



## Review

# Learning From Our Strengths: Exploring Strategies to Support Heart Health in Indigenous Communities

Sahr Wali, PhD,<sup>a,b</sup> Elizabeth C. Hiscock, MPH,<sup>c</sup> Anne Simard, MHSc,<sup>d,e</sup> Nicole Fung,<sup>d</sup> Heather Ross, MHSc, MD, FRCPC,<sup>d,e</sup> and Angela Mashford-Pringle, PhD<sup>c</sup>

<sup>a</sup> *Ted Rogers Centre for Heart Research, University Health Network, Toronto, Ontario, Canada*

<sup>b</sup> *Centre for Digital Therapeutics, Techna Institute, University Health Network, Toronto, Ontario, Canada*

<sup>c</sup> *Waakebiness Institute for Indigenous Health, Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada*

<sup>d</sup> *Peter Munk Cardiac Centre, University Health Network, Toronto, Ontario, Canada*

<sup>e</sup> *Institute of Medical Sciences, Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada*

### ABSTRACT

Indigenous populations have remained resilient in maintaining their unique culture and values, despite facing centuries of colonial oppression. With many discriminatory policies continuing to disempower Indigenous peoples, First Nations communities have been reported to experience a higher level of cardiovascular disease (CVD)-related mortality, compared to that in the general population. Many of the risk factors contributing to the burden of CVD have been attributed to the impact of colonization and the ongoing dismissal of Indigenous knowledge. Despite Indigenous peoples recognizing the value of

### RÉSUMÉ

Les populations autochtones ont toujours fait preuve de résilience dans le maintien de leurs cultures et de leurs valeurs uniques, malgré des siècles d'oppression coloniale. En raison des nombreuses politiques discriminatoires qui continuent de priver les peuples autochtones de certains pouvoirs, on rapporte que les communautés des Premières Nations ont un taux de mortalité liée aux maladies cardiovasculaires (MCV) supérieur à celui observé dans la population générale. De nombreux facteurs de risque qui contribuent au fardeau des MCV ont été attribués aux répercussions de la colonisation et au

Indigenous populations have remained resilient, maintaining their unique culture and values, despite facing centuries of colonial oppression.<sup>1</sup> The strength of Indigenous peoples is evident in their connection to their community and the land. Many discriminatory and disempowering policies continue to exist within current Western institutions, particularly in the healthcare arena. Indigenous peoples experience a disproportionate level of poorer health outcomes, compared to the general population.<sup>1,2</sup> Specifically, with cardiovascular diseases (CVDs) being recognized by the World Health Organization as the leading cause of death globally, Indigenous peoples have been found to be among the highest-risk groups for CVD prevalence and mortality.<sup>2,3</sup> Among First Nations communities living in Canada, the age-standardized CVD mortality rate has been reported to be 30% higher for First Nations men and 76% higher for First Nations women, compared to that

in the general population.<sup>2,3</sup> Many of the risk factors contributing to the burden of CVD in First Nation communities can be attributed to the multigenerational impact of living with the disparities in their social determinants of health (SDH) (eg, housing, income, food security, racism).<sup>2,3</sup>

Disparities in SDH can be connected largely to the impact of European colonization in Canada.<sup>4</sup> Studies have found that significant traumatic exposures were associated with increased risk of CVD (eg, coronary heart disease, myocardial infarction) and the inter- and intra-generational trauma associated with colonization has increased the susceptibility of Indigenous peoples to chronic disease later in life.<sup>4-6</sup> The ongoing erasure and dismissal of Indigenous knowledge has contributed to the negative impacts on the health of Indigenous peoples today. Specifically, in addition to access to medical care being limited within Indigenous communities, many of the services available focus predominately on the promotion of Western biomedicine, without considering the value of Indigenous methods of healing.<sup>2,3</sup> To begin to move toward a source of reconciliation that supports Indigenous health and well-being, understanding how health and well-being are defined within different community contexts is pivotal.<sup>5-6</sup>

Indigenous peoples seek to maintain balance among the mental, physical, spiritual, and emotional well-being of self,

Received for publication March 16, 2023. Accepted June 24, 2023.

Corresponding author: Dr Sahr Wali, Ted Rogers Centre for Heart Research, Toronto General Hospital, University Health Network, 190 Elizabeth St., R. Fraser Elliott Building, 3rd floor, Toronto, Ontario M5G 2C4, Canada. Tel.: +1-416-340-4800 ×4765.

