Collaborative Evaluation Frameworks for Indigenous-Led Community Health Interventions:
A Scoping Review

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Abstract: This narrative review highlights evaluation approaches, principles, and frameworks for chronic disease interventions in North American Indigenous contexts. It aims to inform the co-development of an evaluation framework for two studies focused on improving diabetes and obesity outcomes for urban Indigenous communities. This review uses a Two-Eyed Seeing perspective that brings Indigenous and Western ways of being, knowing, and doing together. There is a paucity of published evaluation frameworks inclusive of both perspectives. The themes identified here suggest that evaluation approaches should address gender equity issues, be participatory, be grounded in local context, traditions, and knowledge, and be responsive to community-identified needs and solutions.

Keywords: chronic disease, evaluation approaches, Indigenous, interventions, telehealth, Western

Résumé : Cette revue narrative met en relief les cadres, principes et approches en évaluation pour le traitement de maladies chroniques dans des contextes autochtones en Amérique du Nord. Elle vise à appuyer la co-création d’un cadre d’évaluation pour deux études visant à améliorer les perspectives de santé de personnes diabétiques et obèses de communautés autochtones urbaines. La revue utilise l’approche à double perspective qui rapproche les modes autochtones et occidentaux d’être, de connaître et de faire. Peu de cadres d’évaluation publiés incluent les deux perspectives. Les thèmes cernés ici suggèrent que les approches d’évaluation devraient traiter de questions d’équité des genres, être participatives, être ancrées dans des connaissances, des traditions et un contexte locaux et elle doivent aussi répondre à des besoins et à des solutions déterminées par la communauté.

Mots-clés : maladies chroniques, approches en évaluation, autochtone, interventions, télésanté, occidental

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Broadly speaking, evaluation is the assessment of a program or initiative for the purposes of learning, making decisions, and/or improving effectiveness. Indigenous worldviews align with evaluation being used as an opportunity to learn and reflect rather than pass judgment (Gillespie et al., 2020). Culturally responsive approaches to evaluation can encourage capacity building, empowerment, and ownership and can influence shifts in understanding and awareness, including identifying how culture and one’s positionality influence evaluation processes (Acree & Chouinard, 2020). This review focuses on evaluation aimed at ensuring interventions meet the identified needs of Indigenous peoples. Given the historical and contemporary impact of colonialism among Indigenous peoples, there is an urgent need for community-led evaluation that is participatory, culturally responsive, and equity-focused and builds on a community’s identified needs and priorities. Furthermore, culturally responsive evaluation done with and for Indigenous people can advance Truth and Reconciliation Commission of Canada Calls to Action (TRC, 2015), whereby Indigenous communities are fully involved as creators of their own evaluation agenda (Bremner, 2019). Evaluation can also highlight the truths of the historical and ongoing impacts of colonial practices, through storytelling. Evaluators ensure that “stories are heard by people in power, policymakers and decision makers in government. That is our responsibility in addressing the “truth” part of truth and reconciliation” (Bremner, 2019, p. 339). There is growing interest and work on evaluation in Indigenous contexts, yet there remain gaps in knowledge about how to conduct culturally relevant evaluation that considers Indigenous historical and contemporary context (Chouinard & Cousins, 2007; Shepherd & Graham, 2020). Current, effective, collaborative, Indigenous-led research is needed to adapt existing approaches, methods, and tools into those that are culturally relevant and better suited to the needs of diverse Indigenous communities in Canada and elsewhere (Chandna et al., 2019).

From a Western perspective, evaluation frameworks allow for a comprehensive approach to evaluation but may fall short by not addressing the epistemological differences encountered when evaluation is undertaken in an Indigenous context. Within Indigenous contexts, quantitative and acceptability outcomes of an intervention may not be of greatest value to, or may not contribute to the aims, goals, solutions, and outcomes of, Indigenous-led programs or initiatives. Indigenous methodologies focus more on qualitative, relational, behavioural changes rather than on quantitative outcomes (Shepherd & Graham, 2020), with greatest value placed on improved self-determination, cultural identity, and togetherness of the local community (McKinley, 2020). Furthermore, Shepherd and Graham (2020) point out that the “western approach treats culture as an independent variable” (p. 445) and that findings may be generalizable. However, while Indigenous communities and nations share similarities, there are unique differences in culture, protocols, and ways of life, so findings are not generalizable.
RESEARCH CONTEXT AND OBJECTIVES OF THIS REVIEW

This narrative review was conducted to inform and support the co-creation of an evaluation framework for two interconnected, ongoing, community-based, Indigenous-led health studies. The studies focus on bringing Indigenous and Western ways of knowing together to promote health, and to prevent diabetes and obesity and improve outcomes for Indigenous people in equitable and culturally safe ways. Both studies are situated within respectful, ethical, longstanding (since 2015) partnerships with five urban and rural Indigenous Friendship Centres and a Métis Centre community in Western Canada. Co-creating a collective evaluation framework for both studies will help solidify goals and objectives in which the community’s interests, needs, and benefits are foremost as the partnerships move forward.

The research team and community partners (collective research team) wanted to learn from published studies related to the evaluation of similar Indigenous community-driven adult diabetes or obesity initiatives as a first step in developing a community-led responsive evaluation framework. An exploratory review of the literature would help identify the breadth of existing publications to direct a comprehensive search in the future, if warranted. The collective research team decided to explore documents, publications, and studies that report evaluation approaches, frameworks, or tools within Indigenous contexts to answer the following research questions:

1. Among community-driven (participatory) interventions aimed to improve health, diabetes, obesity, and/or chronic-disease health outcomes among Indigenous communities, what are the principles, approaches, methods, frameworks, and tools used for evaluation?
2. How, if at all, have reported evaluations incorporated an equity, social justice, trauma-informed care, community-driven, and/or Two-Eyed Seeing approach?
3. What is missing in the literature? What gaps remain to be addressed?

