

CLINICAL ARTICLE

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Highlighting strengths and resources that increase ownership of cervical cancer screening for Indigenous communities in Northern British Columbia: Community-driven approaches

Alexanne Dick¹  | Travis Holyk^{2,3} | Darlene Taylor⁴ | Charlotte Wenninger² | Judith Sandford² | Laurie Smith^{4,5} | Gina Ogilvie^{4,6} | Alexandra Thomlinson¹ | Sheona Mitchell-Foster^{1,6}

¹Northern Medical Program, University of Northern British Columbia, Prince George, British Columbia, Canada

²Carrier Sekani Family Services, Prince George, British Columbia, Canada

³First Nations Studies, University of Northern British Columbia, Prince George, British Columbia, Canada

⁴BC Women's Hospital, Women's Health Research Institute, Vancouver, British Columbia, Canada

⁵BC Cancer, Cancer Control Research, Vancouver, British Columbia, Canada

⁶Faculty of Medicine, University of British Columbia, Vancouver, British Columbia, Canada

Correspondence

Sheona Mitchell-Foster, Dr. Donald Rix Northern Health Sciences Centre, University of Northern British Columbia, 3333 University Way, Prince George, BC V2N 4Z9, Canada.
Email: sheona.mitchell-foster@unbc.ca

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Abstract

Objective: To examine the unique and diverse strengths held by rural and remote Indigenous communities in northern British Columbia, including multi-generational support systems in health and wellness, profound connections to the land, and strong cultural foundations, and harness these strengths, allowing communities to engage in innovative and empowering health and wellness programs.

Methods: Building on these pre-existing and fundamental strengths, an alternative option to cervical cancer screening was introduced to nine Carrier Sekani health centers located in northern interior British Columbia in response to disparities in screening rates. Introduced in 2019, CervixCheck uses a self-collection approach that is private, safe, convenient, and offered at local community health centers by trained and supportive health staff.

Results: Using a strengths-based and community directed and descriptive approach, the process was outlined for a successful and ongoing health screening opportunity that is put into the hands of community members within Indigenous communities in the region of northern British Columbia.

Conclusion: Through collaborative partnerships, in-person engagement sessions, and the utilization of pre-existing infrastructure and health and wellness teams, this project was successfully integrated into primary care centers using culturally safe and community-based approaches.

KEYWORDS

cervical cancer, community involvement, human papillomavirus, Indigenous health, self-collected, strengths-based

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1 | INTRODUCTION

The CervixCheck North (CCN) pilot project, an human papilloma-virus (HPV) self-collection screening intervention, implemented in February 2019, was developed through a collaborative partnership between the University of British Columbia's (UBC) Northern Medical Program, the University of Northern British Columbia (UNBC), and Carrier Sekani Family Services (CSFS), an Indigenous health and wellness organization. The CCN project is conducted on the traditional, unceded, and occupied territories of the Carrier Sekani nations, located in northern British Columbia. CSFS is an organization that was created by Elders and which provides wellness services to 11 First Nations.¹

The Carrier Sekani worldview is centered upon a profound respect for life and the natural world, and upholding the traditional knowledge of Elders.¹ Connection to this worldview strengthens health and wellness through a foundation in ancestral and traditional ways of knowing; this worldview and knowledge shared throughout the CCN project was essential to its success, and we are grateful for the opportunity to partner in working for the continued development of capacity and expertise for cervical health in Indigenous communities.

CSFS primary care offers culturally significant, holistic services for community members with an approach towards wellness aligned according to their Indigenous systems and beliefs.¹ Within community-based health centers, an integrated team of health providers offer access to an innovative model of healthcare service delivery. While these health centers have a diverse offering of primary wellness programs, many specialized secondary and tertiary health services require several hours of travel. The CCN project was developed collaboratively with community stakeholders and introduced into CSFS communities to increase uptake of cervical cancer screening for First Nations women and persons with a cervix. This approach allows community members the autonomy to collect their own sample, supported by trusted community-based health providers, and is a highly acceptable and effective alternative to cervical smear screening.^{2,3}

