Indigenous Youth Mentorship Program: key implementation characteristics of a school peer mentorship program in Canada

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Summary

The Indigenous Youth Mentorship Program (IYMP) is a peer-led health promotion program developed for elementary school students in Indigenous school communities in Canada. A local young adult health leader (YAHL) and high school mentors offer students healthy snacks, physical activity games, relationship building activities and cultural teachings. IYMP aims to improve children's health and wellbeing and empower Indigenous youth and communities. The purpose of this focused ethnography was to describe the key characteristics of successful IYMP delivery. Two focus groups were conducted with 16 participants (8 YAHLS and 8 youth mentors) from 7 schools followed by 4 individual interviews (3 YAHLS, 1 youth peer mentor). Transcripts were analyzed using content analysis. Findings were triangulated with IYMP program field observations and notes from IYMP national team meetings. The five characteristics identified as important for IYMP delivery were a sense of ownership by those delivering the program, inclusion of Indigenous Elders/knowledge keepers, establishing trusting relationships, open communication among all stakeholder groups, including community and academic partners, and adequate program supports in the form of program funding, manuals that described program activities, and local and national gatherings between academic and community partners for sharing ideas about the program and its components. This study indicates the importance of respectful partnerships between community and academic leads for program success and sustainability. As IYMP is implemented in more communities and becomes community autonomous, program sustainability may be ensured and implementation challenges mitigated by embedding the identified five essential characteristics within the fabric of IYMP.

Key words: health promoting schools, aboriginal health, peers, indigenous, implementation science, qualitative methods

INTRODUCTION

Indigenous peoples (First Nations, Métis and Inuit) in Canada have a higher prevalence of non-communicable diseases (NCDs) than non-Indigenous peoples (Raphael, 2009; Beavis *et al.*, 2015; Canadian Census, 2016). Although poor diet and inactivity are some of the immediate determinants of NCDs, the underlying causes are related to unique social and structural determinants of health for Indigenous peoples, such as colonial policies and practices that have created health inequities and led to a loss of traditional Indigenous practices that promote wellness (Miller, 1996; Pigford and Willows, 2010; Willows, 2005; Willows *et al.*, 2012). To diminish the prevalence of NCDs like Type 2 diabetes, creating health promoting environments that support a child's development protect children from developing long-term negative health outcomes (WHO, 1997, 2007; Royal Society of Canada's Canadian Academy of Health Sciences Expert Panel *et al.*, 2012). Health and education are strongly connected, as healthy children learn better (Toulouse, 2016). Comprehensive school health (CSH) supports child development and promotes a culture of wellness through the use of four components: "social and physical environment, teaching and learning, policy, and partnerships and services" (Joint Consortium for School Health, 2019). In Indigenous schools, holistic approaches that promote health for children and communities address Indigenous ways of knowing, being and learning along with self-mastery, establishing a sense of cultural identity and collective ownership (Tagalik, 2010).

When taking a CSH approach, peer mentorship has been shown to promote positive lifestyle behaviors among younger students such as increased fruit and vegetable consumption, increased levels of physical activity, and reduced consumption of sugar-sweetened beverages and sweet foods (Ronsley *et al.*, 2013; Santos *et al.*, 2014). Additionally, improved social skills, self-esteem and social responsibility were found among older students who acted as peer mentors (Santos *et al.*, 2014). Three remote First Nations communities of the Tsimshian Nation in British Columbia participated in the Healthy Buddies™ program that used a peer-led approach to increase healthy eating, physical activity and awareness related to healthy body image for children. The program matched younger students with older 'buddies'. Significant reductions in waist circumference and body mass index occurred in both age groups compared to a control school that did not receive the Healthy Buddies™ program (Ronsley *et al.*, 2013). A program outcome was improved self-esteem for 'buddies'

involved in the program, whereas self-esteem decreased in the control group. Action Schools! BC, also implemented in remote Tsimshian First Nations schools, similarly reported positive results utilizing a CSH approach involving both younger and older peers (Naylor *et al.*, 2010). Action Schools! BC focused on training teachers to develop an action plan to increase duration of physical activity and healthy eating within the school setting which resulted in significant reductions in BMI and improved nutritious beverage knowledge and self-esteem among participating children. Community involvement was identified as important for promoting sustainability in Action Schools! BC as it created a team of program experts within remote Indigenous communities (Naylor *et al.*, 2010). Opportunities for Indigenous youth in peer mentorship roles encourage youth to complete post-secondary education while also offering transferable work skills (Kroes, 2008).