Conducted by one Indigenous and two Settler authors, the study purposefully used Two-Eyed Seeing to include Indigenous and Western perspectives throughout the process. This approach is inclusive of acknowledging and understanding perspectives of both Traditional and Western knowledge, and ways of doing for the benefit of all (Iwama et al., 2009). Findings will be shared with the collective research team of Elders and urban Indigenous community partners to decide on community-led evaluation processes relevant to local knowledge and context. These evaluation processes will contribute to the literature by providing an update and guidance on approaches to the co-development of evaluation frameworks to be used with and by Indigenous-led community diabetes or obesity interventions relevant to North American contexts. A suitable framework will also contribute by adding direction on how to bring together Indigenous and Western approaches to evaluation that better serve both Indigenous communities and Western academia.
METHODS
This narrative review involved a focused canvassing of the literature as an initial step for identifying the information available on this topic, and to gain contextual knowledge to shape an overarching evaluation framework for the two studies. We took a two-pronged approach, exploring grey and academic literature. To maintain rigour, the search methodology, search terms, data sources, and inclusion and exclusion criteria were documented, and the PRISMA-ScR guidelines (Tricco et al., 2018) were followed. Similar to a scoping review of the grey literature by Chandna et al. (2019), this exploratory review focused on identifying relevant evaluation literature rather than critically appraising the findings in a comprehensive way. The search was undertaken in May 2020.

Identifying relevant sources of information
Grey and academic literature was explored through Google Custom Search Engine, Google Scholar, and Medline (OVID), using a strategy we developed with a health sciences librarian (a white Settler), and the three authors (an Indigenous scholar who is an Indigenous PhD/RN associate professor and two white Settler scholars—a medical student public health professional and a PhD/MD endocrinologist associate professor). For the Google Custom Search, two searches were done against 15 identified web domains. These web domains were compiled by the three authors and comprised relevant Indigenous evaluation-research organizations, health research, and Canadian diabetes and obesity organizations. Two unique searches were run across each domain using combinations of search words connected with OR and AND, representing diabetes, obesity, telehealth, and chronic disease intervention evaluations in Indigenous contexts. Similar search terms were used for Medline (OVID). Medline (OVID) was chosen as the primary health database to identify peer-reviewed work because of topic content searched (i.e., diabetes and obesity). For the Google Scholar search, the term “Indigenous evaluation framework” was used for a broader search. Search terms are listed in Table 1.

Selecting sources of information
Inclusion criteria, agreed upon by all three authors, were those studies written in English; reporting evaluation within an Indigenous context, with evidence of explicit involvement or collaboration with relevant Indigenous community members or stakeholders for a community-based health intervention or co-creation of a relevant evaluation tool; and demonstrating collaborative evaluation processes, with specific relevance to evaluation of our current studies, such as evaluation of a specific process (e.g., formative planning processes). Exclusion criteria were those published before 2005; reporting clinical trials (i.e., Randomized Control Trials); with minimal or no evidence of participatory processes described with Indigenous communities; and not related to evaluation with and for Indigenous communities, or having taken place outside North America.
Table 1. Summary of search term combinations by database

<table>
<thead>
<tr>
<th>Source of evidence</th>
<th>Search terms used</th>
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<tbody>
<tr>
<td>Grey literature:</td>
<td>a) evaluation Indigenous Aboriginal Métis “First Nations” Inuit diabetes obesity “chronic disease” ft:pdf site:insertdomain*;</td>
</tr>
<tr>
<td>Google custom</td>
<td>b) evaluation Indigenous Aboriginal Métis “First Nations” Inuit diabetes obesity “chronic disease” ft:pdf site:insertdomain*;</td>
</tr>
<tr>
<td>search engine</td>
<td>a) (Indigenous or Aboriginal or “Native American” or “Native literature: Indian” or “First Nations” or Métis or Inuit).ab,ti b) (diabet* or telehealth or obes* or “M-health” or telemedicine or “chronic disease” or wellbeing).ab,ti ; c) ((assessment or evaluation or plan or approaches or methods or methodologies or “evaluation-research”) adj4 (program or framework or “logic model” or outcome or tools)).ab,ti.; d) (“cultural safety” or “two-eyed seeing” or equity or “trauma-informed” or “social justice” or “equity lens”).ab,ti.</td>
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<tr>
<td>Peer-reviewed</td>
<td>a) (Indigenous or Aboriginal or “Native American” or “Native literature: Indian” or “First Nations” or Métis or Inuit).ab,ti b) (diabet* or telehealth or obes* or “M-health” or telemedicine or “chronic disease” or wellbeing).ab,ti ; c) ((assessment or evaluation or plan or approaches or methods or methodologies or “evaluation-research”) adj4 (program or framework or “logic model” or outcome or tools)).ab,ti.; d) (“cultural safety” or “two-eyed seeing” or equity or “trauma-informed” or “social justice” or “equity lens”).ab,ti.</td>
</tr>
<tr>
<td>Medline (OVID)</td>
<td></td>
</tr>
<tr>
<td>Google Scholar</td>
<td>Indigenous evaluation framework</td>
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</tbody>
</table>

