The Medicine Bundle Pilot: An Indigenous Two-Spirit Approach to HIV and STBBI Health in British Columbia

by

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We acknowledge and respect the Lək̓ʷəŋən (Songhees and Esquimalt) Peoples on whose territory the university stands, and the Lək̓ʷəŋən and W̱SÁNEĆ Peoples whose historical relationships with the land continue to this day.

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Abstract

The social determinants of health and the determinants of Indigenous health, including the historical and ongoing effects of settler-colonialism across Turtle Island, contribute to increased rates of HIV and sexually transmitted and blood-borne infections (STBBI) facing Indigenous people in Canada. Two-Spirit and queer Indigenous folks face further systemic barriers to accessing sexual health resources. The Medicine Bundle Pilot project takes a strengths-based approach to addressing health inequities in HIV and STBBI awareness and prevention. The Medicine Bundle Pilot was developed by the Community-Based Research Centre's Two-Spirit Program to address barriers and increase culturally safe access to sexual health resources for Indigenous people in British Columbia. The Medicine Bundle is an Indigenous-developed approach to the HIV self-test kit and dried-blood spot test, combining traditional Indigenous medicines with Western sexual health resources. Medicine Bundles were distributed to Indigenous communities and community members across British Columbia, fostering safer pathways to care. My thesis aimed to (1) understand participants' experience with the Medicine Bundle Pilot, and (2) determine barriers and access limitations to sexual health resources for Indigenous people in British Columbia. Existing barriers include limited access to sexual health resources within communities and being wrongfully denied access to services. Results demonstrate that the Medicine Bundle is a very effective sexual health resource for Indigenous people, and participants reported improved experiences with testing through the Medicine Bundle.

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Introduction

My thesis is rooted in community-based initiatives to address the public health issue of human immunodeficiency virus (HIV) and other sexually transmitted and blood-borne infections (STBBI) in Indigenous communities across Turtle Island, focusing on experiences in British Columbia (BC). I analyzed data collected from the Medicine Bundle Pilot (MBP) project: an Indigenous Two-Spirit approach to the HIV self-test kit. My thesis also draws on the disconnect between Western approaches to HIV and STBBI health and Indigenous perspectives on HIV and sexual health, which contributes to poorer health outcomes for Indigenous people (OHTN, 2019).

I worked as a Trusted Messenger with the Two-Spirit Program at the Community Based Research Centre (CBRC) during the MBP from April to July 2022. Trusted Messengers were hired to reach Indigenous communities in each health region of BC. In this role, I built relationships with Indigenous community members to share and promote the project, which was developed by and for Two-Spirit people and the queer Indigenous community and combines traditional Indigenous medicines with Western sexual health resources. My thesis builds upon this integrative science approach to Indigenous STBBI health. My thesis was developed with support and guidance from the CBRC Two-Spirit Program.

Self-Location

I am a straight, cisgender woman of mixed Coast Salish and European ancestry. My maternal grandmother grew up on Gabriola Island, her family coming from Penelakut Island. I came to the MBP through a job posting shared on social media. I applied to work with CBRC and was hired as a Trusted Messenger for the pilot program. My training in public health and sexual health led me to this position. Completing my thesis on the MBP fell into place following

the pilot program. I worked collaboratively with the Two-Spirit Program team to develop my thesis and ensure that my work and analyses reflect the intentions of the MBP. The data analyzed were collected during the pilot period. My work did not inform the MBP but supports the present expansion of the program. This thesis has allowed me to build lasting relationships with the Two-Spirit Program team over the past two years and I am grateful for their support and guidance as I have completed my thesis. I have also received feedback on much of my thesis from Indigenous public health instructors who informed my background research and decolonizing methodologies.

Background and Significance

The social determinants of health (SDOH), including structural and systemic factors such as settler-colonialism in Canada, place Indigenous people at increased risk for acquiring HIV/AIDS and other STBBI (CBRC, 2022c). While Indigenous people make up approximately 4.3% of the Canadian population, the Government of Canada (2014) stated in 2011 that 8.9% of all people living with HIV and 12.2% of all new HIV infections in that year were among Indigenous people. Additional inequities exist for gay, bi, and queer men who account for more than half of the Canadians living with HIV (CBRC, 2022c). Within BC, the highest rates of HIV exist in the Vancouver Coastal Health Authority region (BCCFE, n.d.). Vancouver's Downtown East Side (DTES) faces the highest rates of HIV and lowest life expectancy in the Western world (BCCFE, n.d.). Additionally, the DTES has a 31% Indigenous population (Indigenous Reporting, 2016): the highest in Vancouver, which has only a 2% urban Indigenous population overall (Environics Institute, 2011). This is cause for serious concern in BC's HIV and STBBI policy.

Although BC boasted its lowest rates of HIV in 2020 – an 80% decline in people living with and dying from HIV/AIDS since its peak in 1987 (BC Gov News, 2020) – targeted services for Indigenous people living with HIV are limited (Elliott, as cited in Ball, 2022). Indigenous people living with or affected by HIV face stigma and discrimination and require culturally safe HIV prevention, treatment, and support programs. The health inequities that place Indigenous people at increased risk for HIV stem from settler colonialism, genocide, and intergenerational trauma (Jardine et al., 2021). To address the unique position of Indigenous people in BC, HIV and STBBI policy and programs must be designed and implemented by centring Indigenous voices and incorporating Indigenous ways of knowing. The MBP is a successful example of an

HIV and STBBI awareness and response program that takes an Indigenous community-based research (CBR) approach that centres community needs.

Determinants of Indigenous Health

Significant health disparities exist between Indigenous and non-Indigenous people in Canada (Loppie, n.d.). The determinants of Indigenous health are the interconnected and unique factors that impact Indigenous well-being (Reading, 2015). These determinants encompass all aspects of health, including physical, mental, emotional, and spiritual dimensions, and consider the historical, social, economic, and cultural contexts in which Indigenous communities exist (Reading, 2015). Colonization, forced displacement, loss of land and resources, cultural suppression, and ongoing systemic discrimination contribute to significant health disparities experienced by Indigenous communities (Reading, 2015). Dr. Charlotte Loppie's (n.d.) equity framework of relational environments explains the long-lasting and ongoing impacts of colonialism on Indigenous people's health. Loppie's tree model (Appendix 2) explores the root, core, and stem environments of Indigenous health (Reading, 2015; Peltier, 2023). An understanding of each of these environments is necessary for defining the determinants of Indigenous health. The root environment is based in historical, political, and social structures that have provided a basis for Indigenous health today (Loppie, n.d.). Core environments include communities, institutions, and systems, all of which feed the system (Loppie, n.d.). Lastly, the stem environments, or the "crown" of the tree, include human, non-human, and symbolic factors (Loppie, n.d.).

The social, economic, and political challenges created and perpetuated by colonization in Canada have caused major health disadvantages for Indigenous people (Kim, 2019). Nixon's (2019) coin model explains systems of inequality through privilege and oppression that

individuals are either born with or without, where positionality is not earned: i.e., Indigenous people are oppressed for no reason other than being Indigenous people. Health equity is defined by Braveman (2014) as “the principle underlying a commitment to reduce – and ultimately eliminate – disparities in health and its determinants, including social determinants” (p. 6). This requires directing additional attention to the needs of those at greatest risk for poor health (Braveman, 2014). The following sub-sections explore select key determinants of Indigenous health.

Self-determination and Sovereignty

Self-determination is a determinant of Indigenous health, centring Indigenous people’s right and responsibility to control their healthcare and well-being (Halseth & Murdock, 2020). Loss of control over one’s everyday life and health is a form of colonization facing Indigenous people today and contributing to poorer health outcomes (Halseth & Murdock, 2020). Comparatively, greater self-determination allows Indigenous people to be supported in taking control of their health and feeling a sense of ownership and independence, leading to improved health outcomes (Halseth & Murdock, 2020). Beyond individual health, self-determination further supports cultural values and prioritizes community-identified needs. It allows communities to gain control over the broad forces that impact health and well-being at the individual and community levels (Halseth & Murdock, 2020).

Policies and programs addressing Indigenous health must be rooted in sovereignty and centre Indigenous ways of knowing (Carroll et al., 2022). Taking this approach supports improved health outcomes along with strengthened cultural continuity (Carroll et al., 2022). Both Indigenous people and Canada are sovereign nations (Kilawna, 2020). Land sovereignty refers to the right, power, and authority to govern a nation’s people and lands (Steen, n.d.). Body

sovereignty is having full control over one's own body, including choices around eating, dressing, and intimacy (Steen, n.d.). Practicing body sovereignty in ourselves and others improves relationships (Steen, n.d.). Body sovereignty also calls for practicing advocacy for equal treatment and respect (Steen, n.d.). Relative to the MBP, body sovereignty involves gathering knowledge to take control of one's health, whether it be physical, mental, spiritual, or emotional health (Steen, n.d.). Both land and body sovereignty are important determinants of health.

Cultural Continuity

Cultural continuity is the continued integration of people within their culture, where traditional knowledge and practices are maintained and passed down to younger generations (Auger, 2016). Ongoing settler-colonialism in Canada has hindered cultural continuity for Indigenous communities. An example is land dispossession, which involves removing Indigenous people from their traditional territory, land-based teachings, and ceremonial spaces (Johnson-Jennings et al, 2020). Communities are often concerned about younger people lacking the skills and knowledge for land use, impacting cultural continuity and health and well-being (Nightingale, 2022). Cultural continuity is strongly linked to cultural identity and feelings of belonging, both of which impact health outcomes (Johnson-Jennings et al., 2020). Cultural continuity has protective factors for health and is associated with increased health status, mental health, and well-being (Landy & Worthington, 2021; Johnson-Jennings et al., 2020).

A more specific determinant under cultural continuity includes definitions of health and the importance of family and community. The World Health Organization (WHO) defined health in 1948 as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (2006, p. 1). However, this definition must be expanded to

include further aspects of health (Huber et al., 2011). This is crucial to Indigenous health, which is much more broadly defined and is best understood through a holistic view of the world, where connectedness, reciprocity, and relationality are valued (Tagalik, 2015). The importance of family is highlighted in Foxcroft's (2015) retrospective reflection on childhood and the role of parents and grandparents in life and health: "Families need to listen, laugh, show more love and nurturing, live a good life, and feel safe and protected in their families and communities" (p. 14). Similarly, Tagalik (2015) describes the Inuit importance of pursuing contentedness and living a good life, allowing for a harmonious life experience (p. 27).

Western Views of HIV Prevention and Health Promotion

Western public health takes a disease-based approach to health promotion and HIV prevention in BC and Canada. This stems from public health's colonial roots and neoliberal framework, which focus on individual behaviour and choices (Ayo, 2012). Researcher Hancock (1986) argues a fundamental flaw of this perspective is that the failure to achieve "healthiness" is the fault of the individual and not the government or health service structures (p. 97). The Western public health model does not account for the ongoing impacts of settler colonialism, the SDOH, or the determinants of Indigenous health facing today's populations disproportionately affected by and living with HIV (Jardine et al., 2021).

In HIV prevention efforts, victim-blaming can have detrimental impacts, not only placing blame on individuals who have HIV but also aiming to change the behaviours that render individuals more likely to acquire HIV. Pathologizing the individual rather than critically reflecting on the system is an issue of Western public health perspectives. When fear is used to promote behavioural changes, individuals living with HIV/AIDS and other STBBIs are stigmatized rather than supported (Fairchild et al., 2018). Men who have sex with men (MSM)

and Indigenous people, intersecting groups that both face higher rates of HIV, are stigmatized further based on gender, sexuality, and minoritized identities.

Additionally, the perspective that individuals should make *choices* to avoid health outcomes such as HIV assumes that people have the means and accessibility to make those choices, ignoring existing systemic and physical barriers (Jardine et al., 2021). Root determinants of health, including structural violence, colonization, intergenerational trauma, and suppression of self-determination, are ignored in a colonial, neoliberal public health approach (Jardine et al., 2021; OHTN, 2019).

A key issue with Western public health is that its disease-based approach can separate our understanding of health from other aspects of life. Western HIV prevention efforts follow a clinical model that aims to achieve therapeutic outcomes through biomedical treatment and practices (OHTN, 2019). This does not help achieve health, which is a holistic concept that must be understood within the context of settler-colonialism to improve outcomes and health equity for Indigenous populations in Canada today.

Indigenous Health Promotion Perspectives

While Western science aims to shame or change the behaviours that place individuals at increased likelihood for HIV transmission, Indigenous perspectives are generally sex-positive and supportive of open and healthy conversations around gender and sexuality (UBC Learning Circle, 2018). Indigenous perspectives of health promotion challenge the disease-causation mechanism paradigm popular in public health. The Western approach to health promotion is not integrative and does not work well in the Indigenous context: this is the need for Two-Eyed Seeing (TES) or another integrative science framework (Bartlett et al., 2012).

