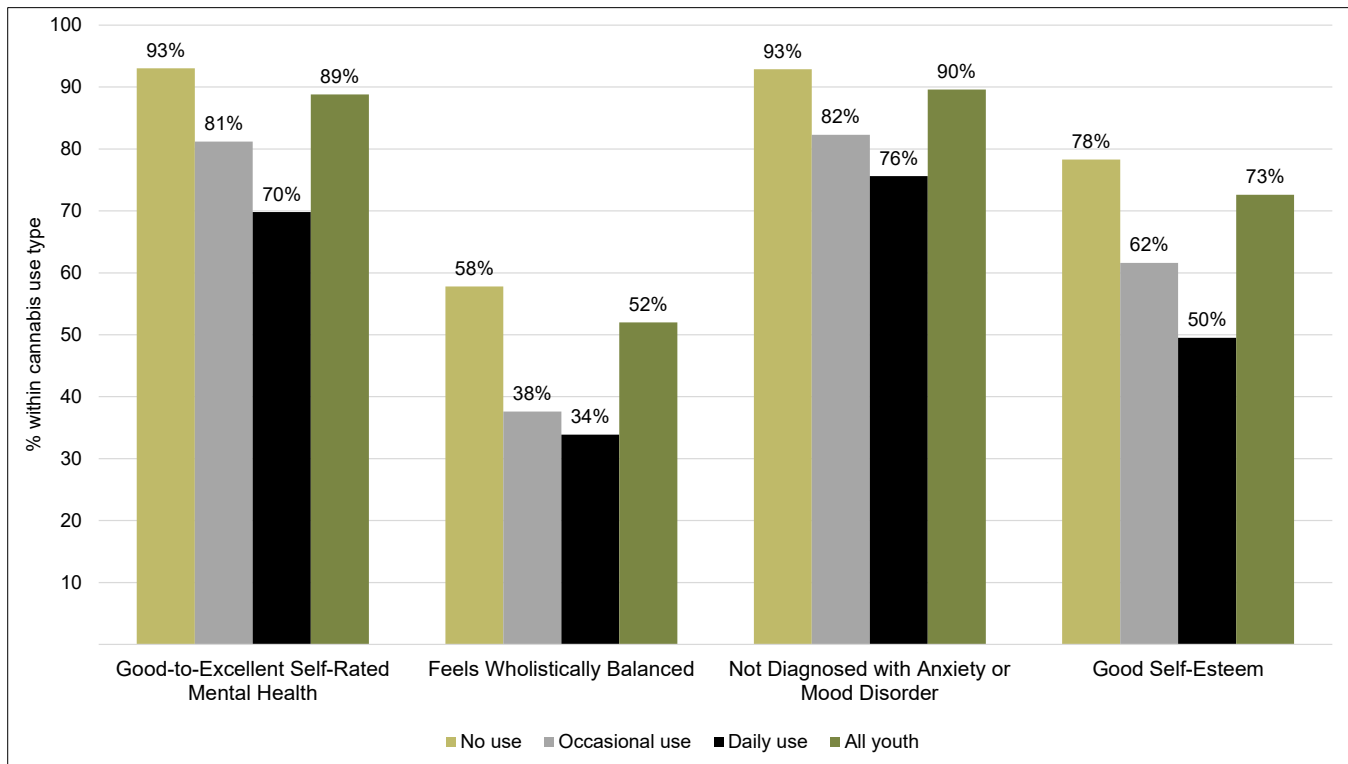
Figure 14: Positive mental wellness factors among First Nations adults, by cannabis use type
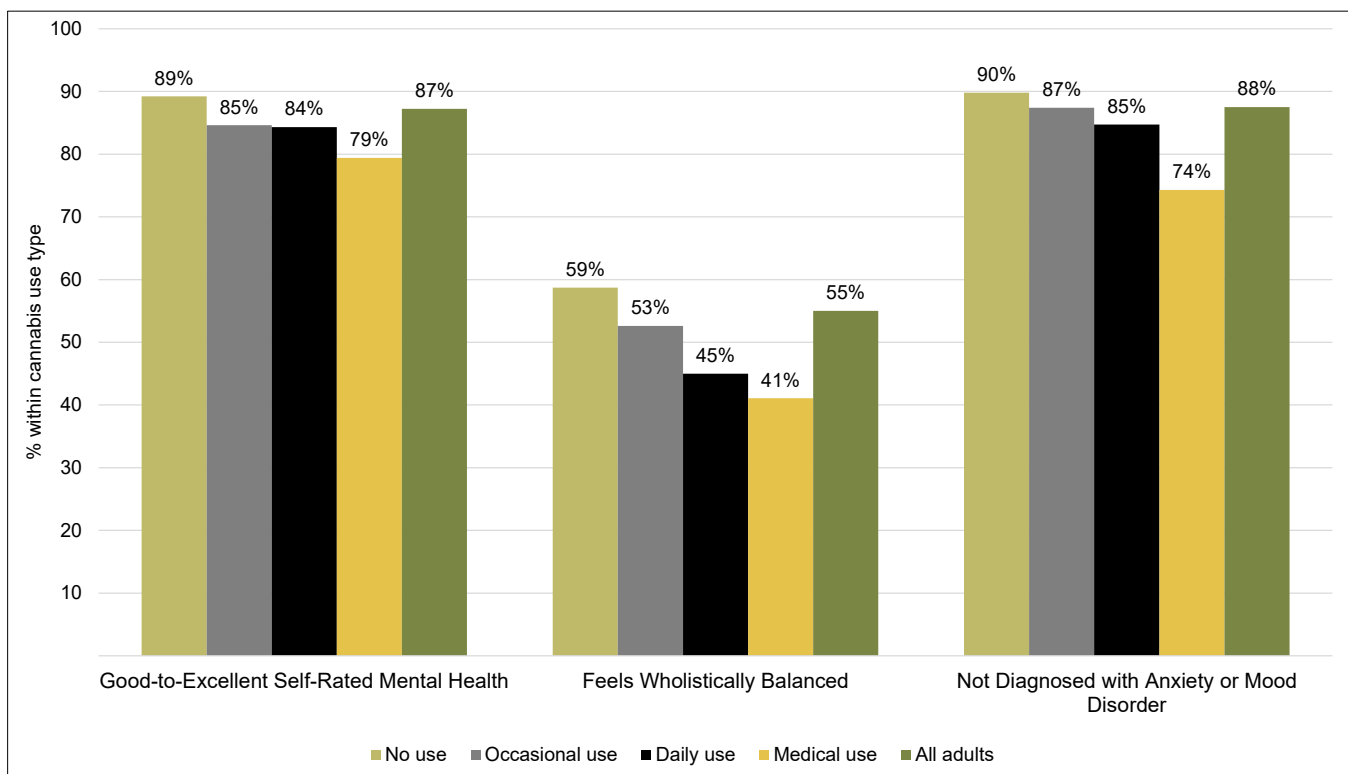
cannabis (38% of occasional and 34% of daily cannabis users) among youth. The proportions of youth who felt balanced and used cannabis occasionally and daily were not significantly different from one another, but they were significantly lower than the proportion of all youth who felt wholistically balanced (52%).

Among adults, Figure 14 also shows a trend of wholistic balance decreasing with cannabis use, but statistically significant differences include daily (45%) and medical (41%) users' proportions being significantly lower than those of non-users' (59%) and all adults (55%) reporting wholistic balance. Medical users also had a significantly lower proportion who felt wholistically balanced compared to those who used cannabis occasionally (53%).

Anxiety or Mood Disorder.[20]

Although anxiety or mood disorder diagnoses were <u>not</u> present among most youth (90%), Figure 13 demonstrates that a significantly higher percentage of non-users had not been diagnosed with an anxiety or mood disorder (93%); this percentage was also significantly higher compared to those who used cannabis occasionally (82%) and daily (76%).

A majority of adults (88%) also did not have anxiety or mood disorder diagnoses; this percentage was significantly higher for cannabis non-users (90%) but significantly lower for those who used medical cannabis (74%). In fact, the proportion of medical cannabis users who did not have a diagnosed anxiety or mood disorder was also significantly lower than that of occasional (87%) and daily (85%) cannabis users (See Figure 14).

Self-Esteem.

A higher proportion of cannabis non-using youth (78%) had generally good self-esteem compared to the proportions among those who used cannabis occasionally (62%) and daily (50%) (see Figure 13). This factor is not available in the adult dataset.

Psychological Distress.

Reflecting the regression findings for youth, proportions experiencing psychological distress increased with cannabis use: at 72%, the percentage of youth likely to be well was highest for cannabis non-users, while the percentage likely to have a severe mental disorder was the highest for daily cannabis users, at 41%. As Figure 15 shows, occasional (43%) and daily (34%) cannabis users had significantly lower proportions who were likely to be well compared to the proportions among non-users and all youth (64%). The proportions likely to have a severe mental disorder were significantly higher between each category as cannabis use increased.

Bivariate analysis of psychological distress and cannabis use among adults also reflects the pattern of distress increasing with cannabis use, but with less drastic differences between groups, compared to youth. Shown in Figure 15, the percentage of adults likely to be well was highest for cannabis non-users (71%), and the percentage likely to have a severe mental disorder was the highest for medical cannabis users (17%). Differences between groups regarding likelihood of having mild and moderate mental disorders were generally not significant. However, the percentage of cannabis non-users likely to be well was significantly higher than the percentages among occasional (61%), daily (54%), and medical (50%), as well as adults in general (66%).

Needed to Talk About Mental or Emotional Health.

Indicating a need for mental wellness support, needing to talk about one's mental or emotional health in the past year was more likely among youth and adults who used cannabis, although this need did not necessarily increase with frequency of cannabis use. As shown in Figure 16, youth who did not use cannabis had the lowest proportion (16%) who reported needing

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[20]   Includes only anxiety or mood disorders considered to be chronic, or long-term, health conditions as defined in the RHS Phase 3 questionnaire: those which are "expected to or have already lasted 6 months or more and that have been diagnosed by a health care professional." (See p. 5 in https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf)

Figure 15: Psychological distress among First Nations youth and adults, by cannabis use type
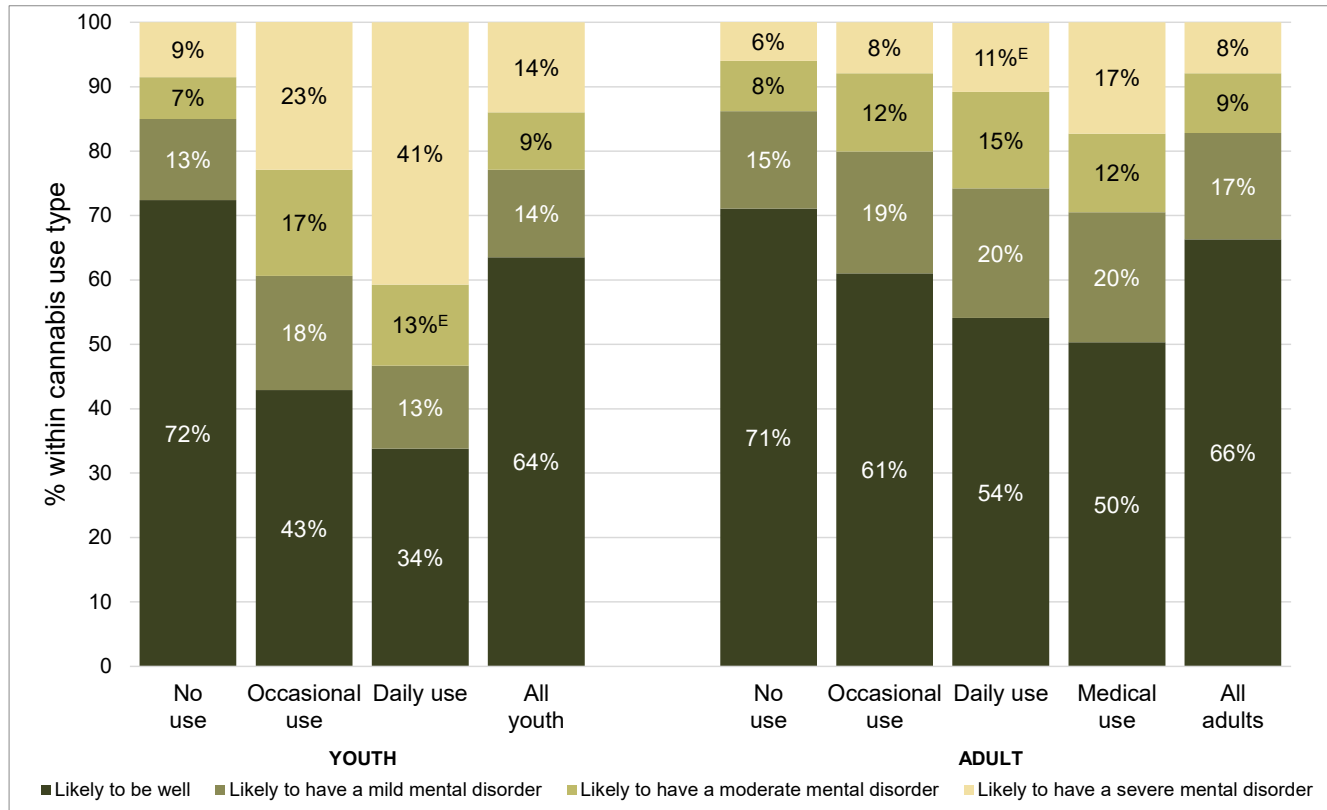
Note: [E] High sampling variability, interpret with caution.

this type of support, significantly lower than the need among all youth (20%). In comparison, the proportions of youth needing to talk about mental or emotional health among occasional (32%) and daily (33%) cannabis users were significantly higher.

Figure 17 shows a somewhat different pattern among adults, as few significant differences were found between the proportions of non-users (24%), occasional users (30%), daily users (27%), and all adults (26%) who reported needing to talk to someone about mental or emotional health. The most notable difference between groups was the percentage of medical cannabis users (35%) with this need being significantly higher than the percentage among non-users and the broader group of all adults.

Community Belonging.

Among youth, regression findings did not show a significant association between cannabis use and perceptions of community belonging, and this is evident in Figure 16, which shows very little difference between groups on this indicator. Only the percentage of youth who used cannabis daily (30%) who reported a "somewhat" or "very" weak sense of community belonging appears higher than that of other groups, but this difference was not statistically significant.

Among adults, for whom the regression showed an association between weaker community belonging and both medical and non-medical cannabis use, more significant differences between groups were evident, but the pattern was inconsistent (see Figure 17). Percentages of non-users (17%), daily users (19%), and all adults (19%) who felt a weak sense of belonging to their communities did not differ significantly from one another, but the proportions of occasional users (26%) and medical users (27%) who felt this way were significantly higher than those among non-

users and all adults.

Experiences of Aggression, Bullying, and Cyberbullying.

As in the regression analysis, bivariate analysis showed an association between cannabis use and experiences of bullying or cyberbullying among youth. While the proportions of occasional (43%) and daily (41%) cannabis users (shown in Figure 16) who had these experiences were similar to one another, they were significantly higher than the proportion among non-users (28%).

Experiences of verbal/physical aggression and of cyberbullying were examined separately for adults. Seen in Figure 17, the percentages of adults who experienced past-year aggression increase with cannabis use: significantly more occasional (51%), daily (58%), and medical (59%) cannabis users had these experiences compared to non-users (35%) and all adults (41%). In contrast, the proportion of cannabis non-users who experienced verbal or physical aggression in the past year was significantly

lower than the proportion among all adults.

Regarding cyberbullying, the association was less straightforward, reflecting the regression analyses that did not find an association between cyberbullying experiences and non-medical cannabis use, but did find one for medical cannabis use. In fact, as Figure 17 shows, the only significant differences between groups found in the bivariate analysis are those between the 11% of medical cannabis users who reported having been cyberbullied and the lower proportions among non-users (6%) and among all adults (7%).

School Attendance and Completion.

Within every cannabis use category, most youth reported currently attending school at the time of the survey, which is to be expected given their age range of 12–17 years. Because both high school completion and dropout, as well as cannabis use, were all more common among older youth, the breakdowns shown in Figure 18 somewhat reflect this, but they also reflect the association between school attendance

Figure 16: Social and personal safety factors among First Nations youth, by cannabis use type
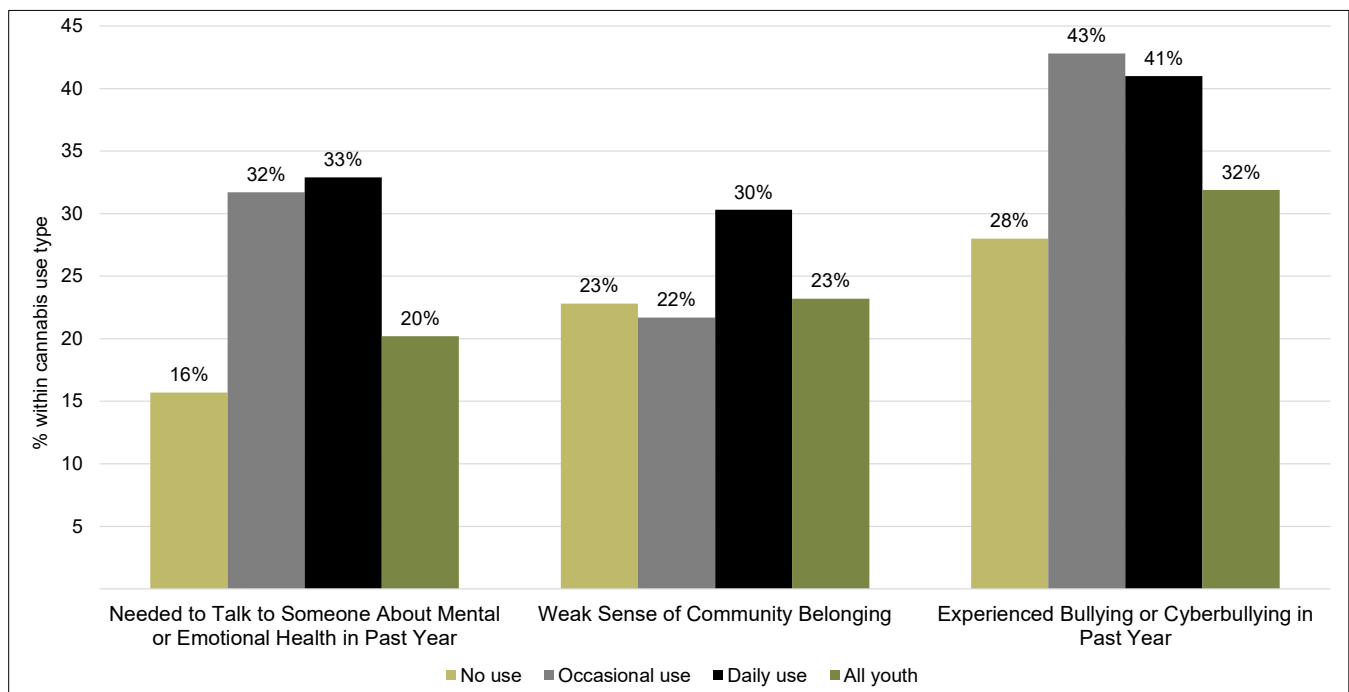
and lower odds of cannabis use found in the regression analysis that controlled for age and sex. There was also higher sampling variability among youth who had completed school, due to this being more uncommon among youth younger than 18, so these proportions should be interpreted with caution.

Figure 18 shows a clear pattern of school non-attendance and non-completion (i.e., dropout) and increased cannabis use, with the percentages of non-users (5%), occasional users (10%), and daily users (19%) who had dropped out significantly different from one another. Proportions of occasional (82%) and daily (76%) cannabis users attending school were not significantly different from each other, but they were significantly lower than the percentage of school attendees who did not use cannabis (91%) and the percentage among all youth (88%). This factor is not available in the adult dataset.

Figure 17: Social and personal safety factors among First Nations adults, by cannabis use type
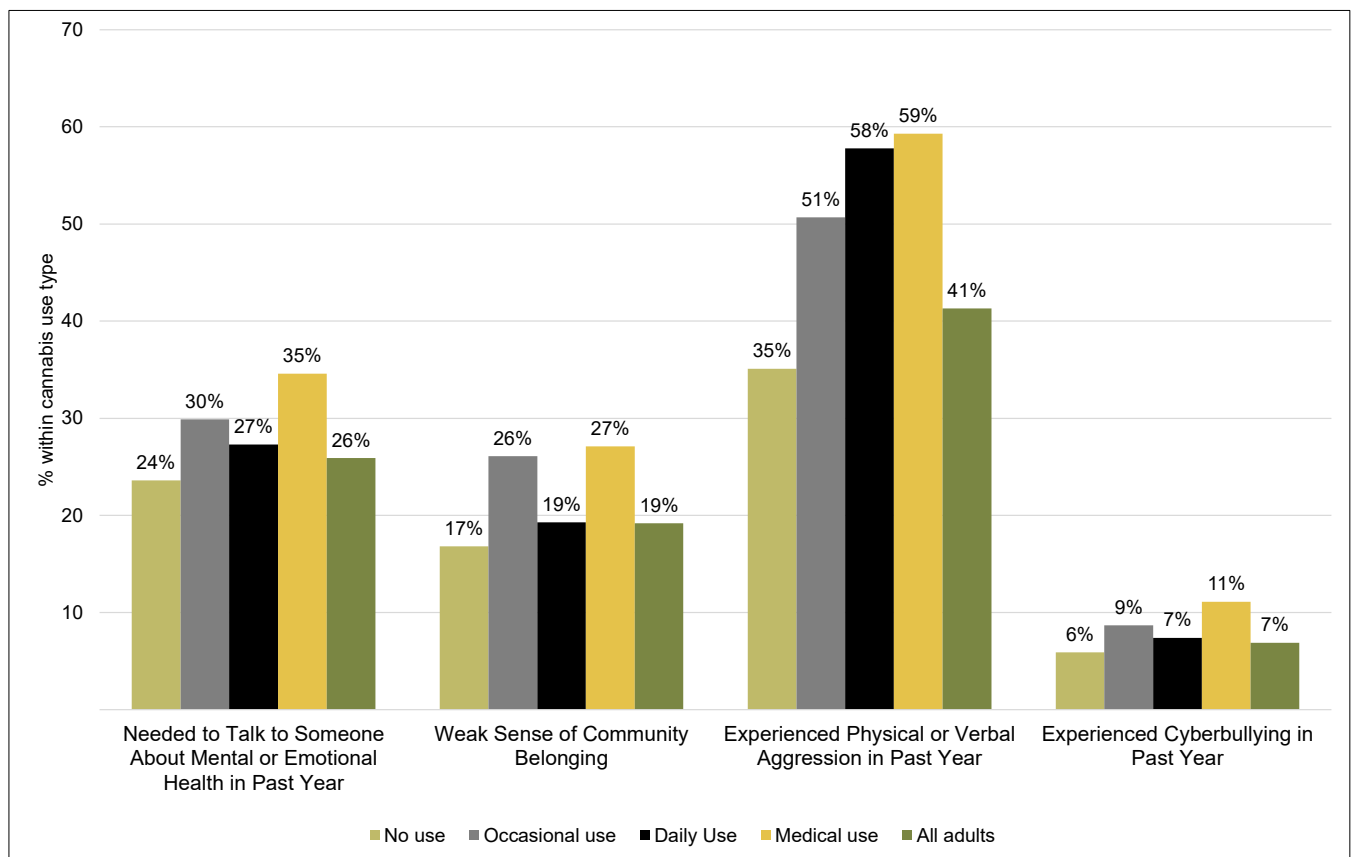
Figure 18: School attendance and completion among First Nations youth, by cannabis use type
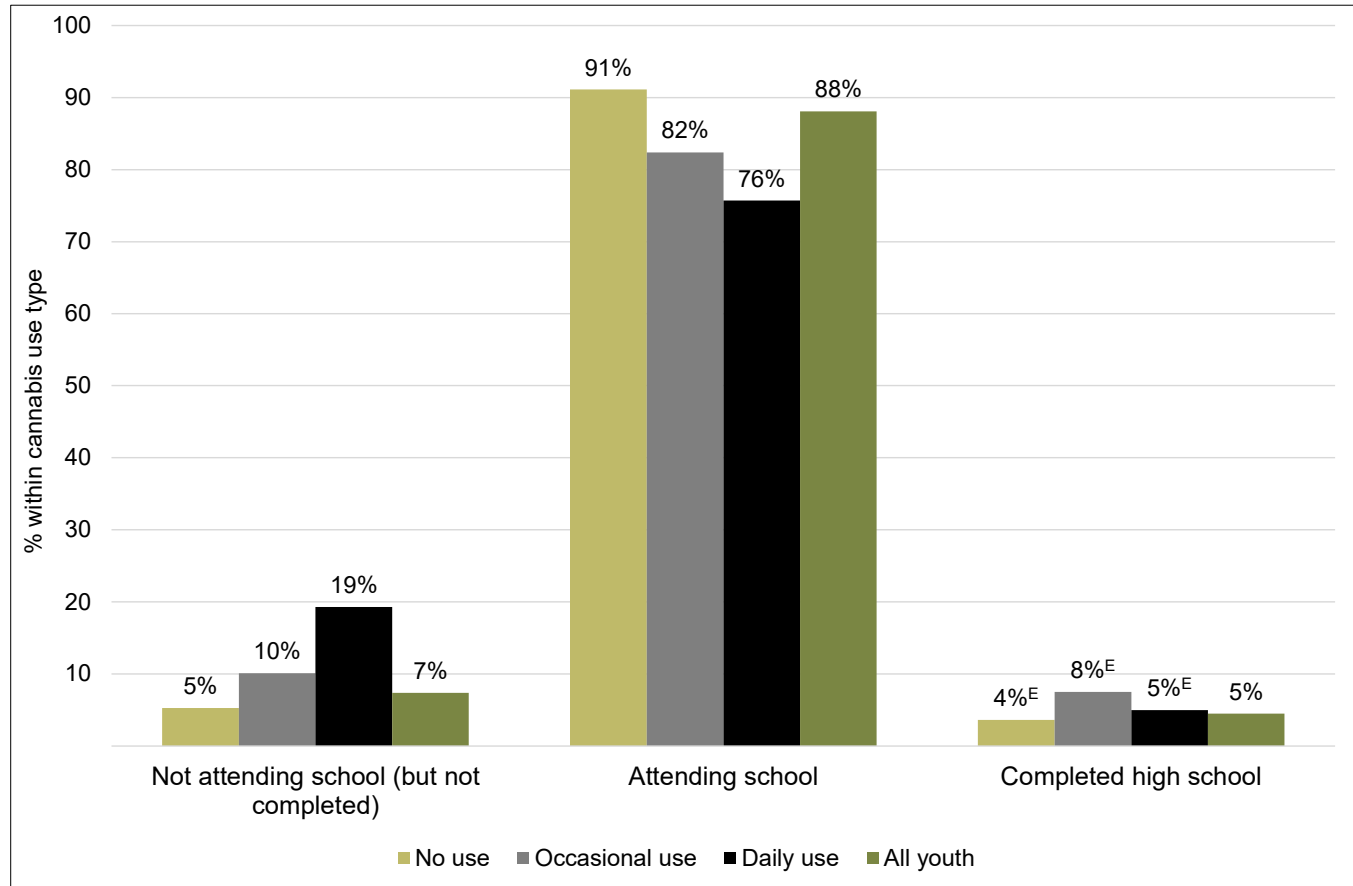
Note: [E] High sampling variability, interpret with caution.

First Nations Language and Culture

Logistic Regression[21]

Of the five First Nations language and culture factors examined for their association with cannabis use among youth, three were found to be significant. Figure 19 shows the odds of youth using cannabis (as opposed to abstaining) when they have each of the significantly associated language and culture factors. Some factors with multiple significantly associated outcomes (i.e., First Nations language ability) appear more than once.

Having participated in one or two traditional physical activities,[22] such as canoeing, hunting, or snowshoeing, over the past three months was associated with 50% higher odds (OR: 1.5) of cannabis use among youth, compared to participating in zero traditional physical activities. However, participating in additional (three to eight) traditional activities (vs. zero) was not associated with cannabis use. Further, youth who participated in extracurricular traditional activities (some of which may be physical), such as traditional singing, dancing, drumming, etc., one to four times a week (compared to once a week or less) had 30% lower odds (OR: 0.7) of cannabis use.

First Nations language ability was associated with cannabis use among youth. Those who

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21   See Table 9 in Appendix D for all odds ratio estimates and confidence intervals for the regression analysis of First Nations language and culture factors.

22   See Appendix A, Variable Information Table, for full list of traditional physical activities.

could speak or understand their language up to a basic level were 1.5 times as likely (OR: 1.5) to use cannabis compared to youth with no First Nations language ability, and those who had intermediate-to-fluent language ability were twice as likely (OR: 2.0) to use cannabis.

Neither participation in community cultural events nor agreeing that traditional cultural events were important in their lives (not shown) were found to be associated with cannabis use among youth.

Figure 19: Odds of cannabis use (vs. no use), based on language and culture factors, among First Nations youth
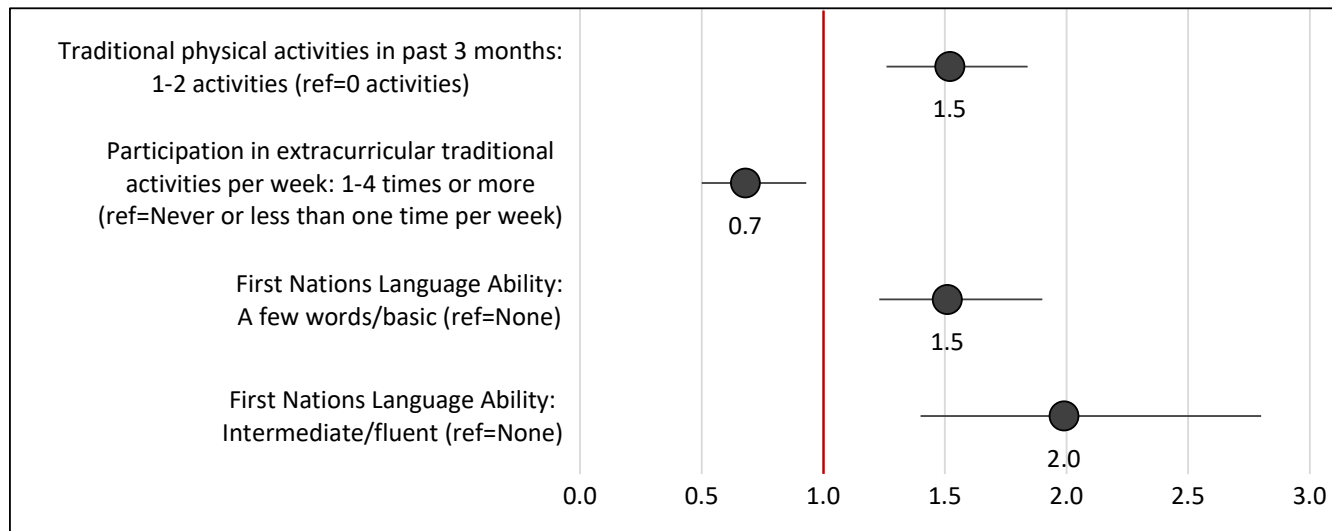
Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Shown in Figure 20, only one of the five First Nations language and culture factors examined for their association with non-medical cannabis use among adults was found to be significant. Compared to adults who "rarely" or "never" participated in community cultural events, adults who "sometimes" or "always" participated were 30% less likely (OR: 0.7) to use non-medical cannabis. No associations between non-medical cannabis use and participation in traditional physical activities, importance of traditional spirituality, interest in using traditional medicine, or First Nations language ability (not shown) were found.

In contrast to the findings for non-medical use, four out of the five language and cultural factors were associated with medical cannabis use among adults (see Figure 21).

Having participated in any number of traditional physical activities[23] over the past three months was associated with 60–80% higher odds of medical cannabis use (vs. no use) among adults (1–2 activities OR: 1.6; 3-8 activities OR: 1.8), compared to having participated in no traditional physical activities.

Other findings for medical cannabis use in association with indicators of cultural connection echo this trend. Adults who agreed that traditional spirituality was important to them were 50% more likely (OR: 1.5), and those who were interested in using traditional medicine were 90% more likely (OR: 1.9), to use medical cannabis.

Adults who had "a few words" to "basic" First Nations language ability had 1.7 times the odds of using medical cannabis, compared

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23   See Appendix A, Variable Information Table, for full list of traditional physical activities.

to adults who had no First Nations language ability. However, there was no association between intermediate/fluent language ability or participation in community cultural events and medical cannabis use (not shown).

Figure 20: Odds of non-medical cannabis use (vs. no use), based on language and culture factors, among First Nations adults
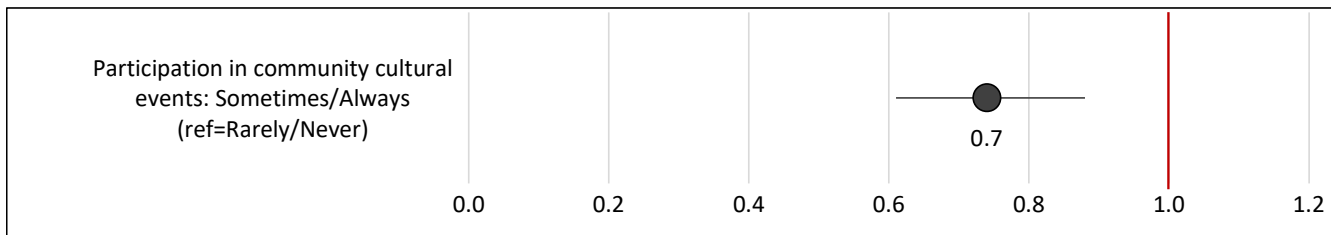
Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Figure 21: Odds of medical cannabis use (vs. no use), based on language and culture factors, among First Nations adults
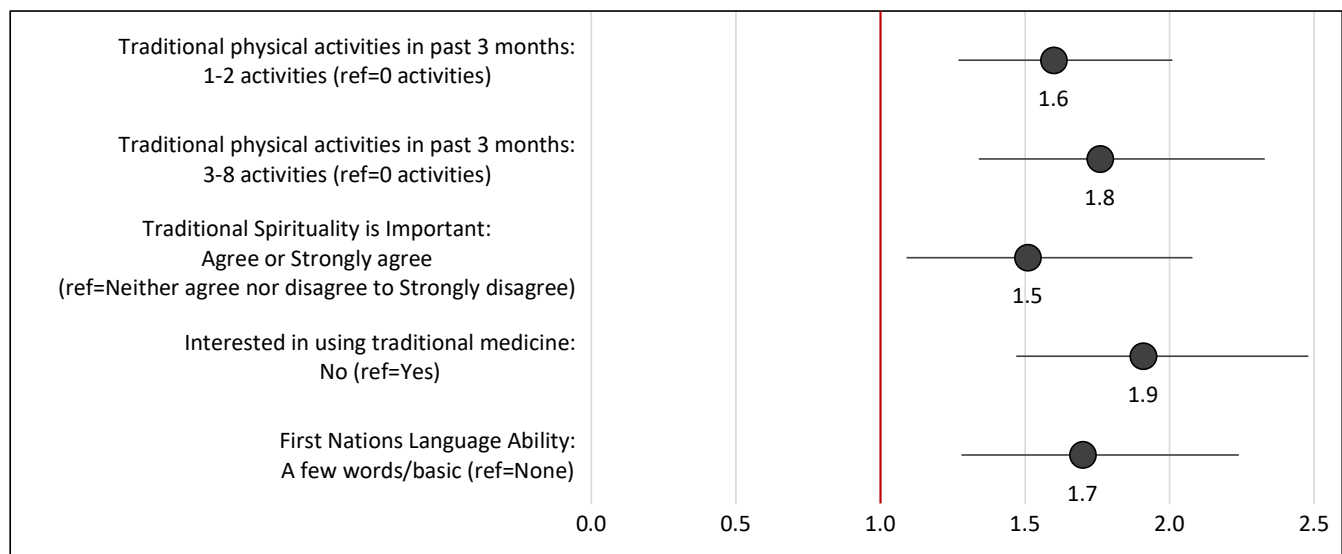
Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Bivariate Analysis[24]

Participation in Community Cultural Events.

Among youth, the bivariate analysis showed no significant differences in frequency of participation in community cultural events by cannabis use type, similar to the regression findings. Among adults, which showed a negative association between such participation and cannabis use in the regression, a significantly lower proportion of daily cannabis users (55%) "sometimes" or "always" participated in community cultural events compared to the proportion among non-users (69%), medical users (69%), and the broader group of all adults (67%). Further,

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24   See Table 10 and Table 11 in Appendix D for all estimates and confidence intervals for the bivariate analysis of First Nations language and culture factors.

compared to non-users, a lower percentage of adults who used cannabis occasionally (62%) participated in community cultural events.

Participation in Traditional Physical Activities.

The proportion of youth who used cannabis daily who did not participate in any traditional physical activities in the past three months (46%) was significantly lower than the proportion among non-users (60%) (see Figure 22). Additionally, the proportion of daily cannabis users who participated in 1–2 traditional physical activities during this time period (42%) was significantly higher than the proportion among non-users (28%) and the proportion among all youth (30%). Further reinforcing the regression analysis, which found an association between cannabis use and participation in 1–2 but not 3–8 traditional physical activities, the bivariate analysis found

no significant differences between groups in the percentages who had participated in 3–8 activities.