The authors independently screened results from the academic and grey literature searches using a Two-Eyed Seeing approach that is, reviewing the literature from Indigenous and Western understandings and ways of knowing and coming to a consensus that honours both perspectives (Bartlett et al., 2012). For the customized Google search results, the authors together identified 15 specific web domains deemed to be relevant to obesity, diabetes, and Indigenous-led evaluation. Two unique searches were run against each domain. Thirteen of these searches returned fewer than 20 results. The remaining 17 searches in Google custom search returned more than 20 results, for which only the first 20 citations were screened for inclusion by the medical student, using the title and two to three lines of text underneath. For the broader Google Scholar search, the first 10 pages (100 citations) of the Google Scholar search were screened using the title and two to three lines of text underneath. All Medline database results were screened by a primary reviewer (medical student) by title and abstract. Screening of the title and abstract of potentially relevant articles was completed separately by a second reviewer (the endocrinologist). Articles for full review were decided by consensus among the three authors. The remaining articles were then independently and fully reviewed by all three authors. Articles indicating that more detail was either published elsewhere or in future publications prompted a further search by author name. Articles for final inclusion were decided by consensus among the three authors.

**Charting the findings**

The review group used extraction tables and spreadsheets throughout the review and consensus process. The primary reviewer coded elements from the final articles using Nvivo11. Extracted information included article characteristics...
(i.e., title, context and purpose, participants), characteristics of community engagement, evaluation framework elements and key insights, perspectives (e.g., equity perspective, Two-Eyed Seeing), and the results of any formal assessment (e.g., clinical outcomes, policy changes). The review group once again discussed articles for inclusion or exclusion as a full team to reach consensus on the final included articles.

RESULTS

Results of the search were as follows: Medline (OVID) \( (n = 203) \), the custom Google search \( (n = 397) \), and Google Scholar search \( (n = 100) \) documents, and four articles found through additional searches. After removing 19 duplicates, 685 articles were screened by title. Of these, 68 documents underwent an abstract review and 29 documents—grey literature \( (n = 9) \), academic/peer-reviewed \( (n = 20) \)—remained. Each document was fully read by all three reviewers, of which 21 articles were excluded from and eight documents included in the review—grey literature \( (n = 2) \), academic literature \( (n = 6) \)—from North American contexts. (see Figure 1). Articles were excluded based on the above-mentioned exclusion criteria.

Overview of included documents

Literature originating in Canada \( (n = 6) \) and the United States \( (n = 2) \) provide different aspects of evaluation in Indigenous contexts—from formative plans to an implementation framework. Either the term framework varied in use, purpose, and format or it was not explicitly used. Table 2 provides an overview of the evaluation literature reviewed, including purpose, context, and approaches, and insights on evaluation frameworks within Indigenous contexts. Two Canadian grey literature reports (Heggie, 2018; Reciprocal Consulting, 2011) provide insight into how to engage in and carry out evaluation processes in Indigenous contexts. Heggie (2018) worked with relevant stakeholders, including urban Indigenous community members, to identify wise ways of working with the city of Vancouver in the co-creation of culturally reflective Indigenous Wellness Indicators. The report provides a summary of recommended methodologies for collecting future culturally responsive information to create new indicators. Although not a framework, the report provides insights into indicator co-development. Similarly, learning from Indigenous community members and evaluation experts through an online survey, Reciprocal Consulting (2011) uncovered practical insights and approaches for engaging with rural and remote Indigenous communities in program evaluation processes. The report states that an evaluation framework should be created in collaboration with the community, be flexible, and be practical to implement. Both reports highlight the importance of a formative process, carried out in collaboration with Indigenous communities and/or partners, as being critical to identifying practical suggestions and ideas about evaluation practices.
A variety of frameworks were described in the peer-reviewed articles (Hayward et al., 2020; LaFrance & Nichols, 2010; Lawrence & James, 2019; Maar et al., 2017; Saini, 2017; Tremblay et al., 2018). Similar to Heggie (2018) and Reciprocal Consulting (2011), Saini (2017) set out to conduct a formative process to co-identify effective components of an Inuit public health evaluation. Using participatory research processes and modified grounded theory, methods included semi-structured interviews and focus-group discussions with community members, health professionals, and evaluation experts. Saini found that an effective evaluation framework is one that engages the community throughout the entire evaluation process, is developed collaboratively, and includes tailored data-collection and dissemination strategies over the long term. Lawrence and James (2019) was the only study to describe in detail the co-creation and implementation of a more comprehensive evaluation framework, with the primary focus of bringing Indigenous and Western ways of knowing together to evaluate...
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a chronic-disease prevention initiative with American Indian and Alaska Native communities. Their framework was guided by four evaluation questions (generated with the Centers for Disease Control and Prevention and the Urban Indian Health Institute) and four core values of Centrality of Community and Family, People of Place, Recognizing Individual Gifts, and Upholding Personal and Tribal Sovereignty, which emphasized cultural centrality and mutual respect. The model was also grounded on a strengths-based, community-based participatory research (CBPR) approach and included a strategy for collecting data across three stakeholder levels: local, regional, and national. The evaluation strategy called for the collection of qualitative and quantitative data for different stakeholder-identified indicators to meet the diverse needs of the involved communities. Authors reported several outcomes, based on locally developed indicators, for example, the creation of new policies promoting physical activity, and increased access to healthier foods. No clinical outcomes were reported.