Public health in the Indigenous context takes a health promotion, CBR approach. A holistic approach supports this population-based framework, where researchers and policymakers consider the health of individuals, nature, and the land together (Williams & Snively, 2016). The Ontario HIV Treatment Network (OHTN, 2019) states that "considerable disconnect exists between the priorities of the HIV care cascade and the experiences of Indigenous people living with HIV" (Key Take-Home Messages). This stems from the valuing of Western clinical approaches to healthcare over holistic approaches to overall health and well-being.

Rather than victim-blaming, Indigenous-specific STBBI programs tend to focus on "prevention, education, awareness, and community capacity building", in addition to supporting access to health services such as diagnosis, treatment, care, and support (FNHA, n.d.). Indigenous HIV research focuses on the sociopolitical contexts that shape community vulnerability (Martin et al., 2017). This highlights the importance of CBR approaches in HIV research and policy work, where the communities' needs are prioritized over any academic or governmental research agenda.

Proposed Solutions to Bridge the Gap

While the gap between Indigenous and Western worldviews is wide, a collaborative approach can help create safer pathways to care and services. Policies and programs developed for Indigenous people should consider key determinants of Indigenous health, including self-determination, sovereignty, and cultural continuity. Services that centre the following four approaches can help bridge the gap:

1. Community wellness: Striving for and maintaining wellness can be difficult within the Western public health paradigm which does not take a holistic approach to health and well-being (Viscogliosi et al., 2020). Wellness and well-being are understood as different

concepts, where wellness refers to physical health, and well-being is often understood as "a shared state where culturally coherent processes of balance-seeking across all parts of the self are engaged with" (Cardinal, n.d., p. 5). A holistic and intergenerational approach to health can improve overall well-being and community wellness (Viscogliosi et al., 2020).

2. Cultural continuity: Cultural continuity influences and shapes Indigenous health as holistic health systems are held within cultural teachings, practices, and ceremonies (S. Wright Cardinal, personal communication, July 20, 2023). It is therefore necessary to consider cultural continuity in the development of health services that Indigenous people will access.
3. Spaces with access: Creating spaces where Indigenous community members can easily access cultural practices, ceremony, and Elders contributes to improved health and well-being. Interior Health (2020) lists the following as important aspects of safer spaces for Indigenous patients accessing health services: (1) physically welcoming spaces (comfortable, private, space for cultural practices); (2) emotionally welcoming spaces (territorial acknowledgements, presence of Indigenous art, friendly staff); (3) spaces that recognize the health authority's relationships with Indigenous people (reflect holistic worldviews); and (4) spiritually welcoming spaces (host or provide opportunities to practice ceremony, access to traditional healers and Elders, access to sacred spaces).
4. Ceremony: Ceremony is a key aspect of Indigenous healing (Native Voices, n.d.). Traditional healing ceremonies promote wellness and often reflect the interconnectedness of physical and spiritual health (Native Voices, n.d.). Indigenous ceremonial practices refer to spiritual beliefs and practices that are traditional or customary (Anderson &

Migwans, n.d.). Examples include smudging, pipe ceremony, water ceremony, drumming and singing, sharing/healing circles, and cedar brushing (Anderson & Migwans, n.d.; Wish-key, 2015). Indigenous patients accessing healthcare services have the right to practice ceremony (Anderson & Migwans, n.d.).

Underfunding of Indigenous HIV Response in Canada

While HIV prevention and treatment is often a dominant area of research in Canada, it requires an increase in funding. CBRC (2022c) stated in 2022 that HIV funding in Canada had not increased since 2008, despite a 25% increase in people living with HIV. Inequities for Indigenous people and other minoritized groups – i.e., Black Canadians and MSM – will only grow unless federal funding is increased (CBRC, 2022c). While the House of Commons' Standing Committee on Health recommends $100 million annually for HIV response, the federal government has paused funding at $73 million (CBRC, 2022c). This additional recommended funding is needed to support community-based organizations in expanding their HIV programs and services (CBRC, 2022c).

Although Indigenous cultures vary greatly across BC, Canada, and the globe, some aspects of health are understood universally to encourage health policy to be more inclusive and holistic. In their rapid response report, the OHTN (2019) named the following as unmet needs of Indigenous people living with HIV, globally: (1) access to HIV testing; (2) culturally safe HIV care; (3) research and literature in certain regions in Canada; (4) self-determination over healthcare and interventions; and (5) barriers to HIV prevention. The following were named as factors that promote involvement in HIV care (OHTN, 2019): (1) culture, identity, and ceremony; (2) strength, resilience, and determination; and (3) social support systems. Indigenous understandings of well-being often extend beyond the individual self to family, community, and

other relations, including the spiritual (OHTN, 2019). Therefore, HIV programs in BC and Canada are often insufficient to meet the needs of Indigenous individuals living with HIV (OHTN, 2019).

The Two-Spirit Program at CBRC

CBRC "promotes the health of people of diverse sexualities and genders through research and intervention development" (CBRC, n.d.). The organization's core pillars include community-led research, knowledge exchange, and leadership development, positioning the organization as a leader in creating lasting change in communities and strengthening the health of Two-Spirit, queer, trans, and non-binary people in Canada (CBRC, n.d.). CBRC is a non-profit charitable organization incorporated in 1999 (CBRC, n.d.). In 2016, CBRC endorsed the Truth and Reconciliation Commission of Canada: Calls to Action and the United Nations Declaration on the Rights of Indigenous Peoples (CBRC, n.d.). The Two-Spirit Program (2023) describes the formation of their team as the following:

> The Two-Spirit Program at CBRC is an Indigenous program led by and in service of the Two-Spirit community. The Two-Spirit Program was formed in 2019 to respond to advocacy from the Two-Spirit community for relevant and meaningful programming. The program works intentionally and collaboratively with Indigenous partners, leaders, Knowledge Keepers, and Elders to develop and support programs and initiatives. Its intention is to contribute to the health and well-being of the Two-Spirit and Indigenous queer and trans communities in Canada. This programming includes a focus on culturally appropriate and relevant research, as well as Two-Spirit and Indigenous-led knowledge exchange and resource creation. As an Indigenous-led and centred program situated within a non-Indigenous organization, the Two-Spirit Program works to uplift

> community leadership and voices to direct and guide the work of the program and the work of CBRC more broadly. CBRC recognizes that addressing inequities and advancing reconciliation necessitates active engagement and learning from Indigenous partners while actively participating in the process of decolonization…In contribution to honouring CRBC's commitments to reconciliation, including centring and uplifting Two-Spirit and Indigenous people in organization governance and services, CBRC has identified reciprocal learning, socio-political intersectional lenses, and active participation in decolonization as part of their approach to contribute to empowerment and strengthened health within Two-Spirit, queer, trans, and non-binary people in Canada.

Two-Spirit Consultation on HIV and STBBI Testing Options

The Two-Spirit Program team conducted consultations with Indigenous Knowledge Keepers and Elders, as well as non-Indigenous healthcare workers, to explore the feasibility of an at-home HIV and STBBI testing program in BC (Two-Spirit Program, 2021).
This informed the development of the MBP. The key findings are included below to provide context for the development of and need for the MBP.

Consultations with Two-Spirit Community Members

Two-Spirit community members identified several existing barriers to accessing sexual healthcare in BC as well as a positive attitude toward the idea of an Indigenous Two-Spirit approach to at-home testing (Two-Spirit Program, 2021).

Table 1

Two-Spirit community member consultations around HIV and STBBI testing options

Existing Barriers	Reflections on Access

Limited access to sexual health services across BC.	The option for an at-home testing service was well-received.
Experiences of systemic racism in communities and acute care settings.	Mixed preference for both the HIV self-test and DBS.
Stigma around sexual health.	Most community members would be comfortable receiving their test by mail.
Lack of Indigenous-led and culturally safe service delivery is an existing gap.	Requests for resources that could provide support with at-home testing.

Regarding confidentiality around testing, one community member stated, "[There are] so few people [in the community] that people can watch who walks into a clinic, which makes confidentiality hard." When asked about the feasibility of an at-home testing program, another community member said, "Follow-up would be paramount for positive or negative results. If you have picked up a kit, positive or negative, someone should follow up with you." Community members were supportive of a testing program which promoted self-advocacy, confidentiality, and comfort (Two-Spirit Program, 2021).

Consultations with Health Care Professionals

The Two-Spirit Program (2021) also completed consultations with healthcare workers in both rural and urban areas of BC who are experienced in STBBI testing. Through consultation, the following key themes were identified (Two-Spirit Program, 2021):

1. There is limited knowledge of self-testing, sexual health knowledge, and relevant resources.
2. Sexual health services lack a culturally safe approach.

3. Linkage to care following an HIV-positive result is desired but limited.
4. Differences in training and knowledge exist between community-employed nurses and health authority-employed nurses.

The Medicine Bundle

Indigenous worldviews and practices must be prioritized in the development, planning, implementation, and practice of health promotion efforts and interventions (OHTN, 2019). This is what led to the creation of the MBP using a CBR approach. Community needs were identified by Indigenous community members across BC, and the Medicine Bundle was designed to directly address those needs. The MBP aims to create alternate pathways to culturally safe sexual health resources and testing in BC (CBRC, 2022b). The pilot delivered Medicine Bundles to Indigenous people living in BC. The Two-Spirit Program (2022) describes a Medicine Bundle as the following:

> A medicine bundle (also called "sacred bundle") is personal to its carrier, and it contains items you have gathered and take care of. This bundle is sacred to you. It contains items that help you in your personal journey and development. These items may have given you a teaching or are an object you have used in ceremony. Your personal bundle may include medicines, a drum, smudge bowl, a rock, your colours, a rattle, eagle feather and anything else of significance that relates to your cultural and spiritual beliefs and development. You may also carry a clan symbol. The medicine bundle helps you engage with your health in a holistic way - mind, body, spirit. (p. 7)

The Medicine Bundles included traditional Indigenous medicines, such as cedar, tobacco, sage, a smudge bowl, tea, devil's club salve, and bear grease; and Western sexual health resources, including lube, condoms, and an HIV self-test kit and/or a dried blood spot (DBS) collection kit.

The Medicine Bundle also included contact information for support and an information card for the First Nations Doctor of the Day program. A DBS is a single-use kit that collects a sample of blood droplets on a filter paper that is then dried and sent to a laboratory where hepatitis C, syphilis, and/or HIV testing is performed (Two-Spirit Program, 2022). An HIV self-test is a rapid, single-use test that detects HIV antibodies in minutes, using a drop of blood taken from a pricked finger (Two-Spirit Program, 2022).

Western approaches to HIV treatment are disease-centred and enforce shame and stigma for Indigenous people. Further, community members living in rural and remote areas often must travel several hours to a general hospital to await an appointment with a specialist (Dame et al., 2022). If care is provided within the community, there is often a lack of confidentiality for those seeking treatment (Dame et al., 2022). While Western research has focused on the disproportionate rates of disease facing Indigenous communities, further perpetuating racism, the MBP takes an Indigenous Two-Spirit approach to honouring community needs and traditional medicines (Dame et al., 2022).

The MBP was created through a community-driven and needs-based approach, with direction and guidance from BC's Two-Spirit community on program and resource development (Dame et al., 2022). To gain this input, the Two-Spirit Guidance Committee was formed, working closely with the CBRC Two-Spirit Program to develop recommendations and design the Medicine Bundle. The content of the Medicine Bundle was very intentional, where funding and resources were returned to the community. For example, the physical Bundles were sewn by an Indigenous community member, and the medicines inside were all sustainably sourced from the Indigenous community across Canada (Dame et al., 2022). To incorporate aspects of Western medicine, the HIV self-test and/or DBS kit was included in the Bundle. This was complimented

by the inclusion of traditional medicines, which allowed space for spiritual care and reflection, as well as resources for mental and emotional health, especially as it relates to test results, such as nurse and physician contact information (Dame et al., 2022). Another goal of the Bundle was to support the inclusivity of the term *sex* as a natural occurrence or action, destigmatizing both sex and sexual health in an Indigenous context (Dame et al., 2022). Lane Bonertz, Two-Spirit Program Lead, described the MBP as follows (CBRC, 2022b):

> This Medicine Bundle will explore the uptake of Indigenous-designed, peer-led, and culturally competent approaches to sexual health through HIV self-testing and dried blood spot testing. Creating opportunities that not only position Indigenous people as the ones accessing resources, but as providers, uplifts and strengthens community. As Indigenous people, we have the knowledge and relationships in our own communities to provide sexual health guidance and support in ways that cannot be achieved by those without those same connections. (Para. 5)

Creation of the Medicine Bundle Pilot

It is important to highlight the Indigeneity of the MBP program. CBRC is committed to the National Centre for Truth and Reconciliation's (NCTR) Calls to Action. Establishing the Indigeneity of the program through self-location and self-awareness is vital to the creation of the MBP. While there is a widespread sexual health and HIV movement across Canada, it can be difficult for projects to gain the trust of Indigenous communities given their association with historically harmful institutions and the presence of their logos on program material. The MBP demonstrates awareness of this and is non-invasive. The program did include branding from the University of Victoria; instead, promotional images featured Two-Spirit folks and supported self-determination in sexual health. The program was created by the Two-Spirit Program in

partnership with Two-Spirit Elders and Knowledge Keepers. Jessy Dame, Two-Spirit Program Manager, and Harlan Pruden, co-founder of the Two-Spirit Dry Lab, completed consultations in communities around barriers to accessing safe(r) sexual health resources. The development of the program prioritized community voices in identifying their own needs, particularly around the feasibility of the Medicine Bundle in rural and remote communities. Interviews with non-Indigenous healthcare workers regarding cultural safety helped identify the need for an Indigenous approach to the HIV self-test kit. The MBP is built upon the principles of relationality, reciprocity, respect, and humility (Morberg, personal communication, August 9, 2023).

