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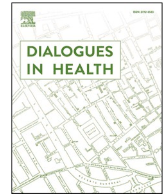

An Indigenous-led buprenorphine-naloxone treatment program to address opioid use in remote Northern Canada

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ABSTRACT

Background/purpose: In response to the opioid use challenges exacerbated from the COVID-19 pandemic, Fort Albany First Nation (FAFN), a remote Cree First Nation community situated in subarctic Ontario, Canada, implemented a buprenorphine-naloxone program. The newly initiated program was collaboratively developed by First Nations' nurses and community leaders, driven by the community's strengths, resilience, and forward-thinking approach. Using the First Nations Information Governance Centre strengths-based model, this article examines discussions with four community leaders to identify key strengths and challenges that emerged during the implementation of this program.

Methods: this qualitative study amplify the positive aspects and community strengths through the power of oral narratives. We conducted 20 semi-structured face-to-face interviews with community members who helped lead FAFN's COVID-19 pandemic response. Utilizing the Medicine Wheel framework, this work introduces a holistic model for the buprenorphine-naloxone program that addresses the cognitive, physical, spiritual, and emotional dimensions of well-being.

Results: Recommendations to support this initiative included the need for culturally competent staff, customized education programs, and the expanding of the program. Additionally, there is a pressing need for increased funding to support these initiatives effectively and sustainably. The development of this program, despite challenges, underscores the vital role of community leadership and cultural sensitivity to address the opioid crisis in a positive and culturally safe manner.

Conclusion: The study highlights the successes of the buprenorphine-naloxone program, which was developed in response to the needs arising from the pandemic, specifically addressing community members suffering from opioid addiction. The timely funding for this program came as the urgent needs of community members became apparent due to pandemic lockdowns and isolation. Holistic care, including mental health services and fostering community relations, is important. By centering conversations on community strengths and advocating for culturally sensitive mental health strategies that nurture well-being, resilience, and empowerment, these findings can be adapted and expanded to support other Indigenous communities contending with opioid addiction.

1. Introduction

In the northern regions of Canada, First Nations communities experience disparities in opioid-related morbidity and mortality [1]. This is linked to colonialism, encompassing discriminatory policies, racism, and the enduring repercussions of intergenerational trauma, all

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of which contribute to opioid-related fatalities among First Nations, Inuit, and Métis people in Canada [2].

Trauma from colonization impacts health and well-being [3]. Historically, colonial authorities and laws have contributed to the harm of Indigenous Peoples in Canada [4]. The 1876 Indian Act, enacted by the Government of Canada, exerted control over First Nations identity, lands and resources, language, and cultural practices [5]. Trauma from Canada's colonial assimilation policies and practices of residential school systems has contributed to intergenerational trauma, which has adversely impacted determinants of health, including contributing to substance abuse as a means of coping [6]. Connection to traditional culture is important for health and well-being [3]. In northern Ontario, First Nations Elders' perspectives of wellbeing encompass physical, mental, spiritual, social, and cultural wellbeing, with components that transcend the "body, mind, spirit, and emotions" [4] – a connection that was found in this paper.

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a highly pathogenic coronavirus, caused the global coronavirus disease 2019 (COVID-19) pandemic. This prompted the evaluation of pandemic interventions in Indigenous communities, including Fort Albany First Nation (FAFN), through a community-based participatory approach to build capacity and address gaps. Indigenous populations have been disproportionately impacted by the coronavirus pandemic (COVID-19) [7], which has intensified the overdose crisis and opioid usage within First Nations communities [7,8]. According to the Chiefs of Ontario, potential explanations include border restrictions and a disrupted drug supply access, resulting in an unpredictable and unregulated drug supply, which increases the risk of poisoning. Interruptions in harm reduction services (e.g. restricted travel and physical distancing) resulted in barriers to accessing treatment. Mixed drug toxicity, such as adulterants in opioids (e.g., benzodiazepines or fentanyl) [7]. In 2019, the Assembly of First Nations reported that Fort Albany First Nation (FAFN), which is a dry (meaning drug- and alcohol-free) Indigenous reserve, declared a 'State of Emergency' over the opioid crisis and the illegal drug-and-alcohol epidemic that continues to destroy families; thus, a call to action and harm reduction strategy was put forth [9].

1.1. Recent opioid-related morbidity, mortality, and opioid agonistic treatment

Opioid Use Disorder (OUD) is a growing public health crisis that has devastating health, social, and economic impacts [10,11]. Surveillance of opioid-related deaths since January 2016 show over 34,000 opioid toxicity deaths in Canada [12]. Specifically, recent data from January to September 2022, indicates that opioid toxicity deaths equate to approximately 20 deaths per day, a doubling from 10 deaths per year in 2019 during the same time-period [12]. Males accounted for 75 % of accidental apparent opioid toxicity deaths, and the majority of deaths occurred among young-to-middle aged adults (20 to 59 years of age) [12].