E-mail: [sahr.wali@mail.utoronto.ca](mailto:sahr.wali@mail.utoronto.ca)

See page 855 for disclosure information.

addressing their mental, physical, spiritual, and emotional well-being in balanced totality, current health services focus predominantly on the promotion of Western biomedicine. To begin to move toward reconciliation, a better understanding of how Indigenous health is defined within different cultural worldviews is needed. The objective of this scoping review was to explore the various Western and/or Indigenous strategies used for the prevention of CVD and the management of heart health and wellness in Indigenous communities in Canada. In this review, a total of 3316 articles were identified, and only 21 articles met the eligibility criteria. Three major themes emerged, as follows: (i) valuing of the emotional domain of health through cultural safety; (ii) community is at the core of empowering health outcomes; and (iii) bridging of cultures through partnership and mutual learning. Most studies recognized the importance of community engagement to develop heart health strategies that integrate traditional languages and cultures. However, to move toward the delivery of culturally safe care, health systems need to rebuild their relationship with Indigenous peoples.

family, community, nation, and universe, as everything is interconnected and interdependent. Biomedicine often fixates on the physical and mental or emotional health, but not on the whole person.<sup>3,7</sup> To better address both the social and cultural factors (eg, discrimination, loss of language, lack of employment, personal and cultural trauma) affecting a person's well-being, the Indigenous healing process moves forward in a holistic manner centered on community, interconnectedness, and self-reflection.<sup>3-5</sup> By addressing all parts of a person's health, this approach provides the means to not only acknowledge the traumas of the past but also learn from them as a source of growth and healing.<sup>3</sup> To prevent having solely Western assumptions imposing clinical worldviews regarding heart health and wellness, community-based research strategies have been utilized to better understand the varying approaches to cardiac healing.<sup>3,7</sup> Within the paradigms of community-based research, a grassroots collaborative approach to research is utilized to develop genuine partnerships built on trust and mutual respect.<sup>7,8</sup> By placing local voices at the centre of a partnership, and leveraging the principles of reflective inquiry and co-learning throughout the research process, community-based research is able to set the foundation for meaningful change.<sup>7</sup> However, an important point to recognize is that, despite the benefits of community-based research in building equitable partnerships, a lack of guidance on how the strengths of both Western and Indigenous strategies to achieving heart health can be integrated within the design of a specific program continues.<sup>3,5,9</sup> Many studies have begun to document the design and/or impact of specific heart health programs on Indigenous health outcomes, but Indigenous knowledge is often dismissed or neglected within the clinical strategies or delivery of a program.<sup>9</sup> To better understand the contextual significance of both Western and Indigenous strategies for promoting heart health, through this study we explore how different worldviews (ie, Indigenous,

rejet continu du savoir autochtone. Malgré le fait que les peuples autochtones reconnaissent l'avantage de prendre soin de leur bien-être mental, physique, spirituel et émotionnel dans une intégralité équilibrée, les services de santé actuels sont essentiellement axés sur la promotion de la biomédecine occidentale. Afin de commencer à nous diriger vers la réconciliation, nous devons mieux comprendre la façon dont les peuples autochtones définissent la santé au sein de différentes visions culturelles du monde. L'objectif de cette étude de portée était d'explorer les diverses stratégies occidentales ou autochtones de prévention des MCV et de prise en charge de la santé et du bien-être cardiaques chez les communautés autochtones du Canada. Dans le cadre de cette étude, 3 316 articles ont été recensés, et seulement 21 d'entre eux répondaient aux critères de sélection. Trois principaux thèmes ont été dégagés, soit : (i) la sécurité culturelle permet de mettre en avant l'importance du domaine émotionnel de la santé; (ii) la communauté est au centre de l'autonomie en matière de devenir de la santé; et (iii) le lien entre les cultures doit se faire au moyen de partenariats et d'apprentissages mutuels. La plupart des études reconnaissent l'importance de l'engagement communautaire pour mettre au point des stratégies relatives à la santé du cœur qui intègrent les langues et les cultures traditionnelles. Toutefois, afin de passer à la prestation de soins respectueux des cultures, les systèmes de santé doivent reconstruire leur relation avec les peuples autochtones.

Western) have supported the prevention of CVD and management of heart health and wellness within urban, rural, and remote Indigenous communities.

## Methods

### Study design

A systematic scoping review was conducted using Arksey and O'Malley's 5-stage methodological framework.<sup>10</sup> A comprehensive search was conducted in 5 electronic databases (MEDLINE, Bibliography of Indigenous Peoples in North America, Embase, Cumulative Index to Nursing and Allied Health Literature [CINAHL], and Scopus), using the following search terms: heart health, Indigenous, and care management (Table 1). Additional studies were identified by reviewing reference lists of relevant articles not found in the initial search. This review did not restrict studies according to the year of publication. However, studies were excluded if they were not published in English or if they were review papers or study protocols.