Trusted Messengers

The Trusted Messengers, a team comprised of Two-Spirit folks and Indigenous women from across BC, provided peer support to participants and connected community members with additional local resources within each health region of BC (CBRC, 2022a). This was a community-driven program that created support networks for Two-Spirit and queer Indigenous community members (Two-Spirit Program, 2022). Trusted Messengers completed onboarding with the Two-Spirit Program, which included training in STBBI/HIV treatment and prevention, and teachings from Indigenous Elders, Knowledge Keepers, activists, and academics working in Indigenous community care (CBRC, 2022a). Trusted Messengers delivered Indigenous and Western sexual health resources, tools, and information to community members, thereby increasing awareness of the importance of accessing sexual healthcare and acting as role models for sexual health promotion (Two-Spirit Program, 2022). The Trusted Messenger program helped create more accessible approaches to sexual health care, particularly outside urban centres in rural and remote areas, where community members face additional barriers to accessing safe

and sensitive care (CBRC, 2022a). The MBP promotional material advocated for Indigenous community members to integrate sexual health information and resources into their personal lives, promoting self-determination and body sovereignty in the process (Two-Spirit Program, 2022).

The Trusted Messengers were diverse in their lived experience and knowledge. The Two-Spirit Program intentionally created a Trusted Messenger program that supported authentic representation of the community being served by the MBP, including Two-Spirit and queer folks, and Indigenous women. When selecting the Trusted Messengers, the Two-Spirit Program was interested in their relationships, networks, strengths, experiences, and connections to Elders. The Trusted Messengers brought with them a diverse range of experiences, including birth work, sexual health activism, lived experience, and academic training.

Research Objectives

The primary objective of the MBP is to increase access to a culturally safe approach to HIV and STBBI health for Indigenous people in BC. This research aims to establish that Indigenous-led health initiatives are wanted and more effective for Indigenous communities than non-Indigenous initiatives.

My thesis addresses the following two research goals: (1) to understand participants' experience with the MBP; and (2) to determine barriers and access limitations to sexual health resources for Indigenous people, especially Two-Spirit, queer, and trans Indigenous folks in BC.

Methods

Protocol and Ethics

I came to the Medicine Bundle about one-third of the way through the pilot project as a Trusted Messenger, working closely with the Two-Spirit Program to promote and distribute Medicine Bundles to community members. The program was informed by Two-Spirit Elders and Knowledge Keepers. The pilot project was centred around building relationships with community members. It is important to highlight how intentional this program is. Indigenous ways of doing do not often fit into colonial structures of research. The MBP also followed wise practices: "locally appropriate actions, tools, principles or decisions that contribute significantly to the development of sustainable and equitable conditions" (Wesley-Esquimaux & Calliou, 2010, p. 19). Wise practices include prioritizing cultural safety and community engagement (Wesley-Esquimaux & Calliou, 2010).

Pilot Study

Approval from the University of Victoria Human Research Ethics Board was secured for the Medicine Bundle Pilot (MBP) in February 2022 (see Appendix 1), and ongoing consent was secured from all study participants. The MBP took place across BC between May and July 2022. Trusted Messengers were hired and trained in April 2022 and began promoting and distributing Medicine Bundles in May. Trusted Messengers were hired in each of BC's health regions: Island Health, Vancouver Coastal Health, Fraser Health, Northern Health, and Interior Health. Recruitment of participants was completed through promotion of the MBP to Indigenous organizations, health agencies, other organizations (e.g., academic institutions, local clubs/groups), and personal relations. Trusted Messengers recruited participants via phone, text, email, and social media. Distribution took place at health centres, via Trusted Messengers (to

community members), and online with no contact with community members. Some participants heard about the MBP from word of mouth, through recruitment flyers at community partner locations, through the CBRC website, and social media (e.g., Facebook, Instagram, Twitter). Promotional material is available online through the MBP webpage (CBRC, 2022a). Participants accessed the CBRC website to consent to participate. The Two-Spirit Program also developed a selection of posters that were distributed to organizations and agencies across the province. These serve as a positive representation of Two-Spirit people that outlasts the pilot itself. The goal of the MBP is “To increase access to testing and sexual health resources; [and] to increase autonomy of one’s own sexual health” (Two-Spirit Program, 2022).

No invasive or extractive research methods were used in the MBP. The Medicine Bundle Pilot Survey (Appendix 3) served as an invitation to participate and provided the research team with basic information: first time testing and last previous test; year of birth; historic or current barriers to testing; accessibility of test kit(s); motivation for accessing the Medicine Bundle; Two-Spirit identifier. The MBP eligibility criteria were the following: (1) self-identify as Indigenous (First Nations, Métis, Inuit); (2) currently living in BC; and (3) at least 18 years of age. While the MBP was designed by and for Two-Spirit and queer Indigenous folks, it was open to any adult with Indigenous ancestry living in BC so as not to create further barriers to testing and sexual health. The MBP was developed with a focus on rural and remote communities but included all BC residents who met other eligibility criteria. The post-Bundle survey (Appendix 4) was distributed to participants after they received their Medicine Bundle. This was an optional follow-up questionnaire about the participant’s experience with the MBP. If participants completed this survey, they were sent a $15 honorarium. 201 people accessed the Medicine Bundle. All participants are included in this analysis.

Methodologies

Community-Based Research

CBR is a participatory approach to research where projects are driven by community needs and the community is involved in all phases of the research project (AICBR, n.d.). The foundational principles of CBR are (AICBR, n.d.): (1) participatory in nature; (2) equal contributions and cooperation between community members and researchers; (3) a process of co-learning and balancing research with action; (4) prioritization of local community capacity building and systems development; and (5) an empowering process that centres self-determination.

Using an integrative science framework and decolonizing perspective, the MBP is an Indigenous-led initiative focused on health promotion through HIV prevention and response. It takes a peer-based approach that is best for centring the voices of Indigenous people living with HIV. Furthermore, there were no invasive or extractive research methods used. Instead, participants were invited to complete a survey and answer optional questions asking for basic information, such as barriers to testing, accessibility of STBBI tests, and self-identification (e.g., gender identity). All members of the Two-Spirit Program at CBRC and Trusted Messengers identify as Indigenous people.

The main research goal of the project is to demonstrate the strength of Indigenous-led health interventions for Indigenous communities. While the MBP is a pilot program, there are plans and funding in place to continue the Medicine Bundle beyond the pilot period. This is an example of successful CBR, combating the pattern of perpetual pilots, where projects are funded only for a short amount of time before being discontinued. Such an approach is a form of colonial violence against Indigenous communities where pilots are often short and intense, and community-researcher relationships are not maintained (Masuda, personal communication, July

5, 2022). The continuation of the Medicine Bundle reflects CBRC's commitment to improving access to sexual health resources for Indigenous community members.

Mixed Methods Analysis

The MBP analysis uses a mixed methods approach to understand participants' experience with the MBP and determine barriers to accessing sexual health resources. I have conducted descriptive statistical analyses of the quantitative data collected in both pre- and post-Bundle participant surveys. Pre- and post-Bundle surveys also provided space for participants to include open-ended written answers, which I analyzed using qualitative methods. I use a conventional approach to derive meaning directly from the qualitative data through analysis (Stickley et al., 2022). Additionally, these data add potential for thematic analysis, especially related to barriers and limitations to sexual health resources, and experiences accessing the MBP. Further, the Trusted Messengers completed interaction surveys after interacting with MBP participants or community contacts. Interaction surveys provide valuable information including who initiated the interaction, what form of communication was used (e.g., email, face-to-face, social media), and the outcome of the interaction (e.g., the participant did/did not order a Medicine Bundle). These surveys provided space for open-ended writing and were also analyzed using conventional qualitative methods. While the amount of qualitative data is limited, I have chosen to include this to supplement quantitative analysis. Thematic analyses of these qualitative data provide insight for future public health programs and initiatives that aim to distribute sexual health resources to Indigenous community members.

Additionally, community consultations were conducted to support the development of the MBP. These are not considered data because they took place informally, outside of ethics approval. However, the thematic analysis of community needs will provide valuable information

about barriers and limitations to sexual health resources for Indigenous people in BC, contextualizing results about the strength and feasibility of the MBP in these communities.

Decolonizing and Indigenous Research Methodologies

Decolonizing and Indigenous research methodologies are used in research initiatives undertaken by and for Indigenous people, built upon Indigenous Knowledge (IK) and tradition (Evans et al., 2008, as cited in Carr-Wiggin, 2023, para. 1). These methodologies resist colonial narratives, recognize the ongoing harms of settler-colonialism on Indigenous people, and are guided by the principles of self-determination, cultural continuity, and decolonization (Evans et al., 2008, as cited in Carr-Wiggin, 2023, para. 1). Decolonizing and Indigenous methodologies challenge Western research paradigms which are "damage-centred" in nature (Tuck, 2009; Lavalleé, 2009). They instead centre Indigenous worldviews, knowledge systems, and voices throughout the entirety of the research process (Hart, 2010). These perspectives and approaches have been hidden by the Eurocentric paradigms that dominate academia (Hart, 2010). Decolonizing and Indigenous research methodologies create space for communities and researchers to establish meaningful and lasting collaborative relationships, generate knowledge that is relevant and beneficial to communities, and contribute to efforts of decolonizing research, and prioritizing healing and self-determination.

Two-Eyed Seeing Approach

The MBP takes a TES, or integrative science, approach to STBBI health, combining both Indigenous ways of knowing and Western medicine. *Etuaptmumk*, or TES, is a Mi'kmaw approach to integrative science that places value on both Western knowledge and IK (Martin et al., 2017). In their analysis of TES in research and policy, Martin et al. (2017) highlight the value of a TES approach to facilitate more inclusive, culturally safe, and socially just programs for

Indigenous people across the globe. Comparatively, the exclusive focus on Western knowledge and science is often irrelevant in Indigenous communities because the fundamental beliefs around health and wellness are different (Martin et al., 2017).

While TES is a Mi'kmaw philosophy, it is often presented as a pan-Indigenous approach to research. However, TES is only one of many different Indigenous policies that follow an integrative science philosophy. We must recognize that within the BC context, there are vastly different First Nations cultures and practices. Applying TES to research and policy across Canada runs the risk of totalizing all Indigenous communities into one culture or one people. However, the MBP is a CBR project, developed by Indigenous people for Indigenous people, recognizing and celebrating experiences and diversity.

Indigenous Storywork

Indigenous storywork is a methodology introduced by Jo-ann Archibald (2008), an Indigenous scholar from the Sto:lo Nation. It values the use of storytelling to understand and share knowledge (Archibald, 2008). This methodology is holistic in its approach to learning, healing, and culture. Indigenous storywork involves collecting, creating, and sharing stories that reflect Indigenous worldviews, values, and experiences (Archibald, 2008). It recognizes the interconnectedness of individuals, communities, and the environment, and honours and respects Indigenous ways of understanding and being (Archibald, 2008).

Collaborative and participatory processes are central to Indigenous storywork, where individuals and communities come together to share and co-create stories (Lavallée, 2009). These may encompass a range of storytelling forms, including traditional stories, personal narratives, and experiences while recognizing the importance of language, symbolism, and cultural context (Lavallée, 2009). Indigenous storywork prioritizes cultural safety, community

engagement, and intergenerational transmission of knowledge (Lavallée, 2009). It acknowledges the role of storytelling in promoting resilience, identity, and healing, while also serving as a tool for education, advocacy, and empowerment (Archibald, 2008). Indigenous storywork is a methodology that can be used to develop inclusive and culturally safe approaches that centre Indigenous voices, perspectives, and worldviews (Archibald, 2008; Hart, 2010). I used aspects of storytelling methodologies to analyze the qualitative data.