Tremblay et al. (2018) reported on a Canadian retrospective case-study design, from 1987 to the “present,” an evaluation framework for assessing the process and intermediate outcomes of the Kahnawake Schools Diabetes Prevention Project. Their framework development used CBPR approaches and a social movement theory perspective that aligned with the program based on community values and traditions and a holistic view of health, aiming to understand progress over time. This evaluation framework included four stages of change (emergence, coalescence, moment, and maintenance), with specific benchmarks/indicators and evidence of accomplishment for each stage. Evaluation information was collected through document reviews and four talking circles. The data were coded according to the framework stages and benchmarks. This type of framework allowed the authors to identify how the program had evolved over time and areas of improvement for CBPR-based projects. For example, it was evident that over several years, depending on the stages, partnerships strengthened, resources became mobilized, and social norms on diabetes changed.

Maar et al. (2017) described aspects of an evaluation framework specifically for the process evaluation of mHealth (mobile technology) interventions in multiple cultural settings, including five Indigenous communities in Canada and two communities in Tanzania. Based on CBPR and participatory constructivist approaches, the authors described a process evaluation framework for a mobile-phone intervention designed to support hypertension management. In a previous publication (Maar et al., 2015), the authors described their initial methodology for creating the framework. They indicated that formative CBPR processes (e.g., focus groups, observation) were carried out with key stakeholders in each community to inform the framework development (e.g., to identify implementation research questions and framework components). Their framework has five implementation domains (program theory, the technology of the intervention, cultural congruence, task shifting, and unintended consequences). For each domain, a set of evaluation research questions and data-collection tools were collected from four stakeholder levels: patient participants, care providers, health organizations,
and health systems. This framework allowed information to be collected for each domain from four stakeholder perspectives (Maar et al., 2017).

Hayward and colleagues’ (2020) intervention design, most similar to that of our two studies, was the Transformation of Indigenous Primary Healthcare Delivery (FORGE AHEAD), which is a five-year national research intervention in Canada. This program partnered with 11 First Nations communities across six Canadian provinces to implement culturally relevant, community-driven interventions aimed at improving clinical diabetes care and prevention. The authors reported on clinical outcomes from eight of the 11 communities over an 18-month, three-stage intervention including preparatory activities, community-driven interventions such as the development of a diabetes registry and tracking system, and knowledge exchange and dissemination. Though an evaluation framework was not described in detail, the authors depicted a pre-post mixed method case-study design rooted in participatory research principles and eight clinical outcome measures. The authors indicated that program process evaluation development was done in consultation with community partners, and that a Plan-Do-Study Act (PDSA) approach was used in part to evaluate community activities. Although process evaluation data or community changes were not reported, the authors indicated that future publications will include results from process measures. A previous publication by this group (Hayward et al., 2016) described the program protocol in more detail and emphasized the critical need for participation of the target audience in all steps of the process, from deciding on evaluation goals and the tools to use, to knowledge synthesis and knowledge mobilization and dissemination.

LaFrance and Nichols (2010) used focus groups consisting of cultural experts, Indian educators, and evaluators to develop the key themes of an Indigenous evaluation. They reported that embracing Indigenous worldviews, as well as local (contextual) ways of being, knowing, and doing are paramount and must sulfuse all aspects of the project and its evaluation. Development of a program and its evaluation are relational and inexorably linked to the context: the place or land, community, family, and individuals’ unique gifts, culture, protocols, and self-determination (tribal sovereignty).