The Indigenous Youth Mentorship Program (IYMP) is a peer-led health promotion program developed for elementary school children in Canada. It aims to empower Indigenous youth and reduce risk factors associated with obesity and Type 2 diabetes. Generally offered to elementary students (mentees) once per week for 20 weeks as a 90-min after-school program, IYMP is centered on three core components: physical activities/games, healthy snacks and relationship building activities that are culturally tailored by communities. It is delivered by high school youth mentors under the guidance of a community-appointed young adult health leader (YAHL) in consultation with traditional Indigenous knowledge keepers and/or Indigenous elders. The theoretical framework guiding IYMP is based on the pedagogical teachings of Indigenous scholars. Dr Martin Brokenleg's Circle of Courage focuses on the four universal needs of children and youth that are required to foster resilience and strengthen health promotion: belonging, mastery, independence and generosity (Brendtro and Brokenleg, 2009). Verna Kirkness' 4 R's of learning guide the delivery of IYMP by *respecting* the participating Indigenous children's cultures and traditions, ensuring the program components are *relevant* to Indigenous children's perspectives, promoting *reciprocal* relationships where all parties are empowered and instilling *responsibility* through participation (Kirkness and Barnhardt, 1991).

A pilot study of IYMP found it to be effective for abating increases in elementary school children's weight gain and waist circumference, and improving healthy living knowledge and self-efficacy (Eskicioglu *et al.*, 2014). During the years 2012–18, IYMP was rippled (the preferred IYMP term to describe 'scaling-up') to 13

Indigenous school communities across Canada. Program rippling and research activities were financially supported by a 3-year operating grant from the Canadian Institutes of Health Research (CIHR) Pathways to Health Equity for Aboriginal Peoples—Component 2 (Obesity–Diabetes), the generous support of the Stollery Children’s Hospital Foundation through the Women and Children’s Health Research Institute (K.S.—Distinguished Researcher) and with contributions from Diabetes Canada and PolicyWise for Children & Families. Seven school communities implemented IYMP in January 2017 and took part in the present qualitative study. This study aimed to describe the key characteristics of IYMP implementation as perceived by peer youth mentors and YAHLs. As youth mentors and YAHLs were integral to IYMP program delivery, they were important key informants to discuss the key characteristics of successful program delivery. The identified key characteristics resulting from this research may be used to improve IYMP delivery in existing and new IYMP school communities. In addition, findings may be used to inform other peer-led programs being delivered with Indigenous children.

Research approach

IYMP used a community-based participatory research (CBPR) approach that included community members in the design and implementation of the initiative (Israel *et al.*, 2001; McHugh *et al.*, 2013). IYMP was delivered as a community–university partnership whereby schools partnered with an academic lead at a regional Canadian university who provided resource support (Williamson *et al.*, 2016). A shared model of decision making based on the Kahnawà: ke Schools Diabetes Prevention Project (KSDPP) guided the research (Macaulay *et al.*, 1998). Decision making was shared by IYMP stakeholders at local, regional and national levels. *Locally*, community members formed advisory groups that approved research protocols, determined how the program was to be delivered with YAHLs and youth mentors, and culturally tailored the program. *Regionally*, researchers and community members met annually to determine how the program was rippled within a region. *Nationally*, an advisory group that included traditional Indigenous knowledge keepers and elders, university researchers from each region and regional Indigenous representatives ensured IYMP followed KSDPP and Research adhered to Ownership, Control, Access and Possession OCAP® principles (First Nations Information Governance Centre, 2019).