In northern Canada, many First Nations communities in Ontario experience higher opioid-related morbidity and mortality rates, although fulsome data about opioid-related harms among First Nations people in Ontario has been lacking [1,13]. The Chiefs of Ontario and the Ontario Drug Policy Research Network have published on opioid-related harms among First Nations people using linked health administrative data. Their report shows drastically higher overall rates of opioid poisoning-related deaths among First Nations than non-First Nations people in 2019, 3.6 compared to 0.9 deaths per 10,000 people, respectively [1].

Opioid Agonistic Treatment (OAT) is recommended for individuals living with OUD. In Canada, people seeking OAT in the province of Ontario has risen six-fold, from 6000 patients to over 40,000 from the year 2000 to 2016, respectively [14]. Historically, after its introduction in 1964, OAT treatment has been primarily Methadone-based and consisting of a single daily oral dose of a full μ-opioid receptor agonist that was regulated by Health Canada until 1995. Ultimately, provincial regulatory bodies such as the College of Physicians and Surgeons of each province become responsible for physician practice aspects of oral methadone treatment [15]. Since then, each province has faced unique challenges in relation to the independent OAT programs and capacity – Ontario having the second highest number of persons seeking care, 305 per 10,000 people [15].

In 2007, opioid drug dependency treatment options changed with the approval of the Suboxone® (brand name), which is a fixed combination of buprenorphine, a partial μ-opioid receptor agonist, and naloxone, a full opioid antagonist [16]. Suboxone (buprenorphine/naloxone) is predominantly administered sublingually, although monthly injections are also available [17]. This treatment reduces withdrawal symptoms and cravings by blocking the effects of opioid addiction [18]. The benefit of Suboxone compared to Methadone is that Suboxone reduces opioid use, improves physical and mental well-being, treatment retention, and reduces the risk of overdose [19]. However, a recent large systematic review and meta-analysis comparing buprenorphine versus methadone in the treatment of opioid dependence reported that, after 1 month of treatment, retention was higher in randomized trials than observational studies for methadone agonist therapy compared to buprenorphine treatment. However, there was no difference in long-term adherence between the two treatments [20]. One of the major limitations of their study is that key subpopulations were not considered [20].

1.2. A strength-based approach

The community of FAFN secured funding to establish a community-centered, Indigenous-led buprenorphine-naloxone —which is also referred to as Suboxone®— program during the COVID-19 pandemic. Community leaders advocated for this funding, recognizing the urgent need for a local program as community members experiencing addictions were unable to travel for treatment, and restricted travel prevented drugs from entering the community, increasing the risks of withdrawal and potential overdoses. The buprenorphine-naloxone program, established during the pandemic, was operated by Peetabeck Health Services and faced significant constraints due to pandemic restrictions. In the program, clients were first assessed virtually by a doctor, who then provided the necessary prescription. Following this, clients visited the program for the retrieval and administration of their prescription and were monitored on-site until the healthcare professional deemed it safe for them to leave. The program served approximately 25–30 clients, and was run entirely by nurses, most of which were from the community. Drawing from the perspectives of Indigenous nurses and other community leaders influential in the development and implementation of the program, this article aims to amplify existing Indigenous-specific solutions and propose additional insights that contribute to addressing the escalating opioid crisis in Canada. Through understanding the perspectives of the buprenorphine-naloxone program, this work seeks to shed light on effective, community-driven approaches that can be adapted and expanded to support other Indigenous communities facing similar challenges.

Adopting a strength-based approach that is grounded within an Indigenous framework to address opioid dependency, as opposed to a deficit-based perspective, which primarily focuses on illness and problems offers a more holistic and empowering lens [21,22]. This approach fosters empowerment, resilience, and motivation but also cultivates protective factors and practices that promote community connections, healthy relations, cultural and spiritual knowledge [23,24]. Through documented interviews with key Knowledge Holders from First Nations organizations – a recent report commissioned by First Nations Information Governance Centre (FNIGC) explored strength-based approaches to research, including developing wellbeing and mental wellness indicators in First Nations communities in Canada [23]. The FNIGC 2021 report [23] underscores the importance of strength-based research in

developing indicators for well-being and mental wellness, thereby providing a framework for understanding and enhancing health outcomes in First Nations communities within Canada. By centering Indigenous knowledge and perspectives, such research not only challenges biased perceptions and negative stereotypes but also contributes to a richer understanding of health and wellness in these communities.

Transitioning from the broader context of opioid-related disparities in First Nations, Inuit, and Métis communities, particularly during the COVID-19 pandemic, to a more focused exploration of community-driven solutions is crucial for advancement of strength-based approaches to wellness. Therefore, this study aims to raise awareness about Indigenous-led, community-centered initiatives, which are strength-based and specific to the buprenorphine-naloxone program in FAFN. We highlight resilience and the innovative solutions developed within the community in light of encountered challenges.