**DISCUSSION**

This focused review aimed to highlight evaluation frameworks being used in Indigenous contexts related to relevant chronic disorders and/or diabetes or obesity interventions; how evaluations in Indigenous contexts have incorporated equity, social justice, community-driven and/or Two-Eyed Seeing approaches; and related gaps in the literature. Insights from this review highlight the use of a Two-Eyed Seeing perspective that brings together Indigenous and Western ontologies (ways of being), epistemologies (ways of knowing), and methodologies (ways of doing). Knowledge gained from this review confirms that evaluation approaches should be participatory and collaborative; culturally relevant; grounded in local context,
<table>
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<tr>
<th>Author(s) (Date)</th>
<th>Context and purpose</th>
<th>Participants</th>
<th>Evaluation principles, approaches, methods, design described*</th>
<th>Insights on evaluation framework</th>
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<tr>
<td>Heggie (2018)</td>
<td>Describes guiding principles and process of developing strengths-based culturally relevant Indigenous Wellness Indicators, and recommendations for City of Vancouver's Healthy City Strategy.</td>
<td>City of Vancouver, Metro Vancouver Aboriginal Executive Council (MVAEC), service providers, and self-identified Indigenous community members</td>
<td>Five guiding principles: 1) Indigenous Leadership, 2) Respectful Relationships, 3) Culturally Appropriate, 4) Strengths-based, 5) Capacity Building Methods: literature review, identified case studies, and conversations with knowledge holders</td>
<td>Indigenous wellness indicators should be co-developed and tracked with Indigenous communities. Wellness indicators should reflect Indigenous values and culture, and should be meaningful, relevant, and strengths-based.</td>
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<td>Reciprocal Consulting (2011)</td>
<td>Describes challenges and practical approaches to program evaluation in northern, remote, and Indigenous communities through an online survey</td>
<td>Survey respondents (n = 261) from government, Aboriginal, and Northern organizations across all Canadian provinces and territories</td>
<td>Five recommendation themes for program evaluation in Northern, remote; and Aboriginal communities: detailed practical guidance/ideas. Use of: 1) culturally sensitive program evaluation, 2) participatory evaluation approach, 3) principles of community-based research, 4) respectful relationship building, 5) community context Methods: Online survey</td>
<td>Evaluation frameworks should be realistic, innovative, and flexible. Evaluation tools should be practical.</td>
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<td>Hayward et al. (2020)</td>
<td>Reports clinical outcomes over 18-month, community-driven, culturally relevant, primary health-care model using quality improvement to improve clinical diabetes care and access to available community prevention and clinical management resources.</td>
<td>FORGE AHEAD partnered with 11 First Nations communities across six provinces in Canada to develop QI initiatives. Clinical outcome results for 2008 community members, 18 years or older, with T2DM, from eight of the 11 initial communities were reported. 57% of the cohort were female.</td>
<td>Design(^b): pre-post mixed methods case study with participatory research principles Plan-Do-Study-Act approach to test and evaluate interventions Co-development and co-evaluation of community-driven, culturally relevant models</td>
<td>Showcases outcome measures, including eight process and clinical diabetes management-related measures. Qualitative findings such as process measures will be available in future publications.</td>
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<td>Lawrence and James (2019)</td>
<td>Describes development and implementation of a three-tiered Indigenous Evaluation Framework/model that combines Indigenous knowledge and values with Western practices, to evaluate federally sponsored chronic disease prevention initiative (Good Health and Wellness in Indian Country) for American Indians and Alaska Natives at local, regional, and national levels.</td>
<td>Framework development with Centers for Disease Control and Prevention, Urban Indian Health Institute, Tribal Epidemiology Centers, tribal health organizations, and individual tribes in the United States</td>
<td>Four values: 1) Centrality of the Community and Family, 2) People of Place, 3) Recognizing Individual Gifts, 4) Upholding Personal and Tribal Sovereignty (examples of values in action provided). Prioritizes cultural centrality, mutual respect, and strengths-based approach for documenting activities, and locally tailored metrics, adherence to tribal protocols and cultural priorities, bi-directional learning, and CBPR approaches. Model combines Indigenous knowledge and values with Western evaluation practices.</td>
<td>Three-tiered framework co-designed and implemented to capture progress and impact data on health and wellness outcomes; includes four values with specific examples in context, four evaluation objectives, and conceptual diagram with evaluation questions and data aggregation across three levels. Challenges related to aggregating data when outcomes indicators differ across communities.</td>
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<td>LaFrance and Nichols (2010)</td>
<td>Describes findings (framing and foundations) for the synthesis of an Indigenous Framework for Evaluation that brings together Western and Indigenous ways of knowing in part to support mathematics and science education programs for the American Indian Higher Education Consortium (AIHEC).</td>
<td>AIHEC comprises 34 American Indian tribally controlled colleges and universities. The consultation process involved an advisory committee (American Indian scientists, educators, evaluators, and cultural experts) to guide process of focus groups. Fifty-four focus group participants shared perspectives/framing of evaluation in Indigenous contexts and approaches and strategies.</td>
<td>Guiding values: 1) being a people of a place, 2) recognizing our gifts, 3) honouring family and community, 4) respecting sovereignty, 5) Indigenous knowledge creation context</td>
<td>Findings emerged that evaluation should be opportunity for learning, should foster self-determination of communities and ownership, build up and integrate traditional ways of reflection and assessing value/merit of programs or community work, respect and invite Elder knowledge, rethink timeframes, and support sense of becoming for individuals and communities. There is no one set of steps, processes, or practices that define Indigenous evaluation.</td>
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<td>Tremblay et al. (2018)</td>
<td>Reports process and intermediate outcomes of the Kahnawake Schools Diabetes Prevention Project (KSDPP) with an Indigenous community in Canada. The project promotes healthy eating, physical activity, and behaviour changes among students and broader community. Study identified new understanding of program progress, areas of improvement, and ways to mobilize future action.</td>
<td>Twenty-four talking circle participants, including intervention staff, Community Advisory Board members, research team members, community workers, and community members</td>
<td>KSDPP’s programming is based on community values and traditions and holistic view of health (Haudenosaunee perspective of well-being). Approach, Design: case study (bounded in time from 1987 to present) with a Movement-Community-based participatory research approach, and Interpretivist approach Methods: retrospective document reviews and talking circles with four community stakeholder groups, using a talking circle guide</td>
<td>Framework includes four stages (emergence, coalescence, moment, and maintenance/integration) and five benchmarks of achievement for each stage (base building/mobilization, leadership, vision and frames, alliances/partnerships, advocacy agenda). Framework allowed progress tracking for a CBPR project, but does not provide strategies to achieve outcomes, which limits application.</td>
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Table 2. (Continued)

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<tr>
<td>Maar et al. (2017)</td>
<td>Presents a process evaluation framework for mobile health interventions in multiple cultural settings. Describes application of framework to mHealth hypertension management using SMS feedback in context of a pragmatic randomized control trial. Process evaluation aimed to examine what was delivered, how delivery was achieved, and how intervention required adaptations and unanticipated outcomes.</td>
<td>Formative qualitative research on community engagement and development of SMS messages informed the process evaluation; implemented in five Indigenous communities in Canada and two rural villages in Tanzania (135 informants participated in 12 focus groups and seven interviews).</td>
<td>Approach: Community-based participatory research method, participatory evaluation theory, participatory social constructivist I-RREACH approach, and medical anthropology approach</td>
<td>Process not explicitly done in collaboration with Indigenous communities Framework includes four human organizational levels: 1) patient, participants, 2) providers/care providers, 3) health organizations, 4) health systems for five implementation domains (program theory, the technology of the intervention, cultural congruence, task shifting, and unintended consequences). Framework chart includes evaluation research questions for each level and domain, data type, and tools for gathering information. Aimed to make the RCT model more adaptable to real life by including process evaluation according to CONSORT-EHEALTH guidelines</td>
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Table 2. (Continued)