Ethics

OCAP® principles supported all participating school communities in making decisions regarding why, how and by whom data were collected, used or shared (First Nations Information Governance Centre, 2019). Prior to interviews, informed written consent was obtained from YAHLs and from the parents/guardians of youth mentors. In addition, youth mentors gave their assent to participate. Institutional ethics approval for this study was obtained from the University of Alberta, Research Ethics Board 1 (Pro00069533).

METHODS

This study used a focused ethnography method as IYMP was studied in a cultural context (i.e. school setting) during a time limited period (Hammersley, 2006; Creswell and Poth, 2017). Data were generated from a variety of sources including field notes from participant observations of IYMP afterschool program delivery sessions in two school communities, two focus group interviews, four follow-up semi-structured individual interviews, and meeting notes gathered at IYMP regional and national team meetings (Figure 1). The primary researcher (S.L.) was a non-Indigenous PhD candidate (Nutrition and Metabolism) who established relationships in 2015 with Indigenous communities participating in IYMP. S.L. had built rapport with participants through attending three IYMP national team meetings and bi-weekly teleconferences from the planning to implementation stages of the research. She attended monthly research meetings in one school community. All these activities allowed for a genuine exchange of views and perspectives between S.L. and participants (Heyl, 2001).

Data generation and participants

Field observation notes were made by S.L. at IYMP afterschool program delivery sessions at two IYMP school communities based on the primary researcher’s geographic proximity to them. From February to June 2017 six observations were made in one school and five in the other school to document contextual factors of program delivery such as the setting and engagement of participants with each other and with program activities. Each field observation typically lasted 2 h and included program set-up, snack food preparation and clean up.

Sixteen individuals from seven school communities participated in focus group interviews facilitated by S.L. Focus groups are useful for eliciting participant interaction with participants such as youth who may be

Fig. 1: Study data used in the focused ethnography to identify the key characteristics of implementation of the IYMP, and the data generation timeline.

hesitant to speak in isolation (Cartmel and Casley, 2014). The focus groups occurred at the Fall 2017 IYMP national team gatherings where participants who had direct involvement with IYMP during first year program delivery were purposefully recruited. This allowed for the inclusion of individuals who could provide a rich and in-depth understanding of the program (Patton, 2002). Eight YAHs (four male and four female) were in one focus group and eight youth mentors (five males and three females; age range: 13 – 18 years old) were in the other focus group. The focus group interview with YAHs lasted 1 h 48 min and the focus group with youth mentors lasted 1 h 15 min.

From November 2017 to February 2018, S.L. facilitated follow-up semi-structured individual interviews with three YAHs (two females and one male) and one female youth mentor from four school communities. Individual interviews ranged in duration from 26 to 52 min. The semi-structured interview guides for focus

groups and individual interviews were developed in collaboration with the IYMP national team and included questions related to the perceived key characteristics of IYMP delivery. As an example, participants were asked what factors they perceived as most helpful in program delivery. Focus groups and individual interviews were digitally recorded and notes were taken. Interviews were transcribed verbatim and personally identifying information was removed from the transcripts.

Meeting notes were taken at IYMP team meetings where academics, community representatives, youth and traditional Indigenous knowledge keepers and/or Indigenous Elders were present and shared their perspectives on what they thought made IYMP delivery successful. At these meetings, community and academic partners learned from one another and shared implementation strategies. The national team meeting notes were collated and typewritten into a report by the national IYMP coordinator and became available for review for the IYMP team, February 2018. Personally, identifying information was removed from the meeting notes.

Data analysis

Data were analyzed by S.L. using inductive content analysis where the data were coded, categorized and themed manually using Elo and Kyngäs's (Elo and Kyngäs, 2008) three-step process: preparation, organizing and reporting. Content analysis is typically used in focused ethnography where textual analysis is done line-by-line (Morse, 1994). The researcher (S.L.) immersed herself within the data by reading transcripts, meeting notes and field notes several times, followed by open coding in the margins. Codes were then organized into categories and through further interpretation and the abstraction process, themes were created and reviewed multiple times by the research team consisting of the research trainee (S.L.), supervisory committee, community representatives and the IYMP national advisory committee (Elo and Kyngäs, 2008). The themes were then presented to an Indigenous community research committee as well as the IYMP national advisory group to derive consensus about their interpretation.