An estimated 1450 new diagnoses of cervical cancer and 410 estimated deaths occurred in Canada in 2020.⁴ HPV vaccination coupled with routine screening for early detection and treatment of cervical abnormalities are fundamental to preventing cervical cancer.⁵ HPV is a sexually transmitted infection that is well-established as a necessary cause for cervical cancer.^{5,6} The current provincial standard of care for cervix screening is cytology (cervical smear) testing requiring a speculum exam from a clinician to obtain cells from the cervix. Although highly successful for reducing morbidity and mortality associated with cervical cancer, it has several limitations,^{2,7,8} including personal discomfort, perceived invasiveness with pelvic exams,⁹ and limited access to trained professionals and required infrastructure. British Columbia has a longstanding provincially integrated, publicly funded program for cervical cancer screening. Despite this, First Nations communities in northern, rural, and remote areas of British Columbia continue

to be under-screened, lacking effective and culturally appropriate services.^{10,11}

In Canada, Indigenous women are 2–20 times more likely to be diagnosed with cervical cancer compared to non-Indigenous women.¹⁰ Moreover, there are higher rates of individuals diagnosed with later-stage cancers and increased mortality among Indigenous populations.^{12,13} Directed efforts towards culturally appropriate support and accessibility for screening are urgently needed.^{14,15} Reasons for under-screening within Indigenous communities include geographical barriers due to rural, remote localities, mistrust of the colonially constructed medical system, intergenerational trauma, lack of reliable, safe and affordable transportation, language barriers, and personal fears and beliefs.^{10,12,15}

Individuals living in Indigenous communities are resilient, prioritize wellness within their community, and ensure there are opportunities for multigenerational support and holistic approaches to care.¹ However, some have reported the restricted ability to meld their own culturally significant health practices with established medical approaches.¹⁶ Innovative interventions that prioritize a self-care for health and wellness approach allow for enhanced and culturally sensitive engagement.¹⁷ HPV self-collection, a novel self-care approach, is an alternative method of cervical cancer screening that puts screening into the hands of the individual.³ Screening with HPV is a highly effective option, ultimately detecting more cases of cervical dysplasia (pre-cancer).¹⁸ Self-collecting a swab compared to clinician-collected samples shows a high correlation confirming it is at least as accurate as clinician collected specimens.³

In consideration of the physical, social, geographical, and structural factors affecting adequate cervix screening, HPV self-collection was explored as an opportunity to empower women to be engaged in improving their own health through cervix screening using a community-based research approach. The aim of the present study was to illustrate, through community-driven perspectives, how First Nations women and community healthcare providers living in northern British Columbia have built on their strengths and resources to increase cervix screening in a pilot project using HPV self-collection for cervix screening in a way that is grounded in cultural safety. The objectives are to (1) outline critical pathways to developing collaborative, trusting, and culturally safe partnerships with Indigenous communities and organizations, (2) demonstrate the importance of prioritizing community engagement as a key tool to program development, (3) report strengths that exist in participating communities facilitating the successful roll-out of HPV self-collection, and (4) identify strategies used to mitigate structural and geographical barriers that hinder the roll-out of HPV self-collection. A forthcoming companion paper explores the quantitative clinical analyses of the CCN project.

2 | METHODS

The CCN project operates in the Northern Health region of British Columbia, which has a population of 288 500, with 17% of the

population identifying as Indigenous.¹⁹ Many Indigenous communities globally connect research with colonialism.¹⁶ There is a dark history of research being conducted with Indigenous groups in an unethical manner where individuals were uninformed and excluded from results and any benefits from involvement.¹⁶ In 2002, the OCAP (Ownership, Control, Access, Possession) Principles were developed as a mandatory guide to enable First Nations across Canada to govern and own their own research data and information.²⁰ As such, all stages and activities of the CCN project have been conducted according to OCAP Principles. Ethics approval for the present study was obtained by UBC's Research Ethics Board (H18-01102) with the support and contribution of CSFS and with final approval by the CSFS Research Advisory Council (RAC). All participants provided written informed consent.

In early 2017, a diverse team of researchers and community health practitioners from UNBC, CSFS, and UBC collaboratively co-initiated project planning, preparation, and community engagement. In February 2019, the distribution of self-collection kits began at community health centers (CHCs) by physicians and nurses to women and persons with a cervix who met the eligibility criteria. Approaches to kit distribution and community engagement varied based on the community. Each community had a minimum of two in-person information sessions, promotional materials distributed, and ongoing monthly engagement with community health teams (Table 1).