Looking at the bivariate analysis for this indicator among adults (Figure 23), few significant differences exist between groups in physical activity level, except for medical users, which had a significantly lower percentage of adults who did no traditional physical activities (42%) compared to non-users (58%), occasional users (57%), daily users (55%), and the broader group of all adults (56%). The proportion of adults who used medical cannabis who participated in 1–2 activities (40%) was also significantly higher than the proportion among non-users (31%) and all adults (32%). Finally, a significantly higher percentage of medical cannabis users (18%) also participated in 3–8 traditional physical activities compared to non-

Figure 22: Traditional physical activity participation among First Nations youth, by cannabis use type
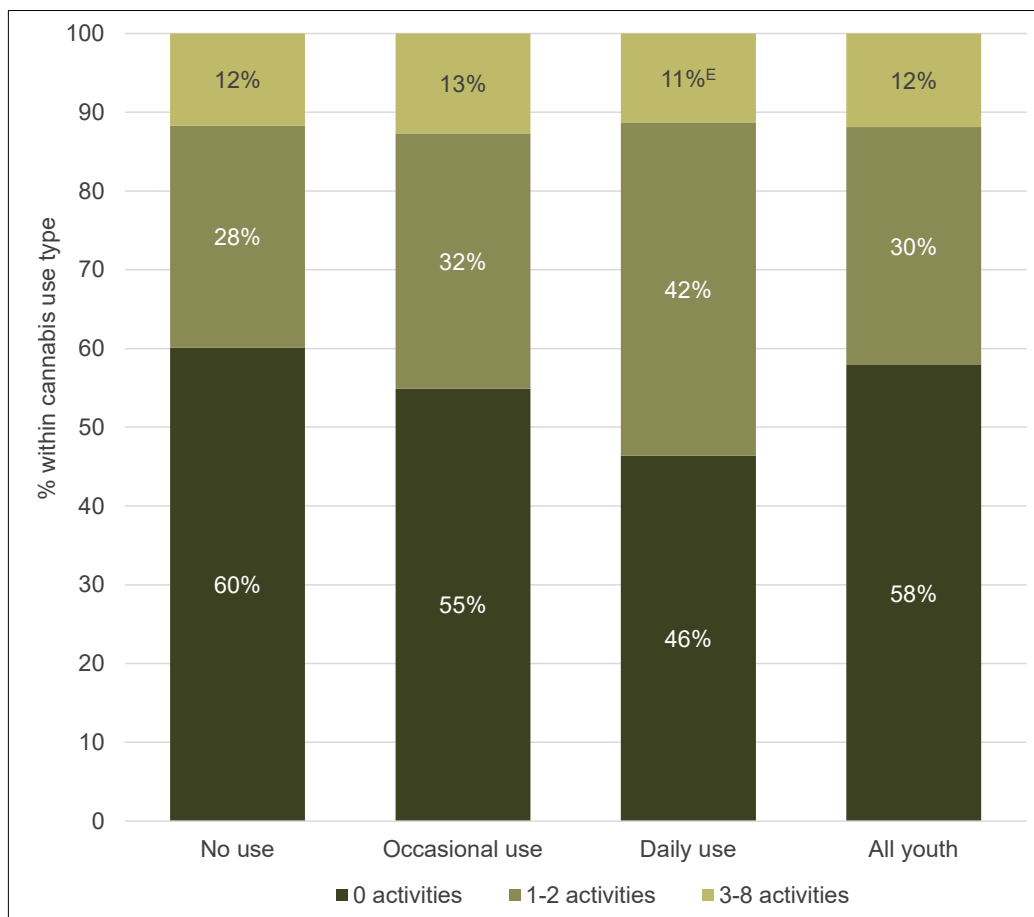
Note: ᴱ High sampling variability, interpret with caution.

users (12%), occasional users (11%), and all adults (12%). These findings align with the regression findings for adults and demonstrate

the associations they found between medical cannabis use and participation in traditional physical activities.

Figure 23: Traditional physical activity participation among First Nations adults, by cannabis use type
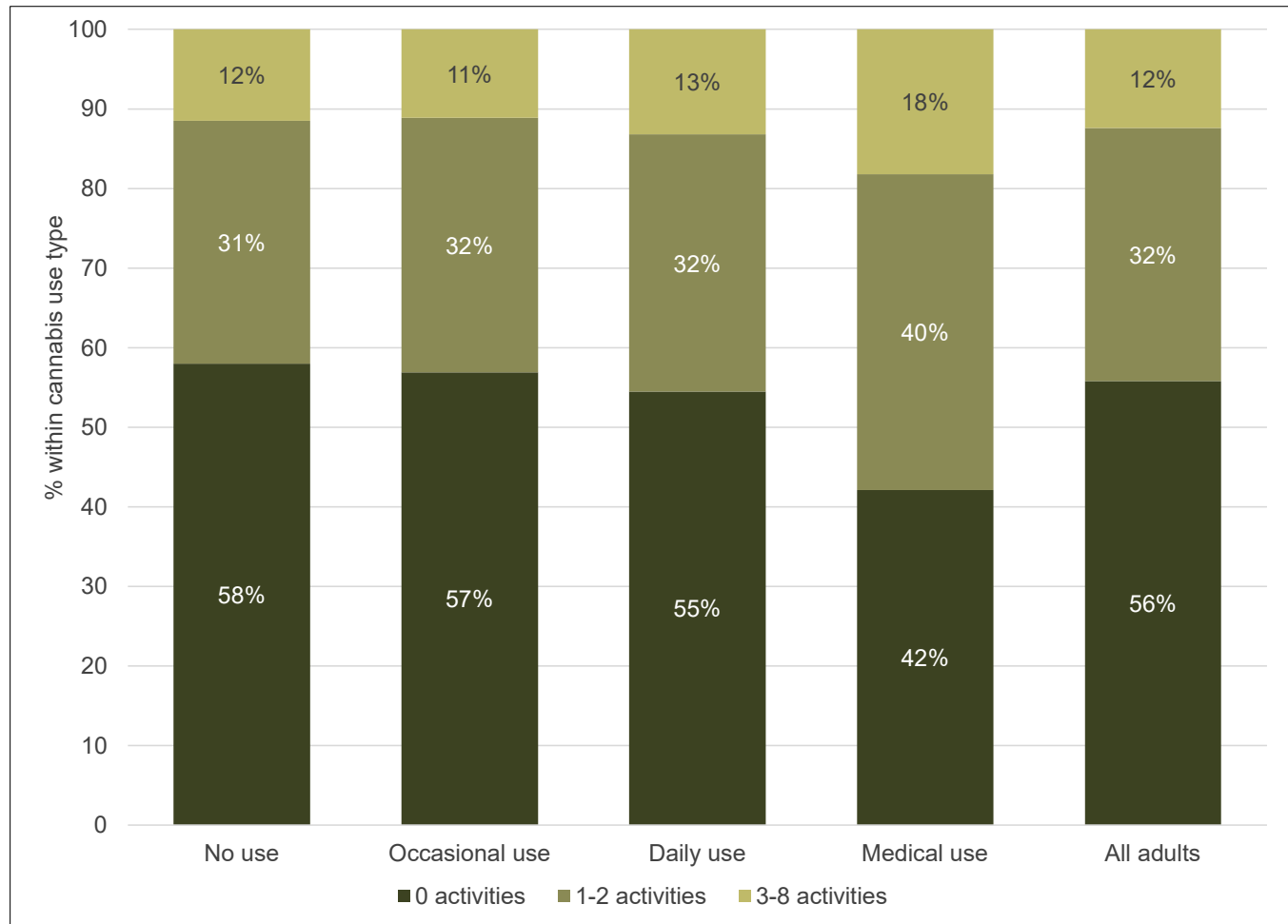
Participation in Extracurricular Activities.

Although the regression findings, which controlled for age and sex, showed an inverse association between cannabis use and participation in extracurricular traditional activities, such as singing, drumming, dancing, or other cultural activities, among youth, the bivariate analysis found no significant differences between groups regarding their frequency of participation in these activities. This factor is not available in the adult dataset.

Importance of Traditional Cultural Events.

No trends or significant differences were found between cannabis use and youths' agreement

that traditional cultural events were important in their lives. This indicator is not available in the adult dataset.

Importance of Traditional Spirituality.

As Figure 24 demonstrates, adult daily non-medical cannabis users and medical cannabis users show the biggest difference between groups on their perceived importance of traditional spirituality: 60% of those who used cannabis daily and 77% of those who used medical cannabis said they agreed that this was important to them. In comparison to this proportion among daily cannabis users, the level of agreement among non-users (71%),

occasional users (70%), and all adults (71%) was also significantly higher. This indicator is not available in the youth dataset.

Interest in Using Traditional Medicine.

Similar to the above indicator, proportions of adults interested in using traditional medicine differed most significantly between daily (61%) and medical cannabis use (80%). The percentage of daily cannabis users interested in

using traditional medicine was also significantly lower than the broader group of all adults (70%), seen in Figure 25. Continuing to reflect the regression findings, the percentage of medical cannabis users interested in using traditional medicine was also significantly higher than those of cannabis non-users (70%), occasional non-medical cannabis users (69%), and all adults. This indicator is not available in the youth dataset.

Figure 24: Importance of traditional spirituality and interest in using traditional medicine among First Nations adults, by cannabis use type
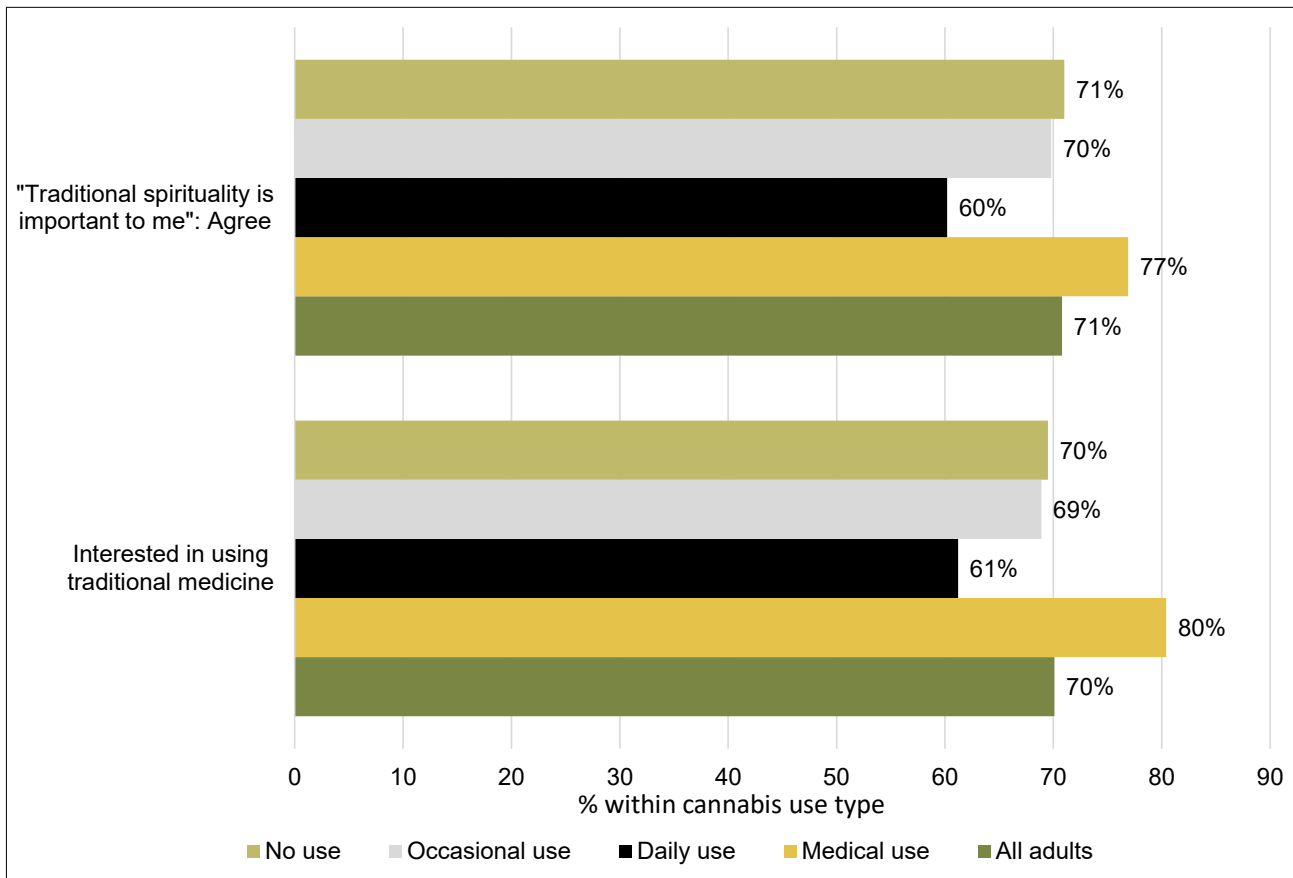
First Nations Language Ability.

At 18%, occasional cannabis use had the lowest proportion of youth with <u>no</u> knowledge of their First Nations language and the highest proportion of youth with "Intermediate/Fluent" language ability (also 18%). Shown in Figure 25, there appears to be a small trend toward proportions of youth with "A few words/Basic" language ability increasing as cannabis use increases (non-users 61%; occasional users 64%; daily users 65%) but these differences between groups are not statistically significant.

However, these bivariate results align with the regression results that found an association between First Nations language ability and cannabis use among youth.

Overall, adults, compared to youth, had higher levels of First Nations language ability, with only 13% of all adults having no language ability (see Figure 26). There were no significant differences between groups on the proportions with this lack of First Nations language knowledge. Reflecting the regression findings, the percentage of medical users

who had basic language abilities (58%) was significantly higher than that of cannabis non-users (42%) and all adults (46%). Yet, occasional (33%), daily (34%), and medical cannabis users (31%) had lower proportions with intermediate or higher language skills compared to non-users (45%) and the broader group of all adults (41%), although not all differences are statistically significant.

Figure 25: First Nations language ability among First Nations youth, by cannabis use type
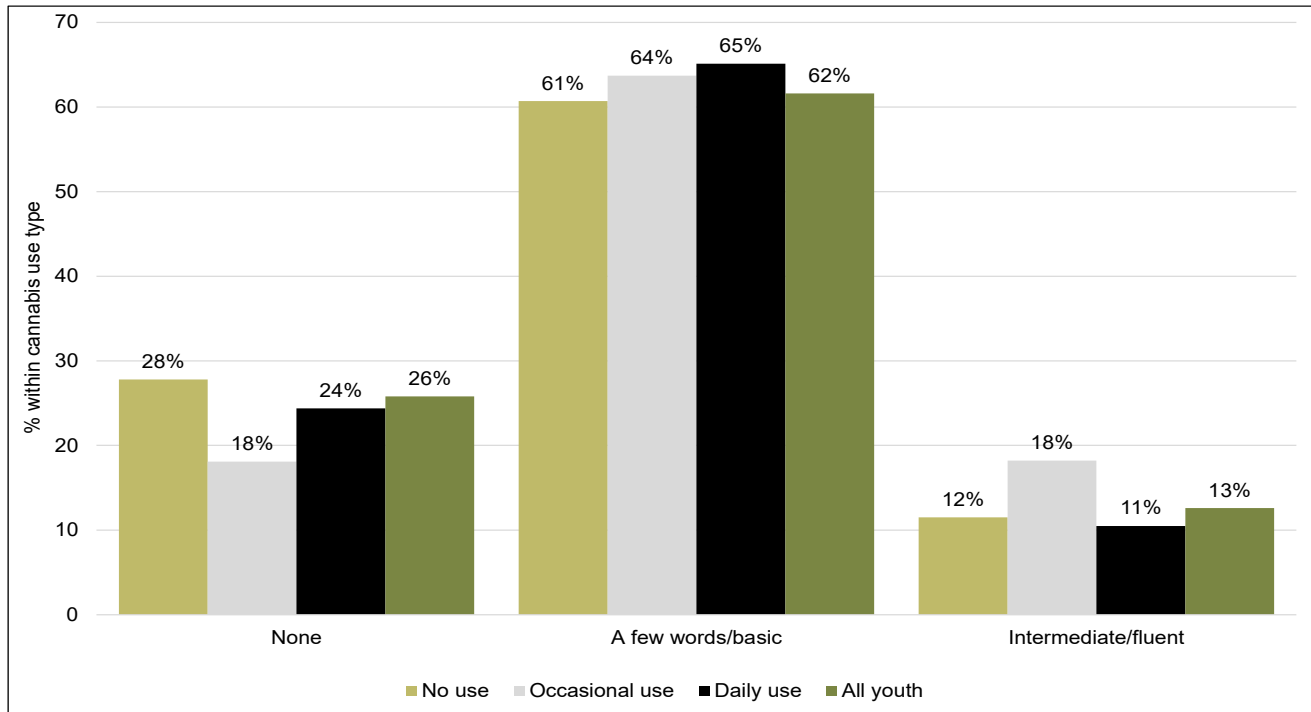
Figure 26: First Nations language ability among First Nations adults, by cannabis use type
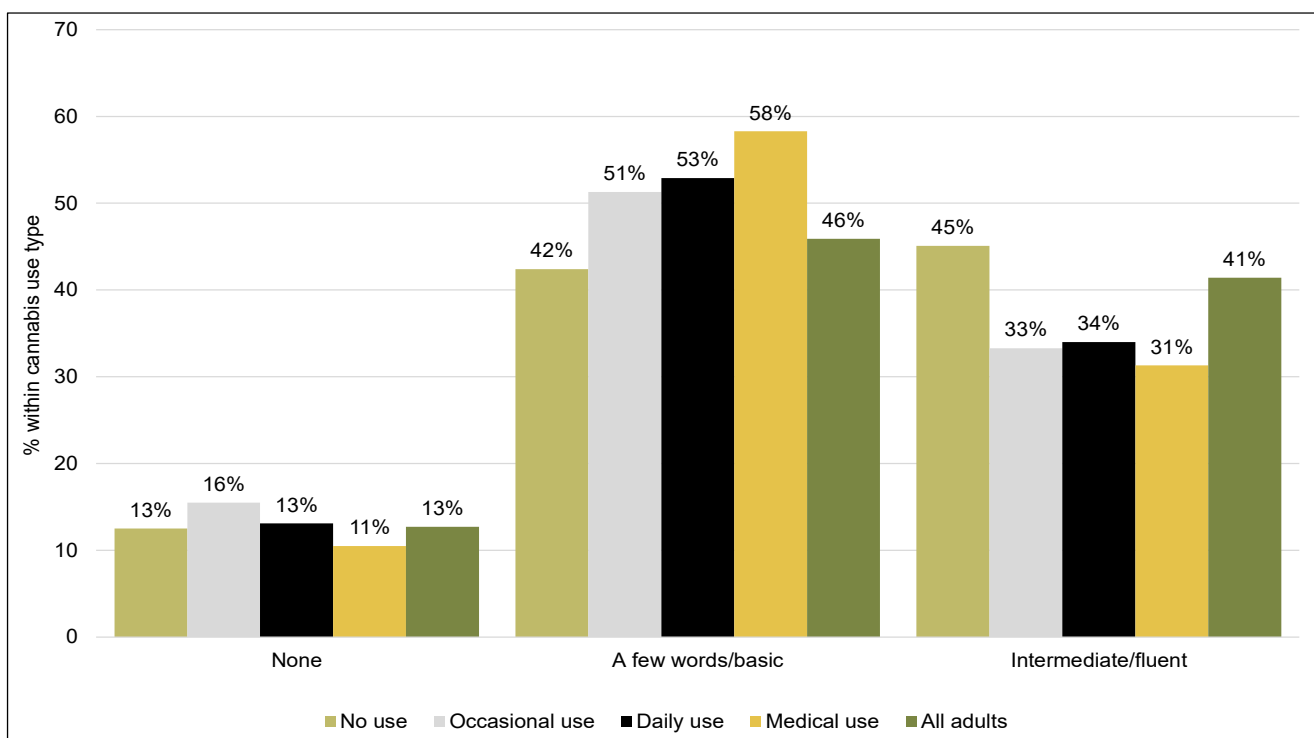
Health Behaviours

Logistic Regression[25]

Eight health behaviour factors were examined for their association with cannabis use among youth, and seven were found to have a significant correlation. Figure 27 shows the odds of youth using cannabis (as opposed to abstaining) when they have each of the significantly associated health behaviour factors. Some factors with multiple significantly associated outcomes (i.e., illicit drug use frequency) appear more than once.

Past year use of prescription-strength pain relievers, sedatives, and stimulants were all associated with higher odds of cannabis use among youth (pain reliever OR: 3.0; sedative OR: 13.4; stimulant OR: 4.1). Note that the wide confidence interval for the odds ratio estimate of 13.4 for sedative use overlaps with the confidence intervals of pain reliever and stimulant use, meaning that its true odds may not be significantly higher than the odds for the other types of prescription medication use.

Figure 27: Odds of cannabis use (vs. no use), based on health behaviour factors, among First Nations youth
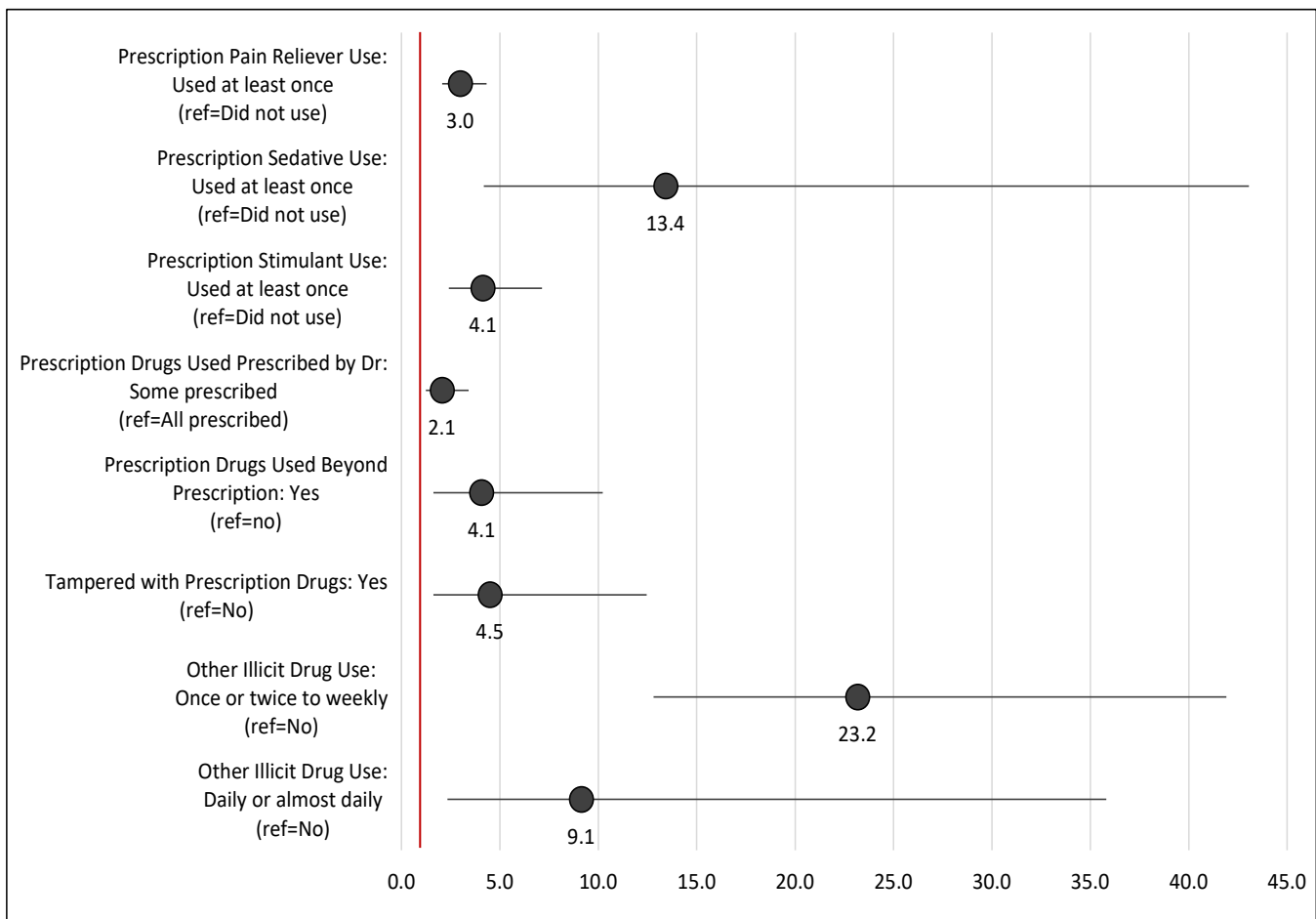
Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

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[25]   See Table 12 in Appendix D for all odds ratio estimates and confidence intervals for the regression analysis of health behaviour factors.

Among youth who had taken any prescription-strength stimulants, pain relivers, or sedatives[26] in the past year, each of three forms of misuse were also found to be associated with higher odds of cannabis use: youth who had been prescribed only some of the prescription drugs they had taken were 2.1 times as likely; those who had been prescribed medication but used them beyond prescription were 4.1 times as likely; and those who had tampered with prescription-strength drugs (e.g., crushed and/or snorted pills) were 4.5 times as likely to use cannabis, compared to youth who had not misused prescription drugs in these ways.

Regarding use of other (non-cannabis) illicit drugs, such as cocaine, psychedelics, MDMA, etc.,[27] youth who reported having used any of these at least "once or twice" to "weekly" in the past year were 23.2 times as likely (OR: 23.2), and those who used illicit drugs daily or almost daily were 9.1 times as likely (OR: 9.1) to use cannabis, compared to youth who had not used other illicit drugs at all. Note again that the wide confidence intervals for the illicit drug use odds ratios reflect the relatively small sample size and high variability for this indicator.

Controlling for age and sex in the regression analysis, an association between physical activity level and cannabis use among youth (not shown) was not found.

Similar to youth, among adults eight health behaviour factors were examined for their association with non-medical cannabis use, and seven were found to have a significant correlation. Figure 28 shows the odds of adults using non-medical cannabis (as opposed to abstaining) when they have each of the significantly associated health behaviour factors. Some factors with multiple significantly associated outcomes (i.e., illicit drug use frequency) appear more than once.

Past year use of prescription-strength pain relievers, sedatives, and stimulants were all associated with higher odds of using non-medical cannabis among adults (pain reliever OR: 2.7; sedative OR: 4.2; stimulant OR: 5.1). Among adults who had taken any prescription-strength pain relievers, sedatives, or stimulants in the past year, each of three forms of misuse were also found to be associated with higher odds of cannabis use: adults who had been prescribed none or only some of the prescription drugs they had taken were 1.9 and 1.6 times, respectively, as likely to use cannabis. Those who had been prescribed medication but used them beyond prescription were 2.3 times as likely, and those who had tampered with prescription-strength drugs (e.g., crushed and/or snorted pills) were 3.6 times as likely, to use cannabis, compared to adults who had not misused prescription drugs in these ways.

Adults who reported past year use of any other (non-cannabis) illicit drugs, at least "once or twice" to "weekly" in the past year were 13.1 times as likely, and those who used illicit drugs daily or almost daily were 8.1 times as likely, to use cannabis, compared to adults who had not used other illicit drugs at all. Note that the wide confidence interval for the daily illicit drug use odds ratio reflects the relatively small sample size and high variability for this indicator.

Controlling for age and sex in the regression analysis, an association between physical activity level and non-medical cannabis use among adults (not shown) was not found.

Six of the eight health behaviour factors examined for their association with medical cannabis use among adults were found to have a significant correlation. Figure 29 shows the odds of adults using medical cannabis (as opposed to abstaining) when they have each of the significantly associated health behaviour factors. Some factors with multiple significantly associated outcomes (i.e., illicit drug use frequency) appear more than once.

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[26]   See Appendix A, Variable Information Table, for full list of examples provided in the survey for each prescription drug type.

[27]   See Appendix A, Variable Information Table, for full list of illicit drugs.

Figure 28: Odds of non-medical cannabis use (vs. no use), based on health behaviour factors, among First Nations adults
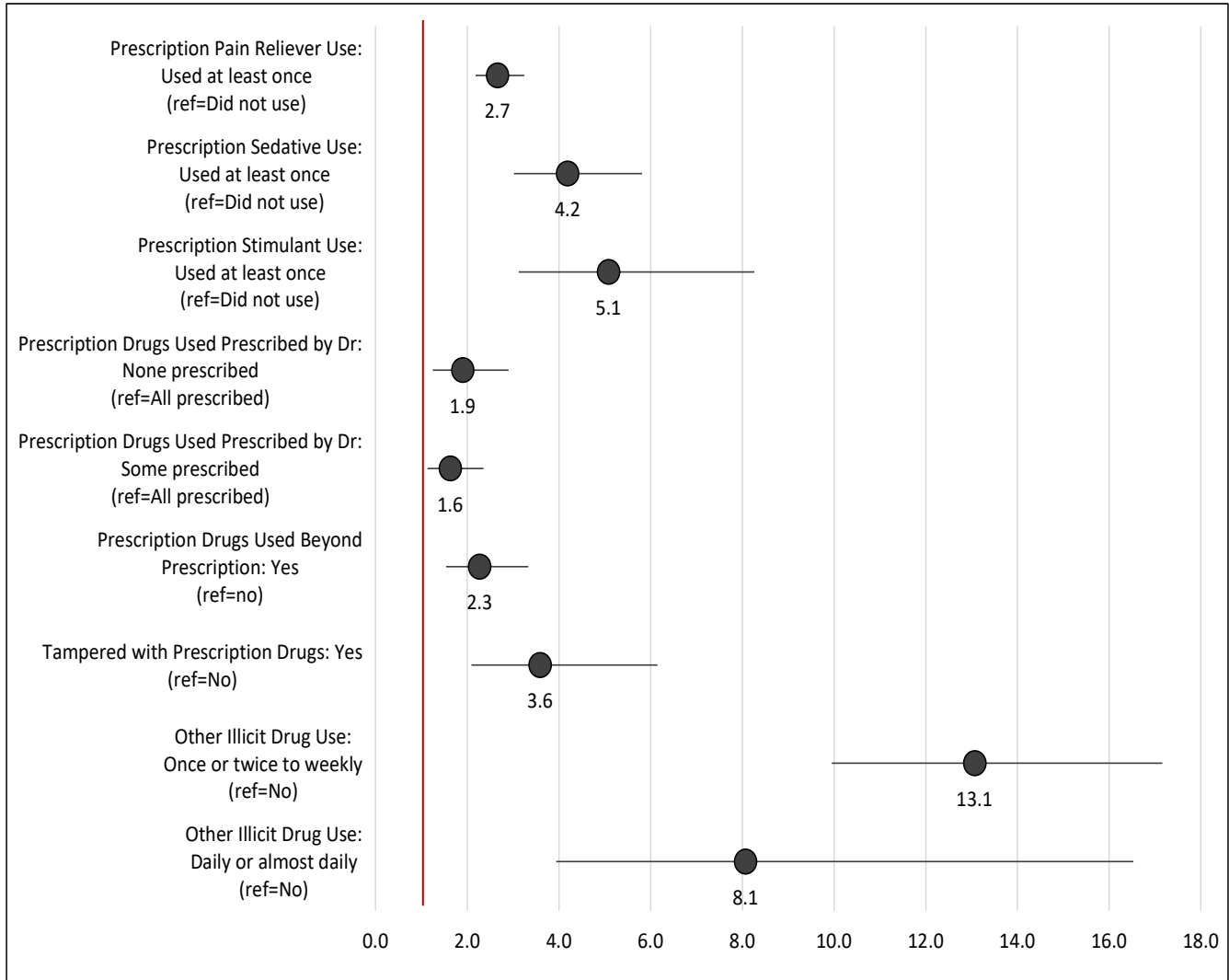
Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Significant associations were found between medical cannabis use and past year prescription-strength pain relievers (OR: 3.2), sedatives (OR: 4.5), and stimulants (OR: 5.8); these estimates were slightly higher than those for non-medical cannabis use among adults, but not significantly higher. Two forms of prescription drug misuse were also significantly associated: among those who took prescription medications in the past year, adults who had used prescribed medications beyond their prescription were 2.6 times as likely, and those who tampered with the prescription medications they used were 5.5 times as likely, to use medical cannabis. Interestingly—and in contrast to findings for non-medical use—there was no association between the form of misuse involving taking prescription-strength drugs not prescribed to them and medical cannabis use.

As in the other regression findings, illicit drug use was also associated with higher odds of medical cannabis use. Adults who reported past year use of any other (non-cannabis) illicit drugs, at least once but up to weekly in the past year, were 10.6 times as likely, and those who used illicit drugs daily or almost daily were 7.6 times as likely, to use medical cannabis, compared to those who had not used other illicit drugs at all. Note that the wide confidence

interval for the daily illicit drug use odds ratio reflects the relatively small sample size and high variability for this indicator.

Controlling for age and sex in the regression analysis, an association between physical activity level and medical cannabis use among adults (not shown) was not found.

Figure 29: Odds of medical cannabis use (vs. no use), based on health behaviour factors, among First Nations adults
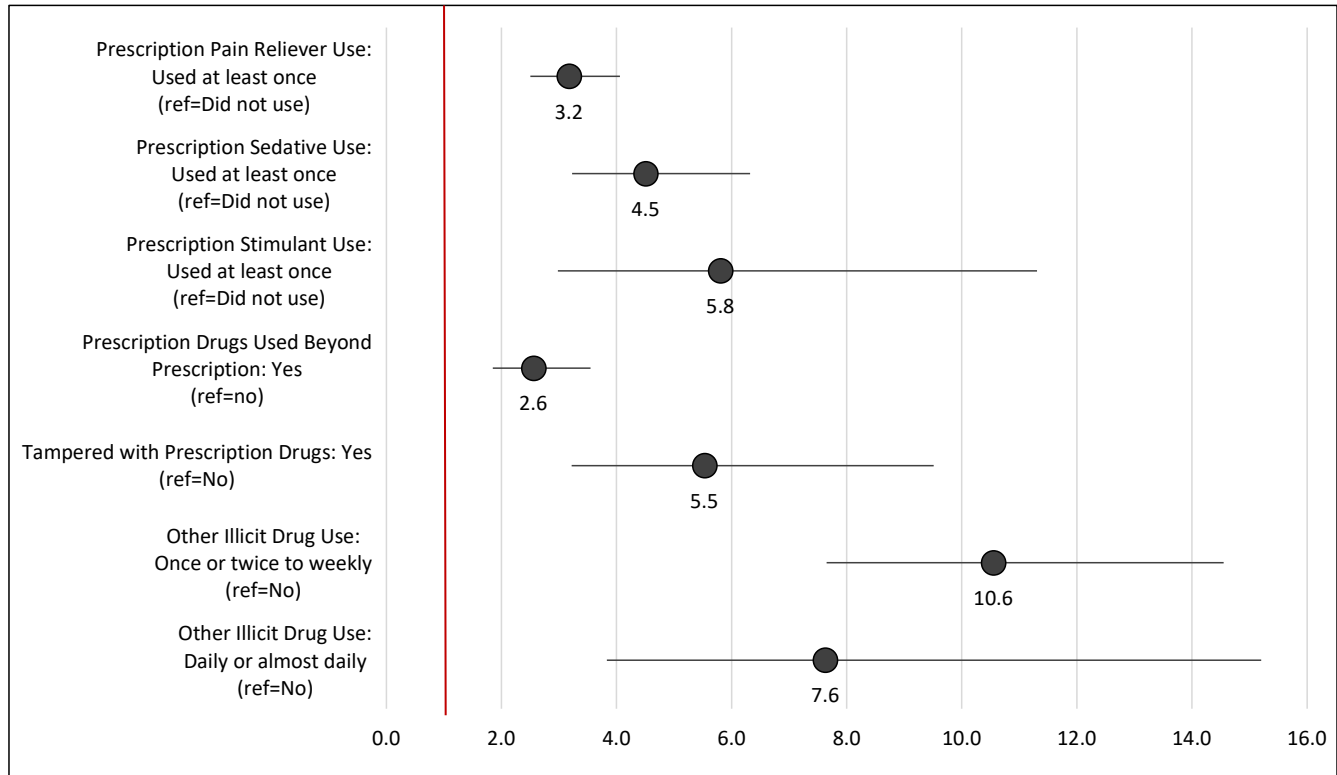
Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Bivariate Analysis[28]

Physical Activity Level.

In alignment with the regression findings, the bivariate analysis found no significant differences between groups regarding physical activity level among youth. Among adults, a slight trend toward proportions of inactive adults decreasing, and proportions of active adults increasing, with cannabis use can be observed, but the regression analysis did not find an association when controlling for age and sex.

Prescription Pain Reliever, Sedative, and Stimulant Use.

The regression analyses found that all three types of prescription-strength medications were associated with non-medical and medical cannabis use among youth and adults, and the bivariate analyses reflect this. Of the three types of prescription medications examined, pain relievers were the most commonly taken in the past year among all youth (10%) and adults (25%).