### Research question

The focus of this review was to explore how Indigenous populations have supported heart health and wellness as a reflection of either management or prevention strategies. Previous research has focused on promoting a deficit-based lens to highlight the disparities of CVD-related outcomes in Indigenous communities, without learning from the strengths of Western or Indigenous heart health strategies. An integrated, strengths-based lens was applied in this study, whereby both Western and Indigenous sources of healing were reviewed in relation to their ability to support community heart health. This approach led to the following guiding research question: What is known in the literature on the use

**Table 1. Scoping review search strategy**

Scoping review keywords
1. Heart health
• Cardiovascular disease* OR CVD OR heart failure OR HF OR stroke* OR heart attack* OR chronic disease* OR hypertension OR HT OR heart disease* OR angina OR cardiac OR cardiac health
<b>AND</b>
2. Indigenous
• Indigenous OR Indigenous People* OR Aboriginal* or Metis OR Inuit* OR Dene OR Cree OR Mohawk OR Algonquin OR Anishinaabe OR Mi'kmaq OR Haudenosaunee OR Iroquois OR Huron-Wendat OR Ojibwa OR First Nation* OR Native American* OR Native* OR Indian*
<b>AND</b>
3. Care management
• Self-care* OR disease management* OR self management* OR remote management* OR remote care* OR management* OR treatment* OR prevention OR wellness OR healing OR Indigenous healing OR Indigenous wellness OR traditional healing OR medicine* OR medication*

CVD, cardiovascular disease; HF, heart failure; HT, hypertension.

of Western and/or Indigenous strategies for the prevention of CVD and management of heart health and wellness in urban, rural, and remote Indigenous communities?

### Study selection

Using the below eligibility criteria, 2 reviewers (S.W. and E.C.H.) screened titles and abstracts over 2 rounds for study selection. The full texts of the included articles were subsequently screened to determine if they met the outlined criteria. The eligibility criteria were: (i) having the distinction of serving an Indigenous population within Canada; and (ii) being focused on heart health and wellness in relation to prevention, disease management, health promotion, screening, models of care, lifestyle management, or risk factors for heart health.

### Charting and extracting data

Studies meeting the inclusion criteria were critically reviewed (by S.W. and E.C.H.) using Arksey and O'Malley's<sup>10</sup> descriptive-analytical narrative method. A data extraction form was developed to collect the following study information: year of publication; study design; health issue; recruitment; level of community engagement; study output; principal findings; and study limitations.

### Summarizing and reporting results

A numerical analysis of the extent and nature of the studies was conducted using tables and chart mappings. The descriptive data were analyzed using conventional content analysis to conduct a narrative synthesis. Two reviewers (S.W. and E.C.H.) examined the descriptive data and identified key codes relating to the research question, as well as the below sub-questions. These codes were then organized into thematic groups to summarize the studies according to their main findings.

The sub-questions were as follows:

1. How do Indigenous communities currently manage heart health and wellness within hospital, primary care, home, and community care, and how are traditional/Western modes of care perceived (eg, cultural safety, stigma of clinical settings)?

2. How is heart health managed in combination with other chronic conditions?
3. How have Indigenous communities or Indigenous peoples been engaged for the design/refinement and delivery of heart health programs or care?
4. Are there any models of care (or interventions) that look to blend traditional and Western medicine for the prevention/management of heart health and wellness within hospital, primary care, or home and community care settings?
5. How does heart health and wellness differentiate amongst sex/gender roles within Indigenous communities?

### Results

A total of 3316 articles were identified using our search strategy. After removing 1330 duplicate publications, 1986 articles were screened by title and abstract for study inclusion. A total of 21 studies met eligibility criteria after the full-text review of 130 articles (Fig. 1); 109 articles were excluded due to implications relating to the eligibility criteria, and 5 studies were excluded, as the full text was unavailable.