For the purposes of the present study, the Indigenous partners were welcomed to define the framework on how to share the process for this culturally informed and collaborative health opportunity. Project monitoring documents that reflect narratives, perspectives, and feedback at project, community, and individual levels on project roll-out to date were also analyzed (Tables 2 and 3). Monthly audits with the CSFS Medical Office Administrator and the CCN team were conducted to ensure participants requiring follow-up care received appropriate information and support. These audits confirm that samples from new participants are received by the lab and results are sent to the appropriate health center. These approaches indicated that a strengths-based and descriptive approach centered in sharing the collaborative and culturally informed narrative was necessary.

This multi-level, strengths-based, interdisciplinary approach used qualitative methodologies, including autoethnography, appreciative inquiry, and narrative analysis,²¹ to explore the relationship between the inherent strengths of communities and successful strategies of this project. Success is defined as effectively introducing a novel health and wellness screening opportunity (1) in true collaboration with partners, and (2) by prioritizing Indigenous wellness and knowledge translation based on traditional ways of knowing.

Autoethnographic reflection was used to examine the relationship between the project, the CHCs, the community, and individuals participating in the study. The questions central to autoethnography were as follows: (1) how do interactions between and within project groups (CSFS Health Executive, CCN Research Team, CSFS Communities; Figure 1) reflect project priorities of

trusting partnerships, collaborative, strengths-based community-engagement, and honoring traditional ways of knowing? and (2) how do communication and decision-making dynamics change over time within the project, and do these changes reflect the above priorities? Appreciative Inquiry and Narrative analysis was applied to the project as a contributing part of the overall wellness narrative in the communities. The central questions for both of these were as follows: (1) how are project activities and interactions supporting and contributing to strengths already present in the community? and (2) how are Indigenous ways of knowing being prioritized both within the project narrative and as the overarching narrative within which the project functions? Project themes were identified through these analyses: strength through partnerships of trust and communication; intersections of Indigenous knowledge and research; community strengths; and barriers.

Eligibility criteria is uniform across communities: women and people aged 30–65 years with a cervix; have not had a cervical smear test in over 3 years; not pregnant; have not had invasive cervical cancer or pre-cancer in the past 5 years; are registered with the provincial Medical Services Plan; and have signed the project consent form. Eligible community members are identified using the electronic medical record (EMR) system accessible in all CSFS health centers, through community events such as women's wellness days and health fairs, by distributing project promotional materials, and through engagement with community health staff. If eligible, participants complete informed consent, collect their sample in a wash-room or private room in the health center, return the sample to the provider to seal the kit, and place it in the mail to be sent to the laboratory for processing. Results are sent electronically to the provider within 2–4 weeks.

3 | RESULTS

At the time of writing, CCN is operating successfully in nine CSFS CHCs and has had 78 participants, with all 78 receiving results and follow-up as needed. A central Critical Pathway for collaboration and project development was identified that facilitated both (1) ongoing relationship building, and (2) context-specific and culturally significant CCN interventions for each of these communities (Figure 1). This pathway highlights the holistic, culturally informed strategies, and networks existing within communities. Community-specific culture, familial and social networks, material infrastructure, clinical expertise (both traditional and western), communication norms, authority structures, and micro-logics (ways of engaging solutions to address issues common to a community) are all finely tuned and intuitive systems. The project honored these as expert, holistic, and functioning systems that could uptake CCN messaging and operations rather than appropriating local resources for project purposes. This crucial approach to guiding the project through a collaborative perspective contributed to the central driver of the CCN Critical Pathway (Figure 1).

TABLE 1 Recruitment approaches by community and eligibility criteria

Community health center	Providers involved	Recruitment approaches (organized at all stages of project development and implementation)						
		Community member engagement meeting	Community health staff meeting	Community champion engagement	Health and wellness days+community health fairs	CCN monthly newsletter	Promotional materials: posters, postcards, invitation letter	
Burns Lake Band	CSFS physicians, nurses, MOAs	✓	✓	✓		✓	✓	
Wet'suwet'en First Nation	CSFS physicians, nurses, MOAs	✓	✓	✓	✓	✓	✓	
Nadleh Whut'en First Nation	CSFS physicians, nurses, MOAs, CHRs			✓	✓	✓	✓	
Stellat'en First Nation	CSFS physicians, nurses, MOAs, CHRs	✓	✓	✓	✓	✓	✓	
Saik'uz First Nation	CSFS physicians, nurses, MOAs, health director	✓	✓	✓		✓	✓	
Takla Lake First Nation	CSFS physicians, nurses, MOAs, CHRs	✓	✓	✓		✓	✓	
Yekooche First Nation	CSFS physicians, nurses, MOAs, health director, CHRs	✓	✓	✓		✓	✓	
Southside Health and Wellness Center ^a	CSFS physicians, NHA physicians, NHA nurse practitioners, nurses, health director, MOAs		✓	✓	✓	✓	✓	
Yu Be Yah Clinic ^b	CSFS nurse practitioners, MOAs		✓	✓		✓	✓	