Prescription pain reliever use among youth appears to increase with cannabis use: 7% of cannabis non-users had used prescription pain relievers at least once in the past year, with occasional cannabis users having a higher proportion (14%) in comparison, and daily

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28   See Table 13 and Table 14 in Appendix D for all estimates and confidence intervals for the bivariate analysis of health behaviour factors.

cannabis users with a significantly higher proportion still (31%) (See Figure 30).

As shown in Figure 31, one-quarter of adults had used prescription pain relievers at least once in the past year, which was a significantly higher proportion than among cannabis non-users (20%). In comparison, proportions of occasional (37%), daily (32%), and medical (41%) cannabis users who used prescription pain relievers in the past year were significantly higher but did not differ significantly from each other.

Use of prescription-strength sedatives was generally quite low among all youth (1%[E,29]) and all adults (6%). Bivariate analysis findings on this indicator for youth should be interpreted with caution due to high sampling variability (affected by the small sample size of youth who had used this prescription drug) but may indicate a significantly lower proportion among cannabis non-users (0.3%[E]) compared to 1.5%[E] of occasional users. There was also a significant difference in the proportions of adults who had used prescription sedatives among cannabis non-users (4%), compared to all types of cannabis use (11%[E] occasional; 12% daily; 13% medical) (see Figure 31).

Similar to sedatives, use of prescription-strength stimulants was generally very low among all youth (1%) and all adults (1%). Bivariate analysis findings on this indicator for youth and adults should be interpreted with caution due to high sampling variability (affected by the small sample size of individuals who had used this prescription drug).

The proportions of youth who had used stimulants at least once in the past year increased at each level of cannabis use: 0.6%[E] of cannabis non-users; 1.5%[E] of occasional users; and 4.3%[E] of daily cannabis users had

Figure 30: Past year prescription pain reliever and illicit drug use among First Nations youth, by cannabis use type
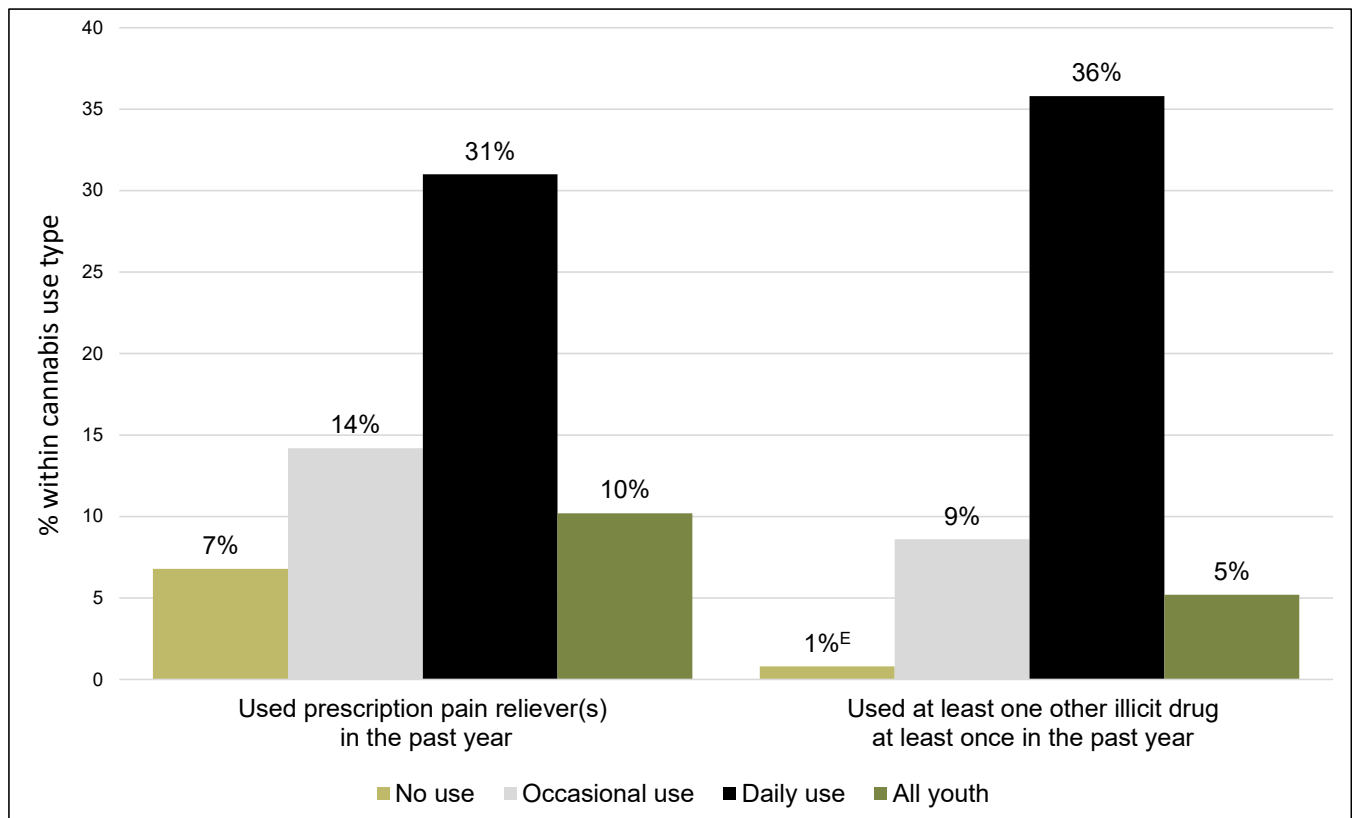
Note: [E] High sampling variability, interpret with caution.

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29   Note: [E] High sampling variability, interpret with caution.

used prescription-strength stimulants. Once more, among adults, differences between groups who used cannabis did not differ significantly, but their proportions of stimulant use (2.4%^{E} of occasional users; 2.9%^{E} of daily cannabis users; 2.8%^{E} of medical cannabis users) were higher than non-users' (0.4%^{E}). Please note that "E" indicates high sampling variability and, therefore, estimates should be interpreted with caution.

Figure 31: Past year prescription drug use among First Nations adults, by cannabis use type

Note: ^{E} High sampling variability, interpret with caution.

Prescription Drug Misuse.

For sample size and data quality reasons, the three forms of prescription drug misuse were combined into a binary variable in the bivariate analysis for youth. Only those who had indicated taking prescription-strength pain relievers, sedatives, or stimulants in the past year were included in the analysis of this variable. If respondents indicated any of the three misuse behaviours in the past year (taking prescription-strength medication not prescribed to them, taking prescribed medication differently than directed, or tampering with prescription medication before taking it), then they were assigned to the "Misuse" category; otherwise, they were assigned to the "No misuse" category. As seen in Figure 30, 55% of youth

who had used prescription drugs had misused them in some way in the past year; note that the most common form of misuse by far was taking medication not prescribed to them. There was a trend for proportions of youth who had misused prescription drugs to increase with cannabis use, which corresponds with the regression findings: Among those who had used prescription drugs in the past year, 50% of cannabis non-users, 52% of occasional cannabis users, and 70% of daily cannabis users had indicated prescription drug misuse. However, these differences between groups were not statistically significant in the bivariate analysis.

The three forms of prescription drug misuse remained separate in the bivariate analysis for

adults, which generally aligns with the regression results. Only those who had indicated taking prescription-strength pain relievers, sedatives, or stimulants in the past year were included in the analysis of these variables. As seen in Figure 32, groups who used cannabis—most notably daily—had higher proportions of adults misusing prescription medications compared to cannabis non-users, but the differences between groups were not always consistent. The percentage of adults who had used cannabis daily and taken prescription-strength drugs in the past year but did not have any of them prescribed (39%) was significantly higher than the percentage among non-users (11%), occasional users (16%), and the broader group

of all adults (16%) who had taken prescription medications in the past year. It was also higher than the percent of those who had taken prescription-strength drugs in the past year and done so without prescription among adults who used medical cannabis (20%[E]), but the difference was not statistically significant.

Proportions of adults who had used prescription medications in the past year and done so more or longer than prescribed were significantly higher for all types of cannabis use (occasional: 26%[E]; daily: 28%[E]; medical: 28%) compared to non-users (14%) but the proportions among those who had used cannabis did not significantly differ from each other.

Figure 32: Past year prescription drug misuse among First Nations youth and adults, by cannabis use type
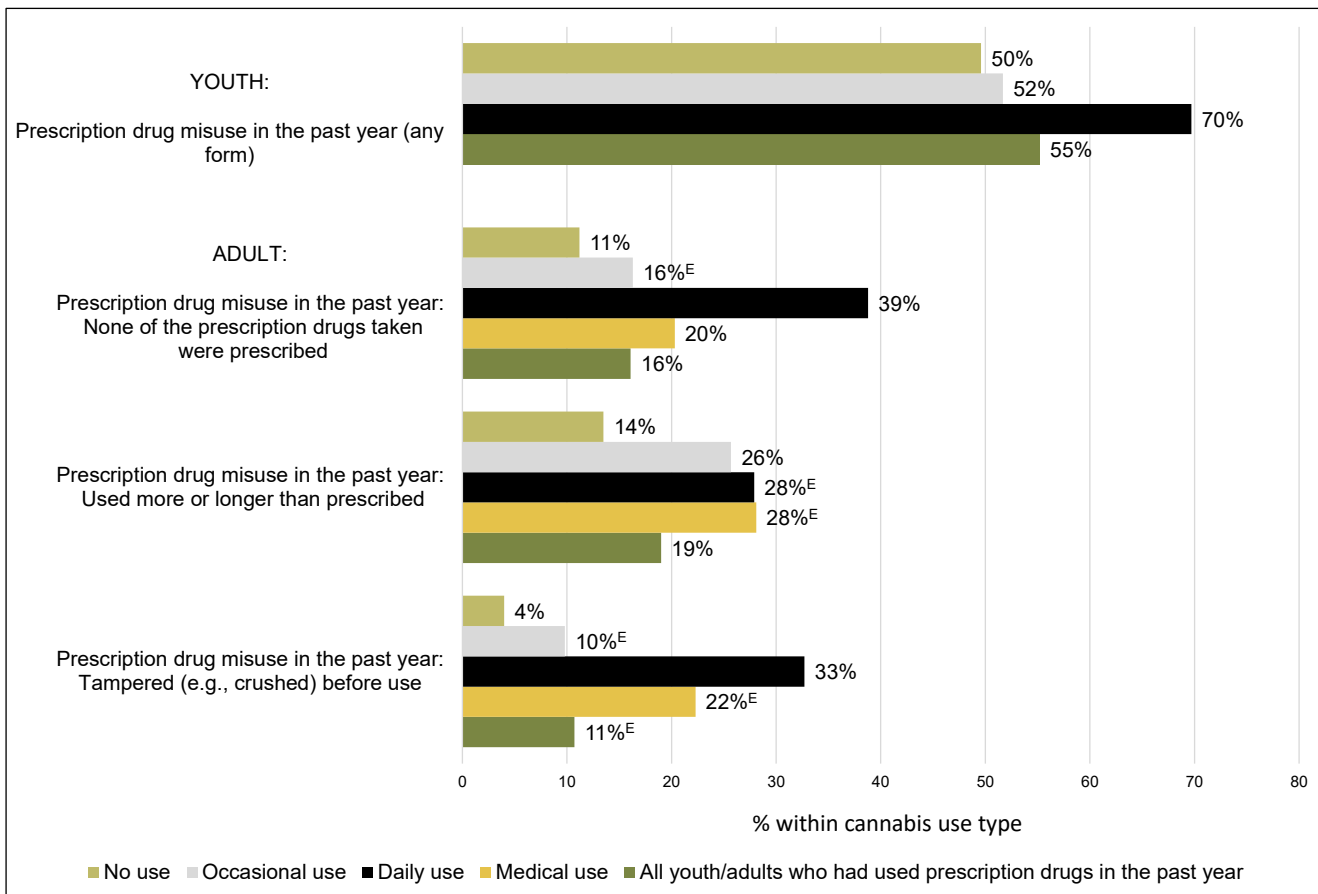
Note: [E] High sampling variability, interpret with caution.

The least common form of prescription drug misuse, engaged in by 11% of all adults who had taken prescription-strength medications in the past year, was tampering, which showed several significant differences between groups in the bivariate analysis. Most notably, at 4%E, the percentage of cannabis non-users who had used and tampered with prescription medications was significantly lower than the percentage among all other groups who had used cannabis and prescription medications: occasional use (10%E), daily use (33%), and medical use (22%E). Further, compared to all other groups, the percentage of adults who had used prescription-strength drugs and non-medical cannabis daily in the past year and who had tampered with prescription drugs was significantly higher compared to all other groups except for medical use.

Illicit Drug Use.

For sample size and data quality reasons, both levels of frequency of illicit drug use were combined into a binary variable indicating whether any amount of any kind of illicit drug was used, or not, in the bivariate analysis for youth. As shown in Figure 30, 5% of all youth had used an illicit drug in the past year, a proportion that—in line with regression results—increases significantly at every level of cannabis use: 1%E among cannabis non-users, 9% among occasional cannabis users, and 36% among daily cannabis users.

Among adults, the bivariate analysis also saw illicit drug use rise with cannabis use, although the proportion of medical cannabis users who abstained from other illicit drugs (74%) was significantly higher than the proportion among

Figure 33: Past year illicit drug use among First Nations adults, by cannabis use type
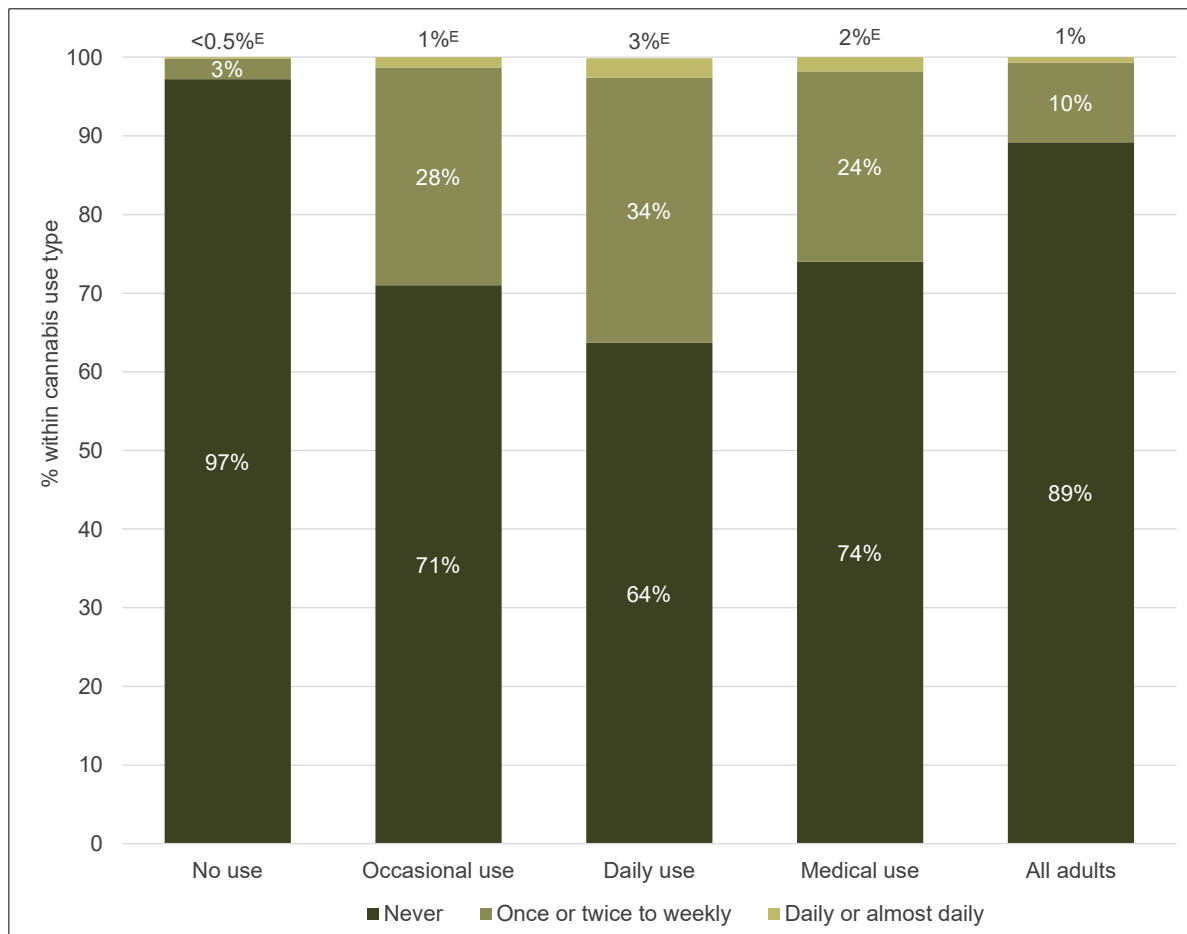
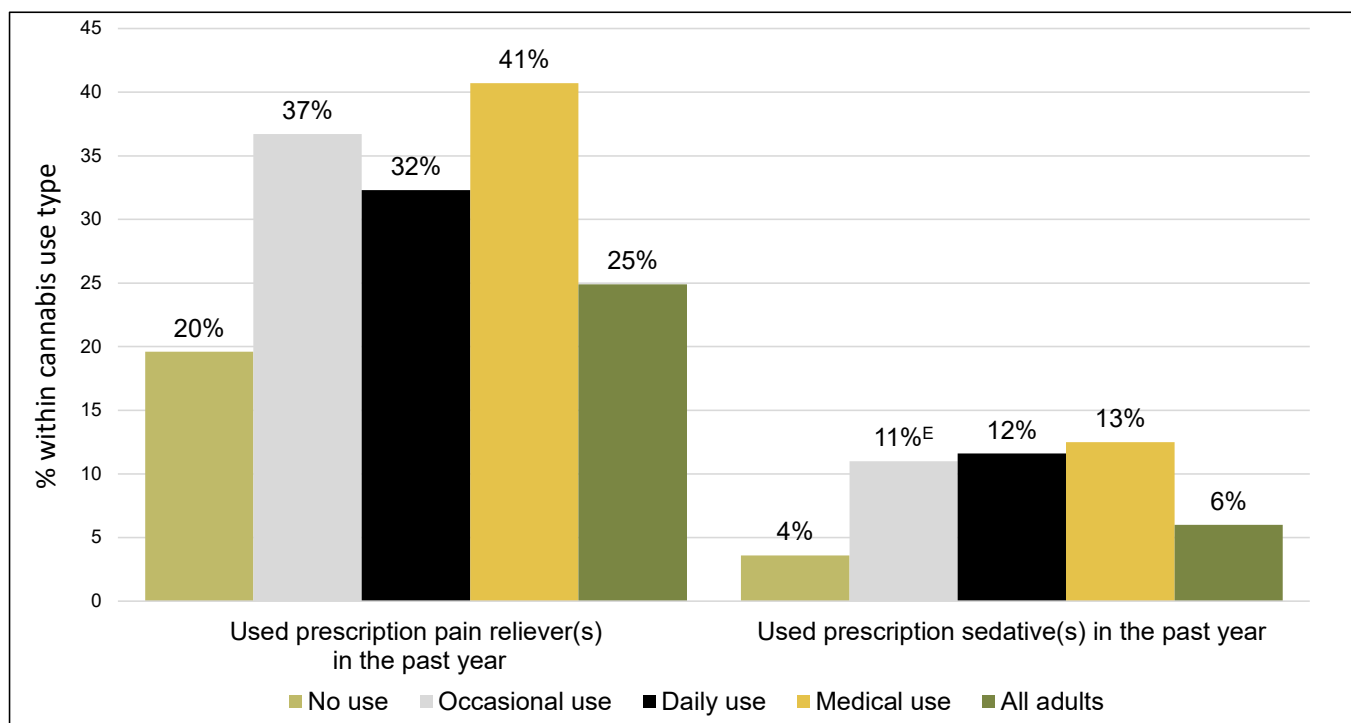
Note: E High sampling variability, interpret with caution.

daily cannabis users (64%), more closely resembling the proportion among occasional cannabis users (71%) (See Figure 33).

Differences between proportions of groups who used other illicit drugs daily or almost daily were generally not significant and should be interpreted with caution due to small sample size and high sampling variability. Most striking are the differences between the lowest proportion who had used an illicit drug weekly or less in the past year (3% among cannabis non-users) and the significantly higher proportions among those who had used cannabis: 28% occasionally, 34% daily, and 24% medically. Bivariate findings correspond with the regression results for adults, which found that both non-medical and medical cannabis use were associated with illicit drug use but that the association may be stronger for non-medical cannabis use.

Health and Health Care

Logistic Regression[30]

All six of the health and health care factors examined for their association with cannabis use among youth were found to be significantly correlated. Figure 34 shows the odds of youth using cannabis (as opposed to abstaining) when they have each of the health and health care factors. Some factors with multiple significantly associated outcomes (i.e., number of chronic health conditions) appear more than once.

Cannabis use may be associated with poorer health among youth: Those who rated their health as "good" or better were half (OR: 0.5) as likely to use cannabis compared to youth

who rated their health as "fair" or worse. Youth who had up to five chronic health conditions[31] had higher odds of cannabis use as well: having 1–2 conditions were associated with 30% higher odds (OR: 1.3) and having 3–5 health conditions was associated with having 2.9 times the odds (OR: 2.9) of cannabis use, compared to youth who had no chronic conditions.

When more closely examining the association of cannabis use and chronic conditions for which medical cannabis may have therapeutic use,[32] the association does appear to be stronger with this subset of conditions. Youth who had one or more of the chronic conditions potentially treatable with medical cannabis were 2.1 times as likely to use cannabis as youth who had no chronic conditions, while youth who had one or more other conditions (but none from that subset) were just 1.3 times as likely to use cannabis as youth who had no chronic conditions. Further, youth who had health conditions where medical cannabis may have therapeutic use were 1.5 times as likely to use cannabis compared to youth who had other chronic conditions only.

The regression analysis also showed an association between cannabis use and having accessed all types of health care services at some point. Youth who had accessed a mental health service within the last 12 months and those who had done so more than a year ago were both about twice as likely (OR: 2.1) to use cannabis than youth who had never done so. Youth who had visited a doctor or nurse in the past 12 months had 60% higher odds (OR: 1.6) of cannabis use than those youth who had never consulted a doctor or nurse, and

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30   See Table 15 in Appendix D for all odds ratio estimates and confidence intervals for the regression analysis of health and health care factors.

31   Chronic health conditions include those that are "expected to or have already lasted 6 months or more and that have been diagnosed by a health care professional." See RHS Phase 3 questionnaire p.6–7 for full list of chronic health conditions: https://fnigc.ca/wp-content/uploads/2020/09/11fb67464a61cd87b760eccf5da742e4_RHS-Youth-Phase-3_Final.pdf

32   Includes chronic conditions for which cannabis has approved or proposed therapeutic use to treat symptoms or the condition itself, according to the Canadian Centre for Substance Abuse (2016) and other recent peer-reviewed literature. Consensus on efficacy of therapeutic benefit within the medical and scientific communities may vary by condition, particularly regarding therapeutic benefit among youth. See Appendix A, Variable Information Table, for list of included conditions and sources.

youth who had consulted a traditional healer more than a year ago had 2.1 times the odds of cannabis use, compared to those who had not ever consulted a traditional healer. Looking at these results alone, it is not clear whether to interpret them more as indicators of health care need or access to health care services, factors that vary across individuals and communities represented in these RHS data findings.

With additional indicators on health care access for adults, eleven health and health care factors were examined for their association with cannabis use, and five, shown in Figure 35, were found to be significantly correlated with non-medical cannabis use.

As with youth, adults who rated their general health as "good" to "excellent" had lower odds (OR: 0.7) of using non-medical cannabis, compared to adults who rated their health as "fair" or "poor"; however, adults with 3–5 chronic health conditions[33] were 20% less likely (OR: 0.8) to use non-medical cannabis than they were to abstain.

Figure 34: Odds of cannabis use (vs. no use), based on health and health care factors, among First Nations youth
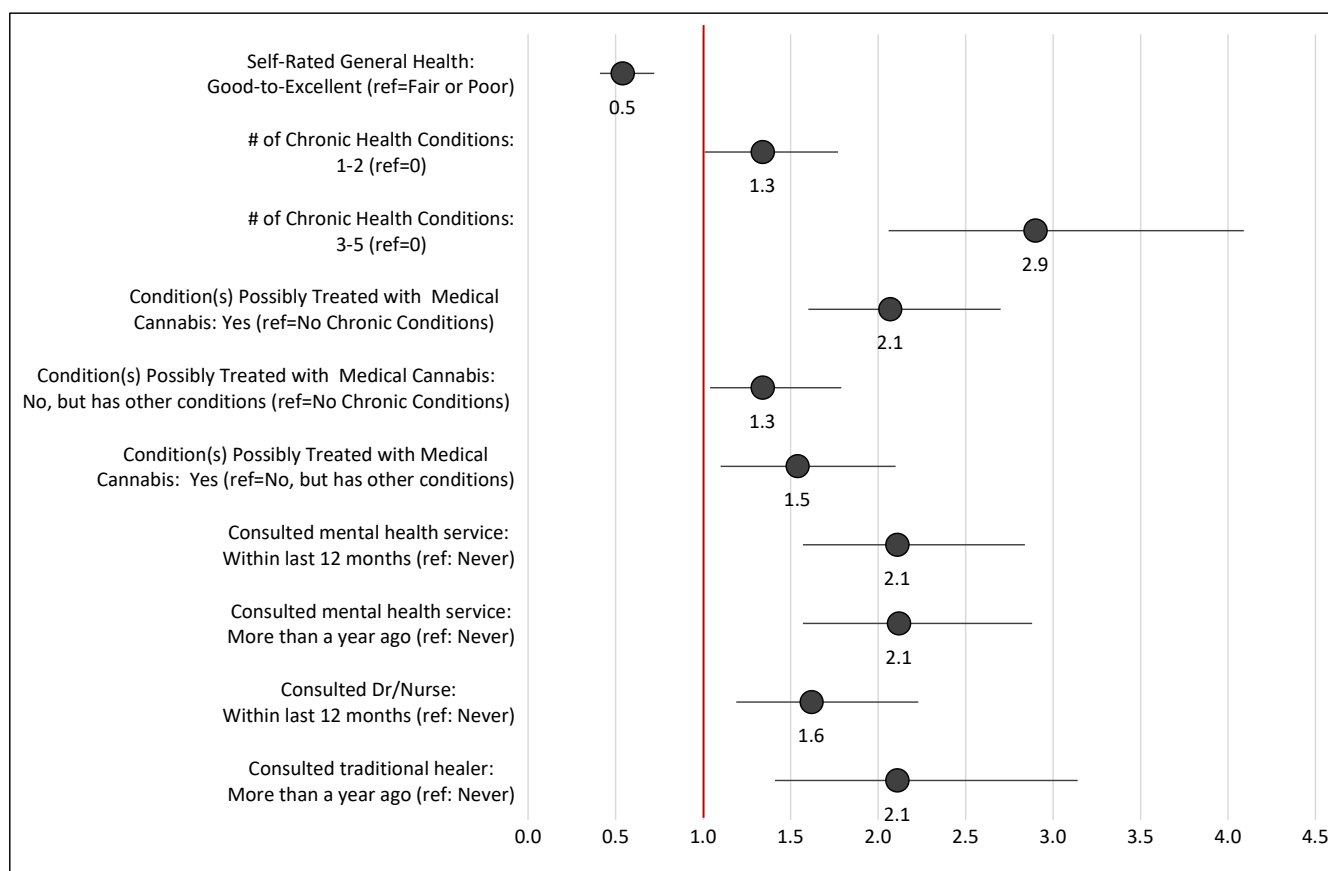
Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

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[33] Chronic health conditions include those that are "expected to or have already lasted 6 months or more and that have been diagnosed by a health care professional." See RHS Phase 3 questionnaire p.5-6 for full list of chronic health conditions: https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf

Figure 35: Odds of non-medical cannabis use (vs. no use), based on health and health care factors, among First Nations adults

Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Associations between chronic health conditions for which medical cannabis may have therapeutic application[34] and non-medical cannabis use among adults (not shown) were not found. There were also no associations found between non-medical cannabis use and several other health care factors including needing/receiving health care in the past year, experiencing health care access barriers[35] in the past year, experiencing difficulties with NIHB[36,37] services, having consulted a traditional healer, or experiencing difficulties using traditional medicine[38] (not shown).

Adults who had accessed a mental health service (within past 12 months OR: 1.5; more than a year ago OR: 1.3) had 30%–50% higher odds of cannabis use compared to adults who had not. Similarly, those who had visited a doctor or nurse (within past 12 months OR: 1.6; more than a year ago OR: 1.8) had 60%–80% higher odds of cannabis use, compared

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34 Includes chronic conditions for which cannabis/cannabinoids have approved or proposed therapeutic use to treat symptoms or the condition itself, according to the Canadian Centre for Substance Abuse (2019) and other recent peer-reviewed literature. Consensus on efficacy of therapeutic benefit within the medical and scientific communities may vary by condition. See Appendix A, Variable Information Table, for list of included conditions and sources.

35 See RHS Phase 3 questionnaire p.13 for full list of health care barriers: https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf

36 The Non-Insured Health Benefits (NIHB) Program is the federal government program that provides support to help cover health care costs (medications, dental care, vision care, medical supplies/equipment, etc.) for status First Nations people.

37 See RHS Phase 3 questionnaire p.13 for full list of NIHB services: https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf

38 See RHS Phase 3 questionnaire p.12 for full list of traditional medicine access difficulties: https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf

to adults who had not. Looking at these results alone, it is not clear whether to interpret them more as indicators of health care need or access to health care services, factors that vary across individuals and communities represented in these RHS data findings.

Having used traditional medicine in the past year was associated with 20% lower odds (OR: 0.8) of non-medical cannabis use among adults.

Shown in Figure 36, 10 out of the 11 health and health care factors that were examined for their association with medical cannabis use among adults were significantly correlated.

As in the above regression analyses, adults who rated their general health as "good" to "excellent" had lower odds (OR: 0.6) of medical cannabis use, compared to adults who rated their health as "fair" or "poor." In contrast to adult results for non-medical cannabis use, however, having chronic health conditions was associated with higher odds of medical cannabis use: having 3–5 conditions were associated with 60% higher odds (OR: 1.6), and having 6 or more health conditions was associated with having 2.6 times the odds of medical cannabis use, compared to adults who had no chronic conditions. No association was found between having 1–2 chronic conditions and medical cannabis use.

Figure 36: Odds of medical cannabis use (vs. no use), based on health and health care factors, among First Nations adults
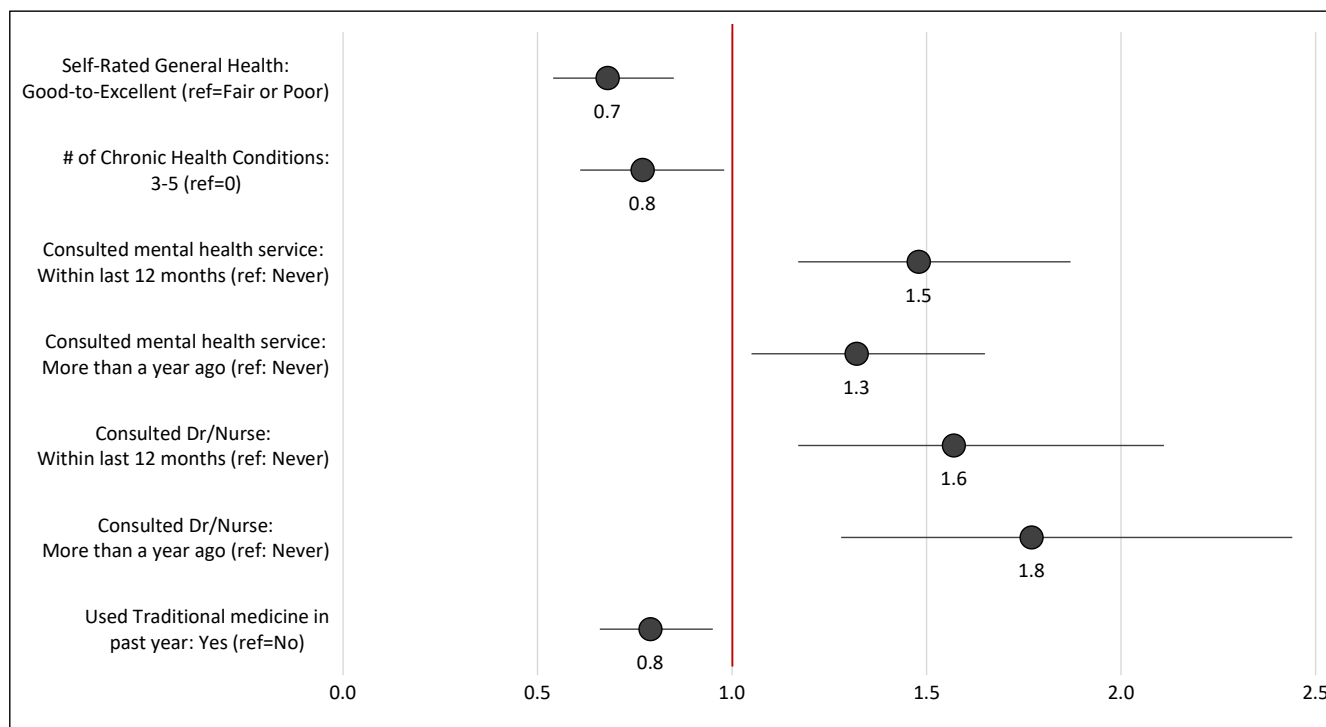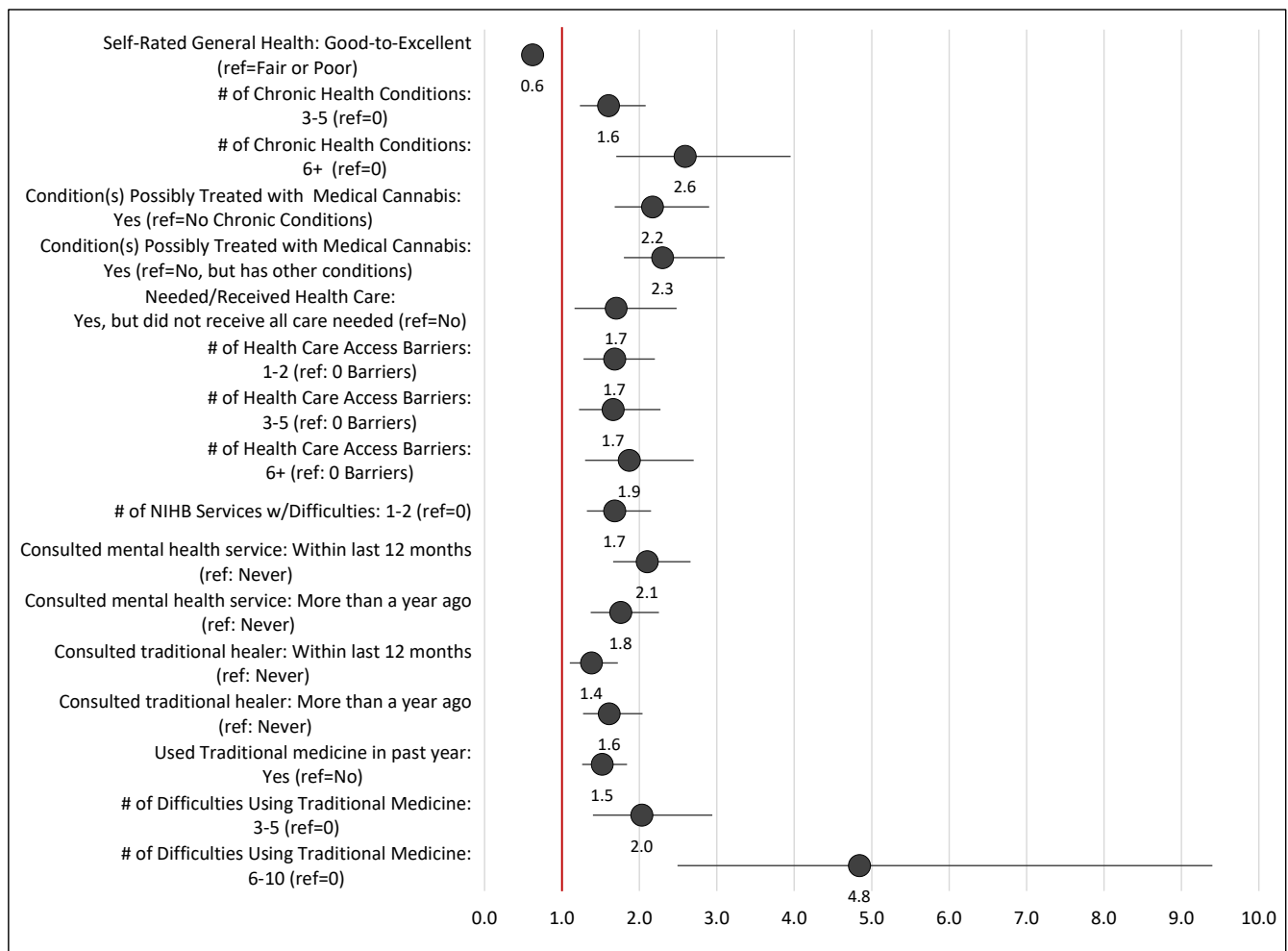

Note: Circles represent the ORs and horizontal lines represent the 95% confidence intervals (CIs) for each factor. A factor is considered to be significantly associated with higher or lower odds of cannabis use when the OR and CI do not touch 1.0 (the vertical red line).