2. Material and methods

This qualitative study took place in Fort Albany First Nation (FAFN), a Cree First Nation community in northern Ontario, Canada. We explored the community's innovative response to the opioid crisis through the lens of an implemented buprenorphine-naloxone program. Our methods of are rooted in amplifying positive aspects and community strengths through the power of oral narratives [25]. We share local experiences and perceptions from Indigenous nurses, key Knowledge Holders, and community leaders related to the implementation of an Indigenous-led buprenorphine-naloxone program in FAFN.

Our academic-community partnership with FAFN stems from a longstanding relationship in which we collectively address locally relevant issues in a participatory manner. Collaborations are rooted in the First Nations Principles of Ownership, Control, Access, and Possession (OCAP)®, which govern how research is determined and conducted, the ownership of cultural knowledge, information, and data, how information is accessed and securely stored, and the ethical use and protection of this information [26].

2.1. Data collection and analysis

In 2023, we conducted semi-structured face-to-face interviews with community members who helped lead FAFN's (EPIC) COVID-19 pandemic response. In total, 29 community members who were key members in the COVID-19 response were identified and recruited by the Health Director. Of these, 20 community members participated in the interviews, with 9 participants unable to participate due to scheduling conflicts. In collaboration with the Health Director, open-ended interview questions were developed to guide conversations related to their COVID-19 experience, pandemic interventions, communications, and the impact on the community. Although there were no specific questions regarding the buprenorphine-naloxone program, four community members who were instrumental in the COVID-19 pandemic response discussed the community's buprenorphine-naloxone program, which was developed and implemented during the pandemic. Interviews were carried out by one researcher between February to June 2023 after pandemic travel restrictions were lifted and visitors were allowed in the community. The interviews were conducted in-person, lasting from 50 min to 1.5 h with each community member in a neutral setting, allowing community members to share perceptions, express their concerns, and provide feedback. Interviews were conducted in English using conversational methods rooted in Indigenous research, which facilitated the open knowledge construction and sharing [27]. Interviews were digitally recorded, transcribed verbatim, and securely stored at Toronto Metropolitan University.

We utilized the FNIGC strength-based approaches to research and Blackstock Medicine Wheel of relationality of needs [23,28] to guide our analysis to highlight the strengths and opportunities to inform future programs. In a holistic Indigenous worldview, this model emphasizes interdependent, relational human needs rather than hierarchical ones, aligning with the principles of the Medicine Wheel [23]. The Medicine Wheel holds various forms, meanings, and teachings for Indigenous populations. Symbolically, its four quadrant dimensions represent interconnections to health and life cycles – the balance between physical, mental, spiritual, and emotional aspects of one's being [23,29]. These interconnected dimensions and perspectives of well-being are shared by First Nations Elders [4].

Embracing ways of knowing rooted in the lived experiences and knowledge of community members [30], content analysis was used to analyze the interview transcripts [31]. Initially, familiarization with the data occurred through reading all transcripts multiple times. A content analysis approach grounded in the strength-based model, guided the coding and development of themes and sub-themes. These codes were categorized according to the four domains of the Medicine Wheel which reflected cognitive, physical, spiritual, and emotional and belonging aspects of wellbeing. The physical domain consisted of codes related to physical status, environmental and material conditions, physical health and physical experiences. The emotional and belonging domain encompassed codes relating to emotional status, relationships and feelings. The cognitive domain contained codes relative to mental resources, knowledge, cognitive processes and mental health. The spiritual domain consisted of codes relating to the spiritual and the transcendent, spiritual beliefs, spiritual practices and spiritual health and wellbeing [29]. This framework guided the process, which was conducted separately by three researchers on the team, with extensive knowledge of the community and Indigenous Peoples more generally, to confirm consistency. Additionally, key community members provided perspectives on the codes and themes, and the entire process was conducted in an iterative manner to ensure the data were accurately captured. The discussions served as a foundation for adapting the Medicine Wheel applied to the buprenorphine-naloxone program (Fig. 1).

The research was approved by the research ethics boards of Toronto Metropolitan University (REB-2022-221), the University of Toronto (Protocol no. 00044366), and Auckland University of Technology (23/76). The findings are reported in accordance with the Standards for Reporting Qualitative Research (SRQR) checklist (Supplemental Table S1).

3. Results

The Medicine Wheel framework was applied and adapted to the buprenorphine-naloxone program (Fig. 1). By engaging in dialogues with key Knowledge Holders and community leaders, we identified critical elements to the success of the program under cognitive, physical, spiritual, and emotional dimensions. The FNIGC strength-based approach guided our exploration, ensuring that the resulting model not only addressed challenges but also celebrated the community's strengths. This collaborative process, involves Indigenous perspectives and local insights, culminated in creating a holistic framework that aligned with the unique needs of FAFN, offering insights into their newly initiated buprenorphine-naloxone program.

3.1. Cognitive

3.1.1. Indigenous knowledge

Informed by Indigenous knowledge, the development and implementation of the buprenorphine-naloxone program was guided by a nuanced understanding of the specific challenges within the community, informed by lived experience.