Within this study, triangulation occurred through the review of the data generated from field observations/field notes from different settings, individual and focus group interviews, meeting notes as well as interpretation by multiple researchers who enhanced the rigour of the study (Mayan, 2009). Rigour was further achieved using several verification strategies (Creswell and Poth, 2017). These included member checking by discussing results

with community representatives through emails, phones calls and individual meetings, methodological coherence by ensuring the methods used matched the purpose of the research, collecting and analyzing data concurrently and iteratively, thinking theoretically, appropriate sampling by recruiting participants who were best suited to provide knowledge related to the research question, and prolonged engagement through collaboration with stakeholders throughout the study (Morse *et al.*, 2002).

RESULTS

Key characteristics of IYMP program implementation

Five key characteristics were identified as important for IYMP delivery during implementation: building relationships, communication, community engagement, instilling a sense of ownership and program supports. These themes are supported using direct non-identifying quotes from the transcripts.

Building relationships

All participants stated the importance of building relationships to facilitate program delivery. These relationships were noted for every level of IYMP, such as the relationships that were established between the university partners and community partners, relationships between YAHLs and the schools and/or community, and the relationships that were built between YAHLs and the youth mentors as well as the youth mentors and mentees. A YAHL stated:

I had good relationships with both schools and the education director and also from the Chief and Council [elected community leadership], basically the whole community. So what I did was basically went out and start talking to everybody about this program that I'm running in the school and I was always wondering why some students don't come to school, I notice that they don't come for a couple of days at least and I ask 'what's up', 'what's wrong', like just basic things, keeping in touch with them I guess. Then over time they trusted me now I have their full support. [Participant 4, YAHL]

The relationships formed in the program created a sense of belonging for participants, sustaining enrollment of both youth mentors and mentees. As many participating communities were small, building relationships with program participants helped to support social cohesion outside of the program. A YAHL discussed the benefits of these relationships by saying:

With this mentorship program despite how you feel, you might feel like you don't really want to wake up but

once you step inside that program your entire mood will change no matter what, what you're going through, could be depression, that anxiety or suffering through a loss, grieving, or just a break-up, just having to be around those students, or those kids, the grade four students will lift your spirit up and it will give you a sense of purpose and it will give you a sense of direction in life. Even if you just want to give up. This will change your mood. [Participant 4, YAHL]

Another YAHL talked about these newly formed relationships spilling out into the community where participants lived, noting:

They're [youth mentors] showing belonging by just being there...to the grade four students just by interacting with them, talking to them and they see each other in the communities and community is pretty small... [Participant 6, YAHL]

Another YAHL remarked,

The best part for me was getting to know some of the kids. There was, I will tell you this one story, there was this young boy [IYMP mentee] ... And I saw him at a different event outside [outside of IYMP] and he came up to me and I was, I was busy dealing with a lot of stuff and he knew I couldn't go anywhere so he went and got me some bannock [quick bread] and brought it over. [Participant 7]

Some YAHLs mentioned the importance of building upon existing relationships as a way to help cut program costs, particularly in remote communities where the cost of fresh fruits and vegetables can be high. Often these participants through their existing relationships with grocery store managers or school chefs were able to obtain discounts for program snacks or work with those running the school breakfast program to use any leftover foods that same day. A YAHL shared with the others in the focus group what was happening in their community, saying:

I don't know how, what it's like in a lot of the communities but a lot of communities I work with have lunch programs and what we did in [community identity masked] was we worked with the [School name masked] chef who is this awesome guy from way up North and he, we would order the food and the snacks through [School name masked] breakfast program or use their [School name masked] breakfast program leftovers from the day depending on the number of students there as a way that we really cut costs. [Participant 7, YAHL]

Both the YAHLs and youth mentors noted seeing positive changes in student mentees participating in IYMP such as increased participation, formation of new

friendships, and increased confidence and self-esteem. There were several instances mentioned where a mentee would sit on the sidelines and watch during the first few IYMP sessions, but after making friends through the program, these children began to join the activities. A youth mentor said, 'She (mentee) wouldn't really participate in the games either in the beginning and then after a while she made friends and started to join in the games more' [Participant 8, youth mentor].