Analysis involving the subset of chronic conditions for which medical cannabis may have some therapeutic use shows a clear association with medical cannabis use. Adults who had one or more of the chronic conditions potentially treatable with medical cannabis were 2.2 times as likely to use medical cannabis, compared to adults who had no chronic conditions, while no association was found for adults who had one or more other conditions (but none from that subset) (not shown). Further, adults who had a health condition(s) where medical cannabis may have some therapeutic application were 2.3 times as likely to use medical cannabis compared to those who had other chronic conditions only.

Those who had indicated that they needed health care in the past year but had not received all the health care they needed were 70% more likely to use medical cannabis (OR: 1.7), compared to adults who said they did not need any health care in the past year. No association with medical cannabis use was found for adults who needed health care in the past year and received all that they needed.

There were, however, associations with health care access difficulties. Among those who had needed health care in the past year, experiencing any number of barriers such as unavailability of services, transportation problems, cost, etc., was associated with 70%–90% higher odds (OR: 1.7 – 1.9) of medical cannabis use. Among those who had ever needed and attempted to access an NIHB service, experiencing difficulties with 1–2 services, such as dental care, vision care, ambulance services, etc., was associated with 70% higher odds (OR: 1.7) of medical cannabis use. No association between having experienced difficulties with three or more NIHB services and medical cannabis use was found.

Use of certain of health care services was also associated with medical cannabis use among adults. As with youth and non-medical cannabis use in adults, adults who had

accessed a mental health service (within past 12 months OR: 2.1; more than a year ago OR: 1.8) had higher odds of medical cannabis use compared to those who had not. Interestingly, unlike youth and adult non-medical cannabis use, having visited a doctor or nurse at any point (not shown) was not associated with medical cannabis use among adults. However, adults who had consulted a traditional healer (within past 12 months OR: 1.4; more than a year ago OR: 1.6) had significantly higher odds of medical cannabis use, compared to those who had never consulted a traditional healer. Looking at these results alone, it is not clear whether to interpret them more as indicators of health care need or access to health care services, factors that vary across individuals and communities represented in these RHS data findings.

In continuing the trend of contrasting results between non-medical and medical cannabis use among adults, having used traditional medicine in the past year was associated with 50% higher odds (OR: 1.5) of medical cannabis use. Further, among all adults who were interested in using traditional medicine, having experienced 3–5 difficulties (for example, cost, unavailability, lack of knowledge, etc.) was associated with twice the odds (OR: 2.0), and having 6–10 difficulties was associated with having nearly five times the odds (OR: 4.8), of medical cannabis use, compared to adults who had no such difficulties. Note that the wide confidence interval for the "6–10 difficulties using traditional medicine" odds ratio reflects the relatively small sample size and high variability for this indicator. No association was found between having 1–2 chronic conditions and medical cannabis use.

Bivariate Analysis[39]

Self-Rated General Health.

Among youth, a significantly higher proportion of cannabis non-users (95%) rated their health as "good," "very good," or "excellent" compared to occasional (89%) or daily (88%)

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cannabis users, aligning with the regression finding that good-to-excellent self-rated general health was associated with lower odds of cannabis use. However, the proportions of youth who had used cannabis who reported "good" or better health were not significantly different from that among all youth (93%).

Among adults, the percentage of medical cannabis users reporting good-to-excellent general health (73%) appears slightly lower compared to other groups, but there were no significant differences between any of the groups. The effect of age and/or sex, in the bivariate analysis, on the self-rated general health among adults may be obscuring the associations that were found in the regression analyses between "good" or better health and lower odds of non-medical and medical cannabis use when controlling for age and sex.

Chronic Health Conditions.

The proportion of youth with no chronic health conditions was significantly lower among occasional (59%) and daily (58%) cannabis users compared to non-users (71%) and the broader group of all youth (68%), as seen in Figure 37. While there were no significant differences between groups in the proportions with 1–2 health conditions, significantly higher percentages of occasional (12%) and daily (12%) cannabis users reported having 3–5 chronic health conditions, compared to non-users (5%) and all youth (7%). These findings reflect the regression results.

As Figure 37 demonstrates, in contrast to youth, there were significantly higher proportions of adult non-medical cannabis users with no chronic health conditions (48% among occasional users; 50% among daily users) compared to non-users (38%), medical users

Figure 37: Number of chronic health conditions among First Nations youth and adults, by cannabis use type
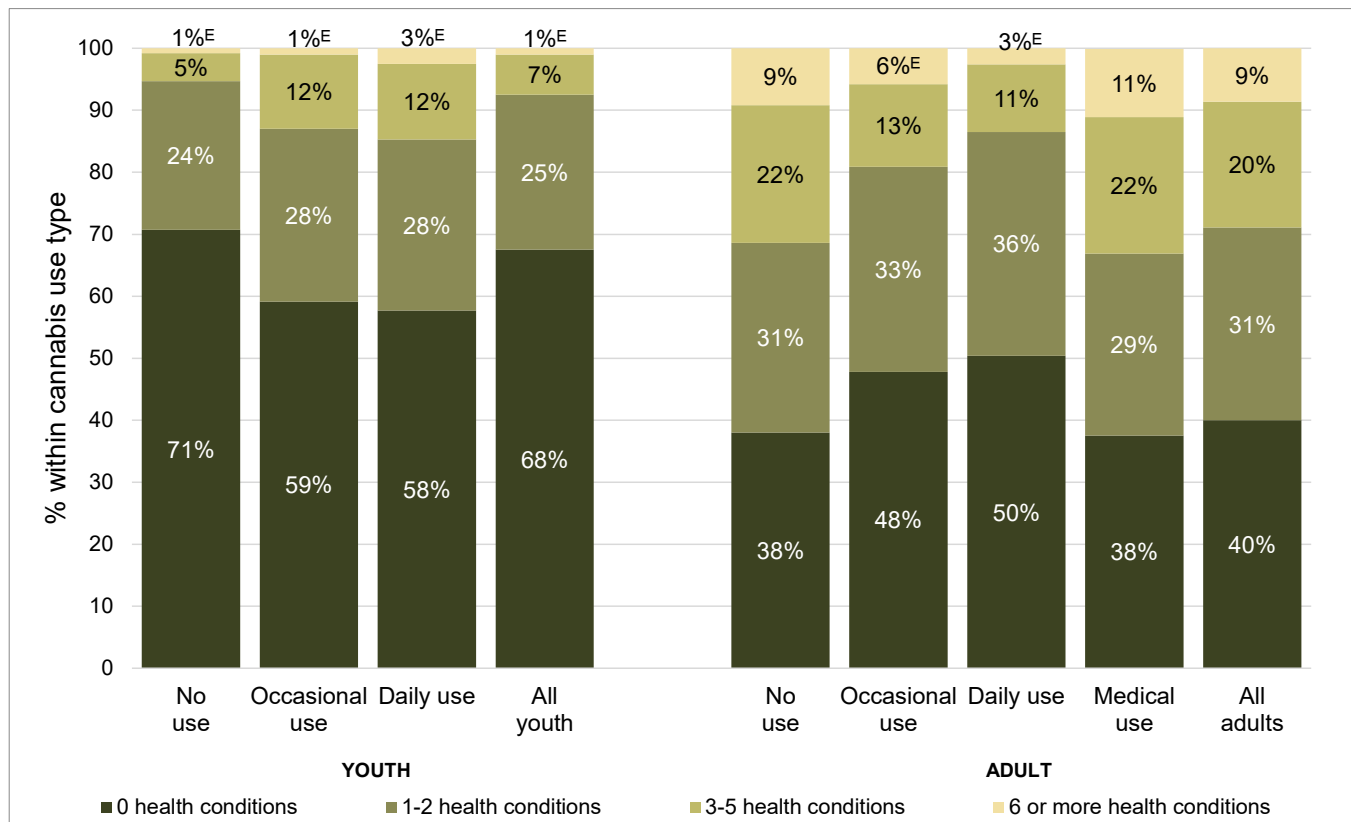
Note: E High sampling variability, interpret with caution.

(38%), and the broader group of all adults (40%). Similar to youth, no groups differed significantly from each other with regard to the proportions of those with 1–2 health conditions. However, significantly lower percentages of occasional (13%) and daily (11%) cannabis users reported having 3–5 chronic health conditions compared to non-users (22%), medical users (22%), and all adults (20%); this echoes the regression finding that adults with 3–5 health conditions were less likely to use non-medical cannabis (vs. abstaining), when controlling for age and sex.

The 11% of medical cannabis users reporting six or more health conditions was the highest proportion among all groups, but the difference compared to most, except for daily cannabis use (3%[E]) was not significant. While the sex- and age-based differences in number of health conditions may obscure the association with cannabis use in the bivariate analysis, these findings also align with the regression analyses that found an association between having three or more health conditions and higher odds of medical cannabis use, when controlling for age and sex.

Chronic Health Conditions Possibly Treated with Medical Cannabis.

The above analysis has already established that the majority of youth in all groups did not have any chronic health conditions, and Figure 38 shows that, among those who did have chronic conditions, higher proportions across all groups also had chronic conditions other than those for which cannabis may have therapeutic use, compared to conditions that may benefit from medical cannabis. However, significantly higher proportions of occasional (16%) and daily (16%) cannabis users reported having this "therapeutic use" subset of conditions, compared to non-users (8%) and all youth (10%), while there was no significant difference between groups with regard to having other health conditions only, reported by 24% of all youth. This echoes the regression findings that showed higher odds of cannabis use when having conditions possibly treated by medical cannabis as compared to

having no chronic conditions and compared to having other health conditions only.

As Figure 39 shows, the distribution of chronic conditions possibly treated with medical cannabis by cannabis use type among adults once more looks different from that among youth, as a lower percentage of all adults (40% vs. 67% of youth) had no chronic health conditions, a finding that may reflect age differences in the presence or absence of health conditions. There was a significant difference between the percentage of all adults with health conditions possibly treated with medical cannabis (32%) and the slightly lower percentage of all adults with other health conditions only (28%).

Non-medical cannabis users with chronic conditions for which cannabis may have therapeutic use (25% of occasional users and 21% of daily users) had significantly lower proportions compared to the broader group of all adults, cannabis non-users (33%), and particularly medical users (41%). However, the proportions of non-medical cannabis users who had other chronic conditions only (27% of occasional users and 29% of daily users) were not significantly different from those of all adults or of non-users (29%). This aligns with the regression analysis that found no association between non-medical cannabis use and having health conditions possibly treated with medical cannabis, when controlling for age and sex.

Medical cannabis use, however, shows a different pattern: at 41%, the percentage of medical cannabis users with health conditions for which cannabis may have therapeutic use was significantly higher than that of any other group and of all adults. At the same time, medical cannabis users had a significantly lower proportion with other chronic conditions only (22%), compared to non-users (29%). This reflects the regression findings that showed that having conditions possibly treated with medical cannabis had higher odds of medical cannabis use, compared not only to having no chronic conditions but also to having other chronic conditions.

Figure 38: Chronic health conditions possibly treated with medical cannabis among First Nations youth, by cannabis use type
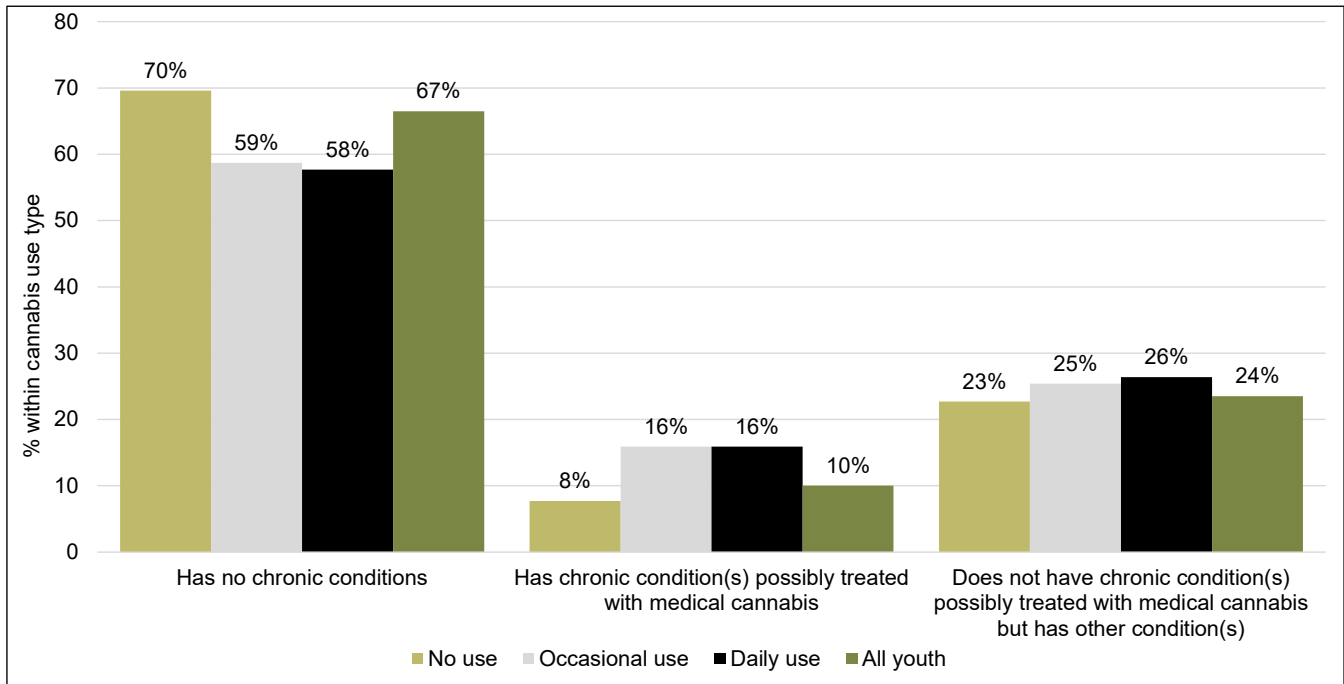
Figure 39: Chronic health conditions possibly treated with medical cannabis among First Nations adults, by cannabis use type
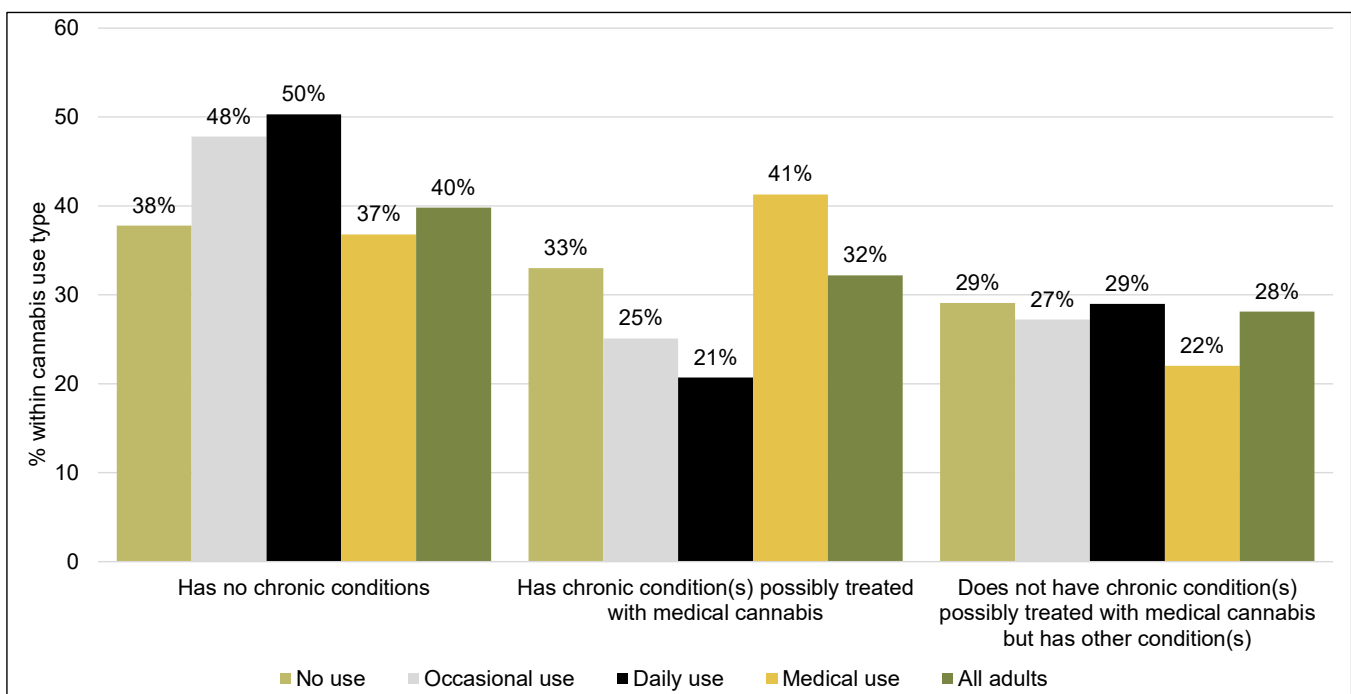
Needed and Received Health Care.

This factor is not available in the youth dataset. Among adults, those who used cannabis daily had a significantly higher proportion who said they did <u>not</u> need health care in the past year (47%), compared to cannabis non-users (33%), occasional users (33%), medical users (33%), and the broader group of all adults (34%). The regression analysis did not find an association between non-medical cannabis use and needing/receiving health care in the past year, perhaps due to the significant differences between occasional and daily cannabis use groups, as well as age differences that were controlled for in the regression.

Percentages of adults who used medical cannabis did not differ significantly from those of other groups except for daily use, as noted above, which had a higher proportion when it comes to those who reported not needing health care in the past year. Interestingly, for adults who needed health care but did not receive all they needed in the past year (9% of all adults), there were no significant differences between groups in the bivariate analysis, but when controlling for age and sex in the regression analysis, adults who reported this outcome were more likely to use medical cannabis.

Health Care Access Barriers.[40]

This factor is not available in the youth dataset. Of those adults who said they had required health care in the past year, a significantly lower percentage of medical cannabis users (36%) reported experiencing <u>no</u> health care access barriers compared to non-users (48%), occasional users (50%), daily users (53%), and the broader group of all adults (47%) (see Figure 40). Reflecting the regression findings, a trend for medical cannabis users to have higher proportions experiencing any number of barriers (1–2, 3–5, and 6 or more), compared to other groups, was apparent, although not all differences between groups were significant.

There were no significant differences between other groups when it comes to experiencing any number of health care access barriers.

NIHB Health Service Difficulties.[41]

This factor is not available in the youth dataset. Among adults who have needed and attempted to access NIHB services, there was a trend for medical cannabis users to report having difficulties with <u>no</u> services in a lower proportion (63%; see Figure 40) and to report difficulties with services in higher proportions (26% for 1–2 services and 11% for 3–10 services), compared to other groups, although most differences between groups were not significant. Significant differences, found among those reporting difficulties with 1–2 NIHB services, include those between the percentage of medical users and the lower percentages of cannabis non-users (20%) and of all adults (21%). These findings were consistent with the regression analysis finding that adults who had experienced difficulties with 1–2 NIHB services were more likely to use medical cannabis (vs. abstaining).

Last Time Accessed a Mental Health Service.

In alignment with the regression findings for youth, bivariate analysis found that significantly lower proportions of occasional (68%) and daily (64%) cannabis users had never accessed a mental health service, compared to non-users (82%) and the broader group of all youth (78%). Cannabis users had significantly higher percentages of youth who had accessed a mental health service in the past 12 months (21% of occasional users and 27%[E] of daily users) compared to non-users (13%) and all youth (15%).

The regression analysis found that having accessed a mental health service at any point was associated with higher odds of cannabis and medical cannabis use among adults as well, and this was most apparent in the bivariate analysis for medical cannabis users, which

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[40]   Only adults who indicated they needed health care in the past year are included in analysis for this indicator.

[41]   Only adults who indicated they had ever needed and attempted to access NIHB services are included in analysis for this indicator.

Figure 40: Absence of health care difficulties experienced among First Nations adults who needed health care service(s), by cannabis use type
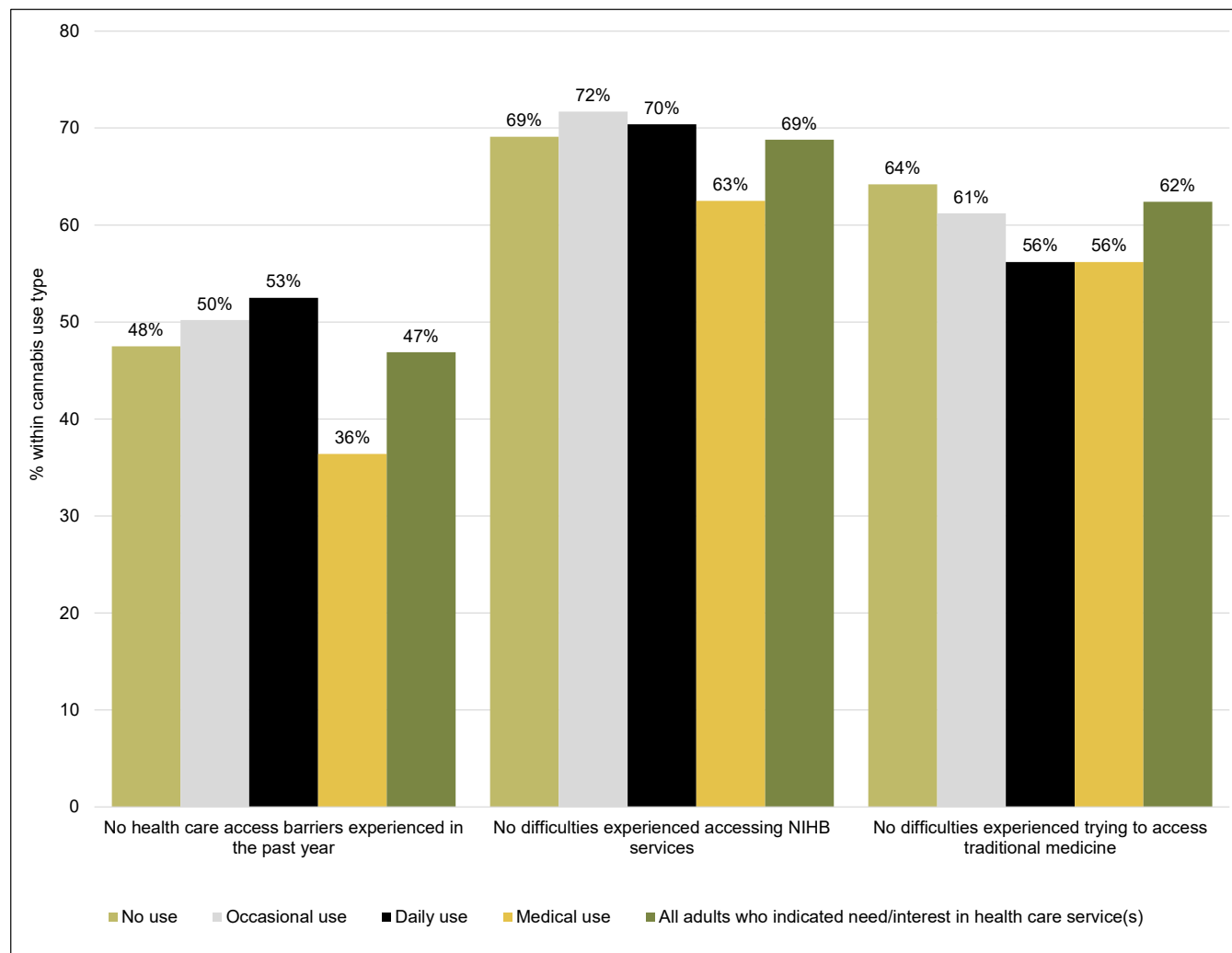
had a significantly lower proportion who had never accessed a mental health service (61%) compared to cannabis non-users (73%), daily users (74%), and all adults (71%). Medical cannabis users also had higher proportions of adults who had accessed a mental health service within the past year (22%) and more than a year ago (17%) compared to other groups, but the differences were significant only when compared to the proportions of non-users (14% had accessed a mental health service in the past year; 12% more than a year ago) and all adults who had accessed a mental health service in the past year (16%). Occasional and daily cannabis users showed no consistent pattern and few significant differences from

other use groups in the proportions who had and had not accessed a mental health service in the past year and earlier, although the percentage of occasional users who had never accessed a mental health service (66%) was significantly lower than that among non-users.

Last Time Visited a Doctor or Community Health Nurse.

Among youth, the regression analysis showed that having consulted a doctor or community health nurse in the past year was associated with higher odds of cannabis use, but the bivariate analysis indicates this may be true mainly for daily cannabis use, as the proportions of occasional users did not differ significantly

from those of non-users or all youth who reported the same. Daily users, however, had a significantly lower percentage who had never consulted a doctor or community nurse (9%[E]) compared to cannabis non-users (18%) and the broader group of all youth (16%). Further, daily cannabis users had a significantly higher percentage who had seen a doctor or nurse in the past 12 months (80%), compared to other groups (63% of non-users, 66% of occasional users, and 65% of all youth). Daily cannabis users also had a significantly lower percentage who had seen a doctor or nurse more than a year ago (12%), compared to other groups (19% of non-users, 21% of occasional users, and 19% of all youth).

Although the regression analysis found that having consulted a doctor or community health nurse at any point was associated with higher odds of non-medical cannabis use among adults, this was not reflected clearly in the bivariate findings, which showed few significant differences between groups on this indicator. In fact, daily cannabis users had a significantly lower proportion who had seen a doctor or nurse in the past 12 months compared to non-users, but a higher proportion who had done so more than a year ago (21%) compared to non-users (13%) and to all adults (15%). In the bivariate analysis, which does not control for age and sex, age or sex differences in cannabis use and frequency of consulting health care professionals may obscure a relationship between the two.

Last Time Accessed a Traditional Healer.

Among youth, lower proportions who used cannabis had never consulted a traditional healer, and higher proportions had done so more than a year ago, compared to non-users and all youth, although occasional cannabis users showed more significant differences than daily users. Among occasional users, 71% had never consulted a traditional healer, compared to the significantly higher proportions among non-users (80%) and the broader group of all youth (78%). While there were no significant differences between groups in the proportions

who had consulted a traditional healer in the past 12 months, higher percentages of occasional (14%) and daily (19%[E]) cannabis users had done so more than a year ago compared to non-users (7%), aligning with the regression findings.

About two-thirds of adults who used non-medical cannabis (65% occasionally and 69% daily) and more than half who used medical cannabis (56%) reported never having consulted a traditional healer, while 62% of non-users and 62% of all adults had never done so; however, only the decrease between the percentage who used cannabis daily and those who used medical cannabis was significant. At the same time, proportions of non-medical cannabis users (18% of occasional users and 15% of daily users) who had consulted a traditional healer in the past 12 months were lower than the 25% of medical users who reported the same, but once more only the difference between daily and medical cannabis use was significant. No significant differences between groups were found for adults who had seen a traditional healer more than a year ago. These generally align with the regression analyses, which found that having seen a traditional healer in the past year and more than a year ago were associated with higher odds of medical cannabis use.

Traditional Medicine Use.

This factor is not available in the youth dataset. The regression findings showed that having used traditional medicine in the past year was associated with lower odds of non-medical cannabis use and higher odds of medical cannabis use, and this is clearly demonstrated in the bivariate findings. The percentages of occasional (29%) and daily (25%) cannabis users who had used traditional medicine in the past year were significantly lower than other groups' (36% of non-users, 43% of medical users, and 35% of all adults), and the proportion of medical users who had done so was significantly higher than that of all other groups.

Traditional Medicine Access Difficulties.[42]

This factor is not available in the youth dataset. This analysis was done only with the subset of adults who had indicated interest in using traditional medicine. Although there were few significant differences between groups in the proportions who reported having no difficulties accessing traditional medicine, the proportion of medical users who had no difficulties (56%) was significantly lower than that of cannabis non-users (64%), as shown in Figure 40. While no significant differences between groups who had experienced 1–2 difficulties were found, medical users had a higher percentage (11%) who had experienced 3–10 difficulties accessing traditional medicine compared to cannabis non-users (6%) and the broader group of all adults (7%), consistent with the regression findings.

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[42] Only adults who indicated they were interested in using traditional medicine are included in analysis for this indicator.

QUALITATIVE FINDINGS

What Factors Should Be Considered When Interpreting the Data?

Study participants shared a number of diverse reflections, stories, and perspectives regarding the quantitative findings of the *Examining the relationship between cannabis and mental wellness in First Nations* research project. Determining whether the quantitative data reflects the lived experiences of First Nations individuals in Canada is a complex question when considering the diversity of experiences of individuals and communities, and the limitations of quantitative data in communicating context and other nuancing factors. Participants shared several factors that should be considered when interpreting the quantitative data, described below.

Timing of Data Collection

Given that the quantitative data was collected in 2015/2016, the data represents a snapshot in time that cannot be removed from the circumstances of that period. Participants spoke extensively about the context of cannabis legislation, and the ways in which the quantitative data may have been influenced as it was collected prior to legalization.

> ...the reporting of use may be impacted by the fact that this data was collected prior to legalization. But that doesn't have to be a fatal flaw or anything like that … it just may be that the overall amount of use may be underreported, and even that we don't know. So, to just have that up front and be transparent about that, would probably be helpful in a report.[43]

The quantitative data may not reflect current trends of cannabis use that have evolved since legalization. With more accessible options to purchase cannabis legally, more First Nations individuals may be choosing to use cannabis than reported at the time of data collection. Further, participants also spoke at length about how the stigma associated with cannabis use in the pre-legalization era may have contributed to an underreporting of use for both youth and adults, and how the topic of cannabis use is gradually being discussed more openly since the period of data collection.

> Pre legalization, there was a bit of a reluctance for people to talk about using cannabis … With the legalization, people are far more comfortable to report up front that they're also using cannabis.

The quantitative findings should also be considered in the context of shifting community circumstances, including changes in stressors and protective factors that may influence cannabis use in communities. One participant discussed this consideration in the context of language revitalization projects and the changes that these types of projects may have on findings over time.

> And if you did a survey today, would it look identical? Probably not, because the snapshot is now five years old … there's a different focus today. I'm not sure cyber bullying is as big a deal as it was back then either. People have learned much … And then there's lots of different services that have come about in this timeframe too, and they're not in here. Like, there's a huge push to have our languages, all over the place … So what effects would that have? And I realize that might change who's using or not using. But the other thing is checking on the opioids, 'cause cannabis is only one issue and opioid addiction in our communities has skyrocketed in the last three years … so this may not even be as big an issue as it was three years ago.

Although these insights do not necessarily make the quantitative findings inaccurate, it is important to consider the ways in which the period of data collection may influence the relevance of the findings as legislative and

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43   All quotations in this section are from SMEs and Knowledge Holders who participated in the qualitative engagement sessions.

community contexts evolve and priorities shift.

Methods of Data Collection

Participants also spoke to the ways that quantitative data collection methods are limited in presenting the entire picture of cannabis use in communities. It is important to consider the historical harm of data collection in First Nations communities when interpreting this data and, in particular, a potential lack of trust among respondents regarding how this data may be used. As one participant highlighted, there may have been hesitations in sharing personal and cultural information through a survey format.

... I feel like there's a bit of [a] trust issue with the survey because it seems like some people were definitely very open and like, "Yeah, I use cannabis" but then I also feel like some people were potentially worried about how this data was going to be used ... some people might have been hesitant because they were wondering, "What am I exposing here and how is it going to be used either against us or for us?"

Participants also reflected on the ways trust and transparency in the research process may have influenced willingness to disclose cannabis use. For example, survey respondents may have had concerns or hesitation regarding who was involved in the data collection process and whose interests they represent, leading to an underreporting of certain factors.

Other important factors to consider when interpreting these results are how diverse and evolving understandings of cannabis use may influence the consistency of results with the lived experiences of First Nations. For example, participants emphasized the complexity of categorizing medical versus non-medical cannabis use in the survey, particularly given the context of shifting availability and prevalence of medical cannabis in the post-legalization era. For example, non-prescription cannabis used for chronic conditions may have been labelled as "medical" by survey respondents.

This is particularly important to consider when analyzing this data through a culturally grounded lens, where participants may understand medical use through a First Nations worldview of traditional or cultural healing.

... one thing that I think needs to at least be raised somewhere in the reporting is that I'm pretty sure with this data we can't actually know if someone is in fact using medical cannabis through prescription. I'm not sure if that can be verified and so somewhere the possibility should be flagged of what you might call self-medication and that the people who are willing or likely to use that kind of traditional medicine and cultural healing-type language, it may just be more their view of the substance or the medicine. So that's just something where it could be medical use as they kind of see it and define it and it's kind of like a healthy coping mechanism.

Participants pointed to other variables that may have been difficult to communicate through a survey format and that should be considered when interpreting the data. These include the following:

- Difficulties of quantifying and reporting interaction with traditional practices, such as access and use of traditional medicines

- Diverse understandings of illicit drug use, and difficulties in labelling and categorizing these behaviours

- Diverse understandings of traditional physical activities and how these differ from extracurricular activities

Further, there are challenges in capturing regional differences through national survey results due to the diversity of First Nations communities. It is important to consider different regional and local contexts when evaluating the consistency of the quantitative results as they are presented on a national scale. One participant discusses this point below, highlighting that many communities have diverse experiences and perspectives regarding cannabis use.

I think [regional engagement is] really important, because if we don't … I don't know how the data is going to come forward, but … I've been to reserves across Canada, I've been to the Northwest Territories, and I've been all across … there's some areas going to be more favourable and then others are not, right? Just same with some of the … reserves that I know of that are really religion dominated and I don't know how they would respond either. … I guess I'm surrounded by people who, they've seen it differently for quite a long time.

What Should Be Explored in More Depth?

The quantitative data provides an important foundational understanding of the relationship between cannabis and mental wellness in First Nations communities. Through qualitative reflection, participants discussed certain topics and factors that could be explored in more depth to provide a more fulsome understanding of the lived realities and experiences in communities, including the following:

- Baseline data and ongoing data collection to capture trends over time

- Distinctions between prescription medical cannabis use and self-referred medical cannabis use for therapeutic purposes

- The diverse ways that cannabis is used for therapeutic purposes

- The outcomes of using cannabis for medical purposes

- The method cannabis is used (e.g., ingestion, smoking, vaping, etc.)

- The connection between cannabis use and spirituality

The connection between cannabis use and spirituality is particularly important in understanding cannabis use and mental wellness in a First Nations context. Although spirituality is referenced throughout this report, participants described the importance of understanding cannabis use through a wholistic lens that considers the emotional, spiritual, and mental aspects of cannabis use and mental wellness.

I realize we're using another survey to get the answers from and that might be the piece that we need to actually delve into, is looking at [the] Four Directions, right? So looking at spirituality – emotional, spiritual and mental health – which I know the survey gives us, but maybe it's got to be more pointed and maybe another survey would have to go out specifically on drug and alcohol use.

Further, as explored in the following subsection on factors associated with cannabis use in First Nations communities, there is a range of factors that may influence cannabis use at the individual, community, and national levels. Although the quantitative data explored a large range of variables, participants shared additional potential correlations with cannabis use that could be explored in future studies, including the following:

- Interaction with Child and Family Services

- Experiences of peer pressure

- Experiences of racism

- The use of social media

- Diverse experiences of trauma

Factors Associated with Cannabis Use in First Nations Communities

The quantitative data revealed multiple correlations between cannabis use and variables reported in the RHS data. Through qualitative engagements, participants shared valuable insights to give context to these factors and motivations. These reflections help to tell the story of how various individual-, community-, and national-level factors may influence cannabis use in a First Nations context.

Demographics and Environment

Sociodemographic, household, community, and other environmental contexts are correlated with cannabis use in complex ways. Participants explored various factors that may influence increased cannabis use for individuals, including differences in cannabis use across age ranges.

Participants shared that younger generations may report cannabis use at a higher rate due to destigmatization and that younger generations may view cannabis use differently than older generations and thus be more willing to openly disclose their use. Other factors that may contribute to differences in cannabis use between generations include a higher presence of peer pressure, particularly (but not exclusively) among youth, to use cannabis, and a tendency for youth to use cannabis for non-medical or leisure purposes, both leading to potentially more regular use of cannabis.

As reported in the quantitative findings, individuals living in a medium or small community (population 1,500 or less) were more likely to use cannabis. Participants reflected on the consistency of this finding, noting that small population size may lead to higher likelihood of using cannabis due to a lack of alternative activities, as well as mental wellness challenges that may be more prevalent in rural and remote communities. One participant discussed the interesting ways that community size may influence cannabis use, below.

I think the community population is pretty interesting, in that we can infer smaller communities that are more rural and remote probably have less access to a lot of stuff that would keep them busy or let them have hobbies ... the boredom of being a rural and remote community may contribute to the mental wellness challenges that come with it.

Economic opportunity in small communities may also be a contributing factor to cannabis use, as communities with lower economic status and experiencing economic disenfranchisement may see a higher number of cannabis dispensaries as legalization evolves.