> *"It was kind of hard, though shutting down the community…But somebody has got to look after the community… That [Suboxone program] came out of necessity because of the lockdown eh…We met with the Chief and Council. I think at that time we explained the possibility of people*

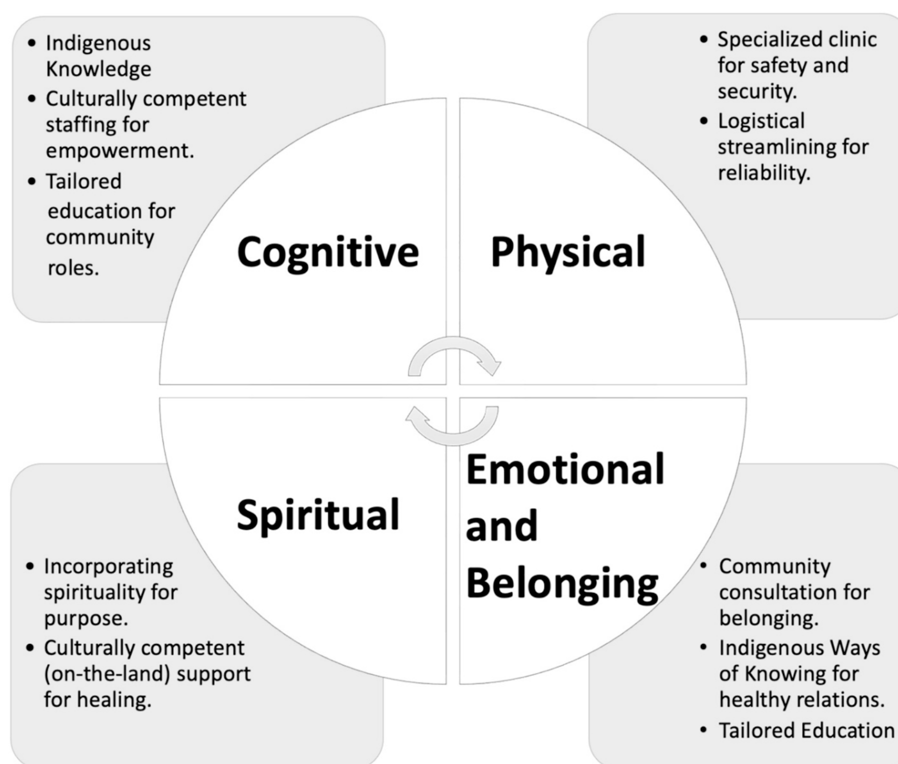

Fig. 1. Medicine Wheel of Rational Needs for Buprenorphine-naloxone Program. Adapted from Blackstock 2009 (28) and FNIGC 2020 (23).

> *having major withdrawals because of the lockdowns. And we made a proposal… Working with the First Nation Chief at that time, and then we sent it off and they approved. Not all of it, but we got enough for a nurse and admin staff and all that, supplies you know."* (Discussant 1)

By leveraging insights gained from lived experiences and an awareness of the community's unique issues, the program strategically empowered individuals and emphasized the collective strength derived from a shared cultural heritage. The incorporation of community-specific knowledge fosters personal development and functions as a transformative instrument, enabling individuals to actively initiate positive change within their community. This alignment of the buprenorphine-naloxone program with the community's unique needs serves as a testament to its responsiveness. In one notable instance, the discussant (with prior experiences with addiction) elucidated the motivations that propelled him to advocate for the establishment of this program,

> *"One of the things we wanted was Suboxone. But didn't materialize because people don't see it right? They don't see it. They don't understand it. They never been through it. And I can tell you the things I speak about, I went through those things… Because that's what an Elder taught me. So, they didn't take it serious until the pandemic hit… [What] they always say is you can't forget about the members that use [substances] too. So, you got to get supports for them as well… And I should mention her name too [name redacted for anonymity], played a vital role, finding us a team to bring in the Suboxone program. Because we're talking to ISC (Indigenous Services Canada) … I told them we need a Suboxone program here because at the time, WAHA (Weeneebayko Area Health Authority) wasn't capable… They started telling me, give WAHA some time, three months. So, I tell them, well, what's going to happen within three months? We're in a pandemic. And so three months went on…. We're on a Zoom like a teleconference. I said OK, it's been three months since, still no change, and I still have people wondering, because the drinking was rising. Because they're finding ways to cope, right… So, after a while… ISC, I guess the department there, said OK, we'll fund you and they give us one year. Here you go, see what you can do, and everything was set, and I got to thank you, (name redacted for anonymity), and also thank (name redacted for anonymity) and her department as well because now we have stuff to support those people… Even had some of those people using the Suboxone program say thank you. I used that program."* (Discussant 3)

These accounts highlight how Indigenous knowledge, rooted in lived experiences and community dynamics, informed the buprenorphine-naloxone program's development. The urgency created by the pandemic prompted strategic collaboration with Chief and Council, resulting in a proposal that addressed the immediate withdrawal challenges faced by community members during lockdowns. The discussions illustrate the persistence needed to secure funding and recognition for the program, demonstrating the important role played by community members in navigating bureaucratic processes and advocating for essential support for those in need.