Communication

There was a strong emphasis from all participants that communication was essential when implementing the program. This included open communication at all levels within the program, schools and in the community. When asked what they would tell someone else just joining IYMP to make implementation easier, a participant strongly emphasized, 'Communication and persistence [is important]. Everybody, everybody you have to keep your communication open between your, well in our case the university, the high school and the elementary school...' [Participant 3, YAHL]. Communication through documents such as program information sheets or consent forms that were easy to understand by parents, grandparents or guardians facilitated participant enrollment in IYMP. Participant 4 emphasized the importance of using appropriate language in documents '...yeah there were some issues on the wording with the [program information/consent] letters, documents, but I tried to simplify it so much to where I could understand it and where my grandpa could understand...'. This finding was also documented in the national team meeting notes: 'Simplifying language of survey and consent forms'. Participant 2 [YAHL] discussed the importance of communicating with parents and others in the community about the IYMP aim to improve participants' health outcomes,

Yeah for these children [mentees] it's part of diabetes prevention and when we start talking about diabetes prevention in First Nations, Inuit, Métis children, people stand up and listen, but if you just say 'oh it's an after school program' they are just like 'oh yeah, whatever'.

Community engagement

Community engagement was noted as key for IYMP where traditional Indigenous teachings were often incorporated within program delivery. Engagement with Elders, traditional knowledge keepers and/or other community members was important for knowledge sharing and necessary for successful delivery of all program components. Participants spoke enthusiastically about

the types of activities or the conversations that occurred as a result of engaging traditional knowledge keepers and/or Elders. As the YAHLs shared ideas with each other about what they did to engage community members, one said, '...we had an Elder come in and just talk to the high school students one day just about healthy relationships which was really good...' [Participant 1, YAHL]. Another YAHL discussed how s/he and the children engaged an Elder who spoke to them regarding cultural protocols for offerings, saying,

We had an Elder...visiting the school and the kids [mentees] brought him into the gym and got him to speak on respecting...um...what was the topic...offerings I think and the protocol in how you would approach someone with your offering/your tobacco. [Participant 6, YAHL]

In many First Nations and Métis communities a gift of tobacco is offered to Elders as a sign of respect when asking for their help, guidance, or protection ([Council on Aboriginal Initiatives, University of Alberta, 2012](#)).

Some participants discussed engaging community members to help with activities, some of which included going outdoors to fish and set fishing nets, or having mentees make a drum. A YAHL mentioned that drumming is one way of revitalizing traditional language through song. Another YAHL [Participant 1] said:

We have often brought in like community members for the cultural activities...We made a Circle of Courage poster kind of thing where we would separate into groups and be like what does being independent mean and the kids [mentees] would come up with scenarios and then they would draw pictures and then we brought it all together as a big circle. [Participant 1, YAHL]

Instilling a sense of ownership

Instilling a sense of ownership for the community and those directly delivering IYMP was noteworthy for ensuring program sustainability through increased participant retention as a result of perceived increases in self-esteem and feelings of responsibility. In some communities where the population tended to be transient, instilling a sense of ownership was especially important. Participant 2 [YAHL] stated,

...it's probably hard to make really deep [connections] when you've grown up in a transient environment [students coming to the school from different surrounding First Nations communities] ... I guess there's not that connection to that place and, and it's harder to run a program when people don't have that connection...And I think when they [youth mentors] start realizing like,

'hey I'm in charge of these children, like somebody believes that I am capable enough to do this right. It starts building on their self-esteem by letting them have that ownership right...