Abbreviations: CHR, community health representative; CSFS, Carrier Sekani Family Services; MOA, medical office assistant; NHA, Northern Health Authority.

^aServices the communities of Skin Tyee, Nee Tah Buhn, and Cheslatta Carrier Nation.

^bServices urban and transient Carrier Sekani members residing in Prince George, British Columbia.

TABLE 2 Project monitoring documents: resources to inform objectives, results, and analysis

Data source	Data collected	Analysis		
		Autoethnography	Appreciative inquiry	Narrative analysis
Registration form	Consent, demographics, eligibility, community health center location, community health staff	✓	✓	✓
EMR Audit (MOIS)	Test status, results, follow-up, care requirements		✓	✓
Post-study survey ^a	Demographics, participant experience, program acceptability, participant evaluation of process, suggestions, and feedback		✓	✓
Field notes	Project stakeholders, community context, relational dynamics, issues and strategies, successes and challenges, individual and group perspectives, character of interactions, objectives and methodologies	✓	✓	✓
CSFS and health center correspondence	Project stakeholders, community context, relational dynamics, issues and strategies, successes and challenges, project processes, objectives and methodologies, communication dynamics	✓	✓	✓
Community engagement session notes	project stakeholders, community context, relational dynamics, communication dynamics, feedback, acceptability and participation, openness and willingness		✓	✓

Abbreviation: CSFS, Carrier Sekani Family Services.

^aParticipants are given the option to participate in the survey after the collection of their sample. Participation in the survey is ongoing and will be offered until the end of the CCN project (March 2022).

Prioritizing community engagement as a key tool for project development was identified as the primary driver of community-specific culturally sensitive programming. In addition, building nuanced, trusting, and collaborative relationships through iterative cycles of project development was essential to the process. The more robust half of the Critical Pathway is facilitated only through community engagement (Figure 1).

Overall, the strengths and facilitators that promoted the successful roll-out of this particular project included partnerships of trust and communication, project promotion through local community health advocates, a pre-established strong base of health infrastructure and wellness providers, and sustaining an understanding of the intersections in ways of knowing between Indigenous knowledge and research.

3.1 | Strength through partnerships of trust and communication

Collaborations and partnerships between Indigenous communities and non-Indigenous project team members are iterative and organic processes. Central to this is acknowledging that the diversity and richness of Indigenous cultures necessitates different degrees of cultural awareness and sensitivity, and this may change from one community to the next, from one family to the next and at the individual level. The achievements of the CCN project are based heavily on trust and relationship building, consistent and open communication, as well as the involvement of the non-Indigenous teams in the communities before the beginning of

the pilot. This strong foundation was established through initial project planning between the CCN team lead (SMF) and the Executive Director of Research, Primary Care and Strategic Services at CSFS (TH). Using a strengths-based project approach, the CSFS Executive Director introduced the project to the CSFS Board of Directors (BoD), consisting of a representative appointed by Chief and Council from each of the 11 member First Nations that receive services from CSFS. The project also reflected support from the CSFS RAC and feedback at Annual General Assemblies that called for additional strategies for the prevention of cancer. Following preliminary project approval by the CSFS BoD, the CCN team began engagement with physicians and community stakeholders. Community support and collective decision-making processes were foundational to the acceptability of this project; keen interest and interdisciplinary involvement at all levels of dialogue and project development resulted in streamlined introduction of the project to communities. To support local research capacity, community members and CSFS health staff were invited to participate in research opportunities including the writing of and guiding approaches to developing manuscripts, participating in conferences, and academic presentations.