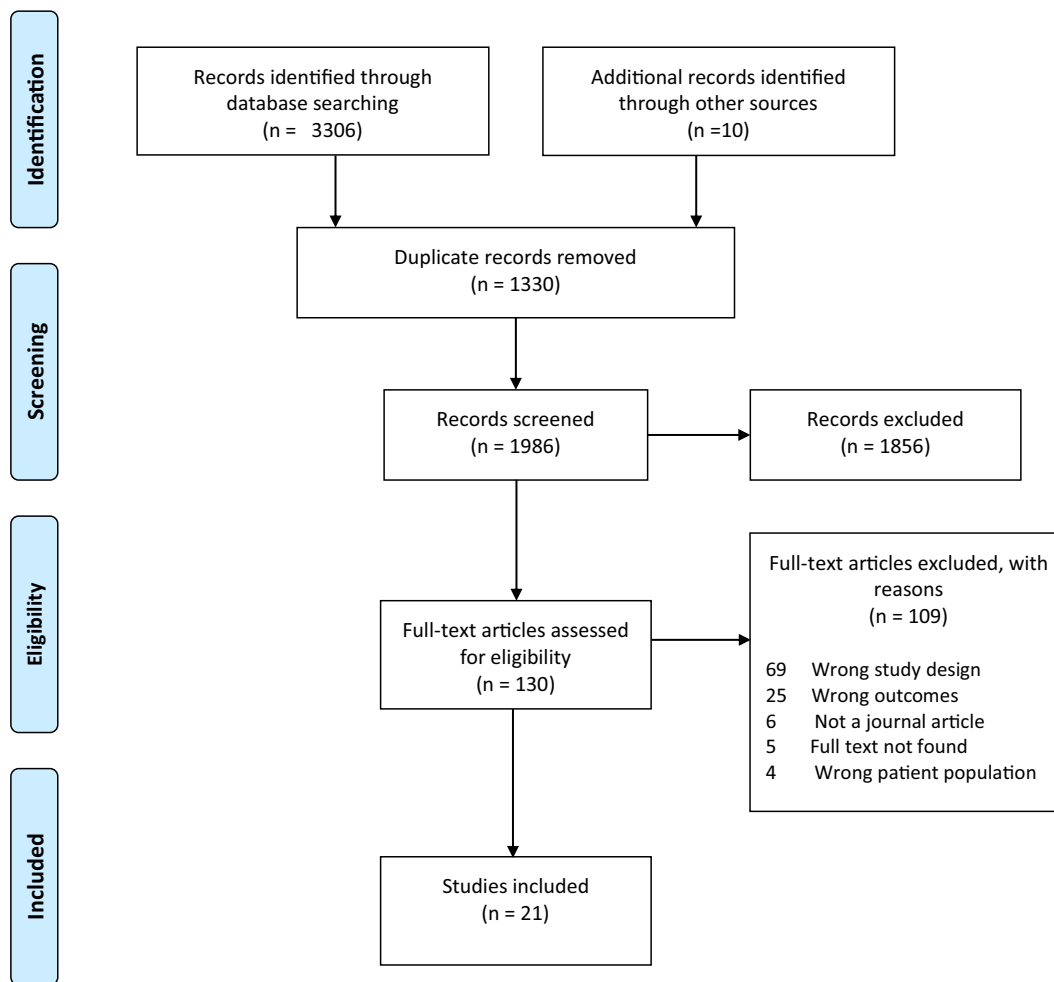
From the 21 studies, the majority ( $n = 17$ ) were published after 2010 (Supplemental Appendix S1). The included studies specifically targeted the following diseases of focus: CVD;  $n = 8$ ); heart health ( $n = 5$ ); hypertension ( $n = 2$ ); stroke ( $n = 2$ ); coronary artery disease ( $n = 2$ ); rheumatic fever ( $n = 1$ ); or a combination of multiple chronic diseases (eg, CVD, diabetes;  $n = 1$ ).<sup>2,11-30</sup> The aim of each study varied, in reflection of the following categories (note that some studies were identified as falling within multiple categories; Table 2):

- (i) risk factor—understand discrepancies in or origins of heart health ( $n = 10$ );
- (ii) intervention—design/implementation of program or strategy ( $n = 9$ ); and
- (iii) heart health management—Indigenous and/or Western approaches to manage heart health ( $n = 8$ ).

Within the included studies, the level of community engagement and the specific strategy for heart health and wellness varied. Most studies included both the initiation of a partnership ( $n = 14$ ) and the acquisition of research approval ( $n = 14$ ), but few studies involved the community in the protocol development ( $n = 6$ ), intervention design ( $n = 5$ ), dissemination ( $n = 6$ ), or sustainability ( $n = 2$ ) stages (Table 3).

### Findings from narrative synthesis

Three dominant themes related to the strategies supporting heart health and wellness were identified: (i) valuing the emotional domain of health through cultural safety; (ii) community is at the core of empowering health outcomes; and (iii) bridging cultures through partnership and mutual learning. The first theme aims to describe the history of mistreatment in Indigenous communities and the importance of understanding the multifaceted traumas of “heart sickness” in order to move toward restoring heart health. The second theme emphasizes use of strength-based learnings from community knowledge to better support strategies for heart health management. Finally, the last theme begins to highlight the



**Figure 1.** Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram.

importance of partnership in developing an understanding of multiple worldviews and modes of healing.

**Valuing the emotional domain of health through cultural safety.** The history of mistreatment of Indigenous peoples meant that many communities shared negative experiences with the healthcare system. From misdiagnosis to mistreatment, factors related to racism and discrimination cause Indigenous communities to have a significant level of mistrust relating to Western institutions.<sup>2,14,25</sup> Several studies described stories in which, owing to racial biases, individuals were provided with dismissive clinical interactions in the emergency department (eg, being prescribed antibiotics for a heart attack) or were forbidden to embrace their cultural values (eg, were unable to bring traditional foods to hospitalized community members), creating a sense of emotional harm when seeking care and support.<sup>2,25-30</sup>

To better value the emotional domain of health, and work toward rebuilding trust in the healthcare system, studies recognized the importance of integrating components of cultural safety within both clinical and community-based health promotion strategies.<sup>2,25,30</sup> Specifically, given that many risk factors (eg, food insecurity, socioeconomic status) affecting community health outcomes are often out of their control,

Indigenous communities often questioned the need for and/or benefit of implementing any behavioural changes to their current lifestyle.<sup>2,14,23,30</sup> To reduce this barrier, inclusive strategies to educate the community on care options, in reflection of local conditions and available resources, were highlighted as needed.<sup>22-25,30</sup> For example, one study utilized Indigenous women's stories on health and wellness to develop an educational program for heart health and nutrition to allow communities to understand how to live with the challenges of their heart condition in relation to their current culture and lifestyle.<sup>25</sup> Other studies began to recognize how traditional foods and sources of wellness can be used to promote CVD health, but only a few studies implemented these strategies within the community or clinical practice<sup>18-20</sup> (Supplemental Appendix S1).