3.1.2. Culturally competent staffing and training

Informed by the community, healthcare professionals who are familiar with the nuances within the community, and the cultural and traditional aspects within it, can offer tailored support aligned with individuals' spiritual beliefs. This not only enhances the effectiveness of recovery but also reinforces a profound sense of purpose on the journey to healing. For one healthcare practitioner, observing this issue within her community led her to seeking her own education to help others,

> *"I think that's initially why she hired me. Come to think of it… She wanted me to start addiction programming because she knows my work with addictions. I always used my same story. I'm probably going to say… [I have] experienced some addictions in my workplace since 2012. And then [that's] what pushed me, too. It took me a while to see what was happening. I didn't understand it at first. And then, I asked, my supervisor… I said, what are we going to do to help the people? And she told me nothing. And then that pushed me to understand addictions. So, I educated myself, read a lot on the Internet. What's happening in Canada*

and understanding what's out there helping people with addictions, what programs are there? Yeah. So, I did my own education." (Discussant 2)

The recruitment of healthcare professionals fluent in Cree and culturally competent staff was as a pivotal aspect contributing to the success of the buprenorphine-naloxone program. Having individuals proficient in Cree helped facilitated effective communication about the program,

"When I opened the doors. I had like 10 people sitting in the waiting room… It was nice to see… I think she (community nurse) prepared them too. I don't really know really full fluent Cree, but I think (name redacted for anonymity) prepared and the Chief prepared the community…of the program coming. So, I think that's why there was such a large volume the first day." (Discussant 2)

Moreover, cultural competence among staff members was integral, enabling the provision of healthcare that not only addressed medical needs but also acknowledged and respected the cultural identity and roles of community members. The healthcare professionals played a crucial role in creating a supportive and inclusive healthcare environment, fostering a sense of trust, and understanding among community members. This emphasis on cultural competence underscores the importance of tailoring healthcare services to the unique cultural landscape, ensuring the program is attuned to the specific needs and preferences of the Cree community.

3.1.3. Tailored education and prevention programs

Discussant 4, a community nurse who is experienced and trained in both clinical and mental health practice, emphasized the importance of implementing culturally tailored education and prevention programs in local schools. Introducing drug prevention programs from an early age would be a crucial component of any initiative aimed at addressing the opioid crisis in communities, as it equips youth with the knowledge and tools to make informed decisions regarding substance use. This proactive educational approach, blended with culturally relevant teachings, such as land-based programs, would nurture a deep sense of belonging and self-actualization from an early stage ensuring youth are culturally conscious and actively involved in safeguarding and promoting the culture and traditions.

3.2. Physical

3.2.1. Program development and expansion

The establishment of this program, with an emphasis on local knowledge, played a pivotal role in fostering a healthcare environment that was both safe and secure for individuals. The first step to this was identifying the need for this program and the essential elements needed to develop it effectively,

"They [Indigenous Services Canada] never asked [about] the effects on the community… They never did that… So, we had to make our own request of what was needed. For us, one of them was recognizing the addictions that exist in the community, I was one of them and the Chief recognizing that you know the high number of suicides. In the recent years, and he didn't want his community members to be affected with that situation. So, we had to work with them implementing addiction program." (Discussant 2)

The discussions highlighted that further expansion of the program should incorporate more local perspectives and Indigenous knowledge for those undergoing treatment. For some, this expansion included addressing accessibility challenges,

"So far, it's been, they haven't cut the funding. So hopefully it'll be long time, and right now we're looking at bringing in that Sublocade… the injection one. Because it's hard for people to come in every day and, because right now, how is it? What do they have to do - daily they have to come in, it's a direct observed therapy, they have to come in every day for their dose. But, they get carries (extra doses) if they need to go for medical appointments or you know" (Discussant 1)

3.2.2. Logistical streamlining and accessibility

Addressing logistical challenges, such as medication access and scheduling, are crucial not only for the effectiveness of the buprenorphine-naloxone program but also for the overall health and well-being of individuals. Facilitators of the program discussed the need to ensure a streamlined process for medication access and scheduling, to contribute to the reliability and promptness of treatment, which is paramount for the safety and stability of participants within the program.,

"The transportation of meds [medications]… Because the last call in for meds would be Thursday, right… So patients on Friday can't get any meds until Monday… But we kind of ironed it out now… We just need to let patients know if you want your Suboxone, you have to come between Monday and Thursday. If you come on Friday, you won't be able to get it till Monday." (Discussant 1)

Discussant 4 went on to stress that when individuals have timely access to medications, it not only supports their immediate health needs but also fosters a sense of security and continuity in their recovery journey. The establishment of a well-organized and accessible system is fundamental to creating an environment where individuals can focus on their recovery without unnecessary hurdles or delays in obtaining essential medications and services. This logistical streamlining would enhance the success of the buprenorphine-naloxone program within the community.