I'm wondering about economic disenfranchisement and a lack of access to markets for things … when you have communities that are off the beaten path, that have been systematically excluded from other "legitimate" markets, they get seven or eight weed shops popping up within a week … they are going to take the opportunities they can find, just as a matter of survival.

The inferred correlation between small community size and economic opportunity may also contribute to higher cannabis use due to its relative affordability. As discussed below, residents of small communities may have easier economic access to cannabis compared to other substances, thus leading to a higher likelihood of use.

… especially if you're from a small community, what's your access type of thing … Cannabis is less expensive than other drugs that might be … like cocaine, like to survive, or to feed your addiction of cocaine, is more expensive. If you don't have the money then you find other means of acquiring it, but … cannabis, I think it's less expensive …

Another important factor that influences medical and non-medical cannabis use at the community level is community governance, particularly since legalization. Certain communities have pursued economic opportunities in the cannabis industry alongside community-led regulation.

[There is] a community that has many cannabis shops in its territory and they went through a process of creating sort of a cannabis law before they would allow anybody to open. And they had to go through [the community's] economic development processes and apply, and I think one of the first on reserve, that the province approved, is in [this community] as well.

However, barriers to economic regulation in communities have not prevented the emergence of cannabis shops on certain

reserves in Canada, with many forming and operating without provincial and federal sanction in the years since legalization.

It is also important to understand the ways in which personal and community experiences with IRS attendance can influence cannabis use. These impacts can be felt across generations. As shown in the quantitative data, personal, parental, and grandparental residential school experiences may make an individual more likely to use cannabis. Participants spoke about the ways in which the impacts of residential or day schools can be felt across generations, as highlighted in the quote below.

> … the family residential school attendance, that was a huge symptom. And then the impacts of that residential school, how you're brought up as a child from a parent that attended residential school, maybe enduring some of the same type of suffering or same type of abuses from either your parents or your older siblings or those that attended residential school.

Although these qualitative reflections do not provide a comprehensive picture or understanding of the sociodemographic, household, and community factors that may influence cannabis use, they provide valuable context for certain findings of the quantitative study and demonstrate how complex and intersecting these factors are at the individual and community levels.

Well-being and Personal Safety

Factors of well-being and personal safety, including self-rated mental health, psychological distress, and other stressors contribute to both medical and non-medical cannabis use in significant ways. As shown in the quantitative results, both youth and adults were more likely to use cannabis if they had poor self-rated mental health or symptoms of psychological distress. Among adults, a strong sense of community belonging was associated with lower odds of non-medical and medical cannabis use. Depending on the direction of causation and prevailing attitudes toward

cannabis in a community, noted engagement participants, this could reflect experiences of people who use cannabis feeling isolated, marginalized, and stigmatized in their communities, or it could support the idea that feelings of isolation and marginalization make one susceptible to "peer pressure" to use cannabis with others to feel more like part of a group.

While the quantitative data cannot determine a causal relationship between cannabis use and the mental wellness factors examined, one participant noted that a potential negative or unintended consequence of cannabis use is the possibility of it causing paranoia in some users, which may contribute to long-term mental health concerns. The links between cannabis use and mental health are particularly complex in a First Nations context. As stated by a participant below, Indigenous experiences of trauma can be experienced at the collective level, and media coverage and discussion of traumatic events can impact entire communities and populations, leading to impacts on mental health.

> Right now, there's so much media coverage on the negative things in Indigenous people's lives … all of the discussion about the mass graves … You don't have to be a Survivor of any one thing, but knowing that that's happened in your family and every time it enters the media, it angers you and that could lead you to doing cannabis … Your pain may increase every time you hear about mass graves being found, or you know … when a woman goes missing or murdered. So there's this big exterior of things going on around us that are us. And even if they're not happening to our Nation or our community, they're happening to us as an Indigenous person ...

Traumatic events can have lasting impacts and can become embedded in individual experiences of health and wellness, leading to long-term influences on coping behaviours.

> And also, mental health [issues have] been on the increase, especially with the IRS settlement claims that have just been all done. When you

speak about trauma, trauma is something that doesn't just go away, it's embedded within your mental health, thoughts, especially if you haven't learned new methods of dealing with trauma … [Cannabis] has been the go-to drug to deal with mental health issues.

Efforts to understand the links between well-being and cannabis use must also take into consideration the broader social determinants of health, particularly in First Nations communities in Canada. Experiences of trauma and psychological distress may be compounded by stressors at the individual level, including food and housing insecurity, among others. Below, a participant speaks to the associations between the social determinants of health and substance use found in their past research.

From our experience with the data … non-medical cannabis use is strongly linked to intergenerational trauma, not having a connection to culture, and we're just looking at that data for links to determinants of health. And some of our early findings are indicating a lack of food security and a lack of housing are key factors in problematic substance use.

A more wholistic understanding of well-being and personal circumstances may provide a more comprehensive picture of what motivates individuals to use both medical and non-medical cannabis, including significant hardships that cumulatively contribute to well-being and coping behaviours.

I can't tell a person who only got 3 hours [sleeping] on a floor, "You shouldn't smoke that cannabis like that." Or I can't tell the person who hasn't had water in two days because, you know, there's only 10 litres coming to their house and there's twenty people in the house, that they shouldn't smoke cannabis. I can't tell the person whose child is stuck in a southern hospital and they're scared beyond belief that they shouldn't smoke cannabis … So we've got to think more wholistically and then we've got to think about why this is happening 'cause we can't think of it in a silo.

In summary, understandings of personal well-being and cannabis use require attention to multiple intersecting factors, many of which are unique to First Nations.

Language and Culture

The quantitative findings reported unique ways that language and culture may influence cannabis use in First Nations communities. For example, the quantitative data found that First Nations language ability was associated with a higher likelihood of cannabis use among youth and adults. This finding returned insightful context from participants who understand First Nations language ability as an indicator of wholistic well-being.

For example, those with strong local language abilities may be isolated outside of their community due to communication barriers, leading to increased cannabis use to cope with feelings of isolation or impacted self-esteem. One participant discussed this below.

… even with the language ability and how it might correlate with poor mental wellness, wholistic balance, and even self-esteem. You know, if you have strong language ability in your community but at the same time if you go outside your community, it also becomes a barrier for communication … It could be like not being understood or being afraid to speak because your prominent language is either/ or … If you're in a [community with] strong, prominent [First Nation language ability] and you're speaking the language, you go outside the community, then it, again, will affect your own personal feelings about, "Do I fit in?"

According to quantitative data, youth were found to be more likely to use cannabis if they participated in traditional physical activities, while less likely to use cannabis if they participated in extracurricular traditional activities.[44] Findings among Indigenous adults found that they were more likely to use medical cannabis if they participated in traditional physical activities. Explanation of

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[44]   See Appendix A, Variable Information Table, for full list of traditional physical activities and examples of extracurricular traditional activities.

these findings were complex, with participants suggesting that cultural continuity may reduce the likelihood of cannabis use, particularly in cases where individuals are reclaiming their culture and traditional ways.

Explored further, cultural continuity may positively influence Indigenous indicators of wellness such as sense of belonging and connection. Similarly, a lack of cultural connectedness may motivate cannabis use as a means of self-soothing and coping when those protective cultural factors are not present.

So some of the motivation that I've heard is because we're not connected, specifically for youth and young adults, is they're not connected to culture. And if they are, the culture may not be as prominent in their community, which leads them to start to question their identity … And I think that when you don't know what your identity is or you can't relate to your identity in a way that feels meaningful, you're going to start to look for ways to self soothe: drinking, cannabis use, they're both in that sphere.

As one participant emphasized, these findings are consistent with other data from the TPF's cannabis study (TPF, 2019b), which found that community involvement and cultural connection were commonly reported influences in the decision to not use cannabis among youth.

However, participants also noted that the association between cultural connectedness and cannabis may influence cannabis use in the opposite direction as well, noting that in some cultural contexts, cannabis is viewed as a traditional medicine. In certain contexts, a strong cultural connection to traditional medicine or traditional activities may explain a higher likelihood of using cannabis if cannabis has been recognized as a traditional medicine. One participant explored this factor in the quote below, highlighting how communities that accept cannabis use as a traditional medicine may have more access to and use of cannabis, particularly in comparison to those communities with a strong presence of

Western religion.

… using traditional medicine, I could see that in [certain communities], where there are a lot of medical cannabis shops. From my understanding, they see cannabis as a traditional/natural medicine and so to me that makes sense. However, some First Nations who are influenced by Western religion wouldn't fit in this category.

Ultimately, participants were clear in stating that individual motivations for cannabis use are complex and may relate to the unique ways in which identity and wellness are linked to First Nations culture. These motivators cannot be captured using statistical data, and a nuanced approach to understanding these links is crucial to understanding First Nations experiences.

Health Behaviours

Health behaviours, or actions taken by individuals to affect their health including the use of prescription medicine and illicit drugs, were found to correlate with cannabis use at the individual level, with both youth and adults being more likely to use cannabis if they had also used other substances. However, participant reflections around cannabis use in the context of health behaviours and addictions were nuanced and reflect the complexity of how cannabis is both perceived and used differently by individuals. One participant spoke about the use of cannabis for leisure, and the potential for long-term cannabis addiction.

Long term, I've seen impacts of cannabis users being addicted. They could quit everything else but cannabis. So it's an addiction. It could be an addiction, an addictive habit.

Some participants spoke about the use of cannabis for leisure or as an emotional numbing substance, which can potentially lead to addictive behaviours. Alternatively, other participants felt that important context was missing from this finding, instead considering cannabis use as a form of harm reduction and framing it as a positive coping tool that can be used in place of potentially more harmful

substances and behaviours. This reflection situates cannabis as a protective factor against the use of other substances, rather than as a harmful or addictive substance.

Actually, their cannabis use is their way of coping that is a relatively harmless or helpful way to deal with life circumstances that, for a variety of reasons, unfortunately, are quite challenging. And sometimes maybe it's not called a strength-based solution, but it is a way of coping that's not as harmful as other options.

Similarly, another participant stressed that perceptions of cannabis as a gateway drug are oversimplified, noting that cannabis use does not necessarily lead to illicit drug use, but may be used as a coping mechanism in tandem with or in place of illicit substances.

In summary, potential differences in health behaviours influence the ways in which cannabis use manifests at the individual level. As summarized below, understanding the complex motivations for cannabis use, the contexts in which it is used, and sources where it is accessed presents a more complete picture of how cannabis use is perceived in the realm of substance use and health.

There's different ways that people use cannabis, OK. The youth … they overdo it. They always want to try, they're curious— and it's normal that they should be curious— but mixed with alcohol and mixed with acid and mixed with all kinds of things—I think it's not healthy.

Health and Health Care

Health and health care relate to cannabis use for First Nations communities in various ways, including its ties to general individual health, chronic conditions, and access to health care services. The quantitative findings were consistent with participant feedback regarding the interaction between cannabis and health

conditions. The presence of chronic health conditions, and particularly conditions that can potentially be treated with cannabis, was a reported motivator for cannabis use among First Nations individuals.

Examples of motivators for cannabis use to support physical health identified by participants included the use of cannabis for the treatment of nausea during cancer treatments and for chronic pain for various conditions. In fact, as highlighted below, some individuals may turn to the pain relief properties of cannabis when more mainstream health supports are insufficient.

And I think about some of the older people that I know that live in First Nations and the medicines—the pharmaceutical medicines— that are provided are usually not enough to reduce the pain. And so a lot of them turn to cannabis to reduce that pain because they find that the nurse or the clinic isn't willing to listen to their pain and thinks that their threshold is higher or something.

According to participants, the use of cannabis for physical health conditions is being increasingly explored in First Nations communities, with one participant noting the potential of cannabis being included as a benefit through the NIHB program.

I hear a lot about people using it for chronic conditions … The first discussions we had, when cannabis was legalized, was around if NIHB is going to include it as a benefit … And the communities kept saying, "Well, people are using it and it has … anecdotally, seeing these benefits, so we might want to investigate it."

One participant also suggested that adults may be exploring the use of CBD oil[45] to support their physical health, noting that it is a more natural alternative to pharmaceutical options.

I know some older adults who take medical

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[45] Cannabidiol (CBD) is one of hundreds of chemical substances contained in the cannabis plant. "CBD is not intoxicating and may reduce some of the effects of tetrahydracannabinol (THC); however, it does have an effect on the brain" (Health Canada, 2020, paras. 1-2).

cannabis for pain in the form of CBD oil, as it may be more natural, with fewer side effects, compared to opioids and other pharmaceutical options.

This suggests the potential of medical cannabis (and other natural medicines) to be included in the NIHB formulary as a strategy to provide an alternative to long-term pharmaceutical drug use or opioid use.

The correlation between the use of cannabis and consulting health services brought forth reflection from participants who shared that individuals may seek out both mainstream and traditional health services when already using cannabis for their health concerns. This suggests that consultation with health services should not necessarily be interpreted as a motivator for cannabis use, but a correlation due to existing health concerns. Another participant shared that the association between cannabis use and consultation with health services may be an indicator that they are not receiving appropriate mainstream services, turning to cannabis in place of other forms of therapy or pain relief.

> *... it says there having consulted mental health services, doctor, nurse, or traditional healer. So that was associated with higher cannabis use? ... OK, so could that be an indicator that they're not getting appropriate services? Because I think a lot of it could be that they're using the medication because they're not being able to access any other forms of therapy or pain relief or whatever it might be, right? ... I don't know if there's a way to dig deeper or if we have data on that, or if that's something that we could recommend for further research.*

This idea gains support in the finding that medical cannabis use is associated with having seen a traditional healer but not a doctor or community health nurse, indicating a need for health care but either a lack of access or interest in Western medicine. Both possibilities are likely, noted Knowledge Holders, given the well-documented health care access difficulties in many communities and the widespread mistrust of the health care system among Indigenous Peoples due to negative experiences of racism and discrimination.

In summary, health and health care factors may play a large role in influencing individual motivations to use both medical and non-medical cannabis and require attention to the physical health conditions of individuals, as well as community-level access to mainstream and alternative forms of medical treatment, including medical cannabis.

Alignment With First Nations Worldviews

Reflecting on whether the quantitative findings align with First Nations worldviews and epistemologies prompted thoughtful discussion on the diverse beliefs of communities. Gaining this contextual insight is a crucial step in framing the quantitative findings alongside lived experiences; however, the findings cannot be generalized to all individual and community experiences. This is emphasized by one participant below.

> *I think we need some qualitative data from the communities in order to see if this is actually illustrating, I guess, a First Nations worldview because I feel like we're doing exactly what non-Indigenous researchers do. We've got a data set ... but I'm not sure we've contextualized it enough in order to know if this is what people are feeling, and because the RHS goes national ... it's hard to decipher if it's working in every First Nations community and there is no pan-epistemology. There are some underlying worldview things that we have the same across the country, but again it would be hard for me to decipher if this represents the Haida Gwaii and the Cree. I won't know if it does.*

What participants were able to share are their unique perspectives, learnings, and knowledge of the historical and traditional use of cannabis in First Nations communities. Some participants shared teachings of cannabis being used historically as a medicine for ceremonial

purposes and to support wholistic wellness. According to participants, many communities harvested and used cannabis in accordance with cultural protocols, including an emphasis on respecting the spirit of the plant.

Correlations between cannabis use and mental wellness may align with First Nations worldviews in other ways, for example, in the realm of spirituality. According to quantitative findings, adults who agreed that traditional spirituality was important to them were more likely to use medical cannabis. Although this finding cannot be generalized to all individuals and communities, for some, cannabis may be seen as conducive to spirituality, particularly in contrast to other substances such as alcohol.

I think that it's actually important to note the relation, that [survey respondents] believe spirituality is important while also using medical cannabis … Alcohol disconnects you from that spiritual existence and often fills you with worse spirits. And that's why we've called them "spirits." But it's showing that cannabis is one of those things where it doesn't make people feel guilty … So I like seeing that people who are using specifically for medical reasons also [recognize the] great importance [of] spirituality, and that the two aren't mutually exclusive.

Participants discussed correlations between medical cannabis use and traditional medicine, noting that for some individuals and communities, cannabis is referred to as a natural medicine as opposed to a pharmaceutical drug or substance. In this sense, the correlation of medicinal cannabis use and consultation with traditional healers aligns with a revitalization of culture, as highlighted by a participant below.

… one thing I did notice is that with the medical users, they are consulting traditional healers, which I think is indicative of that switch to where we're actually getting back to what we used to do, where we're trying to revive our culture, we're trying to revive our medicines and … so I do see that aligning there where people, if they've made the switch from recreational use to medical use,

that they're actually consulting traditional healers.

Participants also discussed the cultural settings through which cannabis may be introduced and used, and the ties that it may have to kinship relationships and teachings. For example, a participant spoke about cannabis being introduced as a positive aspect in certain settings, such as during traditional or land-based activities (e.g., hunting trips) with family members. In these cultural settings, cannabis use can be understood by some as a protective factor that promotes bonding and relationships, while also promoting safe use of the substance through family guidance.

However, it is important to recognize that community perceptions toward cannabis are diverse, and the findings of this work will not align universally across all First Nations cultures and communities.

I would say every community is different. In my own community, I've seen the spectrum of how, from a traditionalist perspective, like to our Elders on reserve, how they viewed it as a drug, they equate it to alcohol and then we had to go through the whole process of relearning what marijuana is as a herb instead of classified and being judged as a drug … The name of our dispensary in our language means "good medicine," so we also wanted to switch the narrative on that for marijuana users. And, yeah, there's a lot of positives for marijuana use, and I do believe that it aligns.

As emphasized in the quotes below, each community is different, and each individual is able to label their use of cannabis as it aligns with their beliefs.

We hear from some partners where cannabis use can't be touched when any kind of ceremony is going to be happening. It doesn't belong, it doesn't fit, it's inconsistent with traditional or cultural ways, whereas others embrace it as an ancient medicine and whether or not individuals believe it fits and belongs, I think that can go a long way in explaining how people fit their use into those

different categories we see [in the quantitative findings]. I think it's a useful way to think about it.

... considering First Nations worldviews and epistemologies, that's a helpful lens through which to make sense of the way … things are classified [in the quantitative results]. Ultimately it comes down to the individuals deciding, in their own heads, how they want to label their use. And so, one useful way of interpreting how they do that would be to think about whether … or not they believe that cannabis fits or belongs or is appropriate or consistent with traditional ways and medicines.

In summary, participant feedback revealed the different ways in which the quantitative findings, and cannabis use in general, may or may not align with First Nations worldviews and the diverse ways in which different communities and individuals perceive cannabis use in the context of traditional healing and mental wellness. A main finding of this qualitative engagement is that community perspectives should inform all conversations regarding cannabis use, regulation, and access, as all local contexts, priorities, and attitudes are unique.

Knowledge Translation and Sharing Recommendations

How Can the Findings Benefit Mental Wellness in First Nations Communities?

According to participants, the findings can benefit mental wellness in First Nations communities in various ways. As highlighted in the quote below, the findings highlight the various factors that may influence cannabis use, including as a protective health behaviour to support wholistic wellness, and as a coping mechanism or therapeutic tool related to mental or physical health concerns.

... when we began this project, a few of the other participants voiced up front, "We know what we're going to find in terms of the

associations between cannabis use and other health or wellness outcomes. Roughly we have an idea. We know that its use is associated or correlated with certain adverse outcomes and, for example, mental health struggles." And so up front, some of the members said, "We want to tell the story beyond that; we don't want to just reconfirm kind of that stigma where we know use is associated with some outcomes but to get a little deeper and to look at, 'But why are people using?'"

The findings help to reinforce the understanding that cannabis use is not limited to "troubled" individuals which, as highlighted below, can benefit mental wellness by reducing stigma surrounding cannabis use.

It's the motivations and reasons for use that we wanted to get to, and that's something that perhaps we can't know, but we should at least be explicit about … the different reasons we can think of why people may be using and not to assume, for example, that those who use just happen to be more troubled people. That's where the stigma comes in, and that's where there's a need for narrative and to be open to alternative stories or interpretation.

In fact, this research can lead to meaningful education and learning around associations between cannabis and mental health, including an exploration of the potential benefits of cannabis to support wholistic health for First Nations individuals. Participants noted multiple topics for future learning, including in the following areas:

- Interactions between cannabis use and anxiety, and the ways that cannabis use can promote mental wellness in certain cases, while potentially exacerbating anxiety in others

- Distinctions between CBD and THC and their different properties, the different uses for both, and different modes of consumption (e.g., ingestion, inhalation, salves, etc.)

- Potential alternatives to cannabis use,

including alternative traditional medicines to be used for the same purposes

- Different views and approaches to harm reduction, including awareness of potential effects of cannabis use at different life stages, and potential long-term effects

- An exploration of how cannabis can be used safely as an alternative to other substances such as alcohol and illicit drugs.

According to participants, the findings of this study may also be beneficial for political and public health leaders to assist in starting dialogue around cannabis use in communities. Participants spoke at length about stigma, and the ways that reducing stigma through dialogue and knowledge exchange can promote safe and healthy use of cannabis for both non-medical and medical reasons. Reducing stigma has the potential to promote more openness with medical providers and supports about personal cannabis use behaviours, facilitate open dialogue with youth regarding non-medical use, and create safer access to regulated and controlled cannabis sources.

In summary, the participants believe the findings can support communities in increasing knowledge and skills related to reducing the harms of cannabis use, preventing potentially problematic use, and promoting informed decision-making and ongoing dialogue. This includes support in addressing concerns regarding quality control and regulation for testing and monitoring CBD and THC concentrations, as well as supporting communities in guarding against negative and unintended side effects of cannabis use.

… the hope at the end of the day is just to support First Nations in being more aware of these issues, recognizing that the interconnection of mental wellness and cannabis is such a huge thing. And to have the information, to have the data to help them make informed decisions on what goes on in communities is our purpose in being involved in this project.

Who Should the Findings be Shared With?

Participants provided important insights into the various audiences that the findings should be shared with, while considering community practices of knowledge sharing, consensus building, partnership, and governance. Participants discussed a number of priority populations with whom the findings should be shared, including Elders, youth, leadership, and communities.

First, many participants emphasized the importance of working closely with Elders throughout the process of knowledge translation and mobilization. Elders are valued and respected in communities and should be included throughout the process. According to participants, the process of sharing the findings with Elders should focus on seeking feedback and reflection, listening to Elders' concerns, gaining permission to move forward with sharing the findings, and allowing Elders to bring the findings forward in a way that they see as appropriate.

As discussed below, having Elders involved in knowledge translation may reduce stigma around conversations on cannabis use.

… you basically just want to share information with the Elders in a way where … they would hold similar perspectives that would help address concerns surrounding stigma. Which would then prompt conversations on this item. That would be my suggestion, because anytime Elders brought these concerns forward where they're supported with information, then conversations on stigma could be addressed in a way that is more pragmatic.

Participants also noted that findings should be shared with youth, and as highlighted below, should be communicated in a way that allows them to feel reflected in the findings.

It's not just about the leaders … but if you truly want change, you need youth who are going to champion this up … you need them

to believe that they can connect to their culture and have that sense of belonging. So how could we give that data back to youth in the communities in such a way that they feel like they're part of it? Not that they're the users, but that they can actually understand what cannabis can and cannot do for them … And how can we help them to make decisions about their life?

Other participants emphasized the importance of sharing findings with community leadership and members with the goal of providing First Nations governments with the tools, information, and knowledge to make informed decisions for their communities and to advocate for the wellness of their community members.

Finally, participants also discussed health agencies, authorities, and service providers as potential audiences for the findings, with a recommendation that programs and services be further informed by the communities they are serving.

I also think that [results] shouldn't be just given to our communities, but rather there should be briefing notes … to the Public Health Agency, [Indigenous Services Canada], or Health Canada on our findings and what this should mean for programs and services. With … the caveat … that we're just saying "these are the problems; you need to talk to the communities to find out what to do."

How Should the Findings be Shared?

Knowledge translation is an important component in ensuring that the findings of this study are shared in a way that is sensitive to community contexts and First Nations ways of knowing and learning, and in a way that resonates with target audiences. Successful knowledge translation can be achieved through meaningful framing and presentation of the findings, discussed in more detail below.

Framing of the Findings.

Participants emphasized the importance of framing the findings in a way that resonates with First Nations communities.

This means using language that captures different understandings and nuances across communities—for example, being intentional with describing what is meant between medical versus non-medical cannabis use, with consideration of how those terms may be perceived and understood by different audiences. One participant noted how this is key for Elders, in particular:

Because of the fact that our experiences here up to date have been really negative, I think we need to come up with a language that's going to be educational to our Elders 'cause they really don't fully understand … they need to know, we need to differentiate what medical cannabis does, what's the purpose. And so, I think we will have to create our own language, special language, in this area because it would really help with promoting the positiveness of what we're trying to do … the key is to get our Elders up to par so that way they can have communications with the rest of the age groups in our area.

The findings should also be grounded in First Nations ways of knowing. This includes an emphasis on strengths-based language and presentation. For example, one participant highlighted that instead of framing the findings in terms of negative impacts and patterns of cannabis use, cannabis use can also be framed as a way to cope with wellness challenges for individuals where other forms of support are lacking.

But instead of maybe the cannabis use, maybe it's talking about the other results that need to be the centre to the press. So talking about the fact that we're finding that people who are less connected, or our residential school Survivors, are finding different ways to self-soothe.

Above all, the findings should be shared in a way that incorporates community guidance, voice, and context. As highlighted below, communities should be given the chance to represent themselves within these findings and provide their own context to the findings.

… giving the communities a chance to represent their own data with their own feelings is a great way of creating a cohesiveness between this study and the people that volunteered how they felt about it and took the survey.

Incorporating community voice is a powerful way to promote community-led knowledge exchange. Participants recommended sharing preliminary findings with communities to capture community reflections and context.

Further, participants focused on the need for trust and reciprocity in sharing the findings. In particular, participants emphasized that sharing the findings should benefit communities and be presented in a way that provides helpful information and tools to the target audience. The importance of this is described in the quote below.

But one thing that we've noticed a lot in our region is we have reports like this … and the product that comes out ends up being something that is not super useful for people. It ends up being like a big wall of text … And so … you have to present it a certain way for it to maintain any kind of validity … [H]ow can this be presented in a way that communities can actually use and can get what they're supposed to get out of it?

Presenting the findings in a way that is useful to communities may include incorporating best practices in educational messaging. According to participants, some examples of useful information to be presented as part of or alongside the findings may include the following:

- Examples of what other communities are doing in terms of cannabis regulation, bylaws, and policy

- Knowledge and skills related to reducing the harms of cannabis use, particularly for youth

- Positive uses of cannabis to support wholistic health

- Different perspectives on cannabis use, including from those in the cannabis industry

Medium and Presentation.

Participants also shared valuable insights on the most effective media and presentation to communicate these findings. Ultimately, participants agreed that visual representation is an important component of knowledge translation in a First Nations context. The use of graphics, charts, and other images that promote visual learning will facilitate understanding and use of these findings. This is particularly important for those who may be making decisions based on these findings, as text-based presentations may not be read in detail, according to participants.

Participants also spoke of the importance of sharing the findings in a way that is culturally relevant to communities. As discussed by a participant below, Western forms of visual representation may not be compelling for First Nations audiences, and work is needed to determine what the best method of presentation may be.

… while I was talking about the Four Directions, I'm not sure that holds true for every First Nation in Canada. So, we've got to find equally compelling ways to put this out that represent the different cultures so that it comes across culturally. Which means Venn diagrams, while wonderful and I can understand as an academic, are not our traditional ways and this is very Western. So, we've got to figure out what is it that makes it less Western and more focused on what [each] community needs to know.

Additionally, when communicating with younger audiences, participants recommended using different social media platforms such as TikTok or Facebook, as well as webinars. This also provides an opportunity to present the findings in fun and creative ways, and engaging youth in the process of content creation for the different platforms. Alternatively, other formats and media more suited to adult populations

include television, radio, and conferences.

In summary, the quantitative data, supplemented by the qualitative data, provides an important foundation to begin to understand the relationship between cannabis use and mental wellness in First Nations communities in Canada. As emphasized throughout this report, all local contexts, priorities, and perspectives are unique, as is each person's experience with cannabis use and its relationship to mental wellness. Community insights are crucial in capturing this context and can help to tell the story of how individual, community, and national-level factors contribute to cannabis use in communities across the country.

DISCUSSION

Cannabis has been legal for recreational use in Canada for four years, and for medical use for over twenty years. On the latter, First Nations have argued that federal policy has created inequitable access to medical cannabis for their members (AFN, 2017). On the former, First Nations have pointed out the contradiction between the federal government's commitment to economic reconciliation through adoption of the United Nations Declaration on the Rights of Indigenous Peoples and their inadequate consultation and legislation to support First Nations autonomy and sovereignty over cannabis operations in their own territories (AFN, 2019, Resolution no. 36/2019). As First Nations communities continue to move forward in asserting jurisdiction over their cannabis activities, ensuring their decisions are informed by relevant, culturally appropriate data is crucial. By examining associations between cannabis use and a range of mental wellness, wholistic health, and social determinant factors, this research aims to provide First Nations leaders and community members with some of the necessary information to meet the needs and goals of their communities.

Statistical data on cannabis use specific to First Nations in Canada is scarce, and data specific to First Nations reserves and northern communities is scarcer still, with the First Nations RHS being the only national health survey for this population. While the RHS Phase 3 data examined for this research is distinct in this sense, some of its findings are similar to those of other studies in the general population; some reflect research that includes urban First Nations or non-distinct Indigenous populations, while others align with studies with on-reserve First Nations. However, the qualitative insights enhanced the quantitative data to such a degree by providing context,

critiques, and possible explanations that interpretation and comparison based on the numbers alone would be incomplete.

Qualitative engagement participants advised that the approximately 30% of First Nations adults and youth estimated to have used cannabis in the past year is likely an underestimate, as many respondents may have chosen to not disclose their use due to stigma associated with it prior to legalization and mistrust in the assured anonymity of their data. These concerns are not just at the individual level within communities, some participants noted, but also at the collective level in the broader society, as survey respondents may be hesitant to contribute to research that can potentially worsen stigma and harmful stereotypes about Indigenous Peoples and substance use. In either case, Knowledge Holders advised that decreased stigma in more recent years should minimize, but not eliminate, future underreporting of use.

Post-legalization, cannabis use among Canadian youth aged 15–17 declined from 20%^{E,46} to 10%^{E} between 2018 and 2019 but use among Canadians aged 25 and over increased slightly from 13% to 16%, although trends and prevalence vary widely between age and sex groups (Government of Canada, 2020). At the time of writing, national post-legalization data among First Nations populations is not yet available but data from the next RHS phase will allow for analysis of the change in use prevalence after the introduction of the *Cannabis Act*; however, the new data may also reflect a lingering increase in use prompted by stressors during the COVID-19 pandemic (Centre for Addiction and Mental Health, 2021), as well as an increase in disclosure due to decreased stigma

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46   E signifies high sampling variability, interpret with caution.

associated with use.

Of the three-in-ten First Nations adults who reported having used cannabis in the past year for the 2015/2016 RHS Phase 3, slightly more than one-third (or 11% of all adults) indicated having used cannabis for medical purposes; this proportion is similar to the 37% of adults who had used cannabis among the general Canadian population who also reported using it for medical purposes in 2017 (Health Canada, 2018). As with the RHS data, the Health Canada data source does not have further information on how the medical cannabis was obtained or whether it was prescribed by a health professional. RHS survey respondents, advised engagement participants, could be interpreting "medical use" through a First Nations worldview of traditional or cultural healing, although the compatibility of cannabis itself with First Nations' traditions and culture may vary by region and Nation and is debated within these realms (Deer, 2018; Monkman, 2018). Knowledge Holders also pointed out that, in some communities, cannabis may be more easily accessible than other health care interventions and have fewer risks and side effects than some pharmaceutical treatments.

Also similar to the general population, a little more than one-third of First Nations adults who used non-medical cannabis reported daily or near-daily use, compared to 32% of all Canadian cannabis users aged 15 and over (Health Canada, 2018). Proportions of youth who used cannabis daily, however, differ between populations: RHS Phase 3 data showed that one-third of First Nations youth who used cannabis, or about 9% of all youth, did so daily—higher than the daily use rate among non-Indigenous grade 9–12 students (2%), and lower than that of off-reserve Indigenous students (16%; also grades 9–12) found in 2014/2015 Canadian Student Tobacco, Alcohol and Drugs Survey data (Sikorski et al., 2019).

The higher frequency of use among adults who used medical cannabis in First Nations communities—nearly half used daily or almost daily—is not unexpected; a 2015 survey of approved medical users in the general Canadian population found that over three-quarters reported using cannabis every day or nearly every day in the past three months (Shiplo et al., 2016).

Where cannabis is found to have health effects, they are more strongly associated with daily use versus less frequent use patterns (National Academies of Sciences, Engineering, and Medicine [NASEM], 2017). Daily (vs. less frequent) cannabis use is also associated with significantly higher rates of CUD (NASEM, 2017), something the community Knowledge Holders and health experts were cognisant of during the qualitative engagements. They noted that many Elders have witnessed the harms of substance addictions in their communities and worry that increased cannabis access will lead to an increase in cannabis dependence and addiction among their members, especially youth. However, they also noted that a regulated, safe, labelled cannabis supply is preferable to a black market, potentially laced product from unscrupulous dealers.

Demographics and Environment

Despite Indigenous youth reportedly initiating cannabis use at younger ages than non-Indigenous youth (Sikorski et al., 2019), the trends in prevalence of use by age group are similar, with use rates peaking in the late teen/early adult years for both populations. Different perspectives and lower stigma of cannabis use among younger adults can help explain their higher use rates, said interviewees in the engagements. However, the prevalence of cannabis use among middle and older aged adults appeared to be increasing prior to legalization (Keethakumar et al., 2021) and data indicates that this trend has continued post-legalization (Government of Canada, 2020). In the oldest age group, the gap in use prevalence between First Nations (5% of those aged 65 and older) and Canadians in general (2–4% of those aged 70 and older) (Keethakumar et

al., 2021) is diminished. In 2017, as much as 39%–56% of middle and older aged Canadian adults who used cannabis reported that theirs was medical use (Keethakumar et al., 2021); during engagements, Knowledge Holders advised that medical cannabis use among older First Nations community members may increase somewhat in the coming years as they become more aware of its potential therapeutic benefits and options and as stigma continues to decrease.

A notable difference in cannabis use between First Nations youth and adults is its relative prevalence in males and females: female youth were more likely to use cannabis than male youth, yet the opposite is true among adults. Other studies have also found that female Indigenous youth, including those living off reserve, use cannabis, tobacco, and alcohol at higher rates than male Indigenous youth (FNIGC, 2016, 2021c; Sikorski et al., 2019), even though cannabis use is more prevalent among males than females among both youth and adults in the general Canadian population (Government of Canada & Health Canada, 2021; Health Canada, 2018). Qualitative findings from a 2021 FNIGC study suggest that higher tobacco use among female vs. male youth may be explained by female youths' experiences of additional daily stressors and mental health challenges often tied to gendered "emotional work" within their households and communities (FNIGC, 2021c, p. 34). Another 2021 FNIGC study reinforced this finding, noting that Indigenous girls and women face more mental health challenges related to caregiving burdens but also to the ongoing devaluation and disproportionate threats to safety this population faces in Canadian society (FNIGC, 2021b). Applying the FNMWCF, these mental wellness challenges can be viewed as a need for purpose in their daily lives and hope for the future to strengthen wholistic balance (Health Canada & AFN, 2015).

A 2021 gender-balanced analysis by FNIGC found that Two-Spirit and transgender individuals living in First Nations communities experience significant challenges with mental health and well-being and relevant supports (FNIGC, 2021b). Yet, in contrast to the existing literature indicating that gender diverse individuals generally use cannabis at higher rates than cisgender individuals, this study found that Two-Spirit youth are less likely to use cannabis compared to cisgender youth, and Two-Spirit adults are less likely to use cannabis compared to cisgender males. More research involving Two-Spirit First Nations individuals is needed to better understand the relationship between gender identity, mental wellness, and cannabis use.

Any research involving mental wellness and cannabis use in First Nations, asserted the advisory group, must consider the intergenerational trauma and impacts of colonial practices such as the IRS System. These impacts affect physical, spiritual, mental, and emotional dimensions for individuals and family, household, and community environments, disrupting purpose, hope, meaning, and belonging within each; in alignment with the FNMWCF, these impacts are major mental wellness factors in a First Nations context (Health Canada & AFN, 2015). Several advisory group members noted that cannabis is commonly used to cope with or avoid feelings of distress, so the finding that parental and grandparental IRS attendance was associated with higher odds of non-medical and medical cannabis use was in line with their expectations. Further implicating a positive relationship between IRS experiences and cannabis use is the finding that Survivors, who attended IRS themselves, were twice as likely to use medical cannabis (vs. abstaining) compared to adults with no personal or family IRS attendance, despite being in the older age groups with low prevalence of cannabis use. When it comes to the role of medical cannabis in coping with such trauma, engagement participants recommended that future research qualitatively examines the perceived effectiveness and benefits from the medical users' perspectives.