Results

Quantitative

CBRC and the Two-Spirit Program team have successfully delivered 205 Medicine Bundles to Indigenous community members. I have analyzed data for 201 Medicine Bundle surveys, 124 of which were fully complete. The data below are sorted by survey question and indicate the number of participants who answered that question in parentheses (n). Missing data are not included in the analyses, but no participant was dropped from our analysis because they had missing data.

Who Participated

The following data describe the participants to inform the contextualization of the MBP quantitative analysis. All participants who completed the Medicine Bundle survey had to confirm that they were 18+ years old, living in BC, and self-identified as Indigenous. While participants were located across BC, more than 50% resided in the Island Health and Vancouver Coastal Health regions. The average age of participants was 34 years old (Two-Spirit Program, 2023). Of the participants who answered the survey question (n=123), 69% of respondents identified as First Nations, 33% identified as Métis, 3% preferred another term or to self-describe, and two participants identified as Inuit (<2%). Two-thirds (67%) of participants identified as Two-Spirit. Table 1 depicts the gender identities of MBP participants.

Table 2

The self-reported gender identities of MBP participants (n=122)

Gender identity	Percentage
Woman	49%
Non-binary	28%
Transgender	26%
Man	19%

Genderqueer	9%
Genderfluid	9%
Agender	3%

The sexual orientations of MBP participants are depicted in Table 2. Most participants identified as bisexual (39%) or queer (34%).

Table 3

Sexual orientations of MBP participants (n=140)

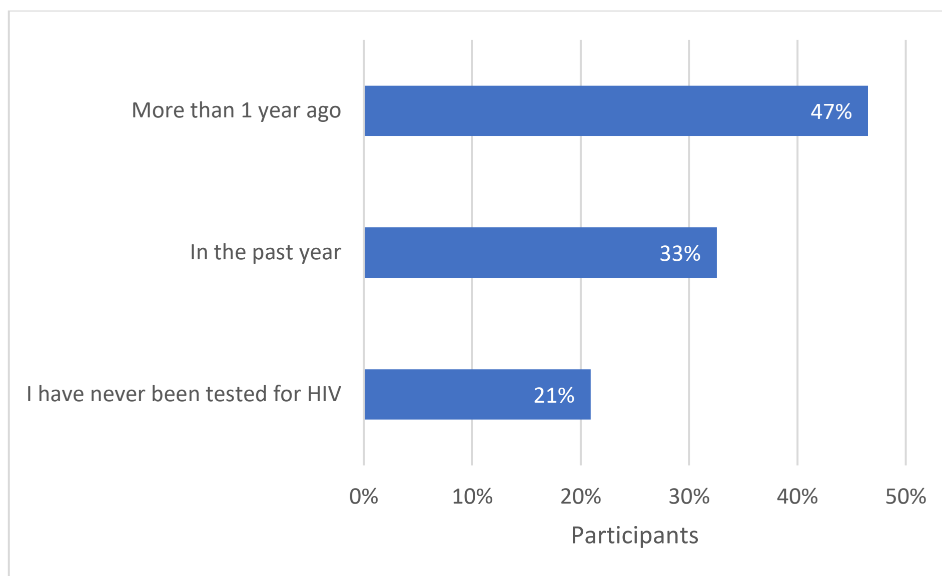
Sexual orientations	n	Percentage
Bisexual	55	39%
Queer	47	34%
Indigiqueer	38	27%
Pansexual	32	23%
Gay	25	18%
Straight	13	9%
Questioning	11	8%
Lesbian	8	6%
Asexual	7	5%
Heteroflexible	3	2%

Barriers to Accessing Sexual Health Resources

To determine barriers and access limitations to sexual health resources for Indigenous people in BC, I analyzed several relevant questions from the Medicine Bundle Survey. Nearly half (47%) of participants reported that they were last tested for HIV more than one year ago (Figure 1). One in five (21%) participants had never been tested for HIV. It is recommended that everyone between the ages of 13 and 64 be tested for HIV at least once and that people with certain practices, including having had more than one sex partner since their last HIV test, should be tested at least once a year (CDC, 2022).

Figure 1

MBP participants HIV testing history (n=129)



Participants also rated their experience accessing sexual healthcare within their community (Figure 2). Almost half (44%) said that accessing care in their community was “somewhat easy”, while 30% said it was “somewhat difficult”. Further, two in five (39%) participants reported having ever left their community to access sexual healthcare (Figure 3).

Figure 2

Self-rated experience accessing sexual healthcare within one’s community (n=138)

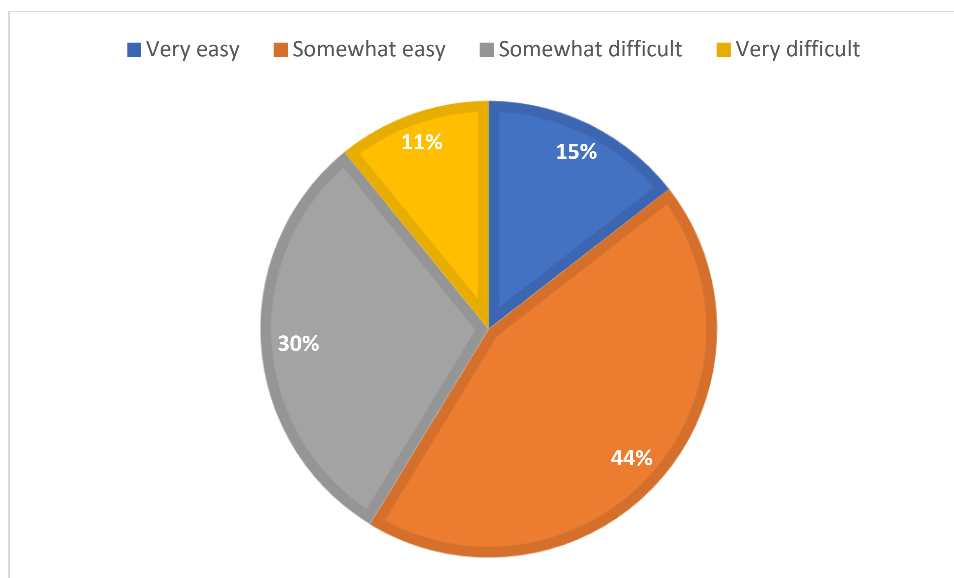
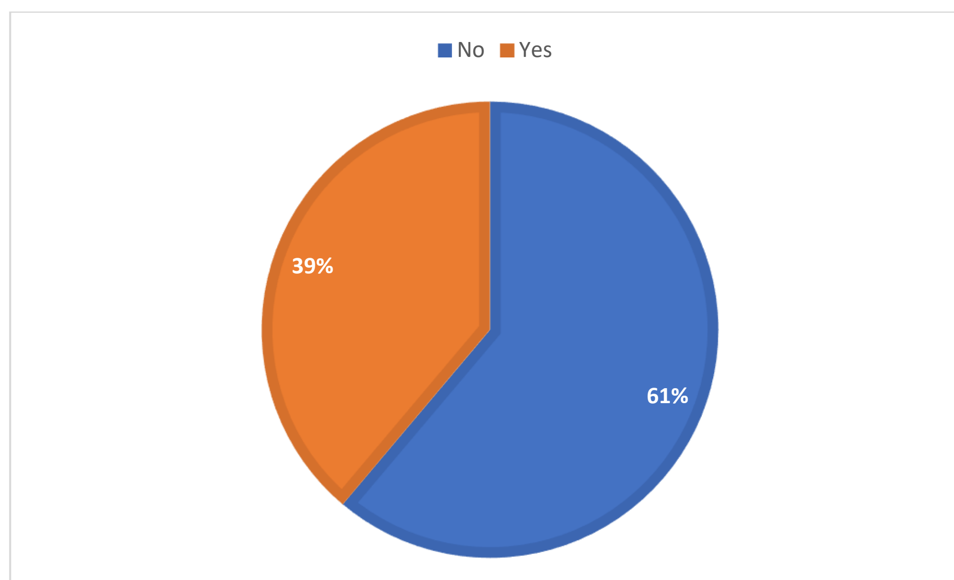


Figure 3

Percentage of MBP participants who have had to travel outside their community to access sexual healthcare (n=139)



Participants were asked if any of the following reasons have caused them to delay or skip HIV, Hep C, or Syphilis testing (Table 3). Half (54%) of participants reported that feeling stressed out, anxious, or depressed had caused them to delay or skip testing in the past. Only one in five (18%) participants said that none of the reasons provided had ever caused them to delay or skip testing.

Table 4

Reason for causing a participant to delay or skip HIV, Hep C, or Syphilis testing (n=136)

Reason	n	Percentage
Stressed out, anxious, or depressed	74	54%
Couldn't get an appointment at convenient time	50	37%
COVID-19	43	32%
No access to an Indigenous healthcare provider	39	29%
Anti-Indigenous racism	38	28%
Lack of professional sensitivity to sexual and gender diversity	38	28%
Didn't know where to go	36	26%

Services too far away	31	23%
Lack of privacy	26	19%
None of the above	24	18%
The cost (e.g., no health insurance)	11	8%
I am not out in my community	11	8%
Services not in my preferred language	1	1%
Other	0	0%

To further inform access to sexual healthcare, participants were asked if they had ever asked for and been denied certain sexual healthcare services (Table 4). Four of five (80%) participants reported that they had never asked for and been wrongfully denied any of the services listed. Approximately one in ten participants had been denied a pap smear (8%) and had been denied an STI test of any kind (7%).

Table 5

Services that participants have asked for and been wrongfully denied in the past year (n=133)

Service	n	Percentage
None of the above	106	80%
Pap smear	11	8%
STI test (any kind)	9	7%
HPV vaccination	7	5%
Breast/chest exam	7	5%
Gender affirming hormone therapy/HRT (testosterone, estrogen, etc.)	6	5%
PrEP (pre-exposure prophylaxis)	3	2%
Trans-related surgeries (gender affirming surgeries)	3	2%
A Hep C test	2	2%
PEP (post-exposure prophylaxis)	2	2%
An HIV test	1	1%
Hep C treatment	1	1%
Selective Androgen Receptor Modulators (SARMs)	1	1%

Participants' Experience with the MBP

Post-Bundle survey responses were used to understand participants' experience with the MBP. The MBP was very well received. All participants indicated a good overall experience with the MBP: 88% of participants (n=33) reported it was "very good" and the remaining 12% reported it was "good". Participants were asked to consider the experience of having a Medicine Bundle with an HIV self-test and/or DBS kit mailed to them, the option to select traditional medicines, options for support, and interactions with the Trusted Messengers and the Two-Spirit Team. 91% of participants reported that having access to Indigenous medicines was a benefit of the MBP while 85% reported that access to HIV, Hep C, and syphilis testing was a benefit (Table 5). Participants who reported "other" benefits, submitted the following responses:

- "[The] medicines were wonderful."
- "[The MBP] made me feel considered."

Table 6

Benefits of the MBP (n=33)

Benefit	n	Percentage
Access to Indigenous medicines	30	91%
Access to HIV, Hep C, and syphilis testing	28	85%
Receiving sexual healthcare designed for an Indigenous person	25	76%
More private (e.g., don't need to see a doctor/nurse, or someone I know in a waiting room, don't need to talk about my sex life or drug use)	25	76%
More convenient than going to a clinic or doctor's office (e.g., saves time, don't need to wait for an appointment)	25	76%
Don't need to pay for a test kit out of pocket	21	64%
Wanted to try out a new testing method	21	64%
Access to condoms and lube	12	36%
Access to a Trusted Messenger to support testing	9	27%
Other	2	6%

Most participants (43%) did not report any drawbacks of the MBP. One in five (18%) participants indicated that they were worried about not knowing what to do with their test result. A quarter (25%) of participants who completed the Post-Bundle survey indicated "other" drawbacks of the MBP. The written responses fell into three main topics:

- Not knowing how to access community support for follow-up.
- Nervousness to draw blood through the HIV self-test and/or DBS kit at home.
- Concerns or challenges with disposing of the self-test afterwards (i.e., sharps disposal).