3.3. Spirituality

3.3.1. Incorporating spirituality

Indigenous spirituality holds a profound significance in the process of healing and recovery. Discussant 4 spoke of the need to incorporate spiritual practices and cultural ceremonies, such as current land-based programs or cultural practices, such as sweat lodge ceremonies, into the buprenorphine-naloxone program to offer a more comprehensive and holistic support system for program participants. Currently, the program predominantly addresses physical health, with some attention to emotional well-being provided by community or Indigenous staff. Expanding the program's focus to include spiritual and emotional health, in addition to physical health, would embrace a holistic perspective, catering to all facets of well-being. One discussant identified this need for additional mental health supports stating,

"At times, the health center was shut down… Like no workers there and stuff… And I think that's where I need to improve in the future, you have to have that place open for mental [health]. I know they were doing the Suboxone, but the counseling services because… Even if there's a plastic wall there and something where they can come in and talk to somebody… They'd now be a bit better" (Discussant 3)

3.4. Emotional and belonging

3.4.1. Community consultation for belonging

Through ongoing community consultation, the buprenorphine-naloxone program not only gains invaluable insights into the unique needs of each community but also establishes a vital connection with its members. This collaborative approach ensures that the program is intricately tailored to specific requirements, reflecting a deep understanding of the community's dynamics. Additionally, the process fosters a sense of community ownership, where active participation from community members contributes to the shared commitment and success of the program:

"I'm thankful. I mean, in a way, that's what COVID brought us, the Suboxone program… I mean, if COVID wasn't around, I think we'd still be negotiating to try to bring something to the community." (Discussant 1)

"I still have people saying, hey, my daughter's going to join the Suboxone program. Who brought that in? And I look at them, I advocated for it. Hey, how come nobody talks about those things? Yeah, people tend to focus on negative more than positive. Yeah. It's just how we were raised because we've been through so much crap." (Discussant 3)

These quotes highlight the importance of community engagement in steering the program toward success and recognizing the positive changes it brings to individuals and the community as a whole.

3.4.2. Guidance by Indigenous ways of knowing

Embracing Indigenous ways of knowing within the program underscored the significance of community connections and healthy relationships. Discussant 4 highlighted the need to integrate these principles, emphasizing that doing so not only enriches the cultural competence of the program but also contributes to its effectiveness. By aligning with Indigenous values, the program can renew the sense of belonging and strengthening community relationships. This integration is pivotal, as it ensures the program aligns with the culture and values of the community, promoting trust and respect among participants. As Discussant 4 points out, this integration fosters a deeper sense of identity and community solidarity, which are crucial components of healing and recovery. Such a culturally attuned approach not only enhances the program's relevance to the participants but also fosters an environment of mutual understanding and support – an environment that is essential for effective and sustainable health interventions, especially in the context of addiction challenges.

"That's why it's important. It's always important going to the land." (Discussant 3)

3.4.3. Promoting belonging and healing through cultural competence

Discussant 4 identified a crucial need to integrate cultural competence into the program's framework, emphasizing the importance of ensuring individuals feel seen, heard, and understood throughout their recovery journey. This approach, promoting trust, openness, and a sense of belonging, forms integral elements in the healing process. Educational programs that incorporate spirituality within Indigenous communities play a pivotal role in guiding individuals toward a deeper sense of meaning and purpose. By highlighting the intrinsic connection between cultural traditions and spirituality, these programs empower individuals to explore their culture and identity. This emphasis not only contributes to personal development but will hopefully also help combat substance use. Engaging with spiritual beliefs and connecting with community Elders fosters resilience and a profound sense of belonging, thereby reducing the likelihood of resorting to substances as coping mechanisms. In essence, such programs are vital for fostering holistic well-being and safeguarding the cultural richness of Indigenous societies.

4. Discussion

Guided by meaningful and respectful collaborations with Indigenous partners in FAFN,

this study highlights Indigenous perspectives and the collaborative effort of Indigenous nurses and their community leadership in launching the buprenorphine-naloxone program during the opioid state of emergency that gained momentum during the COVID-19 pandemic. Through a strength-based lens, the study raises community strengths and challenges. The results offer a comprehensive framework for enhancing buprenorphine-naloxone treatment in remote First Nation communities.

4.1. Current approaches for substance use that are co-designed and implemented with Indigenous leadership

Innovative substance-use services and practices that have impact are being led by Indigenous communities. Current treatments for substance use and harm reduction services importantly could be co-designed and co-implemented with Indigenous ways of knowing, community-specific strengths, and perspectives, and rooted in appropriate and culturally safe care models. A literature review exploring the facilitators and barriers of OAT in rural and remote Canadian communities identified themes such as intrapersonal factors, social/non-medical factors, family and community factors, infrastructure/environmental factors, health care provider factors, and system/policy factors. These themes were drawn from a diverse range of publications, predominantly descriptive studies, including data from administrative and electronic medical data, commentaries, two reviews, and a case report [32]. The review highlights, as does our study, that holistic, community-focused, culturally appropriate programs rooted in traditional healing serve as a way forward to addressing the opioid crisis in rural and remote areas [32]. In northwestern Ontario, prior to the COVID-19 pandemic, six remote First Nations communities in the Sioux Lookout region have established treatment programs, in combination using buprenorphine-naloxone maintenance treatment and traditional healing [33]. Positive impacts of the program included high treatment retention rates and overcoming barriers such as a lack of resources and addiction expertise. Buprenorphine programs could be established in other First Nations, with sustained funding to support these initiatives [33].