4 | “CREATING WELLNESS TOGETHER”

CSFS's tagline “Creating Wellness Together”¹ is based on the vision of Carrier and Sekani Elders, and defines their paradigm for providing health and wellness services. The CCN project embeds this tagline as it prioritizes working collaboratively with medical clinicians,

TABLE 3 Project correspondence: outlining engagement efforts, commitments, and strategies

Data source type	Quantity	Data collected
Community-based engagement session meeting notes	25	<ul style="list-style-type: none"> - Community health narrative - Community health worker experiences - Participant experiences
CCN team notes	180	<ul style="list-style-type: none"> - Troubleshooting - Connecting resources - Programmatic health narratives
CSFS Executive Team and CCN team meeting notes	35	<ul style="list-style-type: none"> - OCAP perspectives - Cultural direction and narratives - Power differential oversight
CSFS MOA and CCN team audits	25	<ul style="list-style-type: none"> - Tracking new and previous participants and results - Identifying community members due for cervical cancer screening
CCN emails	1200	<ul style="list-style-type: none"> - Logistics, scheduling - Community activities - Community narrative
CCN project phone call notes	Untracked	<ul style="list-style-type: none"> - Logistics, scheduling - Community activities - Community narrative
CCN Newsletter	14	<ul style="list-style-type: none"> - Project narrative - Community activities - Promotion of upcoming community-based engagement sessions
CSFS community newsletter: Goozih	2	<ul style="list-style-type: none"> - Project narrative - Community health staff project advocacy - Promotion of upcoming community-based engagement sessions
CCN presentations	<p>CSFS Annual General Assembly 2019, 2020 (presentation—audience of 100+)</p> <p>International Conference on Indigenous Health 2020 (poster presentation—virtual audience of 500+)</p> <p>Physician Continued Medical Education 2020 (presentation—virtual audience of 15)</p> <p>University of British Columbia's Learning Circle 2021 (recorded presentation—virtual audience of 50+)</p>	Project narrative

Abbreviations: CCN, CervixCheck North; CSFS, Carrier Sekani Family Services; MOA, medical office assistant.

Community Health Representatives (CHR), Chiefs, and Council and community members towards wellness in project development and implementation. The tagline depicts community strengths, both within and between communities, that have been drawn upon to implement a project that shares the goal of improving health and wellness within their rural and remote Indigenous communities.

5 | WAYS OF KNOWING: INTERSECTIONS OF INDIGENOUS KNOWLEDGE AND RESEARCH

The intersection between academic research and ancestral, Indigenous ways of knowing is complex. To responsibly navigate this intersection with recognition that cultural safety and humility

are central to the work, the CCN team completed Carrier Sekani cultural competency training. Ensuring that project language and materials reflected CSFS experiential knowledge was critical to the success of the project. The holistic wellness model that guides health care in communities also guided project development and roll-out. Viewing health beyond the physical realm and understanding wellness to include spiritual, emotional, and mental wellness dictated the following: project promotional materials were created collaboratively and branded by the CSFS communications teams; specific terminology recommended by CSFS staff was used including “wellness” and “self-care”; CHRs establish and lead appropriate cultural protocols during community engagement sessions; community supports are available during discussions around sensitive topics; and the CCN team connected with communities beyond the scope of the work, through sharing a meal