Boredom and a lack of alternative activities in small and medium-sized communities

were cited by engagement participants as motivators for using cannabis, particularly for youth; previous research supports this notion (Spillane et al., 2020). Qualitative data also showed that the prevalence of health care access and mental wellness challenges are other possible motivating factors in many smaller communities. In such environments, youth and adults may perceive a lack of purpose and meaning in their lives, key elements of mental wellness in a First Nations context (Health Canada & AFN, 2015). Since rural and remote communities often face these same issues, some participants expressed surprise that they were not associated with higher odds of cannabis use. However, this is consistent with the literature. The one significant finding for remoteness in this study is that adults living in communities with no year-round road access were less likely to use cannabis compared to those in urban communities, potentially due to a lack of availability. In fact, possible decreased availability of other illicit drugs and increased access to cannabis from numerous dispensaries that have proliferated in recent years in many smaller communities were also mentioned in engagements as influences on cannabis use, though also regionally variable.

Well-Being and Personal Safety

As hypothesized based on the literature and the advisory group's expertise and experience, analysis of every mental wellness indicator showed that mental health challenges, such as psychological distress, lower wholistic balance, and anxiety or mood disorder diagnoses, were associated with cannabis use. The RHS data and the existing literature are not able to establish the direction of causality for this association, although advisory group members recognized that cannabis use can lead to mental health risks. However, the qualitative engagements also highlighted the high prevalence of mental wellness challenges in First Nations communities due to a host of other historical, economic, social, and environmental factors, suggesting these could be motivators for

cannabis use.

Youth generally showed stronger associations between cannabis use and poor mental health outcomes, which is concerning regardless of the direction of association. While it is not certain whether cannabis can play a therapeutic role in treating certain mental health conditions, there is strong evidence that initiating use in adolescence negatively affects cognition and neuropsychological performance, even after a period of abstinence (Camchong et al., 2017). Frequency of cannabis use also matters: Bivariate analyses (which did not control for age or sex) showed a clear trend across mental wellness indicators of non-users having the highest proportions with positive outcomes, followed by youth who used cannabis occasionally, with those who used cannabis daily having the lowest proportions reporting positive mental wellness.

Among adults, the same associations exist between mental wellness outcomes and both non-medical and medical cannabis use, although differences between non-use, occasional use, and daily cannabis use are less drastic than they are for youth, and the associations are strongest for those who use medical cannabis. With medical use being self-labelled, it is possible that medical users perceive their cannabis use as treating pre-existing mental health issues, a motivation that was reinforced in the qualitative engagements; however, the data does not tell us whether their medical cannabis use is specifically for mental health conditions. Of note, a U.S. study found that use reduction in heavy cannabis users led to improvements in anxiety and depression (Hser et al., 2017), and another study exploring the link between cannabis and psychological distress recommends treating psychological distress during interventions to reduce cannabis use, as it may eliminate this distress as a motivator and improve treatment outcomes for CUD (Weinberger et al., 2019).

Taken together, the above suggests there may be more effective treatments than medical cannabis, with fewer risks of negative side

effects, for certain mental health conditions. What most studies do not consider, however, are the unique contexts, stressors, and challenges regarding mental wellness challenges in many First Nations communities, as described during the qualitative engagements. When access to other mental health treatments is limited, and the stressors are pervasive and ongoing, the short-term relief from anxiety and depression symptoms that cannabis can bring may be the best available option. Whatever the direction of the relationship between cannabis and mental wellness may be, providing access to reliable, culturally appropriate mental and wholistic health care and focusing on promoting members' purpose, hope, belonging, and meaning within communities could be more effective in improving mental wellness among members than interventions targeting cannabis use on its own.

Linked to one's sense of purpose, hope, and meaning is their self-esteem, a factor reported in the literature and engagements as key to influencing the decision to use cannabis, especially among youth. This was borne out in the data showing that youth with good self-esteem were significantly less likely to use cannabis compared to those with poor self-esteem. However, having a strong sense of community belonging was associated with cannabis use only among adults. It may be that there is a myriad of other factors that affect feelings of belonging during adolescence that obscure any relationship with cannabis use, or that lower stigma of cannabis use among youth means it does not affect their sense of belonging as much as it might for adults. More focused qualitative research on this concept would help with better understanding of community belonging.

Related to feelings of belonging, hope, and meaning, experiences of aggression, bullying, and cyberbullying were associated with higher odds of cannabis use for youth and adults, although for the latter, cyberbullying was associated only with medical use. The impact on mental health caused by these stressful and traumatic experiences can certainly influence individuals to use cannabis or other substances to cope. Community programming that addresses issues of safety, violence, and bullying in communities can complement initiatives that focus on mental wellness or substance use.

While youth are in school, they generally have a sense of purpose and some limits to opportunities to use cannabis; this study found that dropping out is associated with higher odds of cannabis use but does not show which one tends to precede the other. However, the FNMWCF tells us that if individuals do not have purpose in their daily lives, whether through school, employment, family, culture, or community endeavours, their mental wellness may suffer (Health Canada & AFN, 2015).

Language and Culture

The findings for language and culture factors were among the more complex to analyze, echoing other studies that found inconsistent links between resilience and mental wellness and aspects of culture or spirituality (Andersson & Ledogar, 2008; Hahmann et al., 2022). The qualitative engagement feedback generally supported the idea that higher cultural connectedness should be associated with lower cannabis use, as cannabis is often not compatible with First Nations spiritual practices and traditions; however, they recognized that this could vary widely between Nations, regions, and communities.

Forms of engagement in cultural activities examined in this study demonstrated the complexity well: participation in (unspecified) community cultural events was the only language and culture factor associated with non-medical cannabis use among adults, with those who attended these events at least sometimes having lower odds of non-medical cannabis use. Participation in traditional physical activities, including hunting, fishing, snowshoeing, berry picking, traditional dancing, etc., was associated with higher odds of cannabis use for youth and of medical cannabis use for adults, but being physically active in

general had no association with cannabis use after controlling for age and sex. Additionally, youth who participated in traditional activities (which may include drumming, singing, dancing, etc.) outside school hours had lower odds of being cannabis users—a potentially conflicting finding since traditional dancing is an activity included in both variables. Some engagement participants suggested that the term "outside of school hours" implies activities by youth currently attending school, which we have determined is also associated with lower odds of cannabis use for youth. This also aligns with the research showing that positive involvement in extracurricular activities can be a protective factor (Hodder et al., 2016). Further, the findings echo those for alcohol use among adults in analyses based on the off-reserve 2012 Aboriginal Peoples Survey (APS) data, which found that those who had hunted, fished, or trapped in the past year were more likely to drink heavily than those who had not, whereas those who had participated in traditional arts or crafts that were less likely to drink heavily (Ryan et al., 2016).

Basic or better proficiency in their First Nations language is associated with higher odds of cannabis use for youth, and only basic First Nations language ability was associated with higher odds of medical cannabis use for adults. One engagement participant suggested that stronger First Nation language skills may be linked with language and communication barriers outside of the community, impacting one's social wellness and feelings of belonging in environments where their language isn't spoken. More focused research is needed to better understand the relationship between language ability and cannabis use and to uncover other individual and community correlates linked to both.

The most striking trend that emerged from analysis of culture and language factors is their consistent positive relationship with medical cannabis use, found for all factors but one. The exception, participation in community cultural events, had no association with medical cannabis use, but it is possible that

such participation is linked to the weaker sense of community belonging reported by many medical users. But medical use was associated with participation in traditional physical activities, importance of traditional spirituality, basic First Nations language ability, and interest in using traditional medicine. Engagement participants noted that the latter association would be expected in communities where cannabis itself is considered a traditional medicine. Another perspective was that medical users, who tend to have more chronic health conditions, may have access difficulties, disinterest, or even an aversion to Western medicine to treat their health conditions, instead turning to more natural and traditional medicines. Given the FNMWCF's emphasis on culture as the foundation underpinning wholistic and mental wellness (Health Canada & AFN, 2015), medical cannabis users could find themselves engaging with their culture as medicine in the physical, emotional, mental, and spiritual dimensions.

Health Behaviours

Several qualitative engagement participants and literature sources noted the harm reduction potential of cannabis as a substitution for other more harmful illicit drugs and prescription drugs (Lucas et al., 2019; Siklos-Whillans et al., 2021). This cannabis-as-substitution could take the form of an alternate treatment for medical issues for which other treatments may have less desirable side effects or be inaccessible, or it could be used recreationally in place of harder drugs, alcohol, and tobacco, known to have greater health risks and impacts and potential for physical dependence (Siklos-Whillans et al., 2021). It is difficult to support these possibilities with the statistical data in this study, which did not examine tobacco and alcohol use but consistently found illicit and prescription drug use associated with higher odds of concurrent non-medical and medical cannabis use among First Nations individuals. While it is possible that cannabis use is influencing those who use other illicit and licit substances to use less than they otherwise would, it is not possible to

determine this with the available survey data. Previous research, however, indicates that even with concurrent use of other substances, using cannabis can reduce their use and harms (Siklos-Whillans et al., 2021). For example, used with opioids, cannabis can augment pain relief potential, assist in keeping the dosage low, and reduce withdrawal symptoms (Lucas, 2017).

In cases where cannabis is being used in addition to (rather than instead of) other substances, Knowledge Holders suggested the underlying motivation could be the same for all the substances: either as treatment for medical condition(s) or a way to escape or cope with stress and experiences of trauma. Alternatively, studies with the general population have found that certain personality traits, such as neuroticism, impulsiveness, and nonconformity, tend to be associated with substance use (Walton & Roberts, 2004). More focused research on motivations behind substance use, including qualitative methods, can provide more insight into these findings.

The data in this research further showed that most forms of misuse of prescription pain relievers, sedatives, and stimulants were also associated with higher odds of cannabis use among youth and non-medical and medical cannabis use among adults. This might suggest that concurrent cannabis and prescription drug use are not motivated by their therapeutic benefit for medical conditions. However, the notable exception to this trend is that adults who indicated the form of prescription-strength drug misuse that involves use without a prescription was not associated with a higher likelihood of medical cannabis use. Even though misuse in the forms of using prescription drugs in higher doses or for longer than prescribed and in the form of tampering (e.g., crushing, snorting pills) were associated with higher odds of using non-medical and medical cannabis, the medical users used drugs prescribed to them, indicating some level of medical need. These medical cannabis users' misuse of prescribed drugs could indicate

attempts to strengthen their therapeutic effect as a response to insufficient access to medical care or to insufficient prescribed dosage; as one engagement participant pointed out, the latter situation is commonly experienced by First Nations patients due to racist perceptions of drug use and pain tolerance in the health care field.

While several SMEs and Knowledge Holders noted that cannabis can be considered a less harmful alternative to other substances, others emphasized that it is not harmless itself, urging those who use, or are considering using, cannabis to consider the potential physical and mental impacts of long-term use, the possibility for addiction, and the ineffectiveness of using any substance to avoid underlying problems rather than addressing them.

Health and Health Care

Although worse self-rated health was found to be associated with all types of cannabis use among youth and adults, having chronic health conditions was positively associated with cannabis use for youth and only medical use for adults; adults with chronic health conditions were less likely to use non-medical cannabis (vs. abstaining). This may point to the presence of health conditions as motivation to use cannabis for symptom relief, yet cannabis is not known to have a therapeutic effect for all health issues, so further analysis examined a subset of chronic conditions commonly linked to medical cannabis use.[47] Having any of these health conditions is associated with over twice the odds of medical cannabis use (vs. abstaining) when compared to having no chronic health conditions and when compared to having other chronic conditions only. However, no associations were found between the presence of other chronic conditions and medical or non-medical cannabis use. This provides more support for the argument that self-labelled medical use is providing a therapeutic benefit for individuals who need it.

Much research has yet to be done to gauge

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[47] See Appendix A, Variable Information Table, for list of conditions included in this subset.

the full spectrum of health benefits and risks regarding medical cannabis use; the subset of chronic health conditions includes those that have strong support for cannabis' therapeutic benefit (e.g., multiple sclerosis, chronic back pain, nausea caused by HIV/AIDS or cancer treatment) and conditions for which there is a smaller but growing body of evidence for therapeutic use (e.g., certain types of epilepsy, intestinal issues, and mental health issues). A diagnosis of any of the conditions selected for the subset could potentially support eligibility for a medical cannabis prescription in Canada, but only those with the strongest evidence base of therapeutic benefit tend to be covered by private insurance plans (MarijuanaMedInfo Inc., 2016). Since the Government of Canada's NIHB program provides a range of medically necessary goods and services, including prescription medications, to eligible First Nations clients, the current exclusion of cannabis from their drug benefit formulary creates, as AFN Chiefs stated in 2017, an "inequity amongst comparable drug benefit programs" (AFN, 2017, Resolution no. 03/2017).

People who used medical cannabis tended to experience more difficulties accessing adequate health care in general, including NIHB services and traditional medicine. Given the stronger association of medical cannabis use with having health challenges, compared to no cannabis use and non-medical cannabis use, these difficulties may reflect the higher number of health care needs experienced by those who use medical cannabis. These findings strengthen the possibility offered by engagement participants that medical cannabis use is a way to supplement or replace other forms of health care that are inadequate or inaccessible in many communities. Some participants suggested that better information and awareness of the types of cannabis products (e.g., THC and CBD concentrations) and forms of consumption (i.e., smoking, vaporizing, and eating/drinking) could help them most effectively address their health care needs while minimizing unwanted side effects and health risks of using medical cannabis.

Regulated sources of supply are best for this application, one participant advised, but presently the stigma of being labelled a drug user may influence people to turn to discreet black-market suppliers instead.

As noted by a couple of SMEs, the findings on the last time various health care providers were consulted are difficult to interpret without more insight into individuals' levels of need and access for each. However, visiting a doctor or nurse is generally more common than accessing mental health services, so the association between the latter and non-medical and medical cannabis use is indicative of a particular need, and a certain level of access, for mental health care among people who used cannabis, but it is not apparent whether all their mental health care needs were met. On the other hand, the level of health care need found among adults who used medical cannabis makes it surprising that there was no association between medical use and having visited a doctor or nurse at any time. This, again, can point to access difficulties, but Knowledge Holders also noted that many Indigenous Peoples avoid seeing doctors or nurses due to experiences of racism and discrimination in the health care system.

While it is possible that some adults who used medical cannabis consider it to be a traditional medicine—and this possibility is supported by the finding that having consulted a traditional healer and used traditional medicine are associated with medical cannabis use—the finding that adults who use non-medical cannabis have a negative association with using traditional medicine contradicts this. Cultural and traditional differences between Nations and communities could help explain this discrepancy.

LIMITATIONS

This study is specific to First Nations who live in First Nations reserves and northern communities and findings are not generalizable to First Nations urban populations. Several additional data limitations should be noted

when considering the findings of this research.

When data is self-reported in surveys, social desirability bias can be an issue for sensitive or stigmatized topics where respondents might be less likely to report behaviours linked to social disapproval. Therefore, the prevalence and frequency of cannabis use in First Nations communities in these findings may underestimate the true extent of its use. The RHS Phase 3 collection period of 2015/2016 was also before cannabis was legalized for non-medical use, so more recent changes to cannabis behaviours and attitudes are not captured.

Attitudes, cannabis use patterns, and cultural perspectives—and, therefore, the effect of social desirability bias—about cannabis use can vary between Nations, regions, and communities. Another limitation of this study is that it examines data aggregated at the national level only, so it is unable to reveal these differences or other differences in mental wellness and social determinants of health that vary regionally. Even if the scope of this research did accommodate regional-level analysis, another limitation of the data is that the sample size of individuals who used cannabis is not large enough to enable meaningful analysis of all variables at the same level of detail when broken down by region.

The sample size limitation affected the possibilities for grouping youth and adults who use cannabis by frequency of use as well. Analyses examining "occasional" cannabis use combine three response options ("weekly," "monthly," and "once or twice") into this category, which does not allow for comparison of associations that may differ for individuals who used cannabis every week versus just once or twice in the past year. However, this grouping was necessary to keep the analysis scope manageable and the sample size robust enough for meaningful analysis.

Conclusions drawn from the associations with medical cannabis use in these findings have the limitation that "medical use" is not strictly defined but rather up to the interpretation of survey respondents who had the option of indicating whether any of their past-year cannabis use had been for medical purposes. The available data does not indicate whether all an individual's cannabis use was for medical purposes, what those purposes were, or whether it had been prescribed or advised by a health care professional.

CONCLUSIONS AND RECOMMENDATIONS

The statistical data generated for this research clearly show that cannabis use in First Nations was associated with all mental wellness factors and most wholistic wellness and social determinant factors examined. Many of these associations are in line with previous cannabis research, but this study contributes to the much smaller body of knowledge specific to cannabis use among First Nations people living in First Nations communities. It also examines associations with self-labelled medical use among adults and includes variables developed specifically by and for First Nations, reflecting their distinct history, worldview, challenges, and cultures.

The first recommendation for future research is the need to gather and analyze cannabis use data following the legalization of cannabis in 2018. With data collection having started in late 2022, the RHS Phase 4 includes additional questions on cannabis use and types of use.

The analyses of First Nations language and culture variables comprise much of this study's unique contributions, revealing interesting, if not conclusive, results. Among youth, some forms of traditional activity are positively related to cannabis use, while others are negatively associated, and First Nations language proficiency is linked to cannabis use. More consistent and clear, however, was the relationship between language and culture factors and medical use among adults: nearly every indicator of connection to traditional cultural activities, spirituality, medicine, and language was linked to higher odds of

using medical cannabis, yet participating in community cultural events was linked to lower odds of using non-medical cannabis. Additional focused qualitative and quantitative research on indicators of connection to First Nations language, traditions, culture, and spirituality should be done to reveal which aspects have positive or negative associations with medical and non-medical cannabis use and under which circumstances.

Any meaningful exploration of First Nations cultures and traditions regarding cannabis must recognize that these vary by region, community, and Nation. The most consistent recommendation for future research from the advisory group was to produce this study's quantitative and qualitative analyses at the regional and community levels. Even at the national level, the RHS Phase 3 data was not robust enough to examine all categories for certain variables separately, so analyses on regional or community data subsets would be further limited by sample size and potentially necessitate the use of additional aggregating and regrouping of response categories to maintain data quality.

Another data trend found among adults who used medical cannabis was the increased health challenges and health care needs and health care access difficulties faced by many in this group. An avenue of inquiry recommended by some SMEs is a focused qualitative study on the experiences and challenges of people who use medical cannabis, looking at things like racism and other barriers to receiving adequate health care, to gain some insight into these as motivators to medicate with cannabis instead. Initiatives that focus on addressing health care access needs may help those who use medical cannabis receive treatments that are more effective than cannabis for certain conditions, leading to decreases in cannabis use and the health risks that come with it.

That said, this study shows that medical use is associated with having chronic health conditions for which there is evidence of therapeutic benefit, and for which some other

health benefit plans provide medical cannabis coverage. It should be shared with the NIHB program at ISC to provide support for AFN Resolution #03-2017, calling for open benefit coverage of medical cannabis for First Nations. Qualitative research with individuals who use medical cannabis, focused on understanding perceived effectiveness of medical cannabis use, was once more recommended to better understand and build on these findings. Clinical medical cannabis research can help build the stronger evidence base needed to determine the therapeutic possibilities and risks of medical cannabis, cannabinoids, and methods of consumption for specific conditions.

There is evidence in the literature for the potential of cannabis to be used medically to treat certain conditions in lieu of prescription medications, but there is also some evidence that cannabis use can contribute to decreased use of certain illicit and prescription drugs and alcohol. The cross-sectional nature of the RHS data is limited in drawing causal conclusions such as this, but the findings surrounding concurrent cannabis and other drug use in this study are worth exploring further in more targeted studies that include a qualitative component. Sample size limitations among types of illicit drug use also make it difficult to explore the associations between cannabis use and the wide variety of illicit drugs grouped together for this analysis. It was also recommended to include data on alcohol use (excluded from this study) when exploring the association with cannabis use and other substances.

The statistical data on cannabis use and mental wellness indicators in this study show that they are greatly interconnected and that there is a need for culturally appropriate mental health supports in First Nations communities. The qualitative insights skewed toward mental wellness challenges being a motivating factor for cannabis use, suggesting that addressing these needs in communities benefits those who do not use cannabis, as well as those who do, and can lead to lower-risk cannabis use choices for both. Targeted mental wellness

research and support for female youth should be considered; given that their higher level of cannabis use relative to their male counterparts is not found among non-Indigenous youth nor among First Nations adults, they may be facing emerging challenges unique to First Nations girls and young women.

With engagement participants also emphasizing that many mental health issues in First Nations are rooted in historical trauma and its intergenerational effects, health care must be trauma-informed, meaning that practitioners understand the impacts, symptoms, and healing paths of trauma and implement this knowledge in their practices while seeking to avoid re-traumatization (SAMHSA's Trauma and Justice Strategic Initiative, 2014). In alignment with the FNMWCF, culturally appropriate mental wellness care should be supported by partners at multiple levels of leadership and government, as well as non-governmental organizations and private industry (Health Canada & AFN, 2015). Following a "systems approach" that recognizes the interconnection between all dimensions of wellness, mental wellness support needs to include not only the full spectrum of mental health services, but also services addressing other Indigenous determinants of health to promote purpose, hope, meaning, and belonging (Health Canada & AFN, 2015).

During engagement sessions, SMEs and Knowledge Holders recommended sharing results with multiple audiences, including provincial/territorial and federal governments to inform their services and programs, but primarily with community members and leaders. Among community members, Elders and youth were identified as being key groups to reach with the findings; Elders are highly respected and influential in their communities, youth tend to be highly influential among their peers, and engagement participants noted that both groups may have biases about the risks and benefits of cannabis based on outdated or inaccurate information.

Knowledge translation products aimed at promoting conversations in communities

surrounding the findings were recommended to help reduce stigma, facilitate open dialogue with medical providers, encourage informed decision-making and reduce harms around cannabis use. A variety of formats and media were suggested, but for each, visual presentation of information was recommended over text-heavy formats, and the importance of a culturally informed approach was emphasized.

Cannabis use is associated with mental wellness factors, but regardless of the direction of causality, culturally appropriate mental health support is necessary to address challenges in both areas. Such support should be wholistic, aiming for a balance of physical, emotional, mental, and spiritual wellness, and it should address key root causes of mental wellness challenges in First Nations communities, such as intergenerational trauma from IRS experiences and other harmful colonial practices. The Truth and Reconciliation Commission's 94 Calls to Action include a comprehensive set of recommended actions for all levels of government, organizations, and individuals that can rebuild wholistic wellness in First Nations communities.

However, not all forms of cannabis use are associated with poor wellness in all dimensions. This research shows that the relationships with wellness factors often differ between occasional, daily, and medical cannabis use, and in fact, several indicators of connection to First Nations language and culture were found to be more strongly associated with medical cannabis use than with no cannabis use. Among those who use medical cannabis, this study also provides evidence that they are receiving therapeutic benefit from their cannabis use, while often experiencing greater health and health care access difficulties than their peers who abstain or use non-medical cannabis. Awareness of these complexities and of the need to consider the distinct circumstances of each community regarding cannabis use in First Nations helps reduce stigma, promote dialogue, and inform future policy and research in a wholistic, strengths-based manner.

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APPENDIX A: Variable Information Table

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Cannabis Use		
Cannabis use category	Question: Have you had any of the following substances in the past 12 months? *For each substance, please select the answer that best describes your usage.* -Cannabis (marijuana, pot, grass, hash, etc.) Response options: -Never -Once or Twice -Monthly -Weekly -Daily or Almost daily Question - Adult only: In the past 12 months, have you used cannabis (marijuana, pot, grass, hash, etc.) for medical purposes? Response options: Y/N Analysis categories - Youth: -Non-user (Never) -Cannabis user (Once or Twice; Monthly; Weekly; Daily or Almost daily) Analysis categories - Adult: -Non-user (Never) -Cannabis user excl. medical (Once or Twice; Monthly; Weekly; Daily or Almost daily AND No to use for medical purposes) -Medical cannabis user (Once or Twice; Monthly; Weekly; Daily or Almost daily AND Yes to use for medical purposes)	For youth, five cannabis use frequency response options were dichotomized into two categories for analysis of past-year cannabis use prevalence and for logistic regression analyses. For adults, the five cannabis use frequency response options were similarly dichotomized and combined with the Y/N medical use variable to create a third category indicating if any past year cannabis use was for medical purposes. This new three-category derived variable was used for analysis of past-year cannabis/ medical cannabis use prevalence and logistic regression analyses.

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Cannabis use frequency category	Question: Have you had any of the following substances in the past 12 months? *For each substance, please select the answer that best describes your usage.* -Cannabis (marijuana, pot, grass, hash, etc.) Response options: -Never -Once or Twice -Monthly -Weekly -Daily or Almost daily Question - Adult only: In the past 12 months, have you used cannabis (marijuana, pot, grass, hash, etc.) for medical purposes? Response options: Y/N Analysis categories - Youth: -Non-user (Never) -Occasional user (Once or Twice; Monthly; Weekly) -Daily user (Daily or almost daily) Analysis categories - Adult: -Non-user (Never) -Occasional user excl. medical (Once or Twice; Monthly; Weekly AND No to use for medical purposes) -Daily user excl. medical (Daily or Almost daily AND No to use for medical purposes) -Medical cannabis user (Once or Twice; Monthly; Weekly; Daily or Almost daily AND Yes to use for medical purposes)	Four cannabis use frequency response options ("Never" was excluded) were examined for analysis of past-year cannabis use frequency among cannabis and medical cannabis users. For youth, five cannabis use frequency response options were regrouped into three categories for bivariate analyses. For adults, five cannabis use frequency response options were regrouped into three categories and combined with the Y/N medical use variable to create a fourth category indicating if any past year cannabis use was for medical purposes. This four-category variable was used for bivariate analyses among adults.
Demographics and Environment		
Age group	Question: What is your date of birth? Question: Are you [derived age] years old? Analysis categories - Youth: -12–14 years old -15–17 years old Analysis categories - Adult: -18–24 years old -25–44 years old -45–64 years old -65+ years old	Age was derived from date of birth and verified. Age in years was then grouped. Youth ages were grouped into two categories for analysis. Adult ages were grouped into four categories for analysis.

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Sex	Question: Are you male or female? Response options: - Male - Female	N/A
Adults, Youth 15–17 only: Gender identity	Question: Are you male or female? Response options: - Male - Female Question: Do you identify as being Two-Spirited/Transgender? Response options: Y/N Analysis categories: - Cisgender male - Cisgender female - Two-Spirit or transgender	Responses to the biological sex question and the gender identity question were combined to derive a three-category gender identity variable. Among youth, only those aged 15–17 were eligible to respond to the gender identity question, so those younger than 15 were excluded from analysis for this variable. Regression analyses were run using two different reference categories so that the odds of being a cannabis/medical cannabis user for each of the three analysis categories could be compared against one another.
Family or personal residential school attendance	Question - Adult only: Did you attend a residential school? Response options: Y/N Question: Were any of your family members ever a student at residential school?[48] Response options: - Mother or female guardian - Father or male guardian - At least one grandparent Analysis categories - Youth: - No parent or grandparent attended (No family attendance) - At least one grandparent but no parents attended - At least one parent but no grandparents attended - At least one parent AND at least one grandparent attended Analysis categories - Adult: - Did not attend AND no grandparent or parent attended (No personal or family attendance) - Did not attend AND at least one grandparent attended - no parents attended - Did not attend AND at least one parent attended - Attended (Survivor)	For youth, residential school attendance by each of three categories of family members was included in analysis. These were regrouped into four categories for analysis. For adults, residential school attendance by each of three categories of family members was included in analysis. These were regrouped into three categories and combined with the Y/N personal residential school attendance variable to create a four-category variable for analysis. Cases were excluded from analysis for this variable if missing responses necessary to determine which analysis category they fall into.

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[48] See RHS Phase 3 questionnaire for full list of family member categories: Youth (p. 35): https://fnigc.ca/wp-content/uploads/2020/09/11fb67464a61cd87b760eccf5da742e4_RHS-Youth-Phase-3_Final.pdf; Adult (p. 31): https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Adult only: Household crowding	Question: How many children or youth under the age of 18 live in your household the majority of the time? *If none, please enter "0."* Question: Including yourself, how many adults 18 years and over currently live in your household the majority of the time? Question: How many rooms are there in your home? *Include kitchen, bedrooms, living rooms and finished basement rooms. Do not count bathrooms, halls, laundry rooms and attached sheds.* Analysis categories: - Not crowded: One person or fewer per room - Crowded: More than one person per room	For each case, responses for the # of household occupants questions were combined to calculate total occupants. This number was used with the # of rooms in household question to calculate # of persons per room, which was then used to categorize households as crowded or not.[49]
Community size	Question: Based on respondent community. Regrouped analysis categories: - Small (pop. 75–299) - Medium (pop. 300–1,499) - Large (pop. 1500+)	Community size category was derived from community by FNIGC. Size was based on community population according to INAC Indian Registry counts of those living on reserve or on Crown land, which was then assigned to one of three categories for analysis.
Community remoteness	Question: Based on respondent community. Regrouped analysis categories: - Urban - Rural - Remote - Special Access	Geographic remoteness category[50] was derived from community by FNIGC. Four Remoteness categories were regrouped into three categories for analysis.
Community strengths	Question: What are the main strengths of your community?[51] (*Mark all that apply*) Analysis categories: - 0–5 strengths - 6–15 strengths - 16+ strengths	Each of 22 possible identified strengths were counted to determine total number for each case. Counts were categorized into three groups for analysis. Among youth, only those aged 15–17 were eligible to respond to this question so those younger than 15 were excluded from analysis of this variable. Cases were also excluded from analysis if missing responses for > 5 strengths

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49   See https://www23.statcan.gc.ca/imdb/p3Var.pl?Function=DEC&Id=100726 for more information on calculating and classifying number of persons per room.

50   Geographic remoteness classification of communities is based on their distance to the nearest service centre and the accessibility to that centre. Source: http://publications.gc.ca/collections/Collection/R22-1-2000E.pdf

51   See RHS Phase 3 questionnaire for full list of community strengths: Youth (p. 35–36): https://fnigc.ca/wp-content/uploads/2020/09/11fb67464a61cd87b760eccf5da742e4_RHS-Youth-Phase-3_Final.pdf; Adult (p. 31): https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Well-being and Personal Safety		
Self-rated mental health	Question: In general, would you say your mental health is...? Regrouped response options: - Excellent; Very good; Good - Fair; Poor	Five response options were regrouped into two categories for analysis.
Wholistic balance (physical, mental, emotional, spiritual)	Question: How often do you feel in balance physically, emotionally, mentally, and spiritually? Regrouped response options for each element of balance: - Balanced (All of the time; Most of the time) - Not balanced (Some of the time; Almost none of the time; None of the time) Analysis categories: - In balance - Not in balance	For each element (physical, emotional, mental, and spiritual), five response options were regrouped into two categories indicating the presence or absence of balance. Individuals with four "balanced" elements were considered wholistically balanced, while those with three or fewer elements in balance were considered "not in balance." Cases were excluded from analysis of this variable if missing responses for any of the four elements.
Psychological distress	Question: Based on how often a respondent has experienced each of 10 dimensions of psychological distress over the past month (Kessler Psychological Distress Scale [K10][52]) Response options for each dimension: - All of the time - Most of the time - Some of the time - A little of the time - None of the time Analysis categories: - Likely to be well (< 20) - Likely to have a mild mental disorder (20–24) - Likely to have moderate mental disorder (25–29) - Likely to have a severe mental disorder (>=30)	Responses for each of 10 dimensions were coded and summed to produce a score ranging from 10 to 50, which was categorized into one of four psychological distress levels for each case. Cases missing responses for two or more statements were excluded from analysis of this variable.

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[52] See RHS Phase 3 questionnaire for full list of K10 questions: Youth (p. 26–27): https://fnigc.ca/wp-content/uploads/2020/09/11fb67464a61cd87b760eccf5da742e4_RHS-Youth-Phase-3_Final.pdf; Adult (p. 27–28): https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf. See also https://www.tac.vic.gov.au/files-to-move/media/upload/k10_english.pdf for scoring and classification information.

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Anxiety, mood disorders (from chronic conditions question)	Question: Have you been told by a health care professional that you have any of the following health conditions? *We are interested in "long-term conditions" which are expected to last or have already lasted 6 months or more and that have been diagnosed by a health professional.* Response options: Y/N Conditions analyzed: - Anxiety disorder such as a phobia, obsessive- compulsive disorder or a panic disorder - Mood disorder such as depression, bipolar disorder, mania or dysthymia	Responses for two mental health conditions included in an overarching question about 35 long-term health conditions were combined to create a dichotomous variable indicating the presence or absence of one or both of the conditions. Cases missing responses for both conditions, or with one missing and one "No" response, were excluded from analysis of this variable.
Need Mental/ Emotional support	Question: In the past 12 months, did you feel like you needed to see or talk on the telephone to anyone about your emotional or mental health? Response options: Y/N	N/A
Community belonging	Question: How would you describe your sense of belonging to your local community? Would you say it is …? Regrouped response options: - Very strong; Somewhat strong - Somewhat weak; Very weak	Four response options were regrouped into two categories for analysis.
Self-esteem[53] (Youth only)	Question: Please indicate how strongly you agree or disagree with the following statements. *Please check a response for each phrase.* -In general, I like the way I am -Overall, I have a lot to be proud of -A lot of things about me are good -When I do something, I do it well Response options: -Strongly agree -Agree -Neither agree nor disagree -Disagree -Strongly Disagree Analysis categories: - Generally poor self-esteem (0–11) - Generally good self-esteem (12–16)	For each of four statements, agreement levels were coded numerically and summed to produce scale scores ranging from 0 to 16, which were grouped into two categories. Cases missing responses for > 1 of the statements were excluded from analysis of this variable.

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[53]   See Marsh, H.W. & O'Neill, R. (1984). Self Description Questionnaire III: The construct validity of multidimensional self-concept ratings by late adolescents, *Journal of Educational Measurement*, 21(2), 153–174.

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
School attendance (Youth only)	Question: Are you currently attending school? Response options:Y/N Question: Up to now, what is the highest grade that you have completed? *For example, if you are currently in grade 8, then the last grade you completed was grade 7.* Analysis categories: - Not attending school AND not completed secondary school - Attending school AND not completed secondary school - Completed high school [secondary school] AND not attending	Responses to two questions were combined to derive a new three-category variable indicating whether youth were attending school at the time of the survey, and if not, whether or not they had completed secondary school or equivalent (Grade 12 in provinces outside QC; Grade 11 in QC).[54] Cases missing responses for either question were excluded from analysis of this variable.
Bullying or cyberbullying (Youth only)	Question: Have you been bullied in the past 12 months? *Note: Bullying is an act that is done on purpose. Bullies use their power (physical size, age, social status, etc.) to threaten, harass, or hurt others. Bullying happens over and over to one person or to a group of people. Bullying happens in four basic ways: physical (hitting, kicking, stealing, etc.); verbal (teasing, name-calling, etc.); indirect (spreading rumours, excluding people, mean gestures, etc.); and cyberbullying (covered in next question).* Response options: Y/N Question: Have you experienced any cyberbullying toward you in the past 12 months? *Note: "Cyberbullying" refers to the use of a computer or other electronic device to engage in bullying.* Response options: Y/N Analysis categories: - Yes (experienced bullying or cyberbullying in the past 12 months) - No (did not experience bullying or cyberbullying in the past 12 months)	Responses for two questions about bullying and cyberbullying were combined to create a dichotomous variable indicating whether youth had experienced one or both forms of bullying. Cases missing responses for both types of bullying, or with one missing and one "No" response, were excluded from analysis of this variable.

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[54]   See RHS Phase 3 questionnaire p. 31 -32 for full list of grades for QC and Non-QC residents: https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Physical or verbal aggression (Adult only)	Question: Have you experienced any... - ...Physical aggression toward you in the past 12 months? This includes hitting, kicking, crowding, etc. - ...Verbal aggression toward you in the past 12 months? Verbal aggression includes threats, insults, name-calling, etc. Regrouped response options: -Yes, often; Yes, sometimes; Yes, rarely -No, never Analysis categories: - Yes (experienced physical or verbal aggression in the past 12 months) - No (did not experience physical or verbal aggression in the past 12 months)	Responses for two questions about physical aggression and verbal aggression were dichotomized into Y/N variables and combined into a derived dichotomous variable indicating whether adults had experienced one or both forms of aggression. Cases missing responses for both types of aggression, or with one missing and one "No" response, were excluded from analysis of this variable.
Cyberbullying (Adult only)	Question: Have you experienced any cyberbullying toward you in the past 12 months? Note: "Cyberbullying" refers to the use of a computer or other electronic device to engage in bullying. Response options: Y/N	N/A
Language and Culture		
Cultural event participation	Question: Do you take part in your local community's cultural events? Regrouped response options: -Always/Almost always; Sometimes -Rarely; Never	Four response options for this question were regrouped into two categories for analysis.
Importance of cultural events (Youth only)	Question: Please indicate how strongly you agree or disagree with each statement. Traditional cultural events are important in my life. Note: Traditional cultural events vary, but may include powwows, sweat lodges, and community feasts. Regrouped response options: - Strongly agree; Agree - Strongly disagree; Disagree; Neither agree or disagree	Five response options for this question were regrouped into two categories for analysis.