**Community is at the core of empowering health outcomes.** Heart health is approached holistically among Indigenous communities and is integrated into a way of life that includes caring for the physical, emotional, and spiritual needs of individuals.<sup>2,14</sup> Along with this approach, maintaining balanced connections among people, the community, and the land was considered to be equally important in caring for the heart and overall health and well-being of the community.

**Table 2. Summary of included articles targeted health condition of focus and research aim**

Health condition of focus: n (%)	Research aim: # of studies
Cardiovascular disease: 8 (38)	RF: 5 I: 2 HHM: 1
Heart health: 5 (24)	RF: 1 I: 3 HHM: 3
Hypertension: 2 (9.5)	RF: 0 I: 2 HHM: 1
Stroke: 2 (9.5)	RF: 0 I: 2 HHM: 0
Coronary artery disease: 2 (9.5)	RF: 2 I: 0 HHM: 2
Rhematic fever: 1 (4.7)	RF: 1 I: 0 HHM: 0
Multiple chronic conditions: 1 (4.7)	RF: 1 I: 0 HHM: 1

The research aims are as follows: risk factor (RF)—understand discrepancies or origins of heart health; intervention (I)—design/implementation of program or strategy; heart health management (HHM)—Indigenous and/or Western approaches to managing heart health.

**Table 3. Level of community engagement used across research process**

Study component	Articles, n (%)
Initiation of partnership	14 (67)
Research approval	14 (67)
Research question, study aims	8 (38) 8 (38)
Design, methods, approach	12 (57)
Protocols	6 (29)
Data collection	12 (57)
Data analysis	8 (38)
Intervention	5 (24)
Dissemination	6 (29)

From this review, we found that although many heart health strategies mentioned the inclusion of the community perspective, a difference was apparent between studies that simply gained community feedback vs those that actively integrated community guidance within their study output (ie, report, intervention, program; Table 3). Interventions or programs that were developed without community input were found to be adopted less often by individuals in the community, as doing so was deemed intrusive and reflective of past colonial approaches imposing Western strategies to health.<sup>23,26,30</sup> To move toward a heart health model that empowers health management, the historical roots of community need to be acknowledged, first in relation to family and land relationships, followed by their relation to the role of clinical support in either treating or supporting care management (eg, tertiary centre, community leadership/navigation, nursing stations).

From this review, many studies recognized that the older generations of Indigenous peoples often withheld information about their wellness, including heart health, due to the effect

of their past traumas and the fear of passing on negative influences on life. To address this tendency to withhold information, one study attempted to destigmatize these topics, using open dialogue and culturally safe research methods (eg, sharing circles) that empowered community voices.<sup>17</sup> With this approach, these conversations led to the development of a combined youth-older adult program supporting wellness and mutual learning.<sup>17</sup> In another study, storytelling and ceremony were used as an approach to reconnect with the community and engage in meaningful relationships across all aspects of life—family, health professionals, medicine, food, spirit, and the land.<sup>14</sup> The value of ceremony was specifically highlighted as a source of healing to help embrace community knowledge and empower individual health within Western treatment plans or programs.<sup>14</sup>

**Bridging cultures through partnership and mutual learning.**

The dominance of the biomedical perspective within heart health and wellness strategies was noted to be problematic, as Indigenous populations often felt they were viewed in a deficit-based manner. Many studies recognized that the risk factors for CVD stemmed from the increasing “Westernization” of society, a trend associated with calorie-dense and sedentary lifestyles.<sup>14,19,23,26,30</sup> To move in a constructive direction, heart health strategies need to engage in cross-cultural collaborations, to balance both clinical and cultural values. In this review, many studies indicated that they engaged or partnered with Indigenous communities or organizations, but that a lack of transparency was present at the level of community engagement or the specific activities facilitating their partnership (eg, sharing circle, protocol development, analysis, ethics approval; Table 3). Despite the studies being well intentioned, we found that the value of community partnerships was not fully utilized in most studies, as engagement efforts were approached more as a checkbox than as a source of mutual learning or growth.<sup>23,26,28</sup> To reduce the idea of saviorism and Western ideologies within heart health strategies, studies indicated that communities should be given the opportunity to direct health agendas and integrate nontraditional constructs (eg, ceremony, language, hunting) within clinical approaches.