Youth mentors discussed how this sense of ownership contributed positively to their self-esteem. For example, Participant 8 [youth mentor] mentioned, 'I mean it was great... working with kids. It made me feel important. It helped me become more responsible. Helping them... taking care of them'. Participant 5 [youth mentor], stated instilling ownership with mentees also helped with program delivery, 'Yeah, they (mentees) are usually pretty good to help [set-up or clean-up]. That also makes the program easier'. Participant 4 [youth mentor] went on to say, 'Being a youth mentor makes me feel responsible... it feels amazing and it feels good being a role model. I got to be better with kids... more confident'.

Program supports

Program supports provided by academic partners during the first year were essential in IYMP delivery. These included funding for program components such as healthy snacks, training of YAHLs, manuals that described program activities such as suggested activities and games, and national gatherings and local meetings between academic and community partners for sharing ideas about the program and its components. Often the ideas that were shared at the gatherings or meetings would be incorporated by YAHLs into their programs or would be used to train new youth mentors, as stated by Participant 4 [YAHL],

... what I did was I had a little boot camp day and that's just to train the mentors what to expect, what kind of games they [high school mentors] could possibly teach the [elementary] students or if they have any games that they would like to teach...

Another youth mentor [Participant 6] really enjoyed the support of an academic partner who would visit the school during IYMP sessions and share games or activities with them. They exclaimed, 'He [academic partner] would come out sometimes and help out [making program easier to run]. He would think of games on the spot!' Several participants said they found the IYMP program manual very helpful as a resource that includes program planning forms and information on program components such as identifying healthy foods and physical activities/games. Some participants mentioned the importance of having program funding allocations based on the geographic

location of the school, as rural or remote communities have higher costs for fresh foods than urban communities. Participant 2 [YAHL] from one of the more northern communities emphasized the importance of allocating more funds to communities located further from urban centers:

So I think looking at the different programs and where they are located too is looking at what it costs here and what it costs there and making whatever money is given to that community maybe a little bit higher considering where that program is run and what's available... Like some of those [remote] communities like milk is probably, it's like \$18.00 for a jug of milk. ... when they divide up the money over the five years like take that into consideration, things are just real expensive. Like fruit is like crazy [expensive] up there, like crazy, crazy...

Participant 2 [YAHL] also discussed the importance of continuous long-term funding for program sustainability. This participant said, '...one thing that I would like to see is the sustainability of this program. Where are the funds going to come from to sustain these programs?'

DISCUSSION

The key characteristics for successful IYMP implementation identified in this study contribute to the knowledge base about peer-led school health promotion for Indigenous youth (Vujcich *et al.*, 2018). As perceived by youth mentors and YAHLs, five key characteristics of building relationships, communication, community engagement, instilling a sense of ownership and program supports aided in IYMP implementation. For communities currently implementing IYMP, the key characteristics may be strengthened to maintain and improve program delivery. When rippled to new communities these characteristics may be used to mitigate IYMP implementation challenges. Below, the key characteristics are discussed in relation to IYMP and to other literature about peer-mentorship interventions with Indigenous youth.

Building relationships with all stakeholders was considered imperative by youth mentors and YAHLs during the planning and implementation stages of IYMP. This finding supports the importance of respectful partnerships between community and academic leads for program success and sustainability (Potvin *et al.*, 2003; Ho *et al.*, 2006). Other peer-mentorship research with Indigenous communities found that relationship building was critical for implementing health promotion programs that resulted in improved mental health outcomes

(MacDonald *et al.*, 2013) and strengthened personal and community resilience (Wexler *et al.*, 2014).

Community engagement at all levels was important for IYMP delivery. It supported the incorporation of Elders and/or traditional knowledge keepers into the program. These individuals facilitated the inclusion of traditional teachings and cultural continuity, which has been defined as ‘intergenerational cultural connectedness, which is maintained through intact families and the engagement of elders, who pass traditions to subsequent generations’ [(Loppie Reading and Wein, 2009), p. 18]. Cultural continuity created through engagement of community members is a protective factor against negative health outcomes in Indigenous communities (Chandler and Lalonde, 1998; Currie, 2015; Auger, 2016). A systematic review identified community engagement and the inclusion of traditional teachings as key implementation factors for peer-led mental health and wellness initiatives for Indigenous circumpolar youth (MacDonald *et al.*, 2013). The flexibility of IYMP allowed it to be tailored to community needs, creating a *sense of ownership* among participants. Community ownership and autonomy is a core condition for successful CSH programming implementation. It is also a mechanism toward IYMP sustainability as the program transitions to sole community ownership (Storey *et al.*, 2016).