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Participation in traditional physical activities	Question: Have you done any of the following activities in the past 3 months?[55] (*Mark all that apply*) - Berry picking or other food gathering - Canoeing/Kayaking - Fishing - Hiking - Hunting - Snowshoeing - Traditional Dancing - Trapping Response options: Y/N Analysis categories: - 0 activities - 1–2 activities - 3–8 activities	Original "Yes" responses for each of eight traditional physical activities were counted for each case, which were then assigned to one of three categories based on the count. Cases missing responses for > 1 of the activities were excluded from analysis.
Extracurricular traditional activities (Youth only)	Question: Outside of school hours, how often do you take part in traditional activities (e.g., singing, drumming, or dancing groups or lessons)? Regrouped response options: - Never; Less than once per week - 1–3 times per week; 4 times or more per week	Four response options were regrouped into two categories for analysis.
Importance of traditional spirituality (Adult only)	Question: Please indicate if you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree with the following statement: Traditional spirituality is important to me. Regrouped response options: - Strongly agree; Agree - Strongly disagree; Disagree; Neither agree or disagree	Five response options for this question were regrouped into two categories for analysis.
Adult only: Interest in using traditional medicine	Question: Have you had any of the following difficulties when trying to access traditional medicine? - Not interested in using traditional medicine Response options: Y/N	N/A

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[55] Respondents were instructed to consider "physical activities NOT related to school or work; that is, leisure time activities." See RHS Phase 3 questionnaire for full list of physical activities: Youth (p. 15): https://fnigc.ca/wp-content/uploads/2020/09/11fb67464a61cd87b760eccf5da742e4_RHS-Youth-Phase-3_Final.pdf; Adult (p. 18): https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
First Nations language	Question: Do you have any knowledge of a First Nations language (even if only a few words)? Response options: Y/N Question: How well can you... - ...Speak [your First Nations language]? - ...Understand [your First Nations language]? Response options: - Cannot understand/speak - A few words - Basic - Intermediate - Fluent Analysis categories: - None (No to question on knowledge of a First Nations language OR Cannot understand/Cannot speak) - A few words/basic (speaking OR understanding) - Intermediate/fluent (speaking OR understanding)	Responses to three questions about First Nations language knowledge and abilities were combined to create a three-category First Nations language ability variable for analysis. Those who indicated they did not have knowledge of a First Nations language were assigned to the "None" category for analysis, as were those who indicated they cannot speak and cannot understand their First Nations language. Among those who had some ability in speaking or understanding their First Nations language, they were categorized according to the highest ability level they indicated for either. Cases missing responses for the question on having any knowledge of a First Nations language were excluded from analysis of this variable.
Health Behaviours		
Physical activity level	Question: Have you done any of the following activities in the past 3 months? (*Mark all that apply*) Response options: Y/N Question: In the past 3 months, how many times did you participate in the activity? Question: How many minutes do you generally spend doing each activity in the average session? Analysis categories: - Inactive - Moderately active - Active	Original Y/N responses for each of 26 activities, # of times participated (for each), and average minutes per session (for each) were used to calculate daily energy expenditure values. Values were then categorized into three activity level groups. Cases missing responses for any of the physical activities or the follow up questions were excluded from analysis.

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Frequency of using prescription pain relievers, sedatives, or stimulants in the past year	Question: Have you had any of the following substances in the past 12 months? *For each substance, please select the answer that best describes your usage. Note: We are not interested in over-the-counter medications that are available without a prescription.* - Pain relievers that contain opioids such as Oxycodone (Percocet, Percodan, OxyContin), Codeine (Tylenol 3, 292s, 222s), or Hydromorphone (Morphine, Dilaudid, Hydromorph Contin, Demorol), etc. - Stimulants (Ritalin, Concerta, Adderall, Dexedrine, etc.) - Sedatives (Valium, Ativan, Xanax, Rivotril, etc.) Response options: Y/N Analysis categories: - Did not use (Never) - Used at least once (Once or twice; Monthly; Weekly; Daily or almost daily)	For each substance, five response options were regrouped into two categories for analysis.
Prescription medication use in past year – Prescribed by Dr.	Question: Thinking about all the pain relievers, stimulants, and/or sedatives you have used in the past 12 months, were they prescribed? [*Asked only of those who indicated taking any of these substances in the past 12 months.*] Response options: -Yes, all prescribed -No, none prescribed -Some prescribed, some not prescribed	For regression analyses among youth and adults and bivariate analysis among adults, original responses were used. Due to small cell counts in some response categories, for bivariate analysis among youth, the three questions on prescription drug misuse were combined to derive a dichotomous variable indicating whether any misuse occurred in the past 12 months.
Prescription medication use in past year – Beyond prescription	Question: If prescribed, sometimes people do not take pills as directed by a doctor or pharmacist. Thinking about all the pain relievers, stimulants, and/or sedatives you have used in the past 12 months, did you ever take more pills or take them for a longer period than you were supposed to? [*Asked only of those who indicated taking any of these substances in the past 12 months AND indicated some or all were prescribed.*] Response options: Y/N	For regression analyses among youth and adults and bivariate analysis among adults, original responses were used. Due to small cell counts in some response categories, for bivariate analysis among youth, the three questions on prescription drug misuse were combined to derive a dichotomous variable indicating whether any misuse occurred in the past 12 months.
Prescription medication use in past year – Tampering	Question: Thinking about all the pain relievers, stimulants, and/or sedatives you have used in the past 12 months, did you ever tamper with the product before taking it, for example, crush tablets to swallow, snort or inject? [*Asked only of those who indicated taking any of these substances in the past 12 months.*] Response options: Y/N	For regression analyses among youth and adults and bivariate analysis among adults, original responses were used. Due to small cell counts in some response categories, for bivariate analysis among youth, the three questions on prescription drug misuse were combined to derive a dichotomous variable indicating whether any misuse occurred in the past 12 months.

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Frequency of using any other illicit drug in the past year	Question: Have you had any of the following substances in the past 12 months? *For each substance, please select the answer that best describes your usage.* - Cocaine (coke, crack, etc.) - Amphetamines (speed, etc.) - Methamphetamine or Crystal Meth - Ecstasy (MDMA, E, Xtc, X, etc.) - Hallucinogens (LSD, acid, mushrooms, PCP, Special K, mescaline, angel dust, etc.) - Inhalants (solvents, glue, petrol, paint thinner, etc.) - Heroin (H, horse, junk, smack) - Salvia (Divine Sage, Magic Mint, Sally D) - Other (Specify): (not including drugs normally prescribed by a doctor or dentist) Regrouped response options - regression analyses and Adult bivariate analysis: - No other illicit drug use in past year (Never) - Once or Twice; Monthly; Weekly (at least one other) - Daily or Almost daily (at least one other) Regrouped response options - Youth bivariate analysis: - No other illicit drug use in past year (Never) - Used at least one other illicit drug at least once in the past year (Once or Twice; Monthly; Weekly; Daily or Almost daily)	For regression analyses among youth and adults and bivariate analysis among adults, original responses for five response options for each substance were regrouped into three categories and combined to create a single variable for any other illicit drug use. Each case was assigned to the category that indicated the highest frequency at which any illicit drug had been used. Due to small cell counts in some response categories, for bivariate analysis among youth, the derived variable was regrouped to create a dichotomous variable indicating whether any other illicit drug had been used in the past 12 months. Cases missing responses for > 2 of the substances were excluded from analysis of this variable.
Health and Health Care		
Self-rated general health	Question: In general, would you say that your health is...? Regrouped response options: - Excellent; Very good; Good - Fair; Poor	Five response options were regrouped into two categories for analysis.

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Number of chronic conditions	Question: Have you been told by a health care professional that you have any of the following health conditions?[56] *We are interested in "long-term conditions" which are expected to last or have already lasted 6 months or more and that have been diagnosed by a health professional.* Response options: Y/N Analysis categories: - 0 - 1–2 - 3–5 - 6+	Original "Yes" responses for each of 35 conditions were counted to determine total number of conditions for each case and these counts were categorized into four groups for analysis. Cases missing responses for > 7 chronic health conditions were excluded from analysis of this variable.
Conditions potentially treated w/medical cannabis[57]	Question: Have you been told by a health care professional that you have any of the following health conditions? *We are interested in "long-term conditions" which are expected to last or have already lasted 6 months or more and that have been diagnosed by a health professional.* Response options: Y/N Analysis categories: - Has no chronic conditions - Yes - No, but has other conditions	Original "Yes" responses for each of six (for youth) or nine (for adults) chronic health conditions for which cannabis has possible therapeutic use were counted and assigned to one of four categories based on the count. Youth conditions: Anxiety disorder such as a phobia, obsessive-compulsive disorder or a panic disorder; Arthritis (excluding fibromyalgia); Cancer; Chronic back pain, excluding arthritis; Epilepsy; Stomach and intestinal problems Adult conditions: Alzheimer's Disease or any other dementia; Anxiety disorder such as a phobia, obsessive-compulsive disorder or a panic disorder; Arthritis (excluding fibromyalgia); Cancer; Chronic back pain, excluding arthritis; Epilepsy; HIV/AIDS; Neurological disease, excluding Alzheimer's and dementia (e.g., Parkinson's, Huntington's, multiple sclerosis, etc.); Stomach and intestinal problems. Regression analyses were run using two different referent categories so that the odds of being a cannabis/medical cannabis user for each of the three analysis categories could be compared against one another.

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[56] See RHS Phase 3 questionnaire for full list of chronic health conditions: Youth (p. 6-7): https://fnigc.ca/wp-content/uploads/2020/09/11fb67464a61cd87b760eccf5da742e4_RHS-Youth-Phase-3_Final.pdf; Adult (p. 5-6): https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf

[57] Includes chronic conditions for which cannabis/cannabinoids have approved or proposed therapeutic use to treat symptoms or the condition itself, according to the Canadian Centre for Substance Abuse (2016) and other recent peer-reviewed literature (Doeve et al., 2021; Guillouard et al., 2021; NASEM, 2017; Peprah & McCormack, 2019; Reis et al., 2020). Consensus on efficacy of therapeutic benefit within the medical and scientific communities may vary by condition, particularly regarding therapeutic benefit among youth.

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Need/Receive health care (Adult only)	Question: During the past 12 months, did you require any health care (e.g., from a doctor, nurse, or other health professional)? Regrouped response options: - No (did not require health care in past 12 months) - Yes, and I received all the health care I needed - Yes, but I did not receive all the health care I needed	N/A
Health care barriers (Adult only)	Question: During the past 12 months, have you experienced any of the following barriers to receiving health care?[58] *Please read each item and mark your answer. [Asked only of respondents who said they required any health care in the past 12 months.]* Response options: Y/N Analysis categories: - 0 barriers - 1–2 barriers - 3–5 barriers - 6+ barriers	Original "Yes" responses for each of 15 health care barriers were counted to determine the total number of barriers for each case and these counts were categorized into one of four analysis categories for each case. Cases missing responses for > 3 barriers were excluded from analysis of this variable.
NIHB difficulties (Adult only)	Question: Have you ever had any difficulties accessing any of the health services provided through the Non-Insured Health Benefits Program (NIHB) provided to status First Nations people through Health Canada?[59] *Note: NIHB, or Non-Insured Health Benefits, is the Health Canada program that provides support to help cover health care costs - medications, dental care, vision care, medical supplies/equipment, etc. (Mark all that apply.)* Response options: Y/N Analysis categories for regression analysis: - 0 services - 1–2 services - 3–5 services - 6–10 services Regrouped analysis categories for bivariate analysis: - 0 services - 1–2 services - 3–10 services	For regression analysis, original "Yes" responses indicating difficulties with each of 10 NIHB services were counted to determine the total number of difficulties for each case, and these counts were categorized into four analysis categories for each case. For bivariate analysis, due to small cell counts in some analysis categories, the derived variable was regrouped into three analysis categories. Cases were excluded from analysis of this variable if the respondent indicated they didn't need/try to access an NIHB service or if missing responses for any of the services.

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[58] See RHS Phase 3 questionnaire p. 13 for full list of barriers to receiving health care: https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf. "Chose not to see health care professional" was not included as a barrier in analysis.

[59] See RHS Phase 3 questionnaire p. 13 for full list of NIHB difficulties: https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf

Variable	Question and Response Options & Analysis Categories	Analysis Process and Notes
Last time consulted mental health service	Question: When did you last...? - Access a mental health service (e.g., counseling, psychological testing) - Visit a doctor or community health nurse - Consult a traditional healer Regrouped analysis categories: - Never - More than a year ago (1–2 years ago; Over 2 years ago) - Within the past 12 months	For each of the three health care types, four response options were regrouped into three categories for analysis.
Usage of Traditional Medicine (Adult Only)	Question: In the past 12 months, did you use traditional medicine? *Note: Traditional medicine can include herbal remedies, spiritual therapies, assistance from healers, or other practices Indigenous to your culture.* Response options: Y/N	N/A
Difficulties Accessing Traditional Medicine (Adult Only)	Question: Have you had any of the following difficulties when trying to access traditional medicine?[60] *Mark all that apply.* Response options: Y/N Analysis categories for regression analysis: - 0 difficulties - 1–2 difficulties - 3–5 difficulties - 6–10 difficulties Regrouped analysis categories for bivariate analysis: - 0 difficulties - 1–2 difficulties - 3–10 difficulties	Original "Yes" responses for each of 10 difficulties were counted to determine total number of difficulties for each case and these counts were categorized into four analysis categories for each case. A response option that allowed respondents to indicate they weren't interested in using traditional medicine was analyzed separately. This response option was excluded from the difficulties count, and respondents not interested in using traditional medicine were excluded from analysis of this variable. Cases were excluded from analysis of this variable if missing responses for any of the difficulties.

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[60] See RHS Phase 3 questionnaire p. 12 for full list of traditional medicine access difficulties: https://fnigc.ca/wp-content/uploads/2020/09/rhs_adult_phase_3_final.pdf. "Chose not to see health care professional" was not included as a barrier in analysis.

APPENDIX B:
Preliminary Key Quantitative Data Findings for Qualitative Engagements

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Summary: Key factors associated with cannabis use among youth in First Nations communities

- ▶ Older age
- ▶ Being female
- ▶ Living in a community with pop. 1,500 or less
- ▶ Not attending school
- ▶ Poor mental wellness, holistic balance, and self-esteem
- ▶ Family Residential School attendance
- ▶ Being bullied or cyber-bullied
- ▶ Participating in traditional physical activities

- ▶ Not participating in extracurricular traditional activities
- ▶ First Nations language ability
- ▶ Prescription drug use and misuse
- ▶ Illicit drug use
- ▶ Fair/poor self-rated health
- ▶ Having chronic health conditions possibly treated with medical cannabis
- ▶ Having consulted mental health services, doctor/nurse, traditional healer

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Summary: Key factors associated with non-medical and medical cannabis use among Adults in First Nations communities

Non-medical cannabis users
- Not participating in community events
- No chronic health conditions (vs. 3-5)
- Has consulted doctor/nurse
- Not using traditional medicine

Medical and non-medical cannabis users
- Younger age
- Being male
- Community pop. 1,500 or less
- Urban (vs. Special Access) community
- Poor mental wellness and holistic balance
- Parent/Grandparent IRS attendance
- Experienced verbal or physical aggression
- Prescription drug use and misuse
- Illicit drug use
- Fair/poor self-rated health
- Has consulted mental health service

Medical cannabis users
- IRS Survivor
- Cyber-bullied
- Participates in traditional physical activities
- Agrees traditional spirituality is important
- Interested in using traditional medicine
- First Nations language ability
- Chronic condition(s) possibly treated with medical cannabis
- Health care barriers and difficulties
- Has consulted traditional healer
- Using traditional medicine

APPENDIX C:
Qualitative Engagement Questions

Insights, comments, context on quantitative findings

1. In your experience, are the findings presented consistent with the lived experiences of First Nations adults and youth? In what ways are they similar or different?

2. What possible motivators and impacts of cannabis use in First Nations communities are reflected in the findings?

3. How do these findings align with First Nation worldviews and epistemologies?

4. What should be considered when interpreting these findings?

Knowledge translation and sharing recommendations

5. What are the most important findings that could benefit mental wellness in First Nations?

6. What audiences or groups should these findings be shared with in order to maximize benefit to communities, and how should they be shared (i.e., format, medium) with each?

APPENDIX D: Data Tables

Cannabis use in First Nations

Table 1: Cannabis/medical cannabis use in the past year among First Nations youth and adults

Age Group	Cannabis Use Category						
	No use %	95% CI	Cannabis use (excl. medical)	95% CI	Medical use	95% CI	Total %
Youth (12–17)	72.8	70.3, 75.1	27.2	24.9, 29.7	n/a	n/a	100.0
Adults (18+)	69.7	68.2, 71.2	19.0	17.8, 20.2	11.3	10.3, 12.4	100.0

Table 2: Frequency of use among First Nations youth and adults who had used cannabis/medical cannabis in the past year

Cannabis Use Category	Frequency of Cannabis Use in Past Year								
	Once or twice	95% CI	Monthly	95% CI	Weekly	95% CI	Daily or almost daily	95% CI	Total %
Youth									
Cannabis use	43.9	38.1, 49.8	10.7	8.8, 12.9	13.1	9.7, 17.6	32.3	28.4, 36.5	100.0
Adults									
Cannabis use (excl. medical)	42.5	38.7, 46.5	7.9	6.5, 9.6	13.4	11.2, 16.0	36.1	32.7, 39.6	100.0
Medical cannabis use	27.6	24.0, 31.5	7.6	6.0, 9.6	18.0	14.1, 22.8	46.8	42.6, 51.0	100.0

Demographics and Environment

Table 3: Demographic and environmental factors associated with cannabis and medical cannabis use among First Nations youth and adults[61]

Indicator	Categories	Cannabis Use Category (comparison is always against no cannabis use)					
		Youth		Adult			
		Cannabis use OR	95% CI	Cannabis use (excl. medical) OR	95% CI	Medical use OR	95% CI
Age group	12–14 (Youth ref)						
	15–17	**3.33**	**2.66, 4.17**	n/a	n/a	n/a	n/a
	18–24 (Adult ref)						
	25–44	n/a	n/a	**0.48**	**0.40, 0.57**	**0.61**	**0.44, 0.85**
	45–64	n/a	n/a	**0.21**	**0.17, 0.26**	**0.42**	**0.31, 0.58**
	65+	n/a	n/a	**0.04**	**0.02, 0.06**	**0.09**	**0.05, 0.14**
Sex	Male (ref)						
	Female	**1.38**	**1.14, 1.67**	**0.57**	**0.48, 0.66**	**0.50**	**0.40, 0.62**
Gender identity (Adults and Youth 15–17 only)	Cisgender male (ref)						
	Cisgender female	1.14	0.91, 1.44	**0.56**	**0.47, 0.67**	**0.48**	**0.38, 0.61**
	Two-Spirit or transgender	**0.52**	**0.31, 0.86**	0.95	0.68, 1.32	**0.63**	**0.41, 0.95**
	Two-Spirit or transgender (ref)						
	Cisgender female	**2.22**	**1.38, 3.57**	**0.59**	**0.42, 0.83**	0.77	0.50, 1.16
Family or personal residential school attendance	No personal or family residential school attendance (ref)						
	At least one grandparent attended residential school (no parents attended)	**1.87**	**1.46, 2.39**	**1.52**	**1.18, 1.96**	**1.92**	**1.31, 2.80**
	Youth only: At least one parent attended residential school (no grandparent attended)	**3.41**	**1.81, 6.43**	n/a	n/a	n/a	n/a

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61   **Bold** numbers indicate statistically significant odds ratios (p≤.05).

Indicator	Categories	Cannabis Use Category (comparison is always against no cannabis use)					
		Youth		Adult			
		Cannabis use OR	95% CI	Cannabis use (excl. medical) OR	95% CI	Medical use OR	95% CI
	Youth only: At least one parent and grandparent	**2.96**	**2.03, 4.31**	n/a	n/a	n/a	n/a
	Adult only: At least one parent attended	n/a	n/a	**1.26**	**1.02, 1.55**	**1.73**	**1.34, 2.22**
	Adult only: Survivor (attended residential school)	n/a	n/a	1.11	0.83, 1.49	**2.08**	**1.51, 2.88**
Adult only: Household crowding	One or fewer people per room: not crowded (ref)						
	More than one person per room: crowded	n/a	n/a	0.90	0.74, 1.09	0.84	0.66, 1.06
Community size	Large (ref)						
	Medium	**1.55**	**1.17, 2.04**	**1.27**	**1.04, 1.55**	**1.28**	**1.01, 1.61**
	Small	**1.69**	**1.23, 2.33**	**1.50**	**1.19, 1.90**	**1.80**	**1.38, 2.34**
Community remoteness	Urban (ref)						
	Rural	1.12	0.87, 1.44	1.19	1.00, 1.43	0.85	0.66, 1.09
	Remote	1.23	0.82, 1.84	1.03	0.73, 1.46	0.85	0.53, 1.35
	Special access	0.66	0.32, 1.35	**0.65**	**0.46, 0.91**	**0.46**	**0.29, 0.74**
Number of community strengths (Adults and Youth 15–17 only)	0–5 (ref)						
	6–15	1.10	0.84, 1.45	0.90	0.75, 1.08	1.12	0.89, 1.40
	16+	1.07	0.55, 2.07	0.80	0.55, 1.15	1.18	0.80, 1.74

Table 4: Demographic and environmental factors among First Nations youth, by cannabis use type

Indicator & Categories	No use %	95% CI	Occasional use %	95% CI	Daily use %	95% CI	Total %
Age group							
12–14	84.7	81.8, 87.2	11.5	9.4, 14.1	3.7 E,62	2.4, 5.7	100.0
15–17	62.6	59.4, 65.8	24.3	21.8, 26.9	13.1	11.1, 15.4	100.0
Sex							
Male	75.7	72.5, 78.6	16.8	14.4, 19.6	7.5	5.9, 9.4	100.0
Female	69.9	66.6, 72.9	20.0	17.9, 22.3	10.1	8.1, 12.5	100.0
Gender identity (Youth 15–17 only)							
Cisgender male	64.4	59.8, 68.8	22.3	19.0, 26.1	13.2	10.2, 16.9	100.0
Cisgender female	61.3	57.5, 64.9	26.2	23.2, 29.6	12.5	10.2, 15.2	100.0
Two-Spirit or transgender	77.8	68.8, 84.8	14.4E	8.8, 22.6	7.8E	4.7, 12.9	100.0
Parent or grandparent residential school attendance							
No parent or grandparent attended	82.8	79.5, 85.7	12.4	9.8, 15.6	4.8	3.7, 6.3	100.0
Grandparent(s) attended - no parent	71.5	67.9, 74.8	19.3	16.7, 22.3	9.2	7.5, 11.3	100.0
Parent(s) attended - no grandparent	58.3	42.9, 72.3	27.5E	16.1, 42.7	14.2E	7.9, 24.2	100.0
Parent(s) and grandparent(s)	60.5	53.9, 66.6	24.8	19.2, 31.3	14.8E	10.3, 20.7	100.0
Community size							
Large	76.8	73.4, 79.9	16.1	13.9, 18.7	7.1	5.3, 9.4	100.0
Medium	69.7	65.5, 73.5	20.0	17.1, 23.3	10.3	8.3, 12.8	100.0
Small	64.9	58.8, 70.5	24.3	20.6, 28.3	10.9E	7.6, 15.3	100.0
Community remoteness							
Urban	72.6	68.4, 76.4	19.9	16.8, 23.4	7.5	5.8, 9.6	100.0
Rural	70.9	68.0, 73.7	18.5	16.4, 20.9	10.6	8.6, 12.9	100.0
Remote	69.7	61.5, 76.8	22.2	16.2, 29.6	8.2E	5.0, 13.0	100.0
Special access	81.1	68.8, 89.2	F63	F	F	F	100.0
Community strengths (Youth 15-17 only)							
0–5	59.5	55.4, 63.5	25.2	21.5, 29.3	15.3	12.4, 18.7	100.0
6–15	56.8	51.3, 62.1	32.4	27.4, 37.9	10.8	8.2, 13.9	100.0
16+	58.5	42.0, 73.3	31.6E	17.0, 51.0	9.9E	5.9, 16.0	100.0

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62 Note: Throughout these tables, E signifies high sampling variability, interpret with caution. F signifies suppression due to small cell size, extreme sampling variability, or avoidance of residual disclosure where noted.

63 Note: Some numbers in this table have been suppressed to avoid residual disclosure (i.e., deduction of other suppressed estimates based on available information).

Table 5: Demographic and environmental factors among First Nations adults, by cannabis use type

Indicator & Categories	No use %	95% CI	Occasional use (excl. medical) %	95% CI	Daily use (excl. medical) %	95% CI	Medical use %	95% CI	Total %
Age group									
18–24	49.1	45.3, 53.0	22.3	19.4, 25.4	13.0	10.9, 15.5	15.6	12.2, 19.7	100.0
25–44	65.3	63.0, 67.6	13.4	12.1, 14.8	8.9	7.5, 10.4	12.4	10.9, 14.1	100.0
45–64	77.8	75.6, 79.8	8.6	7.3, 10.2	3.2	2.4, 4.3	10.4	9.2, 11.8	100.0
65+	94.9	93.3, 96.1	2.3[E]	1.4, 3.8	0.3[E]	0.1, 0.5	2.5[E]	1.7, 3.7	100.0
Sex									
Male	63.4	61.0, 65.7	12.9	11.4, 14.4	9.7	8.5, 11.0	14.1	12.6, 15.8	100.0
Female	76.2	74.3, 78.0	11.4	10.1, 12.7	4.0	3.3, 4.9	8.5	7.3, 9.7	100.0
Gender identity									
Cisgender male	63.2	60.6, 65.7	12.6	11.1, 14.2	9.9	8.6, 11.3	14.3	12.7, 16.2	100.0
Cisgender female	76.6	74.6, 78.6	11.0	9.7, 12.4	4.1	3.3, 5.1	8.3	7.1, 9.7	100.0
Two-Spirit or transgender	67.4	60.7, 73.4	19.0	14.8, 24.0	3.9[E]	2.5, 6.0	9.8	7.0, 13.5	100.0
Personal or family residential school attendance									
No personal or family attendance	76.1	73.8, 78.3	10.6	9.0, 12.4	5.8	4.7, 7.1	7.5	6.2, 9.0	100.0
Grandparent(s) attended - no parent	56.7	52.0, 61.3	19.8	16.8, 23.1	8.8	7.0, 11.2	14.7	11.1, 19.1	100.0
At least one parent attended	67.4	64.9, 69.7	12.1	10.7, 13.7	8.0	6.6, 9.7	12.5	11.0, 14.1	100.0
Survivor - attended	78.7	75.5, 81.5	7.4	5.8, 9.4	2.9[E]	2.0, 4.2	11.0	9.0, 13.2	100.0
Household crowding									
Not crowded	70.3	68.5, 72.0	11.5	10.5, 12.7	6.9	6.0, 7.8	11.3	10.1, 12.6	100.0
Crowded	68.6	65.8, 71.3	14.0	12.0, 16.3	6.6	5.2, 8.2	10.7	9.1, 12.6	100.0
Community size									
Large	72.1	69.9, 74.2	10.7	9.6, 11.9	6.9	5.9, 8.1	10.2	8.8, 11.8	100.0
Medium	68.1	65.5, 70.5	13.3	11.6, 15.1	6.8	5.6, 8.2	11.9	10.4, 13.6	100.0
Small	65.7	62.3, 69.0	13.3	10.8, 16.3	6.5[E]	4.6, 9.1	14.5	12.4, 17.0	100.0
Community remoteness									
Urban	69.6	66.8, 72.3	11.1	9.6, 12.7	6.4	5.3, 7.8	12.9	10.9, 15.2	100.0
Rural	67.1	65.1, 69.1	14.2	12.9, 15.6	7.5	6.4, 8.7	11.2	10.0, 12.5	100.0

Indicator & Categories	No use %	95% CI	Occasional use (excl. medical) %	95% CI	Daily use (excl. medical) %	95% CI	Medical use %	95% CI	Total %
Remote	70.8	64.8, 76.1	11.1	8.2, 14.9	7.0[E]	4.5, 10.7	11.1[E]	7.9, 15.5	100.0
Special access	79.0	73.7, 83.4	8.0[E]	5.6, 11.3	5.8[E]	4.0, 8.4	7.2[E]	4.8, 10.5	100.0
Community strengths									
0–5	68.2	66.0, 70.2	12.9	11.4, 14.5	7.7	6.5, 9.0	11.3	10.1, 12.6	100.0
6–15	69.9	67.3, 72.3	12.3	10.8, 13.9	5.5	4.5, 6.8	12.3	10.3, 14.7	100.0
16+	75.5	70.2, 80.1	9.2[E]	6.3, 13.2	3.8[E]	2.1, 7.0	11.5	8.4, 15.6	100.0

Well-Being and Personal Safety

Table 6: Well-being and personal safety factors associated with cannabis and medical cannabis use among First Nations youth and adults[64]

Indicator	Categories	Cannabis Use Category (comparison is always against no cannabis use)					
		Youth		Adult			
		Cannabis use OR	95% CI	Cannabis use (excl. medical) OR	95% CI	Medical use OR	95% CI
Self-rated mental health - Good, Very good, or Excellent	No (ref)						
	Yes	**0.29**	**0.21, 0.40**	**0.59**	**0.47, 0.76**	**0.43**	**0.34, 0.53**
Wholistic balance (physical, mental, emotional, spiritual)	No (ref)						
	Yes	**0.45**	**0.35, 0.56**	**0.70**	**0.59, 0.82**	**0.48**	**0.39, 0.60**
Psychological distress score	Likely to be well (ref)						
	Likely to have a mild mental disorder	**2.11**	**1.64, 2.72**	**1.61**	**1.24, 2.08**	**2.00**	**1.57, 2.53**
	Likely to have moderate mental disorder	**4.49**	**3.20, 6.30**	**2.13**	**1.63, 2.78**	**2.37**	**1.77, 3.19**
	Likely to have a severe mental disorder	**5.67**	**4.22, 7.61**	**1.61**	**1.18, 2.20**	**3.99**	**2.91, 5.47**

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[64]   Bold numbers indicate statistically significant odds ratios (p≤.05).

Indicator	Categories	Cannabis Use Category (comparison is always against no cannabis use)					
		Youth		Adult			
		Cannabis use OR	95% CI	Cannabis use (excl. medical) OR	95% CI	Medical use OR	95% CI
Anxiety, mood disorders (from chronic conditions question)	No (ref)						
	Yes	**2.86**	**2.16, 3.79**	**1.40**	**1.16, 1.70**	**3.22**	**2.63, 3.95**
Needed to talk to someone about emotional/mental health in past year	No (ref)						
	Yes	**2.31**	**1.84, 2.90**	**1.38**	**1.15, 1.66**	**1.89**	**1.53, 2.32**
Community belonging	Somewhat or very weak (ref)						
	Somewhat or very strong	0.96	0.77, 1.21	**0.71**	**0.55, 0.90**	**0.57**	**0.45, 0.71**
Youth only: Self-esteem	Generally poor self-esteem (ref)						
	Generally good self-esteem	**0.39**	**0.32, 0.48**	n/a	n/a	n/a	n/a
Youth only: School attendance	Not currently attending but not completed school (ref)						
	Currently attending school	**0.45**	**0.32, 0.62**	n/a	n/a	n/a	n/a
	Completed high school	0.57	0.29, 1.09	n/a	n/a	n/a	n/a
Youth only: Experienced bullying or cyberbullying in the past year	No (ref)						
	Yes	**2.49**	**2.02, 3.06**	n/a	n/a	n/a	n/a
Adult only: Experienced verbal or physical aggression in the past year	No (ref)						
	Yes	n/a	n/a	**1.87**	**1.55, 2.26**	**2.51**	**2.01, 3.14**
Adult only: Experienced cyberbullying in the past year	No (ref)						
	Yes	n/a	n/a	1.22	0.93, 1.61	**1.89**	**1.36, 2.63**

Table 7: Well-being and personal safety factors among First Nations youth, by cannabis use type

Indicator & Categories	No use %	95% CI	Occasional use %	95% CI	Daily use %	95% CI	All youth	95% CI
Good, Very good, or Excellent self-rated mental health								
No	7.0	5.9, 8.2	18.8	15.3, 23.0	30.2	22.8, 38.8	11.2	9.9, 12.6
Yes	93.0	91.8, 94.1	81.2	77.0, 84.7	69.8	61.2, 77.2	88.8	87.4, 90.1
Total	100.0		100.0		100.0		100.0	
Feels wholistically balanced (physically, mentally, emotionally, spiritually)								
No	42.2	38.8, 45.6	62.4	57.3, 67.1	66.1	58.1, 73.3	48.0	45.0, 51.1
Yes	57.8	54.4, 61.2	37.6	32.9, 42.7	33.9	26.7, 41.9	52.0	48.9, 55.0
Total	100.0		100.0		100.0		100.0	
K10 psychological distress								
Likely to be well	72.4	70.0, 74.7	42.9	38.7, 47.1	33.8	26.7, 41.7	63.5	61.2, 65.7
Likely to have a mild mental disorder	12.6	11.0, 14.4	17.7	14.8, 21.1	12.9	9.5, 17.3	13.6	12.3, 15.0
Likely to have moderate mental disorder	6.5	5.4, 7.8	16.5	13.2, 20.4	12.6^E	8.5, 18.1	8.9	7.8, 10.2
Likely to have a severe mental disorder	8.5	7.0, 10.2	23.0	19.2, 27.2	40.7	32.7, 49.3	14.0	12.3, 15.9
Total	100.0		100.0		100.0		100.0	
Diagnosed with anxiety or mood disorder								
No	92.9	91.5, 94.0	82.3	78.3, 85.8	75.6	69.8, 80.6	89.6	88.4, 90.8
Yes	7.1	6.0, 8.5	17.7	14.2, 21.7	24.4	19.4, 30.2	10.4	9.2, 11.6
Total	100.0		100.0		100.0		100.0	
Needed to talk to someone about mental or emotional health in past year								
No	84.3	82.3, 86.1	68.3	64.1, 72.3	67.1	59.3, 74.0	79.8	77.9, 81.6
Yes	15.7	13.9, 17.7	31.7	27.7, 35.9	32.9	26.0, 40.7	20.2	18.4, 22.1
Total	100.0		100.0		100.0		100.0	
Community belonging - Somewhat or Very strong								
No	22.8	20.6, 25.1	21.7	17.7, 26.2	30.3	23.2, 38.5	23.2	21.2, 25.4
Yes	77.2	74.9, 79.4	78.3	73.8, 82.3	69.7	61.5, 76.8	76.8	74.6, 78.8
Total	100.0		100.0		100.0		100.0	
Self-esteem								
Generally poor self-esteem	21.7	19.2, 24.5	38.4	33.9, 43.1	50.5	42.3, 58.7	27.4	25.0, 29.9
Generally good self-esteem	78.3	75.5, 80.8	61.6	56.9, 66.1	49.5	41.3, 57.7	72.6	70.1, 75.0
Total	100.0		100.0		100.0		100.0	

Indicator & Categories	No use %	95% CI	Occasional use %	95% CI	Daily use %	95% CI	All youth	95% CI
School attendance & completion								
Not attending school (but not completed)	5.3	4.2, 6.6	10.1	7.6, 13.2	19.3	13.9, 26.3	7.4	6.4, 8.6
Attending school	91.1	89.0, 92.8	82.4	78.2, 86.0	75.7	68.7, 81.6	88.1	86.3, 89.7
Completed high school	3.6[E]	2.4, 5.5	7.5[E]	5.0, 11.1	5.0[E]	2.9, 8.2	4.5	3.4, 5.9
Total	100.0		100.0		100.0		100.0	
Experienced bullying or cyberbullying in past year								
No	72.0	69.5, 74.5	57.2	52.1, 62.1	59.0	50.0, 67.4	68.1	65.7, 70.5
Yes	28.0	25.5, 30.5	42.8	37.9, 47.9	41.0	32.6, 50.0	31.9	29.5, 34.3
Total	100.0		100.0		100.0		100.0	

Table 8: Well-being and personal safety factors among First Nations adults, by cannabis use type

Indicator & Categories	No use %	95% CI	Occasional use %	95% CI	Daily use (excl. medical) %	95% CI	Medical use %	95% CI	All adults	95% CI
Good, Very good, or Excellent self-rated mental health										
No	10.8	9.7, 12.0	15.4	12.4, 19.1	15.7	12.4, 19.7	20.6	17.6, 23.8	12.8	11.7, 13.9
Yes	89.2	88.0, 90.3	84.6	80.9, 87.6	84.3	80.3, 87.6	79.4	76.2, 82.4	87.2	86.1, 88.3
Total	100.0		100.0		100.0		100.0		100.0	
Feels wholistically balanced (physically, mentally, emotionally, spiritually)										
No	41.3	39.2, 43.4	47.4	43.1, 51.7	55.0	49.6, 60.3	58.9	54.1, 63.5	45.0	43.1, 46.9
Yes	58.7	56.6, 60.8	52.6	48.3, 56.9	45.0	39.7, 50.4	41.1	36.5, 45.9	55.0	53.1, 56.9
Total	100.0		100.0		100.0		100.0		100.0	
K10 psychological distress										
Likely to be well	71.1	68.7, 73.4	61.0	56.4, 65.5	54.1	48.8, 59.3	50.3	45.5, 55.0	66.3	64.1, 68.5
Likely to have a mild mental disorder	15.1	13.5, 16.8	18.9	15.0, 23.5	20.1	16.5, 24.2	20.2	17.2, 23.5	16.5	15.1, 18.0
Likely to have moderate mental disorder	7.8	6.8, 8.9	12.2	10.1, 14.8	15.0	11.7, 19.1	12.2	10.0, 14.9	9.3	8.5, 10.3
Likely to have a severe mental disorder	6.1	5.1, 7.2	7.9	6.2, 9.9	10.7[E]	7.6, 14.8	17.3	14.2, 21.0	7.9	6.9, 9.0
Total	100.0		100.0		100.0		100.0		100.0	

Indicator & Categories	No use %	95% CI	Occasional use %	95% CI	Daily use (excl. medical) %	95% CI	Medical use %	95% CI	All adults	95% CI
Diagnosed with anxiety or mood disorder										
No	89.8	88.8, 90.7	87.4	84.9, 89.6	84.7	81.2, 87.6	74.3	70.8, 77.5	87.5	86.5, 88.4
Yes	10.2	9.3, 11.2	12.6	10.4, 15.1	15.3	12.4, 18.8	25.7	22.5, 29.2	12.5	11.6, 13.5
Total	100.0		100.0		100.0		100.0		100.0	
Needed to talk to someone about mental or emotional health in past year										
No	76.4	74.4, 78.4	70.1	66.7, 73.3	72.7	67.1, 77.5	65.4	61.1, 69.5	74.1	72.2, 76.0
Yes	23.6	21.6, 25.6	29.9	26.7, 33.3	27.3	22.5, 32.9	34.6	30.5, 38.9	25.9	24.0, 27.8
Total	100.0		100.0		100.0		100.0		100.0	
Community belonging - Somewhat or Very strong										
No	16.8	15.4, 18.4	26.1	21.6, 31.1	19.3	15.5, 23.7	27.1	23.4, 31.1	19.2	17.9, 20.6
Yes	83.2	81.6, 84.6	73.9	68.9, 78.4	80.7	76.3, 84.5	72.9	68.9, 76.6	80.8	79.4, 82.1
Total	100.0		100.0		100.0		100.0		100.0	
Experienced physical or verbal aggression in past year										
No	64.9	62.6, 67.0	49.3	45.0, 53.7	42.2	37.2, 47.3	40.7	35.6, 46.1	58.7	56.7, 60.7
Yes	35.1	33.0, 37.4	50.7	46.3, 55.0	57.8	52.7, 62.8	59.3	53.9, 64.4	41.3	39.3, 43.3
Total	100.0		100.0		100.0		100.0		100.0	
Experienced cyberbullying in past year										
No	94.1	93.0, 95.0	91.3	89.2, 93.0	92.6	90.0, 94.6	88.9	85.9, 91.3	93.1	92.1, 93.9
Yes	5.9	5.0, 7.0	8.7	7.0, 10.8	7.4	5.4, 10.0	11.1	8.7, 14.1	6.9	6.1, 7.9
Total	100.0		100.0		100.0		100.0		100.0	

First Nations Language and Culture

Table 9: Language and culture factors associated with cannabis and medical cannabis use among First Nations youth and adults[65]

Indicator	Categories	Cannabis Use Category (comparison is always against no cannabis use)					
		Youth		Adult			
		Cannabis use OR	95% CI	Cannabis use (excl. medical) OR	95% CI	Medical use OR	95% CI
Participation in community cultural events	Rarely/Never (ref)						
	Sometimes/Always	1.08	0.81, 1.42	**0.74**	**0.61, 0.88**	1.05	0.85, 1.30
Youth only: Traditional cultural events are important in my life - Level of agreement	Neither agree nor disagree, Disagree, Strongly disagree (ref)						
	Agree or Strongly agree	1.18	0.84, 1.65	n/a	n/a	n/a	n/a
Participation in traditional physical activities	0 activities (ref)						
	1–2 activities	**1.52**	**1.26, 1.84**	0.96	0.81, 1.15	**1.60**	**1.27, 2.01**
	3–8 activities	1.38	0.99, 1.91	0.86	0.68, 1.09	**1.76**	**1.34, 2.33**
Youth only: Participation in extracurricular traditional activities	Never or less than one time per week (ref)						
	1–4 times or more per week	**0.68**	**0.50, 0.93**	n/a	n/a	n/a	n/a
Adult only: Traditional spirituality is important to me - Level of agreement	Neither agree nor disagree, Disagree, Strongly disagree (ref)						
	Agree or Strongly agree	n/a	n/a	0.93	0.77, 1.12	**1.51**	**1.09, 2.08**
Adult only: Interest in using traditional medicine	Not interested (ref)						
	Interested	n/a	n/a	0.93	0.76, 1.15	**1.91**	**1.47, 2.48**
Knowledge and proficiency in speaking/ understanding First Nations language	None (ref)						
	A few words/Basic	**1.51**	**1.20, 1.90**	1.10	0.86, 1.41	**1.70**	**1.29, 2.24**
	Intermediate/Fluent	**1.99**	**1.41, 2.81**	0.95	0.73, 1.24	1.05	0.80, 1.38

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[65]   **Bold** numbers indicate statistically significant odds ratios (p≤.05).