In Ziabakhsh et al.,<sup>30</sup> a community-based approach was utilized to collaboratively co-develop a group-based heart health promotion program for Indigenous women. By leveraging the use of both sharing circles and ceremony, the Indigenous women in this study were able to modify the structure of the group-based education sessions to better reflect their local needs and cultural practices.<sup>30</sup> With this modification, the original 10-minute education session was transformed into a 50-minute session, with a combination of topics related to both Western and Indigenous practices for heart health. For example, smoking cessation education was adapted to continue to not only discourage active smoking, but also recognize the benefits of tobacco in relation to embracing traditional ceremonial practices. Similarly, in Foulds et al.<sup>15</sup> a 13-week group-based walking and healthy lifestyle counselling program was developed in collaboration with the First Nations leaders in British Columbia, to improve cardiorespiratory fitness. This healthy lifestyle intervention was created as a family-oriented, community-based activity,

and was implemented in a sharing-circle format consistent with Indigenous ways of learning.<sup>15</sup> Qualified exercise professionals received specialized training on cultural respect and provided individualized exercise prescriptions based on the age, sex, and fitness level of each participant. By integrating the strengths of Indigenous communities with the best practices in physical activity promotion, clinical exercise rehabilitation, and motivational interviewing for counselling, participants across all age groups and training programs showed significant improvements in their physical activity.<sup>15</sup>

## Discussion

### Principal findings

Heart health has traditionally been managed within the worldview of Western biomedicine, without recognition of the value of other ways of knowing. With Indigenous peoples holding their physical, emotional, psychological, and spiritual needs to all be of equal importance, inclusive strategies upholding both Western and Indigenous sources of healing are needed to better support Indigenous heart health. Across the 21 studies meeting the eligibility criteria, this review found that most studies recognized the importance of community engagement to develop heart health strategies that respect different ways of knowing (eg, Indigenous knowledge, clinical guidelines). With the historical mistrust between Indigenous communities and the healthcare system, leveraging the community's guidance was noted as being fundamental to improving Indigenous health outcomes at the physical, emotional, mental, and spiritual levels.

To move toward a level of growth and healing, we found that a need exists to rebuild the Indigenous peoples' relationship with the healthcare system and providers, and to honor the realities of their past and present throughout this process. A range of methods and support programs can guide the development of future heart health and wellness strategies, but the commonality between the most impactful programs within this review centred on their ability to recognize the underlying contributors that result in a community having poorer health outcomes. For example, in a 2014/2015 report on First Nations health service utilization, the emotional harm of Canada's current healthcare practices was exemplified by the over 2-times-higher per capita emergency department costs, and the 3-times-lower utilization of primary care services (eg, physician utilization, diagnostic imaging, and laboratory testing) for First Nations people.<sup>31</sup> With the lack of culturally safe care available, the low use of primary care services was attributed largely to the various negative experiences First Nations people faced during their previous clinic visits, which resulted in many individuals having to turn to the emergency department as their last resort for medical attention.<sup>31</sup> To prevent this cycle of emotional harm from recurring, studies stressed the importance of healthcare professionals working in partnership with communities to understand the traumas of their current clinical practices, and the potential opportunities to co-create care solutions.

One of the fundamental components of providing culturally safe, strength-based, and inclusive care began with integrating the use of traditional languages and cultures within heart health strategies.<sup>14</sup> In Fontaine et al.<sup>14</sup>, 6 First Nations

women created a series of digital stories on topics related to the historical and social contexts of caring for the heart. Through these stories, First Nations knowledge was able to be applied at the intersection of Western kinds of knowledge, to better recognize the social roots of heart health issues. In Ziabakhsh et al.,<sup>30</sup> the Seven Sisters heart health education program embraced Indigenous cultural practices (eg, storytelling, sharing circle, blanket ceremony) within the research process, to transform the design of the program in a more authentic and meaningful manner. The non-Indigenous nurse practitioners involved in the study recognized the benefit of these methods, as it allowed them to be present and engage in conversation that reduced power differentials and promoted mutual learning.<sup>30</sup> Ultimately, participants felt that they were able to speak from a space of vulnerability, in which they acknowledged the differences in their worldviews, and worked toward finding a balanced solution (eg, smoking cessation education along with tobacco use for ceremonial purposes).

With respect to gender roles within the arena of heart health promotion, Indigenous women, vs men, were found to fulfill the role of primary caregiver of the family more often.<sup>22,25,30,31</sup> Indigenous women indicated that many communities were forced to succumb to these Western gender roles in the wake of colonialism, as pre-colonial culture integrated the entire community as a support network, instead of having the mother be the sole caregiver. As a result, studies have recognized the unique risk factor these gender roles created, as women often have to accommodate others, leaving their own heart problems undiagnosed or untreated.<sup>22,25</sup> To better support the needs of Indigenous women, heart health initiatives need to understand the challenges women face with respect to their social, economic, cultural, and political contexts.

### Recommendations

With health research beginning to recognize the importance of partnership, and the value of different ways of knowing, we summarized the key learnings from this review into the following series of recommendations.

**1) Re-evaluate who has a seat at the table.** To ensure that the cycle of emotional harm does not continue within care delivery, evaluate the various stakeholder voices that are included during the ideation, design, and implementation of a heart health strategy. Having only Indigenous communities evaluate the impact of a program is not enough; rather, they should be involved as partners, to identify the local priorities and resources needed to empower meaningful care.