Table 7

Drawbacks of the MBP (n=28)

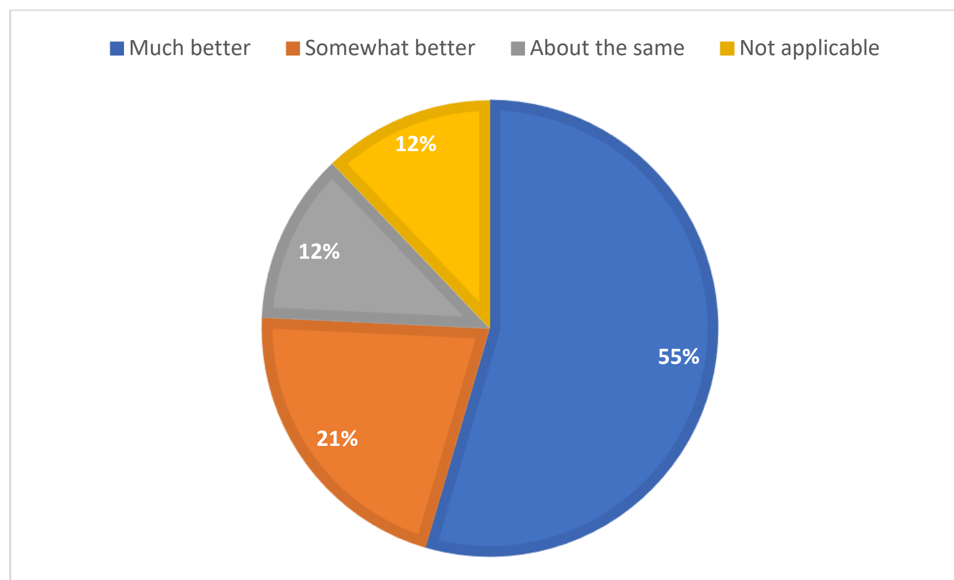
Drawback	n	Percentage
None	12	43%
Other	7	25%
Worried about not knowing what to do with my test result	5	18%
Worried about the privacy of my information (on the online platform)	3	11%
Don't trust self-testing is reliable	2	7%
Difficult to use test	1	4%
Difficult to understand the instructions	1	4%
Difficult to access a Trusted Messenger for support	1	4%
Prefer to get tested by doctor or nurse	0	0%
Took too much time	0	0%

Almost all (94%) participants reported that the MBP made testing easier than before. Few (6%) participants reported that the Medicine Bundle had no impact on their testing, and no participants reported that the Medicine Bundle made testing more difficult. Participants rated their experience getting tested through the MBP compared with previous HIV, Hep C, and/or syphilis testing

(Figure 4). Half (55%) indicated that their experience getting tested through the MBP was "much better" than other experiences.

Figure 4

Participants' experience getting tested through the MBP compared with previous testing (n=33)



Participants reported having accessed several resources since receiving a Medicine Bundle (Table 7). Half (45%) accessed Two-Spirit, LGBTQ+ community, resources, and support, and two in five (39%) had used/practiced traditional medicines since receiving a Medicine Bundle.

Table 8

Resources accessed by participants since receiving a Medicine Bundle (n=31)

Resource	n	Percentage
Two-Spirit, LGBTQ+ community, resources, and support	14	45%
Proper use and practice of traditional medicines	12	39%
Mental health support	10	32%
Connecting with an Elder, Knowledge Keeper, or other trusted community member	9	29%
None of the above	8	26%
How to use an HIVST kit	4	13%
How to use a DBS kit	4	13%
Contraception	4	13%

STBBI testing	2	6%
Gender affirming hormones/surgery	2	6%
Harm reduction supplies (pipes/straws)	2	6%
PrEP	1	3%
Harm reduction services (needle exchange/supervised consumption site)	1	3%
Other	1	3%
Confirmatory testing	0	0%
PEP	0	0%

Qualitative

At the end of the post-Bundle survey, participants were asked to leave any final comments regarding either the Medicine Bundle or the Trusted Messenger program. Below is a selection of comments that represent the overall feedback:

- "[The Medicine Bundle] made me feel connected as an urban Indigenous person."
- "Thank you for this. I have shared it with youth I work with who I know it helped!"
- "I love that I was finally able to access some traditional medicines with such sacred intentions."
- "I think this project was amazing. Having simple easy access to testing in my home, my safer space, was great. I could smudge or use the traditional medicines after self-testing, which made it feel like a much better experience than others I've had in clinical spaces."
- "Love this initiative and would love to see this in my community."
- "[I] love the cards with information about services I didn't even know existed!"

Qualitative analysis of the written answers identified the following key themes of participant feedback on the Medicine Bundle:

1. Cultural connection: Connection to the Indigenous and/or Two-Spirit community, and connection to self as an Indigenous person.

2. Sacred medicines: Sacred intentions in the creation of the Medicine Bundle, and acknowledgement of the sacred medicines included in the Bundle and their uses and benefits.
3. Better experiences: Participants reported having a better experience with testing through the Medicine Bundle; feeling safer and more comfortable at home; and finding the self-test process better than Western clinical options.

Written answers from the Messenger Interaction Survey will demonstrate the strength of the MBP and inform future projects. When asked if community members mentioned anything specific about the Medicine Bundle (positive or negative feedback, questions about the medicines, or suggestions), Messengers reported the following responses:

- “They were so excited to get the Bundle. They had said they might not get it because they aren’t sexually active. I told them, “You never know,” and we both laughed!”
- “They thought it was very lovingly created.”
- “They were frustrated by the delay in getting the Bundle.”

It is important to note that because of the interaction with Trusted Messengers, most participants were able to contact someone to ask about the status of their Bundle. For example, when I was working as a Trusted Messenger, one community member reached out to me to follow up on the delivery of their Bundle, which had been delayed. The delay was due to an influx of orders during the pilot. I was able to provide an update and ensure that the Bundle did reach them. This demonstrates the added value and necessity of a peer-based approach to this work.

Discussion

Key Results

Results demonstrate that the Medicine Bundle was very effective in Indigenous communities across BC. The Medicine Bundle was well-received by all participants who completed the post-Bundle survey. Findings were consistent with the literature reviewed that support the success of Indigenous-led approaches to sexual health as being more effective in Indigenous communities compared with Western approaches (Halseth & Murdock, 2020; Carroll et al., 2022; Johnson-Jennings et al, 2020; Landy & Worthington, 2021). It is evident through the overwhelmingly positive reaction to the MBP that there is a need for the Medicine Bundle as a culturally safe approach to Indigenous STBBI awareness and sexual health (Two-Spirit Program 2022). The ability of the MBP to support journeys of healing has made a difference in the lives of Indigenous people at individual and community levels (Two-Spirit Program, 2022). Receiving Indigenous medicine in the Medicine Bundle was the most reported benefit of the MBP. This is invaluable information as typical Western approaches to sexual health do not offer the option to receive traditional medicines alongside Western sexual health resources. The inclusion of traditional medicines is foundational to the success of the MBP. Most participants (76%) reported that their overall experience getting tested for HIV, hepatitis C, or syphilis through the MBP was either "much better" (55%) or "somewhat better" (21%) compared with other testing experiences. Almost all participants indicated that they were very likely to recommend the Medicine Bundle to someone within their community. These results demonstrate the unquestionable strength of the MBP as an Indigenous- and peer-led, community-based, and culturally safe HIV testing service in BC. This supports my assertions, and the foundational theory of the MBP, that Indigenous approaches to health work better in Indigenous communities

than non-Indigenous approaches. The Two-Spirit Program (2022) describes the impact of the MBP as the following:

> Indigenous ceremony seeks to strengthen a person's connection to the physical and spiritual world, provide healing or clarity, mark significant life moments, or offer remembrance and gratitude. Together, we create and protect environments to facilitate healing and ease suffering. These Medicine Bundles are our people's connection to personal growth and sacred ceremony.

The data from the MBP surveys provide information on the access limitations to sexual health resources for Indigenous people. These data could be further analyzed to determine relationships between location (urban vs. rural vs. remote), gender identity, sexual orientation, and Indigenous identity (First Nations vs. Métis vs. Inuit vs. mixed identity) and the outcomes explored. However, the current demographic analyses demonstrate that there are gaps in services available to or designed for Indigenous people. Many respondents (39%) reported travelling outside of their community to receive sexual healthcare, and that perceived access to sexual healthcare in the community is "somewhat difficult" (30%).

Informal consultations with healthcare professionals and Two-Spirit community members further inform the access limitations to culturally safe sexual healthcare. Two-Spirit community members named both limited access to testing services in BC and systemic racism in community and acute care settings as common experiences (Two-Spirit Program, 2022). Community members identified the following sexual health needs (Two-Spirit Program, 2022): (1) improved access to pre-exposure prophylaxis (PrEP); (2) more Indigenous-led and culturally safe resources for testing and PrEP; and (3) ensured confidentiality around HIV and STBBI testing. These

experiences align with expectations of access limitations based on recent literature and existing gaps in the healthcare system (Gouldhawke, 2021).

Healthcare professionals working in both urban and remote settings identified gaps in knowledge of self-testing options; limited linkage to care after an HIV-positive result; limited availability of testing in rural and remote communities; and a lack of culturally safe sexual health resources (Two-Spirit Program, 2022). Healthcare professionals were supportive of the concept of at-home testing options and voiced the need for more training in sexual health in general (Two-Spirit Program, 2022). The concerns and knowledge gaps identified by healthcare professionals are not surprising given the challenges with accessing sexual healthcare voiced by Two-Spirit community members.

Interpretations

The MBP results are consistent with current research on the success of Indigenous-led initiatives to address Indigenous sexual health (Landy & Worthington, 2021), Indigenous HIV prevention (Flicker et al., 2019), existing barriers to sexual healthcare (Ubrihien et al., 2022), and unmet needs of Indigenous people in sexual health (OHTN, 2019). Monchalin et al.'s (2016) peer-led intervention takes a strengths-based approach to culturally safe Indigenous youth sexual health, supporting the application of the MBP and its success. The University of Regina released a fact sheet on barriers to accessing sexual health services for Indigenous youth, naming personal and environmental barriers, lack of awareness of available services, lack of education on sexual health, and lack of appropriate sexual health services (Hampton et al., n.d.). These barriers are consistent with the community-identified barriers and needs found in the MBP. The fact sheet further states that youth participants stated issues of convenience, safety, trust, and "feeling comfortable" were more important to them than accessing culturally competent services

(Hampton et al., n.d.). These findings are inconsistent with the findings of the MBP, which found that the incorporation of cultural aspects to services (i.e., traditional medicines) was the most identified benefit of the program. Future research could help gain an understanding of specific barriers facing community members. The positive response to the HIV self-test and DBS test is consistent with existing research which has found that providing self-testing kits is a key facilitator to success (Ubrihien et al., 2022). Other actions that support success include achieving cultural safety and incorporating STI testing into other targeted initiatives (Ubrihien et al., 2022).

Strengths and Limitations

This MBP was created by and for Indigenous people. Indigenous Knowledge Keepers and Elders informed all stages of development and were involved beyond the completion of the pilot period. The Two-Spirit Program took a strengths-based approach to all aspects of the MBP, focusing on the sacredness and normalization of sex. Self-determination in health was a primary driver of this project, centring Indigenous needs and sovereignty. The MBP took a strengths-based approach to Indigenous sexual health and provided options for participants to self-select medicines from multiple Indigenous cultures across the country. Because the MBP was not culture-specific, it is diverse in its applicability to Indigenous communities anywhere. For my thesis, using both quantitative and qualitative data collected from participants and Trusted Messengers provided a more holistic understanding of the intervention. However, the MBP and my thesis did have some barriers and limitations.

For my thesis, there was a limited amount of quantitative and qualitative data available, which limited the depth of analysis that could be completed. A barrier of the MBP was limited travel for Trusted Messengers to visit places outside their communities. This restricted dissemination of the Bundles to the Trusted Messengers' home communities/towns/cities made it

difficult to reach rural and remote areas where the Bundles might be very effective. Additionally, the 3-month timeline of the pilot project created barriers for Trusted Messengers to build trusting relationships with community members and stakeholders. Long-term relationships and collaboration between researchers or public health professionals and communities are very important to maintain trust and avoid further colonial harm in community research. The MBP would work well as a long-term project where relationships could be maintained over a longer period; fortunately, the Medicine Bundle is currently operating as a longer-term program given federal funding from the Public Health Agency of Canada. Another reality of the MBP's limited scope was that while participants included both First Nations and Métis people in BC, only two Inuit participated. The 2016 Census states that 1,615 people living in BC identify as Inuit: this is a gap in the MBP reach (Statistics Canada, 2016). An additional gap of the MBP was reaching youth, as the Bundles were only available to Indigenous adults 18 years and older. To address this, a Two-Spirit Program team member would like to explore the possibility of gifting Medicine Bundles to Indigenous students graduating from high school in BC. Lastly, the MBP was very well-received by all participants. However, we must acknowledge the possibility of volunteer bias as all participants chose to engage in this project and they were not required to provide feedback (hence some missing data). Forthcoming iterations of the project with larger rollouts of the Medicine Bundle can better assess the strength of the Medicine Bundle across different audiences. Future data collection efforts may also consider the role of a control group in helping to understand the strength of the Medicine Bundle as a tailored approach.