In a recent rapid review conducted by Public Health Ontario (PHO) in collaboration with Indigenous partners in Canada [34], the findings of the review were significant, as it described substance use treatment and harm reduction approaches that were (co)designed and (co)implemented with Indigenous communities in North America. What is evident from the review is that there is a gap in the implementation and evaluation of these types of approaches, especially in rural and remote communities in Canada [34].

The results of the rapid review are highlighted using a Western perspective. In total, nine records were identified that met the inclusion criteria, comprising both academic (228 records) and grey literature (286 records) sources. [35–41] The studies, primarily situated in the United States (US) (6/9) and Canada (3/9), explored substance use interventions and practices. Over half of the studies (5/9) concentrated on treatment services [35,36,38–40], while a smaller fraction (22 %) focused on harm reduction and related training. [37,42] The remaining studies addressed both treatment and harm reduction services, including social supports [40,41]. Methodologies varied, with both qualitative (e.g., interviews) and experimental (e.g., trials and case-control studies) approaches examining the effectiveness of specific treatment services. Among the three records from Canada [35,41,43], one was a policy brief, and the remaining two were qualitative studies that explored community members' lived experiences using open-ended exploratory interviews for a treatment program and a community harm reduction program, respectively [35,41]. These findings highlight the paucity Indigenous-led healthcare and community-specific solutions for opioid dependence, which is what our study emphasizes through community partnership.

In the review, the remaining US-based studies reported treatment options from an experimental design study that was a matched control design, delivering a telepsychiatry led remote clinic within an established substance abuse and mental illness treatment program located in costal Southcentral Alaska [40]. In a feasibility trial among adults seeking substance use treatment, usual care was compared to Drum-Assisted Recovery Therapy, incorporating drumming and talking circles alongside a 12-Steps of AA/Narcotics Anonymous (NA) program within the Northern Plains Medicine Wheel framework [36]. In another RCT, interventions included two culturally adapted interventions for alcohol and substance use in Southwest United States. Treatment

programs included a combined intervention versus usual care (i.e., Motivational Interviewing and the Community Reinforcement Approach) that built kinship ties along with incorporating spiritual aspect of social interactions between client and counselor. The second was a Community Reinforcement and Family Training program that involved family and relationship partners. This program focused on mental health and well-being of the concerned family member or significant partner [39]. Only two records in the review described using a qualitative design to explore treatment services. In the northwestern region of the United States bordering Canada, a seasonal cultural Indigenous immersion camp based on traditional cultural practices (i.e., "living off the land") for clients who were part of the reservation's federally funded substance use disorder treatment programs, blended Western and Traditional Cultural models [38]. Of these five treatment records, three records were services rooted in Indigenous practices rather than Western practices and models [35,36,38]. Notably, there was only one record that described a treatment study in Canada, which qualitatively explored psychosocial well-being and substance use following ayahuasca-assisted therapy (i.e., two guided ceremonies in a four-day retreat) [35]. Whereas the other two US-based records [39,40], were a combination of 'traditional' and 'mainstream' programs. In summary, these findings collectively underscore the positive outcomes associated with addressing substance use through community-led programing, such heightened cultural competence within healthcare delivery, fosters a profound sense of trust and belonging among clients, and empowering individuals to navigate their recovery journey with culturally relevant support systems. This approach not only enhances treatment effectiveness but also strengthens community resilience in combating substance use challenges, emphasizing holistic well-being and cultural preservation as integral components of healing.

These findings also underscore a critical gap in the literature regarding the practical implementation and evaluation of substance programs within Indigenous communities, particularly in Canada [34]. Approaching services from an anticolonial and Indigenous perspective, the review highlights commonalities similar to our findings within the FAFN community; for example, centering Indigenous knowledge, fostering learning, and sharing and leveraging traditional spaces for healing [34]. Additionally, the importance of varied approaches to care is underscored, which promotes holistic well-being through an interconnected balance (emotional, mental, physical, spiritual) [34]. The review also emphasized the heterogeneity among Indigenous communities and advocated for a collaborative, relationship-based approach rather than a standardized universal Indigenous model for substance use services [34].

4.2. Ways forward

The buprenorphine-naloxone program in FAFN was initiated during a community state of emergency surrounding drug-related challenges. Despite initial delays, the program gained traction during the COVID-19 pandemic, as community nurses, Indigenous Services Canada, and Weeneebayko Area Health Authority collaborated to form a team for its introduction and implementation. Reflecting on this successful development of the program, several recommendations are proposed to comprehensively enhance buprenorphine treatment in remote First Nation communities, addressing clinical, cultural, logistical, and educational aspects. This endeavor can further strive to bridge existing needs in addiction treatment, providing a model of care that is aligned with the unique needs and cultural sensitivities of Indigenous communities.