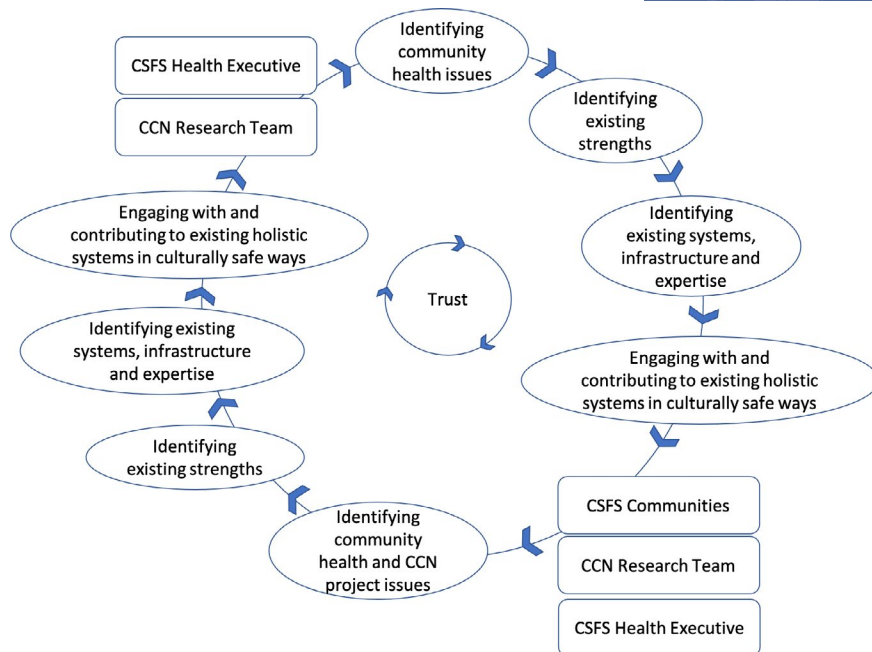


FIGURE 1 CervixCheck Critical Pathway. Project stakeholders CSFS Health Executive, CCN Research Team, and CSFS Communities (in boxed outlines) are linked through relational processes involved in planning, undertaking, and evaluating CCN roll-out in the community. Trust is central to all processes, relationship-building, and communication; without trust, the pathway will cease to move. As CCN moves through iterative cycles of work, trust either increases and continues to drive a successful relationship, or it decreases and the cycle slows or stops. Trust is both the driver of the process and shares a reciprocal relationship with success of the process; with success described as above in the Methods section. Beginning with relationship- and trust-building between the CSFS Health Executive and CCN Research team, the pathway uses a strengths-based approach to design methodologies/program elements to address community-identified health issues. In collaboration with CSFS Communities, health issue identification and CCN project elements are refined and expanded; this then prompts the CCN Research Team and CSFS Health Executive to re-evaluate project elements and approaches to health issues before returning back to the community for subsequent cycles of collaborative roll-out of project elements, collective evaluation and refinement processes, and feedback. Very importantly, all of these processes are done holding cultural safety as paramount to project work. Abbreviations: CCN, CervixCheck North; CSFS, Carrier Sekani Family Services

or going for a walk in the community, in order to build meaningful connections.

6 | COMMUNITY CAMPAIGNS AND STRONG SOCIAL NETWORKS

An essential element of the project includes having the CCN team present in the community and meeting people in their own space in order to build trust in a safe environment. The CHCs act as safe, open, and centralized gathering areas beyond the boundaries of providing medical and social services. CHCs are hubs for community gatherings and regularly offer educational opportunities, shared meals, space for youth to gather, and more.

Health information and Community Campaign events are often held at CHCs with community members responsive to learning about new health programs in these accepting and casual environments. At CCN events, an Elder often begins the session sharing words or prayer, a meal is shared, and a display table with project materials are available. The team also attends community health fairs, handing out invitation letters and promotional materials and hanging posters in key community areas. Community support and

interest were demonstrated through contributions of homemade foods and bannock, and interested individuals inviting friends and family to attend events with them. Community members sharing their interest and enthusiasm about the project with their social networks allows the project to gain familiarity and acceptance more broadly. The ripple effect of community members and health staff sharing their experiences with the project and recommending eligible individuals in their network to engage is an identified existing holistic sociocultural relational communication system that is the main driver of sustained success of projects such as CCN over time.

7 | EXISTING INFRASTRUCTURE AND WELLNESS PROVIDERS

The introduction of CCN in Carrier Sekani communities was effective due to the established medical infrastructure and team of wellness providers already integrated in communities. An example is CSFS's use of EMR enabling confirmation of project eligibility and tracking participants' results. The EMR linkage is an indicator of community-based expertise and infrastructure, but more importantly, it puts

access and control of patient and project information in communities' hands (OCAP Principles).

CSFS partners with research projects based on the determined needs and goals of community members, and has designed guidelines for these partnerships.²² CSFS also has mechanisms such as the BoD and RAC where potential research partnerships follow up with existing projects and opportunities for further collaboration can be discussed. This established willingness to partner with innovative research opportunities on wellness projects is essential to the success of CCN.

The monthly audit process is dynamic, and beyond the tracking of participants and results, audits inform the project team on the impacts of community and health staff engagement sessions, project promotion efforts through communication streams, and identify other elaborate ways of engaging with communities. This precision implementation approach informs future engagement and communication strategies to ensure continued promotion of this screening opportunity.

8 | STRUCTURAL BARRIERS

CCN HPV self-collection kits are in pre-addressed packaging for sample return via mail to the British Columbia Public Health Laboratory. This option was developed to reduce barriers and provide greater convenience for participants in remote and rural localities. For the majority of CSFS communities, post offices are located outside the reserve and are only accessible by vehicle. On-reserve CSFS health staff drive off-reserve to deliver samples to a lab or hospital; post office drop-offs were incorporated into staff sample delivery routines, thus removing this barrier for individual participants.