Recommendations and Responsibilities

Grounded in the theoretical framework guided by CBR, Indigenous and decolonizing methodologies, and the determinants of Indigenous health, the following public health

recommendations can improve access and reduce barriers to sexual health resources for Indigenous community members in BC. These recommendations are informed by the Two-Spirit Program's (2021) consultations with healthcare workers:

1. The Province of BC should provide comprehensive training around culturally safe sexual healthcare to disrupt the existing community distrust in the healthcare system. Training should encompass available options for self-testing and other forms of sexual healthcare that support self-determination. This training should be available to healthcare workers in all settings across BC.
2. Indigenous-led and culturally specific programs should be designed and implemented to reach community members across Canada. When designing a program to be implemented across the country, public health professionals should take a distinctions-based approach, recognizing existing cultural differences and avoiding a pan-Indigenous approach to sexual health resources.
3. HIV and STBBI self-test kits should be made widely available and promoted in a way that supports self-determination and strengths-based approaches to health and well-being. The MBP is a culturally safe approach to the HIV self-test kit. This method can be applied widely to different Indigenous and non-Indigenous cultures, increasing the distribution of self-test kits, and promoting sexual health.

While the Two-Spirit Program now has funding to continue creating and distributing Medicine Bundles, my thesis addresses the capacity and knowledge gap in intersectional and community-informed 2SLGBTQ+ health and Indigenous-led Two-Spirit and queer community interventions. Future research on the implementation of similar programs across Canada will advance health equity and promote sexual health awareness.

Future Research

Future studies could further analyze the MBP data to understand better the differences in experiences with and access to the Medicine Bundle based on geographic location or other social factors. The MBP survey did ask for the first 3 characters of participants' postal codes (e.g., V8W); these data could be analyzed to understand better access limitations in urban versus rural/remote areas of BC. This could help inform future initiatives aimed at more populations, considering access limitations and other available resources. Another study could further explore the connection between sexual healthcare and traditional medicines, including traditional and modern uses of medicines in sexual health promotion and Indigenous approaches to harm reduction.

Knowledge Mobilization

The Two-Spirit Program's knowledge mobilization plan for this project prioritizes reaching multiple audiences, including academics and community members. Dissemination of the MBP is already taking place through the Two-Spirit Program's work and presentations at various conferences and events. The Two-Spirit Program has developed a project overview that is accessible to community members. The overview uses lay language and breaks down key results of the project. Community voices guided the MBP at all stages and community members are the first to see the results of the project and understand its implications.

Following the completion of this thesis, I will work in partnership with the Two-Spirit Program team to collaboratively develop an open-access peer-reviewed article to be submitted to an academic journal for publication. This paper will be co-authored by members of the Two-Spirit Program team and myself. The Two-Spirit Program will identify a chosen journal for publication, targeting public health professionals and researchers working in relevant fields.

Conclusion

Indigenous-led approaches to HIV and STBBI health, such as the MBP, prioritize self-determination, cultural continuity, sovereignty, and Indigenous-led research. Indigenous communities in BC deserve culturally specific approaches to HIV research and policy that are holistic, inclusive, and centre IK through integrative science frameworks, combining both Western and Indigenous ways of knowing. Indigenous worldviews and experiences are unique to each culture and must be understood individually. The results in this thesis demonstrate that the MBP is a successful intervention for Two-Spirit and queer Indigenous people, based on successful dissemination throughout BC and positive participant feedback. Looking to a healthier, sustainable, and more just future, integrative science and CBR approaches must be used in public health research, programs, and policy to improve HIV and STBBI health for Indigenous people in BC and, more broadly, in Canada.

Funding

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Appendix 1 – Human Research Ethics Board Certificate of Approval

Office of Research Services | Human Research Ethics Board
Michael Williams Building Rm B202 PO Box 1700 STN CSC Victoria BC V8W 2Y2 Canada
T 250-472-4545 | F 250-721-8960 | uvic.ca/research | ethics@uvic.ca

Certificate of Approval - Amendments

PRINCIPAL INVESTIGATOR:	**Nathan Lachowsky**	**ETHICS PROTOCOL NUMBER** Full board review	**21-0220**
UVIC DEPARTMENT:	**Public Health and Social Policy PHSP**	ORIGINAL APPROVAL DATE:	17-Feb-2022
		APPROVED ON:	29-Nov-2023
		APPROVAL EXPIRY DATE:	16-Feb-2024

PROJECT TITLE: **The Medicine Bundle Pilot**

RESEARCH TEAM MEMBERS:
Anya Slater - Research Admin Assistant, UVic
Christopher Draenos - Research Manager, CBRC
Martin Morberg - Two-Spirit Project Coordinator, CBRC
Harlan Pruden - Two-Spirit Knowledge Keeper, BCCDC
Darren Ho - Associate Director, CBRC
Jessy Dame - Two-Spirit Program Manager, CBRC
Jody Jollimore - Executive Director, CBRC
Lane Bonertz - Peer Support, CBRC
Sean Rourke - Funder, Unity Health
Benjamin Klassen - Research Manager, CBRC
Emma Ronayne - MPH Thesis Student, UVic

DECLARED PROJECT FUNDING:
REACH Nexus, CBRC
FEAST Centre for Indigenous STBBI Research, CBRC
CIHR, UVic

DOCUMENTS INCLUDED IN THIS APPROVAL:
Appendix C - Web Copy.docx - 17-Dec-2021
Qualitative Questions for Messengers.docx - 17-Dec-2021
Appendix J - LOS-NML.pdf - 17-Dec-2021
Appendix K - LOS-FourFeathers.pdf - 17-Dec-2021
Appendix L - INSTI HIV Self Test Insert.pdf - 17-Dec-2021
Appendix N - Biosafety Correspondence.pdf - 22-Dec-2021
Appendix M - BiosafetyApprovalUpdate.pdf - 28-Jan-2022
Appendix Q - Group 1 Recruitment.docx - 28-Jan-2022
Appendix P - Messengers Training Agenda.docx - 28-Jan-2022
Appendix R - Messenger Job Description.docx - 10-Feb-2022
Appendix S - ParticipantResources.docx - 10-Feb-2022
Appendix A - Bundle Recruitment DBS.pdf - 11-Feb-2022
Appendix B - Bundle Recruitment HIVST.pdf - 11-Feb-2022
Appendix F - Messenger Interaction Survey_V2.docx - 11-Feb-2022
Appendix G - Bundle Pilot Questionnaire_V2.docx - 11-Feb-2022
Appendix D - Group 1 Consent Form.docx - 11-Feb-2022
Appendix E - Group 2 and 3 Consent Form.docx - 11-Feb-2022
Appendix I - Bundle Care Pathways.docx - 11-Feb-2022
Appendix O - DBS Testing Guide_V2.pdf - 11-Feb-2022

Conditions of approval

This Certificate of Approval is valid for the above term provided there is no change in the protocol.

Amendments
To make changes to the approved research procedure in your study, please submit "Amendments" or "Annual renewal with amendments" form. You must receive research ethics approval before proceeding with your amended protocol.

Renewals
Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a “Request for Renewal” form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.

Project Closures
When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a “Notice of Project Completion” form.

Certification

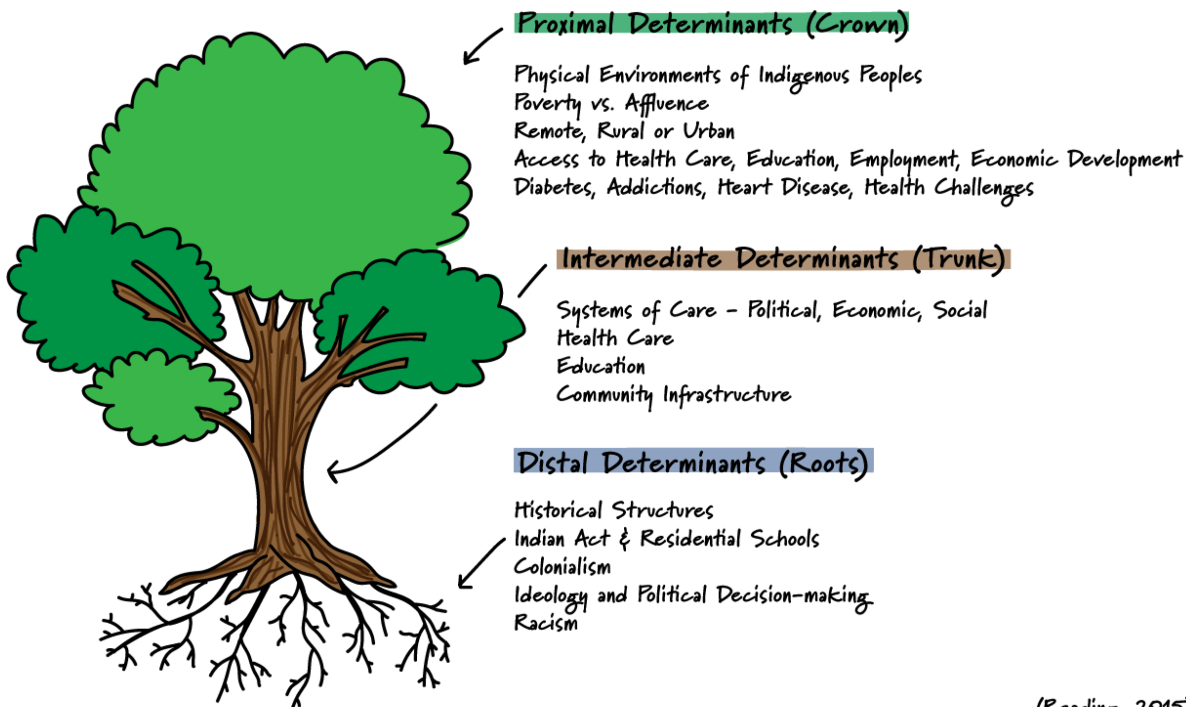
This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria's policies for research involving human participants.

Dr. Sandra Gibbons
Chair, Human Research Ethics Board

Dr. Matthew Murphy
Vice-chair, Human Research Ethics Board

Certificate Issued On: 29-Nov-2023

Appendix 2 – Dr. Charlotte Loppie's tree model of the determinants of Indigenous health (Reading, 2015; Peltier, 2023)



Appendix 3 – Medicine Bundle Pilot Consent Form & Survey

Welcome to the Medicine Bundle Pilot! Let's find out if you're eligible. These 3 questions are mandatory.

1. Do you live in what is colonially referred to as British Columbia?
    - Yes (1)
    - No (0)
2. What is your age?
3. Do you identify as Indigenous (First Nations, Métis, Inuit)?
    - Yes (1)
    - No (0)

Welcome to the Medicine Bundle Pilot

Principle Investigator

Nathan Lachowsky (a gay, white, cisgender man) who is an Associate Professor at the University of Victoria and Research Director at the Community-Based Research Centre (nlachowsky@uvic.ca, 250-472-5739).

Introduction

You are being asked to participate in a study entitled The Medicine Bundle Pilot. This study is being conducted by the Community-Based Research Centre, the University of Victoria, FEAST, and the CIHR Centre for REACH Nexus.

What is the study about?

The study aims to explore acceptability of Indigenous-designed and peer-led, and culturally competent HIV self-testing and dried blood spot (DBS) testing through a Medicine Bundle to Two-Spirit, queer and trans Indigenous community members in British Columbia.

What am I being asked to do?

If you agree to participate, you will be asked a few eligibility and background questions about yourself and given a Medicine Bundle, which will include traditional medicines as well as an HIV self-test and/or dried blood spot test (DBS) to screen for HIV, hepatitis C, and syphilis. You can choose what you receive in your Bundle. The HIV self-test can be completed from home and will give you a result in less than a minute. If you choose to complete a DBS test, you will be asked to return your sample by mail to the Community-Based Research Centre so that we can mail the sample to the lab for testing. We will return your results to you in approximately 2-3 months. After completing the HIV self-test and/or DBS test, you will be contacted by a Two-Spirit Messenger by email or phone, who will provide support to you. You will also be asked to answer a confidential questionnaire that you will do by yourself or with assistance from a Two-Spirit Messenger if preferred. The online survey will take approximately 10 minutes to complete, and your responses will be kept confidential.

Are there any risks?

Some questions on the survey are of a personal nature. They include questions regarding past and present sexual history, HIV and STIs, and experiences within healthcare settings and may be triggering for you if you have experienced trauma related to these issues. Most questions are optional and can be skipped at any time. However, there are a few questions that are mandatory.