Table 10: Language and culture factors among First Nations youth, by cannabis use type

Indicator & Categories	No use %	95% CI	Occasional use %	95% CI	Daily use %	95% CI	All youth	95% CI
Participation in community cultural events								
Rarely/Never	29.1	26.8, 31.6	26.4	22.4, 30.8	33.6	26.4, 41.5	29.0	27.3, 30.8
Sometimes/Always	70.9	68.4, 73.2	73.6	69.2, 77.6	66.4	58.5, 73.6	71.0	69.2, 72.7
Total	100.0		100.0		100.0		100.0	
Participation in traditional physical activities								
0 activities	60.1	55.8, 64.3	54.9	49.8, 59.9	46.4	38.7, 54.4	57.9	54.2, 61.5
1–2 activities	28.2	25.5, 31.0	32.4	28.3, 36.8	42.3	34.5, 50.5	30.2	27.7, 32.9
3–8 activities	11.7	9.2, 14.9	12.7	9.5, 16.7	11.3^E	7.7, 16.2	11.9	9.7, 14.5
Total	100.0		100.0		100.0		100.0	
Participation in extracurricular traditional activities								
Never or less than one time per week	85.5	82.6, 88.0	90.3	87.4, 92.6	90.9	86.4, 93.9	86.8	84.6, 88.8
1–4 times or more per week	14.5	12.0, 17.4	9.7	7.4, 12.6	9.1^E	6.1, 13.6	13.2	11.2, 15.4
Total	100.0		100.0		100.0		100.0	
Traditional cultural events are important in my life - Level of agreement								
Neither agree nor disagree to Strongly disagree	20.6	18.5, 22.9	15.5	12.4, 19.1	25.6^E	17.6, 35.8	20.0	18.4, 21.8
Agree or Strongly agree	79.4	77.1, 81.5	84.5	80.9, 87.6	74.4	64.2, 82.4	80.0	78.2, 81.6
Total	100.0		100.0		100.0		100.0	
Knowledge and proficiency in speaking/understanding a First Nations language								
None	27.8	25.4, 30.4	18.1	14.6, 22.3	24.4	18.6, 31.2	25.8	23.7, 28.0
A few words/Basic	60.7	57.9, 63.4	63.7	57.9, 69.1	65.1	58.3, 71.4	61.6	59.1, 64.1
Intermediate/Fluent	11.5	9.9, 13.2	18.2	14.1, 23.0	10.5	7.5, 14.4	12.6	11.1, 14.3
Total	100.0		100.0		100.0		100.0	

Table 11: Language and culture factors among First Nations adults, by cannabis use type

Indicator & Categories	No use %	95% CI	Occasional use (excl. medical) %	95% CI	Daily use (excl. medical) %	95% CI	Medical use %	95% CI	All adults	95% CI
Participation in community cultural events										
Rarely/Never	30.8	28.8, 32.9	38.1	34.2, 42.1	44.6	39.3, 50.0	31.2	27.6, 35.0	32.7	31.1, 34.3
Sometimes/Always	69.2	67.1, 71.2	61.9	57.9, 65.8	55.4	50.0, 60.7	68.8	65.0, 72.4	67.3	65.7, 68.9
Total	100.0		100.0		100.0		100.0		100.0	
Participation in traditional physical activities										
0 activities	58.0	55.7, 60.2	56.9	52.7, 61.0	54.5	48.5, 60.3	42.1	37.5, 46.8	55.8	53.8, 57.8
1–2 activities	30.5	28.6, 32.4	32.0	28.6, 35.6	32.3	27.3, 37.9	39.7	35.0, 44.6	31.8	30.2, 33.5
3–8 activities	11.5	10.3, 12.9	11.1	8.9, 13.9	13.2	9.5, 18.1	18.2	15.3, 21.6	12.4	11.3, 13.5
Total	100.0		100.0		100.0		100.0		100.0	
Traditional spirituality is important to me - Level of agreement										
Neither agree nor disagree to Strongly disagree	29.0	26.9, 31.2	30.2	26.5, 34.2	39.8	34.5, 45.3	23.1	18.3, 28.7	29.2	27.5, 31.0
Agree or Strongly agree	71.0	68.8, 73.1	69.8	65.8, 73.5	60.2	54.7, 65.5	76.9	71.3, 81.7	70.8	69.0, 72.5
Total	100.0		100.0		100.0		100.0		100.0	
Interest in using traditional medicine										
Not interested	30.5	28.2, 32.9	31.1	26.4, 36.2	38.8	32.8, 45.1	19.6	16.4, 23.3	29.9	27.9, 32.0
Interested	69.5	67.1, 71.8	68.9	63.8, 73.6	61.2	54.9, 67.2	80.4	76.7, 83.6	70.1	68.0, 72.1
Total	100.0		100.0		100.0		100.0		100.0	
Knowledge and proficiency in speaking/understanding a First Nations language										
None	12.5	11.3, 13.8	15.5	12.3, 19.3	13.1	10.5, 16.3	10.5	8.5, 12.8	12.7	11.6, 13.9
A few words/basic	42.4	40.2, 44.5	51.3	47.4, 55.2	52.9	47.8, 57.9	58.3	54.0, 62.4	45.9	44.2, 47.7
Intermediate/fluent	45.1	42.7, 47.6	33.3	29.7, 37.0	34.0	28.9, 39.5	31.3	27.6, 35.2	41.4	39.4, 43.4
Total	100.0		100.0		100.0		100.0		100.0	

Health Behaviours

Table 12: Health behaviour factors associated with cannabis and medical cannabis use among First Nations youth and adults[66]

Indicator	Categories	Cannabis Use Category (comparison is always against no cannabis use)					
		Youth		Adult			
		Cannabis use OR	95% CI	Cannabis use (excl. medical) OR	95% CI	Medical use OR	95% CI
Physical activity level	Inactive (ref)						
	Moderately active	0.93	0.70, 1.24	0.97	0.75, 1.25	0.88	0.67, 1.16
	Active	0.92	0.74, 1.14	1.00	0.81, 1.24	1.14	0.89, 1.46
Frequency of using prescription pain relievers in the past year	Did not use (ref)						
	Used at least once	**2.99**	**2.07, 4.32**	**2.66**	**2.18, 3.24**	**3.18**	**2.50, 4.06**
Frequency of using prescription sedatives in the past year	Did not use (ref)						
	Used at least once	**13.43**	**4.19, 43.06**	**4.19**	**3.02, 5.81**	**4.51**	**3.23, 6.32**
Frequency of using prescription stimulants in the past year	Did not use (ref)						
	Used at least once	**4.14**	**2.40, 7.14**	**5.08**	**3.12, 8.26**	**5.81**	**2.98, 11.31**
Prescription-strength medication use in past year – Prescribed by Dr (among those who had used prescription-strength drugs in the past year)	Yes, all prescribed (ref)						
	No, none prescribed	1.27	0.71, 2.25	**1.90**	**1.25, 2.90**	1.54	0.99, 2.41
	Yes, some prescribed	**2.06**	**1.24, 3.42**	**1.63**	**1.13, 2.35**	1.19	0.82, 1.74
Prescribed medication use in past year – Beyond prescription (among those who had used and been prescribed prescription-strength drugs in the past year)	No (ref)						
	Yes	**4.07**	**1.62, 10.23**	**2.27**	**1.54, 3.33**	**2.56**	**1.85, 3.55**

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[66]   **Bold** numbers indicate statistically significant odds ratios (p≤.05).

Indicator	Categories	Cannabis Use Category (comparison is always against no cannabis use)					
		Youth		Adult			
		Cannabis use OR	95% CI	Cannabis use (excl. medical) OR	95% CI	Medical use OR	95% CI
Prescription medication use in past year – Tampering (among those who had used prescription-strength drugs in the past year)	No (ref)						
	Yes	4.50	1.62, 12.46	3.59	2.09, 6.15	5.53	3.22, 9.51
Frequency of using any other illicit drug in the past year	No other illicit drug use in past year (ref)						
	Once or twice to weekly (at least one other)	23.18	12.81, 41.92	13.07	9.95, 17.16	10.55	7.65, 14.55
	Daily or almost daily (at least one other)	9.14	2.33, 35.81	8.07	3.94, 16.53	7.63	3.83, 15.20

Table 13: Health behaviour factors among First Nations youth, by cannabis use type

Indicator & Categories	No use %	95% CI	Occasional use %	95% CI	Daily use %	95% CI	All youth	95% CI
Physical activity level								
Inactive	36.1	33.0, 39.4	38.4	33.4, 43.7	45.4	37.8, 53.2	37.4	34.6, 40.3
Moderately active	18.1	16.0, 20.5	17.3	13.9, 21.4	16.3^E	10.2, 24.9	17.8	15.8, 20.0
Active	45.7	42.2, 49.3	44.3	39.6, 49.1	38.4	31.3, 46.0	44.8	41.9, 47.7
Total	100.0		100.0		100.0		100.0	
Frequency of using prescription pain relievers in the past year								
Did not use	93.2	92.0, 94.2	85.8	81.9, 89.0	69.0	59.7, 76.9	89.8	88.3, 91.1
Used at least once	6.8	5.8, 8.0	14.2	11.0, 18.1	31.0	23.1, 40.3	10.2	8.9, 11.7
Total	100.0		100.0		100.0		100.0	
Frequency of using prescription sedatives in the past year								
Did not use	99.7	99.5, 99.8	98.5	97.5, 99.1	F[67]	F	98.7	97.7, 99.3
Used at least once	0.3^E	0.2, 0.5	1.5^E	0.9, 2.5	F	F	1.3^E	0.7, 2.3
Total	100.0		100.0		100.0		100.0	

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[67]   Note: Some numbers in this table have been suppressed to avoid residual disclosure (i.e., deduction of other suppressed estimates based on available information).

Indicator & Categories	No use %	95% CI	Occasional use %	95% CI	Daily use %	95% CI	All youth	95% CI
Frequency of using prescription stimulants in the past year								
Did not use	99.4	99.1, 99.6	98.5	97.6, 99.1	95.7	93.5, 97.2	98.9	98.6, 99.2
Used at least once	0.6^E	0.4, 0.9	1.5^E	0.9, 2.4	4.3^E	2.8, 6.5	1.1	0.8, 1.4
Total	100.0		100.0		100.0		100.0	
Prescription drug misuse in the past year (among those who had used prescription-strength drugs in the past year)								
No misuse	50.4	40.2, 60.6	48.3	35.2, 61.6	30.3^E	17.3, 47.4	44.8	37.2, 52.6
Misuse	49.6	39.4, 59.8	51.7	38.4, 64.8	69.7	52.6, 82.7	55.2	47.4, 62.8
Total	100.0		100.0		100.0		100.0	
Frequency of using any other illicit drug in the past year								
No other illicit drug use in past year	99.2	98.8, 99.5	91.4	88.9, 93.4	64.2	56.4, 71.3	94.8	93.8, 95.7
Used at least one other illicit drug at least once in the past year	0.8^E	0.5, 1.2	8.6	6.6, 11.1	35.8	28.7, 43.6	5.2	4.3, 6.2
Total	100.0		100.0		100.0		100.0	

Table 14: Health behaviour factors among First Nations adults, by cannabis use type

Indicator & Categories	No use %	95% CI	Occasional use (excl. medical) %	95% CI	Daily use (excl. medical) %	95% CI	Medical use %	95% CI	All adults	95% CI
Physical activity level										
Inactive	58.0	55.9, 60.1	54.5	50.0, 58.9	50.9	45.5, 56.2	52.3	47.5, 57.0	56.5	54.8, 58.1
Moderately active	16.6	15.3, 18.1	17.9	14.8, 21.6	14.4	11.2, 18.2	14.8	12.2, 17.9	16.4	15.3, 17.6
Active	25.3	23.4, 27.4	27.6	24.2, 31.3	34.8	29.6, 40.3	32.9	29.0, 37.1	27.1	25.6, 28.7
Total	100.0		100.0		100.0		100.0		100.0	
Frequency of using prescription pain relievers in the past year										
Did not use	80.4	78.3, 82.3	63.3	58.8, 67.6	67.7	61.4, 73.4	59.3	53.7, 64.7	75.1	72.9, 77.2
Used at least once	19.6	17.7, 21.7	36.7	32.4, 41.2	32.3	26.6, 38.6	40.7	35.3, 46.3	24.9	22.8, 27.1
Total	100.0		100.0		100.0		100.0		100.0	
Frequency of using prescription sedatives in the past year										
Did not use	96.4	95.9, 96.9	89.0	84.2, 92.4	88.4	85.7, 90.7	87.5	83.6, 90.6	94.0	93.1, 94.7
Used at least once	3.6	3.1, 4.1	11.0^E	7.6, 15.8	11.6	9.3, 14.3	12.5	9.4, 16.4	6.0	5.3, 6.9
Total	100.0		100.0		100.0		100.0		100.0	

Indicator & Categories	No use %	95% CI	Occasional use (excl. medical) %	95% CI	Daily use (excl. medical) %	95% CI	Medical use %	95% CI	All adults	95% CI
Frequency of using prescription stimulants in the past year										
Did not use	99.6	99.4, 99.7	97.6	96.1, 98.5	97.1	95.6, 98.2	97.2	95.2, 98.3	98.9	98.6, 99.1
Used at least once	0.4^E	0.3, 0.6	2.4^E	1.5, 3.9	2.9^E	1.8, 4.4	2.8^E	1.7, 4.8	1.1	0.9, 1.4
Total	100.0		100.0		100.0		100.0		100.0	
Prescription-strength medications prescribed by doctor in past year (among those who had used prescription-strength drugs in the past year)										
Yes, all prescribed	70.4	66.5, 74.0	55.6	47.3, 63.5	39.8	31.8, 48.4	58.9	49.8, 67.4	63.2	59.9, 66.3
No, none prescribed	11.2	8.4, 14.8	16.3	12.1, 21.6	38.8	30.6, 47.7	20.3^E	12.5, 31.4	16.1	13.5, 19.1
Some prescribed, some not prescribed	18.4	15.7, 21.5	28.2	20.7, 37.0	21.4	15.2, 29.2	20.7	15.8, 26.7	20.8	18.3, 23.4
Total	100.0		100.0		100.0		100.0		100.0	
Prescribed medications used beyond prescription in past year (among those who had used and been prescribed prescription-strength drugs in the past year)										
No	86.5	83.5, 88.9	74.3	63.4, 82.9	72.1	61.4, 80.8	71.9	65.7, 77.3	81.0	77.9, 83.9
Yes	13.5	11.1, 16.5	25.7^E	17.1, 36.6	27.9^E	19.2, 38.6	28.1	22.7, 34.3	19.0	16.1, 22.1
Total	100.0		100.0		100.0		100.0		100.0	
Tampered with prescription medications in past year (among those who had used prescription-strength drugs in the past year)										
No	96.0	93.4, 97.6	90.2	85.9, 93.3	67.3	58.8, 74.8	77.7	66.5, 85.9	89.3	86.4, 91.6
Yes	4.0^E	2.4, 6.6	9.8^E	6.7, 14.1	32.7	25.2, 41.2	22.3^E	14.1, 33.5	10.7	8.4, 13.6
Total	100.0		100.0		100.0		100.0		100.0	
Frequency of using any other illicit drug in the past year										
No other illicit drug use in past year	97.2	96.5, 97.7	71.0	67.1, 74.7	63.7	58.9, 68.3	74.0	69.1, 78.3	89.2	88.1, 90.2
Once or twice to weekly (at least one other)	2.6	2.0, 3.2	27.7	24.0, 31.7	33.7	29.3, 38.5	24.2	19.9, 29.2	10.1	9.1, 11.2
Daily or almost daily (at least one other)	0.3^E	0.2, 0.5	1.3^E	0.7, 2.2	2.5^E	1.6, 4.1	1.8^E	1.1, 2.8	0.7	0.6, 0.9
Total	100.0		100.0		100.0		100.0		100.0	

Health and Health Care

Table 15: Health and health care factors associated with cannabis and medical cannabis use among First Nations youth and adults[68]

Indicator	Categories	Cannabis Use Category (comparison is always against no cannabis use)					
		Youth		Adult			
		Cannabis use OR	95% CI	Cannabis use (excl. medical) OR	95% CI	Medical use OR	95% CI
Self-rated general health - Good, Very good, or Excellent	No (ref)						
	Yes	**0.54**	**0.41, 0.72**	**0.68**	**0.54, 0.85**	**0.62**	**0.50, 0.76**
Number of chronic health conditions	0 health conditions (ref)						
	1–2 health conditions	**1.34**	**1.01, 1.77**	1.10	0.91, 1.33	1.18	0.89, 1.56
	3–5 health conditions	**2.90**	**2.06, 4.09**	**0.77**	**0.61, 0.98**	**1.60**	**1.23, 2.08**
	6 or more health conditions	1.71	0.75, 3.88	0.99	0.62, 1.58	**2.59**	**1.70, 3.95**
Has one or more chronic conditions possibly treated with medical cannabis	Has no chronic conditions (ref)						
	Yes	**2.07**	**1.57, 2.74**	1.03	0.82, 1.29	**2.21**	**1.71, 2.86**
	No, but has other conditions	**1.34**	**1.02, 1.76**	0.94	0.76, 1.16	0.95	0.67, 1.34
	No, but has other conditions (ref)						
	Yes	**1.54**	**1.12, 2.13**	1.09	0.86, 1.40	**2.33**	**1.78, 3.05**
Adult only: Needed and received health care in the past year	No (ref)						
	Yes, and I received all the health care I needed	n/a	n/a	1.06	0.89, 1.26	1.18	0.97, 1.43
	Yes, but I did not receive all the health care I needed	n/a	n/a	0.99	0.75, 1.32	**1.70**	**1.16, 2.48**

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[68] **Bold** numbers indicate statistically significant odds ratios (p≤.05).

Indicator	Categories	Cannabis Use Category (comparison is always against no cannabis use)					
		Youth		Adult			
		Cannabis use OR	95% CI	Cannabis use (excl. medical) OR	95% CI	Medical use OR	95% CI
Adult only: Number of health care access barriers experienced (by those who required health care) in the past year	0 barriers (ref)						
	1–2 barriers	n/a	n/a	1.17	0.93, 1.47	**1.68**	**1.28, 2.20**
	3–5 barriers	n/a	n/a	1.08	0.80, 1.47	**1.66**	**1.22, 2.27**
	6 or more barriers	n/a	n/a	0.72	0.48, 1.07	**1.87**	**1.30, 2.70**
Adult only: Number of NIHB health services with difficulties experienced (by those who needed and attempted to access them)	0 services (ref)						
	1–2 services	n/a	n/a	1.25	0.98, 1.60	**1.68**	**1.32, 2.15**
	3–5 services	n/a	n/a	1.01	0.74, 1.38	1.35	0.95, 1.92
	6–10 services	n/a	n/a	0.56	0.27, 1.17	1.20	0.66, 2.20
Last time accessed a mental health service	Never (ref)						
	Within the last 12 months	**2.11**	**1.57, 2.84**	**1.48**	**1.17, 1.87**	**2.10**	**1.66, 2.66**
	More than a year ago	**2.12**	**1.57, 2.88**	**1.32**	**1.05, 1.65**	**1.76**	**1.37, 2.25**
Last time visited a doctor/community health nurse	Never (ref)						
	Within the last 12 months	**1.62**	**1.19, 2.23**	**1.57**	**1.17, 2.11**	1.29	0.86, 1.93
	More than a year ago	1.45	1.00, 2.09	**1.77**	**1.28, 2.44**	1.14	0.71, 1.82
Last time consulted a Traditional healer	Never (ref)						
	Within the last 12 months	1.09	0.79, 1.49	0.83	0.66, 1.04	**1.38**	**1.10, 1.72**
	More than a year ago	**2.11**	**1.41, 3.14**	1.20	0.97, 1.47	**1.61**	**1.27, 2.04**
Adult only: Traditional medicine used in the past year	No (ref)						
	Yes	n/a	n/a	**0.79**	**0.66, 0.95**	**1.52**	**1.26, 1.84**

| Indicator | Categories | Cannabis Use Category (comparison is always against no cannabis use) | | | | | |
| | | Youth | | Adult | | | |
		Cannabis use OR	95% CI	Cannabis use (excl. medical) OR	95% CI	Medical use OR	95% CI
Adult only: Number of difficulties using traditional medicine	0 difficulties (ref)						
	1–2 difficulties	n/a	n/a	1.07	0.84, 1.36	1.20	0.92, 1.56
	3–5 difficulties	n/a	n/a	1.33	0.75, 2.37	**2.03**	**1.40, 2.94**
	6–10 difficulties	n/a	n/a	0.93	0.22, 3.98	**4.84**	**2.49, 9.40**

Table 16: Health and health care factors among First Nations youth, by cannabis use type

Indicator & Categories	No use %	95% CI	Occasional use %	95% CI	Daily use %	95% CI	All youth	95% CI
Good, Very good, or Excellent self-rated general health								
No	5.3	4.4, 6.3	11.0	8.1, 14.8	12.2[E]	7.8, 18.6	7.0	5.8, 8.3
Yes	94.7	93.7, 95.6	89.0	85.2, 91.9	87.8	81.4, 92.2	93.0	91.7, 94.2
Total	100.0		100.0		100.0		100.0	
Number of chronic health conditions								
0 health conditions	70.7	68.1, 73.1	59.1	54.1, 63.9	57.7	50.4, 64.7	67.5	65.4, 69.5
1–2 health conditions	24.0	21.5, 26.8	27.9	23.6, 32.7	27.6	21.5, 34.6	25.0	23.1, 27.1
3–5 health conditions	4.5	3.7, 5.4	12.0	8.9, 15.9	12.2	8.9, 16.6	6.5	5.6, 7.5
6 or more health conditions	0.8[E]	0.5, 1.3	1.0[E]	0.5, 1.9	2.5[E]	1.3, 4.7	1.0[E]	0.7, 1.4
Total	100.0		100.0		100.0		100.0	
Has one or more chronic conditions possibly treated with medical cannabis								
Has no chronic conditions	69.6	67.1, 72.0	58.7	53.7, 63.6	57.7	50.8, 64.3	66.5	64.6, 68.5
Yes	7.7	6.7, 9.0	15.9	12.7, 19.7	15.9	12.5, 20.0	10.0	8.9, 11.2
No, but has other conditions	22.7	20.3, 25.2	25.4	21.2, 30.1	26.4	21.0, 32.6	23.5	21.6, 25.5
Total	100.0		100.0		100.0		100.0	
Last time accessed a mental health service								
Never	82.3	80.0, 84.3	68.4	63.7, 72.8	63.9	54.1, 72.7	78.2	76.0, 80.3
Within the last 12 months	12.5	10.9, 14.4	21.0	17.3, 25.4	26.7[E]	18.5, 36.8	15.2	13.6, 17.1
More than a year ago	5.2	4.3, 6.3	10.5	8.0, 13.8	9.4[E]	6.5, 13.5	6.5	5.6, 7.6
Total	100.0		100.0		100.0		100.0	

Indicator & Categories	No use %	95% CI	Occasional use %	95% CI	Daily use %	95% CI	All youth	95% CI
Last time visited a doctor/community health nurse								
Never	17.8	15.5, 20.4	13.1	9.9, 17.2	8.8[E]	5.9, 12.8	16.2	14.1, 18.4
Within the last 12 months	63.2	60.3, 65.9	65.8	60.8, 70.5	79.5	73.6, 84.3	65.1	62.8, 67.4
More than a year ago	19.0	16.7, 21.5	21.1	17.3, 25.4	11.8	8.4, 16.1	18.7	16.9, 20.7
Total	100.0		100.0		100.0		100.0	
Last time consulted a Traditional healer								
Never	79.9	77.0, 82.5	70.6	66.0, 74.9	71.9	60.5, 81.0	77.5	75.2, 79.7
Within the last 12 months	12.8	10.8, 15.2	15.0	11.8, 18.8	9.4[E]	5.9, 14.8	12.9	11.2, 14.8
More than a year ago	7.3	5.9, 9.1	14.4	10.5, 19.4	18.6[E]	11.0, 29.8	9.5	8.1, 11.2
Total	100.0		100.0		100.0		100.0	

Table 17: Health and health care factors among First Nations adults, by cannabis use type

Indicator & Categories	No use %	95% CI	Occasional use (excl. medical) %	95% CI	Daily use (excl. medical) %	95% CI	Medical use %	95% CI	All adults	95% CI
Good, Very good, or Excellent self-rated general health										
No	22.6	21.0, 24.2	23.9	20.0, 28.3	22.8	18.1, 28.2	26.9	23.3, 30.8	23.2	21.9, 24.6
Yes	77.4	75.8, 79.0	76.1	71.7, 80.0	77.2	71.8, 81.9	73.1	69.2, 76.7	76.8	75.4, 78.1
Total	100.0		100.0		100.0		100.0		100.0	
Number of chronic health conditions										
0 health conditions	38.0	35.7, 40.3	47.8	43.4, 52.2	50.4	45.5, 55.3	37.5	32.7, 42.7	40.0	37.9, 42.0
1–2 health conditions	30.6	28.6, 32.6	33.1	29.0, 37.4	36.1	31.3, 41.2	29.4	25.7, 33.4	31.1	29.5, 32.8
3–5 health conditions	22.2	20.8, 23.7	13.3	11.2, 15.6	10.9	8.1, 14.5	22.0	19.1, 25.1	20.3	19.2, 21.5
6 or more health conditions	9.3	8.3, 10.4	5.9[E]	3.6, 9.4	2.6[E]	1.6, 4.1	11.0	8.7, 14.0	8.6	7.8, 9.5
Total	100.0		100.0		100.0		100.0		100.0	
Has one or more chronic conditions possibly treated with medical cannabis										
Has no chronic conditions	37.8	35.6, 40.2	47.8	43.4, 52.2	50.3	45.4, 55.3	36.8	31.9, 41.9	39.8	37.8, 41.8
Yes	33.0	31.2, 34.9	25.1	21.1, 29.5	20.7	16.7, 25.3	41.3	37.0, 45.7	32.2	30.5, 33.8
No, but has other conditions	29.1	27.3, 31.0	27.2	24.2, 30.4	29.0	24.6, 33.8	22.0	17.9, 26.7	28.1	26.7, 29.5
Total	100.0		100.0		100.0		100.0		100.0	

Indicator & Categories	No use %	95% CI	Occasional use (excl. medical) %	95% CI	Daily use (excl. medical) %	95% CI	Medical use %	95% CI	All adults	95% CI
Needed and received health care in the past year										
No (didn't need health care)	33.0	31.1, 35.1	32.9	29.1, 36.9	47.0	41.2, 52.8	33.3	28.8, 38.0	34.0	32.2, 35.9
Yes, and I received all the health care I needed	57.9	55.7, 60.0	59.3	54.9, 63.5	44.2	38.6, 49.9	54.0	49.6, 58.4	56.7	54.8, 58.6
Yes, but I did not receive all the health care I needed	9.1	7.6, 10.8	7.8ᴱ	5.2, 11.6	8.9	6.6, 11.8	12.7	10.2, 15.8	9.3	8.0, 10.8
Total	100.0		100.0		100.0		100.0		100.0	
Number of health care access barriers experienced (by those who required health care) in the past year										
0 barriers	47.5	44.6, 50.5	50.2	45.0, 55.4	52.5	45.4, 59.5	36.4	30.9, 42.3	46.9	44.3, 49.5
1–2 barriers	19.8	18.0, 21.7	23.4	19.7, 27.5	20.6	16.1, 26.0	23.6	19.8, 27.9	20.7	19.1, 22.3
3–5 barriers	16.1	14.4, 17.9	16.8	12.4, 22.3	14.3	10.3, 19.4	18.5	15.0, 22.5	16.3	14.7, 18.1
6 or more barriers	16.7	14.4, 19.2	9.6ᴱ	6.8, 13.6	12.6ᴱ	7.6, 20.0	21.5	17.5, 26.1	16.1	14.2, 18.3
Total	100.0		100.0		100.0		100.0		100.0	
Number of NIHB health services with difficulties experienced (by those who needed and attempted to access them)										
0 services	69.1	66.8, 71.3	71.7	66.7, 76.2	70.4	64.4, 75.8	62.5	57.9, 66.8	68.8	66.8, 70.7
1–2 services	19.8	18.2, 21.5	20.9	16.7, 25.8	19.6	15.1, 25.1	26.1	22.3, 30.3	20.6	19.1, 22.1
3–10 services	11.1	9.7, 12.8	7.4	5.6, 9.7	10.0ᴱ	6.9, 14.2	11.4	9.2, 14.1	10.7	9.5, 12.0
Total	100.0		100.0		100.0		100.0		100.0	
Last time accessed a mental health service										
Never	73.3	71.4, 75.2	65.6	61.2, 69.9	73.5	69.2, 77.5	61.3	56.8, 65.5	71.0	69.3, 72.7
Within the last 12 months	14.3	13.0, 15.8	18.4	14.9, 22.6	15.7	12.4, 19.6	21.9	18.7, 25.5	15.7	14.6, 17.0
More than a year ago	12.4	11.1, 13.8	15.9	13.1, 19.3	10.8	8.0, 14.5	16.8	14.1, 20.0	13.2	12.0, 14.5
Total	100.0		100.0		100.0		100.0		100.0	
Last time visited a doctor/community health nurse										
Never	11.9	10.3, 13.8	10.6	8.5, 13.2	11.7	9.3, 14.7	12.9ᴱ	8.9, 18.4	11.9	10.6, 13.3
Within the last 12 months	74.7	72.6, 76.8	71.2	67.5, 74.7	67.7	62.7, 72.3	72.1	66.8, 76.9	73.5	71.7, 75.3
More than a year ago	13.3	12.1, 14.6	18.2	15.5, 21.2	20.6	16.7, 25.1	15.0	12.1, 18.3	14.6	13.5, 15.8
Total	100.0		100.0		100.0		100.0		100.0	
Last time consulted a Traditional healer										
Never	62.1	59.6, 64.4	64.8	59.8, 69.6	69.2	63.2, 74.7	55.6	50.6, 60.5	62.1	59.7, 64.5
Within the last 12 months	22.7	20.6, 24.9	17.9	14.3, 22.2	14.9	10.9, 20.1	24.6	20.9, 28.6	21.8	19.9, 23.9

Indicator & Categories	No use %	95% CI	Occasional use (excl. medical) %	95% CI	Daily use (excl. medical) %	95% CI	Medical use %	95% CI	All adults	95% CI
More than a year ago	15.2	13.7, 16.9	17.3	14.6, 20.3	15.8	12.7, 19.6	19.8	16.9, 23.1	16.0	14.7, 17.4
Total	100.0		100.0		100.0		100.0		100.0	
Used traditional medicine in the past year										
No	64.2	62.1, 66.2	71.3	67.2, 75.1	74.6	68.7, 79.8	56.8	52.2, 61.2	64.9	63.1, 66.7
Yes	35.8	33.8, 37.9	28.7	24.9, 32.8	25.4	20.2, 31.3	43.2	38.8, 47.8	35.1	33.3, 36.9
Total	100.0		100.0		100.0		100.0		100.0	
Number of difficulties accessing traditional medicine experienced (by those interested in using it)										
0 difficulties	64.2	61.7, 66.7	61.2	55.1, 67.0	56.2	48.3, 63.8	56.2	50.7, 61.6	62.4	60.1, 64.7
1–2 difficulties	29.7	27.5, 32.0	F[69]	F	36.5	29.5, 44.1	32.8	27.7, 38.3	30.7	28.7, 32.7
3–10 difficulties	6.1	5.2, 7.1	F	F	7.3[E]	3.9, 13.4	11.0	8.3, 14.5	6.9	6.0, 8.0
Total	100.0		100.0		100.0		100.0		100.0	

[69] Note: Some numbers in this table have been suppressed to avoid residual disclosure (i.e., deduction of other suppressed estimates based on available information).

APPENDIX E: About the Qualitative Researchers

The Firelight Group provides research, policy, planning, mapping, negotiation, advisory, and capacity-building services for Indigenous and local communities. It was founded in 2009 with the aim of providing services specifically tailored to supporting the rights and interests of Indigenous and local communities in Canada and beyond. Founded on the principles of relationships, accountability, and quality, Firelight's mission is to work with their clients to provide high-quality research, analysis, and technical tools and create solutions for our shared futures.

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