Initially, participants had the option to take the self-collection kits to complete in their home environment. Unexpectedly, 100% of kits sent home were not returned. Confidentiality concerns with living environments and sample drop-off locations were cited. Through collaborative strategy with CSFS health staff and a subsequent protocol change, sample completion was 100% when kits were made available for collection at the CHCs and mailed by staff.

Considering limitations to broadband Internet, cellphone service, and access to electronic devices, the digital divide is a barrier in northern regions and had to be considered during the development and implementation of the project. The COVID-19 pandemic also hindered project roll-out due to closures of health centers, community visitor restrictions, and health staff prioritizing the administration of vaccines and alternative health needs.

9 | FOLLOW-UP CARE ACCESSED OUTSIDE OF COMMUNITIES

Participants positive for high-risk HPV subtypes require additional follow-up care, through either cervical smears or colposcopy. Cervical smears are limited to dates and times when clinicians are physically in communities (on average 10 days per month), and colposcopy screening requires travel to the regional center, a journey

of 1–9 h depending on the community. Leaving the community to access specialized services is a considerable barrier¹⁶; as such, CSFS health centers have established patient travel supports and transportation options to accommodate this need. The project team collaborates closely with community staff, providing timely information and support for participants requiring follow-up care.

10 | DISCUSSION

The present study highlights the resources and strengths built upon within CSFS communities that have greatly contributed to the successful roll-out of an innovative public health intervention aimed at increasing cervical screening in rural and remote Indigenous communities. Indigenous women in Canada continue to face barriers to cervical screening, and there are disproportionate rates of cervical cancer diagnoses and severity of diagnoses in Indigenous populations.¹⁰ Indigenous populations in rural and remote settings in northern British Columbia are faced with unique difficulties that complicate access to health and wellness services.¹⁶ While challenges exist, it is necessary to highlight the strength and resilience of communities, health providers, and the existing health and wellness systems. CSFS works to outline the needs of their member communities and provide culturally sensitive services that address health inequities. The CCN project attributes our successes to the collaboration, dedication, and interest from community members including Elders, women, and health staff. The support, guidance, and project advocacy received at the local level was foundational to developing trust and interest, and the pre-established health teams and medical infrastructure streamlined project implementation and development.

The project is grounded in taking a strengths-based approach that acknowledges and celebrates the Indigenous-led and oriented ways of knowing and systems in place. It is crucial to emphasize that while there continue to be discrepancies in cervical cancer among Indigenous populations in Canada, there are ongoing innovative efforts to raise awareness, provide education, and support women to be the leaders of their own health journey. Indigenous health is not well represented in academia and research,¹² and health information often focuses on deficits, rather than strengths and can be disempowering to the communities it intends to support.²³ The development of both qualitative and quantitative data on Indigenous health in rural and remote localities is critical in addressing current discrepancies and health inequities. Equally, as done with this project, future research and health opportunities must continue to take a strengths-based approach that highlights voices at the local level in order to have significant impacts and outcomes.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest.

AUTHOR CONTRIBUTIONS

AD is the Project Assistant, a liaison between participating communities, health staff, and partnering organizations, and performed the literature review, discussions with collaborators, and writing of first draft. SMF is the lead author. TH and SMF are co-Project Leads, oversee project development and implementation, and supported the curation of information, supervision, editing, and review. DT is a Project Manager, providing supervision and guidance with the development of the manuscript. CW is the CSFS Medical Office Administrator and supports communication between the CCN team and Medical Office Assistants, distribution of project communication tools, and monthly audits. JS is the CSFS Nurse Manager and coordinates communication between the CCN team and community nurses, and monitors the development of strategies to continue engaging health staff and community members with the CCN. Both CW and JS supported engagement in feedback sessions with health workers and the community, editing, and review. LS and GO oversee the work of the CCN team, provide support to project development, and assist with tracking participant results. Both LS and GO provided editing and review. AT was the initial Project Assistant who supported the establishment of key partner connections and implementation of the CCN project in communities. All authors read and reviewed the final version.

ORCID

Alexanne Dick  <https://orcid.org/0000-0003-4513-4136>

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