This is because we need to know how to interpret your results and contact you for follow-up. Additionally, we provide a list of 2S/GBTQ support resources on the Bundle website, which you can also access here: https://www.cbrc.net/medicine_bundle_resource_and_support_list. We encourage you to consult these resources if the survey brings up troubling experiences.

If you decide to use an HIV self-test and/or dried blood spot kit, there is some pain expected when you prick your finger. Many people do something similar to measure their blood sugar levels. There is a very low chance of experiencing complications, for example fainting or getting an infection, from pricking your finger. For HIV self-testing, please follow the package insert to reduce the risk of pain. For dried blood spot testing, please review the paper directions included with your test kit. These directions are also available on the CBRC website.

You may receive a positive HIV screening result by completing the HIV self-test or dried blood spot kit. Additionally, you may receive a positive syphilis or hepatitis C result if you complete a DBS test. This could be distressing to you. All results are considered preliminary, and we encourage you to get a confirmatory test so that you are able to benefit from treatment and reduce the risk of passing HIV, hepatitis C, and syphilis on to someone else. A member of the study team is available to provide post-test counselling and referrals. Additionally, the HIV self-test package insert has contact information for provincial/territorial health info lines.

There is a small risk of experiencing stigmatization due to receiving a Medicine Bundle by mail. To reduce this risk, we will use discrete packaging that makes no reference to sexual health or to 2S/GBTQ people. However, CBRC will be listed in the return address, which means that someone could look up the organization and the communities we work with. If this is a concern,

you are also welcome to provide a pseudonym (fake name) for shipping purposes to further reduce this risk.

If you choose to participate in person, there are also health risks associated with potential exposure to COVID-19. You may choose to participate virtually if you would like to reduce these risks. We also ask that you wear a face mask, practice proper hand hygiene, and maintain physical distancing during in-person research activities. You will be advised if you have or may have come into contact with an individual who has tested positive for COVID-19. Contact information for participants will be stored in a separate file from research data in the event that follow up is needed.

What are the benefits?

If you are interested, the study team will tell you where to go for HIV, hepatitis C and other sexually transmitted infections testing and counselling. The study team can also refer you to a variety of health, treatment, and social services. By participating, you are receiving a screening test for HIV, hepatitis C, and syphilis. You are also helping to improve the health and well-being of 2S/GBTQ communities by illuminating community needs. Through the Bundle Pilot you will receive a number of different traditional medicines that you may also use.

Is there any compensation for participating?

If you complete the follow-up survey after using your medicine bundle, you will be provided with a $15 honorarium as a thank-you for your time. Honoraria will be provided by e-transfer. You will be asked to provide contact information to send you your honorarium. This contact

information will only be used to contact you for the purposes of providing your honorarium. E-transfers and will be sent from the Community-Based Research Centre.

What are my rights?

This study is completely voluntary. If you take part in the study, you can stop at any time, and you will not lose anything. You don't have to answer any questions you don't want to answer. If you provide your name during the survey, you can request to have your data removed at any time. You may be recruited by people with whom you have an existing personal relationship, however you should feel no obligation or pressure to participate. If you feel any pressure, please choose not to participate, and feel free to contact our Two-Spirit Program Manager using the contact information below. Choosing not to participate in the study will not impact any future access to services or support.

We have sought to implement the First Nations principles of Ownership, Control, Access, and Possession (OCAP®) in this project. If you choose to provide a blood sample, you will remain the owner of the sample and can control what our research team does with it. You can withdraw your sample at any time. You may also choose to have your sample returned to you, destroyed, or retained for future testing. As part of this study, your blood sample will be in the possession of Canada Post during shipment, our study team during processing, and the National Microbiology Laboratory for testing and storage. If you agree to allow future testing of your sample, then your blood sample will then be owned by the study team and kept in the possession of the National Microbiology Laboratory. Do not consent to future testing if you are not comfortable with this. Your sample will never be sold or shared with any private companies, nor will any genetic testing ever be conducted.

How are you protecting my information?

Your participation in the study is completely voluntary. The contact information that you provide to us (name, address, email, and phone number) will only be used to contact you for follow-up and will not be linked to your survey results. You may also choose to have your contact information used to recontact you about future HIV and other sexually transmitted and blood-borne infection testing studies at CBRC.

The Trusted Messengers are available for peer counselling and referrals to community resources. They will not see the answers to your questionnaire. If you provide personal health information to them, they will abide by the confidentiality requirements for health information of the province you reside in.

The information you provide in the survey and the results of your HIV self-test will be treated according to privacy laws including the Federal Personal Information Protection and Electronic Documents Act (PIPEDA). The information that you provide (which does not include your name or any contact information) will be shared with the research team at the Community-Based Research Centre, the University of Victoria, and the CIHR Centre for REACH Nexus. The data collected may be shared with other researchers who are interested in the health of gay, bisexual, trans, Two-Spirit and queer men and non-binary people at a later date. The information will be used to write reports, provide statistical information and to prepare presentations. You will not be identified in any way as these reports and other public documents will always refer to groups of people, never to one person.

All data will be stored on an encrypted, password-protected Canadian server and at the University of Victoria. Researchers will at all times comply with the Tri-Council ethical guidelines for research with human participants.

Contact for information about the study

If you have any questions or need further information with respect to this study, you may contact Jessy Dame, Two-Spirit Program Manager at the Community-Based Research Centre at 604-615-0734 or at jessy.dame@cbrc.net

4. Do you acknowledge and agree to these conditions?

    - Yes (1)
    - No (0)

Participant ID is assigned.

The HIV self-test is a screening for HIV. You prick your finger and add a drop of blood to the bottle. After adding the blood to the testing device, a screening result for HIV will be available in less than a minute. If you are already living with HIV, the test will not tell you your HIV viral load or CD4 count, and you should not use the test on yourself. If you choose this option, you will be sent two HIV self-tests.

A Dried Blood Spot is a screening test for HIV, Hepatitis C, and Syphilis. You can be tested for one, two or all three infections using the same sample. You can prick your finger and add several drops of blood to a card. After letting the card dry, you will send your test in a pre-packed envelope to the Two-Spirit Team at CBRC. We will send your test to the lab, but we will not

give them any details about you. Once your result is ready, we will contact you to let you know the result. You can choose what happens after the test with your dried blood: it can be returned to you, destroyed by the lab, or kept for future testing (this would be done in consultation with the Two-Spirit Dry Lab). As a reminder, it will take approximately 2-3 months to get your Dried Blood Spot results back. If you would like an HIV result sooner, please also consider ordering an HIV self-test.

5. Would you like to receive an HIV self-test, Dried Blood Spot kit, or both?

   - HIV self-test (1)
   - Dried Blood Spot kit (2)
   - Both (3)

Display this question:

If Q5 = 2

Or Q5 = 3

6. What would you like to be tested for? Select all that apply.

   - HIV (1)
   - Hepatitis C (2)
   - Syphilis (3)

Display this question:

If Q5 = 2

Or Q5 = 3

7. Would you like to receive the result of your test?

    - Yes (1)
    - No (2)

Display this question:

If Q5 = 2

Or Q5 = 3

8. What would you like us to do with your Dried Blood Spot after testing it for HIV, Hepatitis C, and/or Syphilis?

    - Please KEEP MY SAMPLE for future testing, and I consent to transferring ownership of my sample to the study (1)
    - Please DESTROY MY SAMPLE after testing is done (2)
    - Please RETURN MY SAMPLE TO ME after testing is done using the mailing address provided below (3)

9. Which items do you want to include in your personalized Medicine Bundle? Choose as many as you want! All traditional medicines included in the Medicine Bundle are harvested and sold by Indigenous owned and operated groups or companies. Including: Hummingbird Spirits, Turtle Lodge Trading Post, and Laughing Lichen. For further information please contact the Two-Spirit programming team.

- White sage (1)
- Tobacco ties (2)
- Cedar (3)
- Sweetgrass (4)
- Lavender (5)
- Small smudge bowl and matches (6)
- Bear grease (7)
- Labrador tea (8)
- Devil's Club Salve (9)
- Lube (10)
- External condoms (11)
- Internal condoms (12)

The information provided in this section will be used to ship your Medicine Bundle, to connect your data in the study, and/or to return your test results if you want them from your Dried Blood Spot (if applicable). Only the research team will have access to this information. This will help reduce the number of questions we ask you. We will delete your contact information in this section once we have completed the study. If you indicate you need the Medicine Bundle shipped to you, we will ship your personalized Medicine Bundle in discreet packaging to an address of your choosing.

10. Are you currently with a Trusted Messenger who is providing you with your Medicine Bundle?

    - Yes, they are giving me the Medicine Bundle (1)

- No, I need it shipped to me (or an alternate arrangement) (0)

Display this question:

If Q10 = 0

Or if Q8 = 3

Or if Q10 = 1 AND Q8 = 3

Or it Q5 = 3 AND Q10 = 1

11. What address would you like us to use for shipping purposes?

    - Address (1)
    - City (2)
    - Province (3)
    - Postal code (4)

12. Your email.
13. Phone number (10 digits)
14. How would you like to be contacted with the follow-up survey for the study?

    - By email (1)
    - By a Trusted Messenger (2)

This section will help us know a bit more about you.

15. Which of the following best describes you? Select al that apply.

- First Nations (1)
- Métis (2)
- Inuit (3)
- Prefer to self-describe as (please specify) (4)

16. Are you Two-Spirit?

- Yes (1)
- No (0)

17. What if your gender identity? If you have lived experience as trans, a history of gender transition, or are transgender, please select the gender you identify as. We recognize that gender identity questions are imperfect. Please select the option(s) that fit best at this time. The options are listed in alphabetical order. Select all that apply.

- Agender (1)
- Genderfluid (2)
- Genderqueer (3)
- Man (4)
- Non-binary (5)
- Woman (6)
- I prefer to use another term, please specify below (7)

18. Do you identify as trans, have lived experience as trans, and/or a history of gender transition?

- Yes (1)
- No (0)

19. How do you identify sexually? Select all that apply. The options are listed in alphabetical order.

    - Agender (1)
    - Bisexual (2)
    - Gay (3)
    - Lesbian (4)
    - Heteroflexible (5)
    - Homoflexible (6)
    - Indigiqueer (7)
    - Pansexual (8)
    - Queer (9)
    - Questioning (10)
    - Straight (11)
    - I prefer to use another term, please specify below (12)

20. What are the first 3 characters of your postal code? (e.g., V8T)

    191 options (V0A to V9Z)

The next questions are about your HIV, Hepatitis C, and Syphilis status. These are especially important for us to know if you are participating in the Dried Blood Spot test so that we can accurately return your results.

21. Have you been diagnosed with HIV? (Mandatory)

- Yes (I am Living with HIV) (1)
- No (I have never been diagnosed with HIV) (0)

22. When were you LAST tested for HIV? If you are living with HIV, indicate the test when you were diagnosed.

- In the past year (1)
- More than 1 year ago (2)
- I have never been tested for HIV (3)
- I don’t know (1111)

23. What best describes your Hepatitis C status? (Mandatory)

- I have Hepatitis C now (1)
- I had Hepatitis C before, but no longer have the virus (2)
- I have never been diagnosed with Hepatitis C (3)

24. When were you LAST tested for Hepatitis C? If you are living with Hepatitis C, indicate the test when you were last diagnosed.

- In the past year (1)
- More than 1 year ago (2)
- I have never been tested for Hepatitis C (3)
- I don’t know (4)

25. When were you LAST tested for syphilis? Testing for syphilis requires a blood test.

- In the past year (1)
- More than 1 year ago (2)
- I have never been tested for syphilis (3)
- I don't know (4)

Skip to Q27 if Q25 = 3

26. Have you EVER tested positive for syphilis? (Mandatory)

- Yes, I have tested positive for syphilis (1)
- No, I have never tested positive for syphilis (2)
- I don't know (3)

Display this question if Q26 = 1

27. Have you EVER received treatment for syphilis?

- Yes, I received treatment (2 injections in the bum or pills for 2-4 weeks) (1)
- No, I have never received treatment for syphilis (2)
- I am not sure if I received treatment (3)

28. How easy or difficult is it to access sexual healthcare in your community?

- Very easy (1)
- Somewhat easy (2)
- Somewhat difficult (3)

- Very difficult (4)

29. Have you EVER travelled outside of your community to receive sexual healthcare?

- Yes (1)
- No (0)

30. Have any of the following caused you to delay or skip HIV, Hep C, or Syphilis testing? Select all that apply.

- COVID-19 (1)
- Services too far away (2)
- The cost (e.g., no health insurance) (3)
- Couldn't get an appointment at a convenient time (4)
- Didn't know where to go (5)
- Services not in my preferred language (6)
- Lack of privacy (7)
- Anti-Indigenous racism (8)
- No access to an Indigenous healthcare provider (9)
- Lack of professional sensitivity to sexual and gender diversity (10)
- I am not out in my community (11)
- Stressed out, anxious, or depressed (12)
- Other, please specify below (13)
- None of the above (14)

31. In the past year, have you asked for AND been wrongfully denied the following? Select all that apply.

- An HIV test (1)
- A Hep C test (2)
- Hep C treatment (3)
- STI test (any kind) (4)
- PEP (post-exposure prophylaxis) (5)
- PrEP (pre-exposure prophylaxis) (6)
- HPV vaccination (7)
- Gender-affirming hormone therapy/HRT (testosterone, estrogen, etc.) (8)
- Selective Androgen Receptor Modulators (SARMs) (9)
- Trans-related surgeries (gender-affirming surgeries) (10)
- Pap smear (11)
- Breast/chest exam (12)
- None of the above (13)

Thank you for participating in this survey! Your Medicine Bundle will be on the way shortly and/or a member of the Two-Spirit Program will be in touch! As a final reminder, if any of these questions have brought up challenging experiences for you, we encourage you to view our list of mental health resources on the CBRC website: https://www.cbrc.net/medicine_bundle_resource_and_support_list.