As discussed by community members through provided quotes and conversations, expanding the program to integrate mental health services, and combining with existing on-the-land programs is important for holistic and culturally competent care. Recruiting specialized healthcare professionals fluent in Cree and involving community members in decision-making processes would promote community-centric approaches. A strong emphasis on tailored education and prevention programs, particularly within local high schools, can contribute to reducing the incidence of opioid addiction among youth. Additionally, school counsellors must receive specialized training to effectively support students facing addiction-related challenges. Community consultation and flexibility are paramount to the program's success, recognizing that each community possesses unique needs. Guided by Indigenous Ways of Knowing, the program aligned with the wisdom of Knowledge Holders, Elders, and community members support culturally safe and holistic healing into its framework, which helps to build innovative Indigenous-led health care partnership models [44]. Culturally competent staffing and training programs that acknowledge broader issues of colonization, residential schools, and intergenerational trauma help ensure that healthcare professionals deliver respectful, culturally sensitive care that acknowledges the historical and contemporary challenges faced by Indigenous communities. Building upon the successful development of the buprenorphine-naloxone program, it is necessary to expand its capacity, and incorporating mental health services are essential to meet the growing demand for comprehensive care.

Furthermore, logistical streamlining and accessibility are vital for ensuring that clients can access medications promptly and conveniently. Addressing logistical challenges, such as scheduling and pharmacy delivery limitations, ensures timely access to medications – a crucial factor in treatment success. Exploring extended-release buprenorphine medications like Sublocade, a once-monthly injectable, can significantly reduce the daily attendance burden and improve treatment retention. This program provides a significant step toward more effective and culturally sensitive buprenorphine-naloxone treatment strategies that foster health and resilience of individuals in underserved and remote areas. The discussions related to the program revealed the need for a multipronged approach that combines clinical, cultural, logistical, and educational elements to address the opioid crisis. Grounded in Indigenous-led health care and community-specific solutions, these recommendations provide a solid foundation for the program's continued evolution. By implementing these recommendations, there is an opportunity to potentially improve the quality of addiction treatment and contribute to the empowerment and self-determination of remote First Nation communities.

4.2.1. Limitations

While this study offers valuable insights into the implementation and impact of community-led opioid programs, it is essential to acknowledge certain limitations. Firstly, the study's size and scope were restricted as we were only able to interview those who had an involvement in the program's implementation. Despite identifying patterns consistent with existing literature concerning culture, sovereignty, resilience, and resource adequacy, the study's focus on a single community may not fully capture the diverse needs and experiences of Indigenous communities across different geographical and cultural contexts. Moreover, the successful development of such programs heavily relies on direct leadership and partnership with community health workers, as well as sufficient financial support from government entities. Therefore, the findings and recommendations of this study should be interpreted within the context of these limitations, recognizing the unique circumstances and requirements of each community in addressing opioid-related challenges. It is crucial to note that every community has different needs, even neighboring ones, and the implementation of such programs could only occur with direct leadership and partnership consultation with the community health workers, as well as adequate financial support from government on the ground.

5. Conclusion

The implementation of the buprenorphine-naloxone program in FAFN presents a robust model of care, which addresses the opioid crisis through a comprehensive and culturally sensitive approach. Rooted in

Indigenous-led health care and community-specific solutions, the program not only addresses the immediate challenges of opioid addiction but also contributes to the long-term health, resilience, and empowerment of individuals within First Nation communities. The success of the program emphasizes the importance of expanding its capacity and incorporating mental health services to meet the growing demand for comprehensive care. This underlines the significance of tailoring education and prevention programs, particularly at the community-level, to reduce the incidence of opioid addiction among the youth. By embracing Indigenous knowledge and perspectives, tailoring education and prevention efforts, prioritizing community consultation, and streamlining logistical aspects, the program can continue to evolve and make a positive impact on the well-being and self-determination of individuals experiencing opioid addiction. This partnership represents a significant step toward more effective and culturally sensitive mental health strategies, fostering health, resilience, and empowerment within underserved communities, while simultaneously tackling the pervasive issue of opioid addiction within remote First Nations.

CRediT authorship contribution statement

Aleksandra M. Zuk: Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Fatima Ahmed:** Writing – review & editing, Visualization, Validation, Software, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Nadia A. Charania:** Writing – review & editing, Visualization, Validation, Software, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Celine Sutherland:** Writing – review & editing, Visualization, Validation, Supervision, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Gisele Kataquapit:** Writing – review & editing, Visualization, Validation, Supervision, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Robert J. Moriarity:** Writing – review & editing, Visualization, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Nicholas D. Spence:** Writing – review & editing, Visualization, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Leonard J.S. Tsuji:** Writing – review & editing, Visualization, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Eric N. Liberda:** Writing – review & editing, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

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