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<tr>
<th>Author(s)</th>
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<tr>
<td>Saini (2017)</td>
<td>Describes thesis research undertaken in Rigolet Nunatsiavut and Nunatsiavut, Labrador, to understand how to characterize Inuit-identified components of effective evaluation and create and validate an Inuit public-health evaluation framework.</td>
<td>Thirty-three participants involved in qualitative data collection for the framework, including six community members (adult Rigolet community members)</td>
<td>Approach: Community-based participatory approach guided research process, modified grounded theory Method: Framework components identified through semi-structured interviews and focus-group discussions with community members, health professionals, decision makers. Inductive thematic analysis used to identify Inuit-identified components of effective evaluation. Draft framework vetted with members of research team from the region, and validated using a local public health tool (whiteboard project).</td>
<td>Four Evaluation Framework components were identified as important for evaluation of Inuit public health initiatives: community engagement, collaborative evaluation development, tailored evaluation data collection, and evaluation scope. Six steps identified: develop a working group, identify roles, describe the initiative, develop evaluation plan, implement the plan, and share evaluation results.</td>
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¹ Methods as described by the author(s).

² It is unclear if study design and evaluation design are the same.
community traditions, and knowledge; and responsive to community-identified needs and solutions (strengths-based).

**Insights: Evaluation principles, approaches and methods**

We identified relevant evaluation terms, principles, approaches, and methods evident in the literature. The term *approaches* refers to integrated ways of conceptualizing the evaluation, often including a set of values or principles that are used to answer specific evaluation questions, whereas *methods* refers to ways of gathering necessary information (Better Evaluation Ltd, 2011). We found that “participatory action research,” “participatory approaches,” and “Community Based Participatory Research” (CBPR) were approaches used or recommended in all of the reviewed literature that met inclusion criteria, highlighting the fact that research evaluations need to be framed within participatory methodological foundations. Various terms were used to describe CBPR, including participatory action research and action research. CBPR focuses on establishing partnerships with communities to achieve equitable research processes and improve health outcomes. Community members, viewed as experts, are typically involved in every stage of the process (Jull et al., 2017). Using participatory approaches fosters community buy-in and ownership and successful intervention implementation (Grover, 2010). Indigenous research methodologies embrace partnership approaches to bring together diverse perspectives, knowledge, and expertise, thereby maximizing resources, efficiency, and the likelihood of genuinely benefiting the communities and honouring local knowledge (Bainbridge et al., 2015; Kurtz, 2013). Health-care partnership interventions that are Indigenous-led, holistic, and culturally grounded are more likely to advance wellness and access to care for Indigenous peoples (Allen et al., 2020). Culturally responsive approaches to evaluation are used to better address concerns with injustices and social inequities (Acree & Chouinard, 2020). Qualitative methods and participatory approaches are embraced in Indigenous research contexts (Indigenous methodologies), as they align more with Traditional ways of learning, sharing knowledge, and bridging worldviews (Given, 2008; Kurtz et al., 2014). In this review, it was evident that evaluations need to be culturally appropriate, sensitive, relevant, or culturally safe (Hayward et al., 2020; Heggie, 2018; LaFrance & Nichols, 2010; Lawrence & James, 2019; Reciprocal Consulting, 2011; Tremblay et al., 2018), be strengths-based (Heggie, 2018; Lawrence & James, 2019; Reciprocal Consulting, 2011), build upon community-specific goals (Hayward et al., 2020; Heggie, 2018; LaFrance & Nichols, 2010; Lawrence & James, 2019; Reciprocal Consulting, 2011; Saini, 2017; Tremblay et al., 2018), and commit to building relationships, trust, and respect throughout the entire process (Heggie, 2018; LaFrance & Nichols, 2010; Lawrence & James, 2019; Reciprocal Consulting, 2011). Most importantly, Indigenous community members and relevant stakeholders should be involved in all aspects of the evaluation, from design to dissemination.

These evaluation principles and approaches align with a literature review of Indigenous approaches and ethical guidelines for program evaluation put forth
by the National Collaborating Centre for Aboriginal Health (NCCAH, 2013). The NCCAH guidelines also promote a fully participatory approach, including all relevant stakeholders in all processes, from needs assessment to knowledge mobilization. Gillespie et al. (2020) report seven similar principles for examining the evaluation of community initiatives that aim to nurture Indigenous well-being: the centrality of community context, Indigenous community engagement and control, consultation with Elders and Knowledge Keepers, and viewing evaluations as connected to relationship, reflection, empowerment, and ceremony. Chandna and colleagues’ (2019) scoping review of the grey literature highlights similar conclusions about evaluation principles in Indigenous contexts in which evaluation research with Indigenous communities most often uses participatory community engagement throughout, is culturally appropriate, reflects cultural values, and is specific to the community’s needs and context. Evaluations can also engage communities without using formal participatory methods such as CBPR. Similarly, Goforth et al. (2021) undertook a process evaluation of a public-school community engagement initiative with Confederated Salish and Kootenai Tribes in the United States to increase mental health program service access. Context, relationships, equity of partnership, culturally relevant methodologies (e.g., storytelling), tribal and community empowerment and leadership, and meaningful “immersion in the community, including learning about the historical and cultural context” (p. 2) were key features in their approach.