Appendix 4 – Post-Bundle Questionnaire

Thank you for participating in this follow-up survey. Your opinion and experiences are very valuable to us! As a reminder, you can opt out of the survey at any time. As a thank you for participating in the survey, you will receive an honorarium of $15.00. This survey will take approximately 10 minutes to complete.

So that we can connect your responses to the original survey you completed, please complete these four questions.

1. What is your participant ID? This was included in the email we sent with this survey link.
2. What is the name you used for your Medicine Bundle?
3. What is your email?
4. What is your phone number?
5. Please indicate your overall experience with the Medicine Bundle Pilot. When thinking about the pilot, please consider the experience of having a Medicine Bundle with an HIV self-test and/or Dried Blood Spot mailed to you, being able to request traditional medicines for your Bundle, the options for support, and interactions with the Trusted Messengers or the Two-Spirit Program Team.
    - Very poor (1)
    - Poor (2)
    - Neutral (3)
    - Good (4)
    - Very good (5)
6. What were the BENEFITS of the Medicine Bundle Pilot? Select all that apply.

- Access to Indigenous medicines (1)
- Access to HIV, hep C, and syphilis testing (2)
- Access to condoms and lube (3)
- Receiving sexual healthcare designed for an Indigenous person (4)
- More private (e.g., Don't need to see a doctor/nurse, or someone I know in a waiting room, don't need to talk about my sex life or drug use, etc.) (5)
- More convenient than going to a clinic or doctor's office (e.g., saves time, don't need to wait for an appointment, etc.) (6)
- Don't need to pay for the test kit out of pocket (7)
- Wanted to try out a new testing method (8)
- Access to a Trusted Messenger to support testing (9)
- Other, please specify below (10)
- None of the above (11)

7. What were the DRAWBACKS of the Medicine Bundle Pilot? Select all that apply.
    - Prefer to get tested by doctor or nurse (1)
    - Difficult to use the test (2)
    - Difficult to understand the instructions (3)
    - Difficult to access a Trusted Messenger for support (4)
    - Don't trust self-testing is reliable (5)
    - Took too much time (6)
    - Worried about the privacy of my information (on the online platform) (7)
    - Worried about not knowing what to do with my test result (8)
    - Other, please specify below (9)

- None of the above (10)

The next questions are about the personalized Medicine Bundle you received.

8. How was your overall experience with the Medicine Bundle?
    - Very good (4)
    - Somewhat good (3)
    - Somewhat bad (4)
    - Very bad (5)
9. Which statement best describes your access to testing through the Medicine Bundle?
    - The Medicine Bundle made testing for HIV, hep C, and/or syphilis easier (1)
    - The Medicine Bundle had no impact on my access to testing for HIV, hep C, and/or syphilis (2)
    - The Medicine Bundle made testing for HIV, hep C, and/or syphilis (3)
10. Compared with how you have been tested for HIV, hepatitis C, and/or syphilis in the past, how was your overall experience getting tested through the Medicine Bundle Project?
    - Much better (5)
    - Somewhat better (4)
    - About the same (3)
    - Somewhat worse (2)
    - Much worse (1)
    - Not applicable. I have never tested for HIV or STBBIs before (6666)
11. How likely are you to recommend the Medicine Bundle to someone in your community?
    - Very likely (4)

- Somewhat likely (3)
- Somewhat unlikely (2)
- Very unlikely (1)

12. What have you used in your Medicine Bundle? Select all that apply.

- HIV self-test (1)
- Dried Blood Spot test (2)
- White sage (3)
- Tobacco ties (4)
- Cedar (5)
- Sweetgrass (6)
- Lavender (7)
- Small smudge bowl and matches (8)
- Bear grease (9)
- Labrador tea (10)
- Devil's Club Salve (11)
- Lube (12)
- External condoms (13)
- Internal condoms (14)
- None of the above (15)

13. What were your favourite items in the Medicine Bundle? Select all that apply.

- HIV self-test (1)
- Dried Blood Spot test (2)
- White sage (3)

- Tobacco ties (4)
- Cedar (5)
- Sweetgrass (6)
- Lavender (7)
- Small smudge bowl and matches (8)
- Bear grease (9)
- Labrador tea (10)
- Devil's Club Salve (11)
- Lube (12)
- External condoms (13)
- Internal condoms (14)
- None of the above (15)

14. Was there anything missing from the Medicine Bundle?

Display this question:

If Q12 = 1

These questions are about your HIV self-test experience and result. You do not have to answer any questions. All responses will remain confidential. As a reminder, if you would like support after receiving your results, you may choose to contact a member of the CBRC Two-Spirit Program (by phone or text at 1-888-890-0679, or email medicinebundle@cbrc.net) or view a list of mental health resources here: https://www.cbrc.net/medicine_bundle_resource_and_support_list.

Display this question:

If Q12 = 1

15. How many HIV self-tests did you use?

- 1 (1)
- 2 (2)

Display this question:

If Q12 = 1

16. What was the result of your first HIV self-test?

- Negative (0)
- Positive (1)
- Invalid (2)
- I don't know (1111)

Display this question:

If Q15 = 2

And Q12 = 1

17. What was the result of your second HIV self-test?

- Negative (0)
- Positive (1)
- Invalid (2)
- I don't know (1111)

Display this question:

If Q16 = 2

Or Q16 = 1111

Or Q17 = 2

Or Q17 = 1111

18. What do you think went wrong? Select all that apply.

- Not enough blood in the vial (1)
- Blood drop touched the side of the vial (2)
- Scraped finger on the vial (3)
- Vial contents spilled (4)
- Poured vials in the wrong order (5)
- Issue in shipping or storing (i.e., temperature) (6)
- The control dot was faint (7)
- Other, please specify below (8)
- I don't know (1111)

Display this question:

If Q12 = 1

19. What did you do after getting the result of your HIV self-test? Select all that apply.

- Saw my regular healthcare provider (1)
- Went to a sexual health clinic (2)
- Went to a walk-in clinic (3)
- Went to an emergency room (4)
- Booked an upcoming appointment with a healthcare provider (5)
- Called provincial telehealth phone line (811) (6)
- Contacted a Trusted Messenger (7)
- Called a friend, family member, or sexual partner (8)
- None of the above (9)

20. Have you accessed any of the following resources since receiving your Medicine Bundle? Select all that apply.
    - How to use an HIVST kit (1)
    - How to use a DBS kit (2)
    - Confirmatory testing (3)
    - Proper use and practice of traditional members (4)
    - Connecting with an Elder, Knowledge Keeper, or other trusted community member (5)
    - Two-Spirit or LGBTQ+ community, resources, and support (6)
    - PrEP (7)
    - PEP (8)
    - STBBIs testing (9)
    - Mental health support (10)
    - Contraception (11)
    - Gender-affirming hormones/surgery (12)
    - Harm reduction services (needle exchange/supervised consumption site) (13)
    - Harm reduction supplies (pipes/straws) (14)
    - Other, please specify below (15)
    - None of the above (16)

The next questions are specifically about the Trusted Messengers. Your answers are used to evaluate and improve the overall Trusted Messengers program.

21. Did you interact with a Trusted Messenger?

- Yes (1)
- No (0)

Skip to the Q24 if Q21 = 0

22. How satisfied were you with the Messengers program?
    - Very satisfied (5)
    - Satisfied (4)
    - Neither satisfied nor unsatisfied (3)
    - Unsatisfied (2)
    - Very unsatisfied (1)
    - Prefer not to answer (2222)
23. How important was it for you to be supported by an Indigenous person through this pilot?
    - Very important (4)
    - Somewhat important (3)
    - Somewhat unimportant (2)
    - Very unimportant (1)

Thank you for your participation! As a final reminder, if any of these questions have brought up challenging experiences for you, we encourage you to view our list of mental health resources on the CBRC website: https://www.cbrc.net/medicine_bundle_resource_and_support_list.

24. Please leave any final comments below regarding the Medicine Bundle and Trusted Messenger program or any other feedback on the study.
25. If you would like to receive an e-transfer, please provide your first name, last name, AND email address. Although a name is required, you may choose to provide us with your

everyday name, legal name, chosen name, or a fake name to further protect your privacy. This information will not be used for any other purpose or shared for any other reason.

Appendix 5 – Messenger Interaction Survey

1. Date of interaction
2. Messenger name
3. Participant name (if available)
4. Bundle ID (if available)
5. Participant email address or phone number (if available)
6. Who initiated the interaction?
    - The Trusted Messenger (me) (1)
    - The person accessing the Medicine Bundle (2)
    - Third-party (someone asking on behalf of someone else or a community organization) (3)
    - Other (specify) (4)
7. How did you communicate? (Select all that apply)
    - Face-to-face (1)
    - Social media (public post or comment feed) (2)
    - E-mail (3)
    - Text message (4)
    - Phone call (5)
    - Other (specify) (6)
8. Where is the participant located (Community/City/Town)?
9. How did the person(s) you interacted with find out about the Medicine Bundle? (Select all that apply)

- Poster/promotion in the community (1)
- Through a community organization/health care centre or provider (2)
- Social media (3)
- Word of mouth (4)
- Workshop (5)
- Directly from the Trusted Messenger (me) (6)
- I don't know (7)
- Other (specify) (8)

10. Had the participant already received a Medicine Bundle?
    - Yes (1)
    - No (2)
11. Did you discuss with the participant about using an HIVST or DBS on themselves?
    - No (1)
    - Yes – HIVST (2)
    - Yes – DBS (3)
    - Not applicable. They had already used the HIVST or DBS without additional support (4)
    - Unsure/did not discuss (5)
12. Did the community member mention anything specific about the Medicine Bundle (positive or negative feedback, questions about the medicines/where they came from, suggestions, etc.)? Describe them here.
13. Did you complete a survey with the community member?
    - Yes (1)

- No (2)
- The participant took the paper/provided link to complete later on (3)
- Not applicable (4)

14. Are you concerned the community member may have been coerced to complete an HIV self-test? **Please do not ask the question directly to the participant.**

- Yes (1)
- No (2)
- Not applicable to this interaction (3)

15. What topics did you discuss with them? (Select all that apply)

- Informed consent for the pilot (1)
- General support (2)
- How to use HIVST (3)
- How to use DBS (4)
- Confirmatory testing (5)
- Proper use and practice of traditional medicines (6)
- Connecting with an Elder, Knowledge Keeper, or other trusted community member (7)
- Two-Spirit or LGBTQ+ community, resources, and support (8)
- PrEP (9)
- PEP (10)
- Condoms (11)
- STBBIs/testing (12)
- Mental health (13)

- Housing security (14)
- Food security (15)
- Stigma (16)
- Contraception (17)
- Gender-affirming hormones/surgery (18)
- Harm reduction (needle exchange/supervised consumption site) (19)
- Harm reduction (pipes/straws) (20)
- Substance use (21)
- Other (specify) (22)

16. Did you provide any referrals to them? (Select all that apply)

- How to use HIVST or DBS (1)
- Confirmatory testing (2)
- Proper use and practice of traditional medicines (3)
- Elder Knowledge Keeper, or other trusted community member (4)
- Two-Spirit or LGBTQ+ community, resources, and support (5)
- PrEP (6)
- PEP (6)
- Condoms (8)
- STBBIs/testing (9)
- Mental health (10)
- Housing security (11)
- Food security (12)
- Stigma (13)

- Contraception (14)
- Gender-affirming hormones/surgery (15)
- Harm reduction (needle exchange/supervised consumption site) (16)
- Harm reduction (pipes/straws) (17)
- Substance use (18)
- Other (specify) (19)

17. Any other important details about the interaction? Describe them here.