**2) Challenge the definitions of heart health by embracing different worldviews of healing.** Given that the strength of Indigenous knowledge has often been overshadowed by Western biomedicine, collaborate with local elders and knowledge keepers to better identify the intersections between Western and Indigenous heart health strategies. Explore how various lifestyle changes can be adapted to support the prevention and/or management of CVD. These approaches should be developed in alignment with clinical guidelines, but implemented in reflection of Indigenous values regarding health and well-being (eg, Indigenous heart healthy diet, community-based exercise rehabilitation, land-based mental health programs).

**3) Moving from acknowledgement to action.** To create a sense of accountability within the health system, consider evaluating how current care practices create avenues of harm for Indigenous peoples. Reflect on the opportunities for teachings of cultural safety to be integrated into clinical practice. Consult with Indigenous patient navigators or knowledge keepers to explore how clinical care can better support the physical, emotional, mental, and spiritual needs of community members (eg, creating safe spaces, using Indigenous translators, use of ceremony).

### Limitations

This scoping review was limited in the number of studies available, owing to the required criteria of their having a focus on heart health and wellness in relation to prevention, disease management, health promotion, screening, models of care, lifestyle management, or risk factors for heart health. Many studies were excluded, as they sought to identify the existing disparities in heart health outcomes, compared to those in the general population, which was not the focus of this review. The search terms for this review were also limited to specific cardiovascular conditions and risk factors, which may have resulted in other heart conditions (eg, valvular heart disease) being excluded. We also recognize that our search strategy included only studies based in Canada, which may have limited the knowledge and strategies for heart health management by excluding that of varying Indigenous populations across the world. Despite the fact that 2 reviewers conducted the screening, charting, and extraction of the studies included within this review, interrater reliability (Cohen's kappa) was not assessed. Reviewer conflicts were resolved using collaborative analytic discussions, whereby the eligibility criteria for this review were evaluated in detail for each of the studies for which disagreement was present.

Despite many of the shared difficulties and the high prevalence of CVD among Indigenous populations in Canada, we recognize that health system data may not be representative of all community-specific conditions. Each Indigenous population faces unique challenges that may not be applicable to others, but this context is often lost within large national datasets. With our review having focused on heart health, we recognize that other literature focused on noncardiac health also may provide supportive guidance on approaches to integrate Western and Indigenous knowledge for improved health and wellness.

### Conclusion

The health status of Indigenous peoples can be connected largely to intergenerational traumas and colonial policies that continue to impact their ability to manage their well-being. With the rise in CVD prevalence, various strategies to prevent disease and support heart health and wellness have been implemented. However, a lack of recognition of the combined strengths and benefits of both Indigenous and Western approaches to healing remains. Recognizing the emotional domain of health, while supporting community and mutual learning, will allow more strength-based approaches to heart health to be integrated within both community and clinical practices.

### Acknowledgements

The authors thank our research librarians, Vincci Liu and Desmond Wong, at the University of Toronto, for their guidance in the scoping review process. The authors recognize the guidance provided by the Waakebiness Institute for Indigenous Health, which led to identifying the gap addressed in this review.

### Data Availability

All article data extracted for this review can be found in [Supplemental Appendix S1](#).

### Ethics Statement

Ethics board approval and patient consent to participate are not applicable to the study reported here.

### Patient Consent

The authors confirm that patient consent is not applicable to this article.

### Funding Sources

The authors have no funding sources to declare.

### Disclosures

The authors have no conflicts of interest to disclose.

### References

1. Reading J. Confronting the growing crisis of cardiovascular disease and heart health among Aboriginal Peoples in Canada. *Can J Cardiol* 2015;31:1077-80.
2. Anand SS, Abonyi S, Arbour L, et al. Explaining the variability in cardiovascular risk factors among First Nations communities in Canada: a population-based study. *Lancet Planet Health* 2019;3:e511-20.
3. Huffman MD, Galloway JM. Cardiovascular health in Indigenous communities: successful programs. *Heart Lung Circ* 2010;19:351-60.
4. Adelson N. The embodiment of inequity: health disparities in aboriginal Canada. *Can J Public Health* 2005;96(Suppl 2):S45-61.
5. Bullock A, Bell RA. Stress, trauma, and coronary heart disease among Native Americans. *Am J Public Health* 2005;95:2122-3.
6. Rosengren A, Hawken S, Ounpuu S, et al. Association of psychosocial risk factors with risk of acute myocardial infarction in 11,119 cases and 13,648 controls from 52 countries (the INTERHEART study): case-control study. *Lancet* 2004;364:953-62.
7. Tobias JK, Chantelle AM, Richmond IL. Community-based participatory research with Indigenous communities: producing respectful and reciprocal research. *J Empir Res Hum Res Ethics* 2013;8:129-40.
8. Richmond CAM, Cook C. Creating conditions for Canadian aboriginal health equity: the promise of healthy public policy. *Public Health Rev* 2016;37:2.
9. Vervoort D, Kimmaliardjuk DM, Ross HJ, et al. Access to cardiovascular care for Indigenous peoples in Canada: a rapid review. *CJC Open* 2022;4:782-91.

10. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Method* 2005;8:19-32.
11. Anand SS, Yusuf S, Jacobs R, et al. Risk factors, atherosclerosis, and cardiovascular disease among Aboriginal people in Canada: the Study of Health Assessment and Risk Evaluation in Aboriginal Peoples (SHARE-AP). *Lancet* 2001;358:1147-53.
12. Barsky J, Hunter R, McAllister C, et al. Analysis of the implementation, user perspectives, and feedback from a mobile health intervention for individuals living with hypertension (DREAM-GLOBAL): mixed methods study. *JMIR Mhealth Uhealth* 2019;7:e12639.
13. Bodnar P, Hill ME, Fenton R. ACT FAST 123: youth of the anishnawbe nation learn about stroke. *Stroke* 2012;43:e115-62.
14. Fontaine LS, Wood S, Forbes L, Schultz ASH. Listening to First Nations women' expressions of heart health: mite achimowin digital storytelling study. *Int J Circumpolar Health* 2019;78:1630233.
15. Foulds HJ, Bredin SS, Warburton DE. The effectiveness of community based physical activity interventions with Aboriginal peoples. *Prev Med* 2011;53:411-6.
16. Foulds HJ, Bredin SS, Warburton DE. An evaluation of the physical activity and health status of British Columbian Aboriginal populations. *Appl Physiol Nutr Metab* 2012;37:127-37.
17. Hill ME, Bodnar P, Fenton R, Mason B, Bandoh G. Teach our children: stroke education for Indigenous children, First Nations, Ontario, Canada, 2009-2012. *Prev Chron Dis* 2017;14:E68.
18. Hu XF, Kenny TA, Chan HM. Inuit country food diet pattern is associated with lower risk of coronary heart disease. *J Acad Nutr Diet* 2018;118:1237-12348.e1.
19. Gordon J, Kirlew M, Schreiber Y, et al. Acute rheumatic fever in First Nations communities in northwestern Ontario: social determinants of health "bite the heart." *Can Fam Phys* 2015;61:881-6.
20. Joseph P, Davis AD, Miller R, et al. Contextual determinants of health behaviours in an Aboriginal community in Canada: pilot project. *BMC Public Health* 2012;12:952.
21. Kapasi H, Kelly L, Morgan J. Thrombolysis in the air. Air-ambulance paramedics flying to remote communities treat patients before hospitalization. *Can Fam Phys* 2000;46:1313-9.
22. King KM, Sanguins J, McGregor L, LeBlanc P. First Nations people's challenge in managing coronary artery disease risk. *Qual Health Res* 2007;17:1074-87.
23. Kmetz A, Reading J, Estey E. Taking a life course perspective on cardiovascular disease and diabetes in First Nations peoples. *CJNR* 2008;40:58-78.
24. Lai HPH, Miles RM, Bredin SSD, et al. "With every step, we grow stronger": the cardiometabolic benefits of an Indigenous-led and community-based healthy lifestyle intervention. *J Clin Med* 2019;8:422.
25. Medved MI, Brockmeier J, Morach J, Chartier-Courchene L. Broken heart stories: understanding Aboriginal women's cardiac problems. *Qual Health Res* 2013;23:1613-25.
26. Prodan-Bhalla N, Middagh D, Jinkerson-Brass S, et al. Embracing our "otherness." *J Holist Nurs* 2017;35:44-52.
27. Smylie J, O'Brien K, Xavier CG, et al. Primary care intervention to address cardiovascular disease medication health literacy among Indigenous peoples: Canadian results of a pre-post-design study. *Can J Public Health* 2018;109:117-27.
28. Tobe SW, Yeates K, Campbell NRC, et al. Diagnosing hypertension in Indigenous Canadians (DREAM-GLOBAL): a randomized controlled trial to compare the effectiveness of short message service messaging for management of hypertension: main results. *J Clin Hypertens (Greenwich)* 2019;21:29-36.
29. Vanderburgh D, Savage DW, Dubois S, et al. Epidemiologic features of medical emergencies in remote First Nations in northern Ontario: a cross-sectional descriptive study using air ambulance transport data. *CMAJ Open* 2020;8:E400-6.
30. Ziabakhsh S, Pederson A, Prodan-Bhalla N, Middagh D, Jinkerson-Brass S. Women-centered and culturally responsive heart health promotion among Indigenous women in Canada. *Health Promot Pract* 2016;17:814-26.
31. First Nations Health Authority. First Nations health status and health services utilization: summary of key findings 2008/09-2014/15. Available at: <https://www.fnha.ca/WellnessSite/WellnessDocuments/FNHA-First-Nations-Health-Status-and-Health-Services-Utilization.pdf>. Accessed January 12, 2021.

### Supplementary Material

To access the supplementary material accompanying this article, visit *CJC Open* at <https://www.cjcopen.ca/> and at <https://doi.org/10.1016/j.cjco.2023.06.005>.