Communication between all partners was important to IYMP implementation, whether through phone calls or in-person meetings. Using appropriate language in program communications increased program enrollment and uptake (Nutbeam, 2000). Communities delivering IYMP may use this awareness to ensure that language and reading grade level are appropriate on consent and program information forms. *Program supports* facilitated IYMP implementation. These included program manuals, training gatherings, national team meetings and equitable funding for communities. The national team meetings fostered a space where community members and academic partners strengthened pre-existing relationships and created new ones. Stakeholders identified sustainable funding as a long-term challenge. Many factors for this transition need to be considered as some communities are less experienced than others in writing applications to secure program funding. Without long-term funding, programs are not sustainable (Storey *et al.*, 2016).

Strengths of this research included the CBPR approach, with communities having control over the study design, its implementation and data generation strategies (Gokiart *et al.*, 2017). Several schools had pre-existing community–university partnerships and a high

level of community readiness to engage in CBPR, which facilitated this research (Storey *et al.*, 2016). On-site field observations that enhanced study rigour were possible due to the close proximity of two Indigenous school communities to the principal investigators’ university. Unlike many peer-led health promotion studies with Indigenous youth that focus mainly on health outcomes (Vujcich *et al.*, 2018), this research added to the limited literature related to the characteristics necessary for successful program implementation in Indigenous contexts. Additionally, the use of multiple data sources, observations in more than one location and multiple IYMP stakeholders reviewing research enhanced the credibility of findings (Morse *et al.*, 2002).

This research had limitations. Participants were only available from the seven schools that implemented IYMP in Year 1 so the number of individuals that could be interviewed was small. Small sample sizes are also an inherent challenge of research with Indigenous communities given that some communities are wary of research due to their experiences of colonial injustice and maltreatment (Vujcich *et al.*, 2018). Another limitation is that individuals who did not feel comfortable expressing views in a group setting may have chosen to not participate in the focus group interviews (Olson, 2016). Social desirability bias may have been a limitation of generating data using focus groups. Social desirability bias occurs when participants provide responses that they consider socially acceptable to the facilitator or others within the group (Smithson, 2000; Grimm, 2010). To help ensure that social desirability bias did not prevent participants from discussing implementation challenges, the focus group topic guides included questions about IYMP implementation challenges (i.e. ‘Can you share with the group any of the challenges that you experienced as a youth mentor (or YAHL) with running the program. How did you deal with them? Did anyone else in the group have similar challenges? What did you do about them?’). S.L.’s on-site field observations allowed triangulation of data related to the responses from interview participants.

This study focused on characteristics of successful IYMP implementation done through community–university partnerships. Future studies to understand the transition of IYMP to a community-run program will provide a wealth of knowledge for stakeholders in multiple sectors of health promotion and research. Following the 3-year CIHR Pathways 2 grant, the IYMP national team secured 5 years of funding through a CIHR Grant: Pathways Implementation Research Teams—Component 3. In partnership with Diabetes Canada and Women & Children’s Health Research Institute, the aim

is to study the process of moving IYMP from a university-based program to a sustainable community-led program. Challenges to community-owned IYMP sustainability include securing long-term program funding (Eckerman *et al.*, 2014). As the evidence of successful implementation of IYMP is reported along with evidence for demonstrated positive health outcomes of the program, permanent program funding will be sought to ensure the sustainability of IYMP as a community controlled and operated program.

ETHICS INFORMATION

Informed written consent was obtained from all IYMP participants. Institutional ethics approval for this study was obtained from the University of Alberta, Research Ethics Board 1 (Pro00069533).

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APPENDIX. IYMP NATIONAL TEAM

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