Despite the emphasis placed on the importance of engaging Indigenous communities and stakeholders in all aspects of the evaluation, the characteristics of community engagement varied. Community members and stakeholders were involved in formative evaluation planning processes such as identifying how to co-create wellness indicators, identifying evaluation principles before evaluations started (Heggie, 2018; LaFrance & Nichols, 2010; Maar et al., 2017; Reciprocal Consulting, 2011; Saini, 2017), engaging collectively in data gathering (Lawrence & James, 2019; Saini, 2017; Tremblay et al., 2018), analyzing or vetting themes from the data and providing feedback on tool development (Maar et al., 2017; Tremblay et al., 2018). Yet it was not clear in any papers reviewed if the communities initially identified the need or focus or defined the relevance of the programs that were being evaluated. This relates to the focus, relevance, and value of the evaluation, particularly if the frameworks are meant to be centred on what is of most importance or relevance to these same communities. Five of the documents reviewed stated that Indigenous community members, project team members, and/or key stakeholders were involved in developing the evaluation questions, values, approaches, methodology, or design (Hayward et al., 2020; LaFrance & Nichols, 2010; Lawrence & James, 2019; Maar et al., 2017; Tremblay et al., 2018). This is consistent with an Indigenous evaluation; however, a detailed explanation of how communities played a role in the decision-making processes, choice of community programs needed, and what they would look like was not provided.

A separate systematic review by Banna and Bersamin (2018) also found variable levels of community involvement in Indigenous evaluations. Among 49
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Indigenous-based nutrition interventions, only six communities were involved in formative research to inform an evaluation; communities helped identify what outcomes to measure or provided input on evaluation tools. Overall, authors highlight the importance of engaging community in evaluations and being cognizant that the degree of community involvement is critical in health outcomes. Furthermore, it is critical that this engagement embrace respectful and genuine community-led collaboration that occurs at the start of, throughout, and following the evaluation processes, to the degree that is confirmed by community members and stakeholders.

**Insights: Evaluation frameworks**

The research team and community partners (collective research team) were interested in interventions and an evaluation framework that would bring Indigenous and Western ways of knowing together: a Two-Eyed Seeing approach. However, we found no studies that provided evidence of a comprehensive, culturally relevant, equitable framework for both a process and outcome evaluation that was consistent with a Two-Eyed Seeing approach. Rather, studies focused on gathering process data, impact, or clinical outcome data. For example, the Tremblay et al. (2018) framework outlined process, behavioral, and social change outcomes and benchmarks for the four stages of movement (emergence, coalescence, moment, and maintenance) to evaluate their long-standing community-driven diabetes program. Hayward et al. (2020) reported on laboratory, physical measures, and quality improvement indices to show the success of a diabetes-related intervention. Overall, there was a lack of studies that presented a comprehensive overview of methodologies that incorporated all the guiding principles that we and the communities we work with might wish to use in the evaluation of our two studies.

Taken together, this review highlighted that there is no one-size-fits-all evaluation framework for Indigenous contexts. Evaluation frameworks in Indigenous contexts are often unique in gathering information in collaboration and being led by communities in meaningful ways according to different outcomes and purposes. Perhaps the most relevant application for the evaluation of our two studies is that differences in frameworks can be viewed as a strength, especially if the evaluation processes, framework, or tools are co-created by and with the community, based on what they identify as needs, actions, and outcomes, and are grounded in community-based approaches and principles.

**Insights on health, gender and/or equity within a two-eyed seeing approach**

Evaluations that included an explicit equity lens were lacking. Although advancing health equity is a central goal in public and global health, applying health equity action in real life is challenging (Plamondon, 2020). For example, equity-focused evaluation pays attention to underserved groups, identifies what is working and not working to reduce inequities, and highlights intended and unintended results for groups of interest (Bamberger & Segone, 2011). When working with
Indigenous communities or organizations, one way of integrating an equity lens into evaluation could involve asking questions such as these: Who is and who is not benefiting? Whose voices are not included in the evaluation process? How do we ensure that all are heard? Plamondon’s (2020) health equity tool might be useful in incorporating or discussing the use of an equity lens within evaluation processes in our current Indigenous-led intervention programs. This tool includes six possible descriptions for how a program, tool, or initiative could be responding to the causes of health inequities: discredit, distract, disregard, acknowledge, illuminate, or disrupt. Such tools could be useful in the evaluation of our two studies, allowing team members to question whether the evaluation, at that point in time, is helping to disrupt inequitable systems or perpetuate them.

There was minimal focus on gender-equity perspectives. Hayward et al. (2020) provided an overview of participant characteristics by sex (i.e., male vs. female). According to a UNICEF report (UNICEF, 2017, p. 3), gender equity is “the process of being fair to men and women, boys and girls, and importantly the equality of outcomes and results. Gender equity may involve the use of temporary special measures to compensate for historical or systemic bias or discrimination. It refers to differential treatment that is fair and positively addresses a bias or disadvantage that is due to gender roles or norms or differences between the sexes.” Integrating a gender-equity perspective into evaluation processes can allow researchers to understand how an intervention is benefiting diverse participants and ways of achieving equitable outcomes. Stratifying data by gender and creating gender-sensitive indicators, for example, can support health-policy planning, implementation, and evaluation (WHO & Payne, 2009). In addition, a Two-Eyed Seeing approach was most explicitly cited in the Lawrence and James (2019) and LaFrance and Nichols (2010) articles, as their evaluation endeavours aimed to bring together Indigenous knowledge and values and Western evaluation practices.

**Insights: Gaps in the literature**

Prior to conducting this review, our research teams were using collaborative, culturally safe, strengths-based, community-led and responsive, equity-focused, gender-relevant processes and were seeking evaluation resources related to their current collaborative framework. They wanted to better understand existing examples of evaluation processes to inform a co-created Indigenous evaluation framework for the two diabetes/obesity studies. This review suggests that there is a gap in the Canadian and American literature related to Indigenous evaluation frameworks, as most do not appear to explicitly address equity and gender, as discussed above. Based on how this narrative review was conducted, there is clear evidence of a gap in the Canadian and American literature related to Indigenous-specific evaluation frameworks, and a lack of consideration for equity and gender. Ideally, a culturally relevant and community-responsive Indigenous evaluation framework that would be of value to researchers and communities would include a detailed description of the guiding principles, approaches, and collective consensus processes used between the community partners and research team.
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It would also include reporting on intervention processes, impacts, and benefits for relevant gendered stakeholders and the effect on health equity. The literature appears to lack these detailed descriptions. We see lack of confirmation that the programs undergoing evaluation were originally based on community-identified priorities or needs and what role community stakeholders played in the design of those programs. Nor did we find a comprehensive framework that encompassed both Indigenous and Western worldviews. Our approach appears to be somewhat unique in that the programs and interventions to be evaluated were derived from the communities’ identified needs, priorities, and vision of how to proceed with solutions. We intend to co-design an evaluation framework that is grounded in honoring the communities’ vision to arrive at evaluation methods and outcome measures that are designed by the communities and for the communities’ benefit, with emphasis on equity, gender, and Two-Eyed Seeing perspectives.

This narrative review adds to existing literature by bringing together both grey and academic literature to provide greater clarity and understanding that Indigenous intervention programs and research evaluation processes need to be site-specific, locally (context-) informed and led, with and for the benefit of the community. Further, we identified the need for programs and program evaluations to address gender equity. In the evolving world of patient-centred care, the need for stakeholder involvement in program planning and evaluation using these same overarching principles is likely generalizable to both Indigenous and non-Indigenous settings and programs. Further research is needed to confirm this statement. The lessons learned from this review inform and support the ongoing co-creation of our studies’ evaluation framework. In the future, sharing of these two studies will undoubtedly provide valuable insights about relevant, respectful, and appropriate ways to conduct Indigenous program evaluation.

This initial review helped our team identify possibilities for future directions. We uncovered gaps in the literature: minimal information on comprehensive evaluation frameworks, co-creation processes, and use of equity and gender lenses in reported documents. These themes can help inform upcoming searches on similar topics. For instance, future work might explore this topic further by taking a broader, Indigenous-relevant approach (e.g., expand the search to include other countries) through a comprehensive scoping review. Given the divergence and variability in the documents we found, a future comprehensive search could identify how others have tried to assess effectiveness or compare studies, reports, or evaluation frameworks that differ and are context-specific. According to the uniqueness of Indigenous knowledge and local ways of knowing and doing, we wonder how and if standardization could be adapted and whether it could be beneficial or of interest to evaluators more broadly.

LIMITATIONS AND STRENGTHS

This “snapshot” of the literature has both strengths and limitations. The initial review was carried out by one author, a decided weakness. However, the inclusion
and exclusion criteria and grey literature web domains were decided upon by consensus of the three authors. Additionally, the primary reviewer, although a Settler who brings a Western lens, has experience working with communities and partners on Indigenous program evaluations. The secondary reviews were all carried out by the three authors using a Two-Eyed Seeing consensus process to ensure rigour and replicability. The positionality of Two-Eyed Seeing provides multiple perspectives from which the team can ensure that the voice and actions of partner communities remain in the forefront in closing inequitable health-care gaps.

There appears to be a paucity of published literature on comprehensive and collaborative Indigenous-led evaluation. Only eight documents met our inclusion criteria. Just the first two pages of the Google grey literature results were viewed based on a limited number of web domains, and many relevant and successful Indigenous-led programs do not appear to be available in systematic frameworks, which may have limited the breadth of included papers. However, a more in-depth review of the grey literature (Chandna et al., 2019) and other literature (Dudgeon et al., 2020) and a recent expert-panel guideline for health-service evaluation (Firestone, 2020), along with our extensive Google Scholar search, revealed that our focused review appeared to capture the key principles and protocols for meaningful evaluation in Indigenous contexts. Indigenous writers have also noted that the term evaluation is not translated into Indigenous languages (Gillespie et al., 2020), so this search term might be Western-focused and, when used alone, may limit results. This review reminds us all that there are successful, culturally safe, and evidence-informed Indigenous health programs occurring; however, their evaluations are difficult to find in the literature. Further, we identified an important gap in the evaluation literature: There is a need to address gender and gender equity when designing and evaluating Indigenous-led health interventions. Finally, this was not an in-depth systematic review, and since it was a narrative review, the quality or value of the studies was not assessed.

CONCLUSION

This review revealed that relevant evaluations in Indigenous contexts require processes that are ethical, collaborative, community-driven, meaningful, and inclusive of community contexts, traditions, knowledge, and other factors identified by and in partnership with communities. More emphasis needs to be placed on inclusion of gender and equity issues and solutions when evaluating Indigenous programs or interventions. Indigenous people are the experts who must lead the way for overall improvements in health, with the support of Indigenous researchers and strong allies. This review supports the approach for our two community-led studies: using multiple, community-specific evaluation frameworks, each based on the community’s goals, in addition to collective vision and leadership. The co-creation and future publication of this evaluation framework can not only help support Indigenous community intervention programs but also fill this gap in the literature.
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REFERENCES


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