



HAL
open science

Access to Indigenous and allopathic medicines: A systematic review of barriers and facilitators

Caroline Ouellet, Thomas Saïas, Vanessa Sit, Lise Lamothe, Michael Rapinski,
Alain Cuerrier, Pierre S Haddad

► To cite this version:

Caroline Ouellet, Thomas Saïas, Vanessa Sit, Lise Lamothe, Michael Rapinski, et al.. Access to Indigenous and allopathic medicines: A systematic review of barriers and facilitators. *Global Journal of Community Psychology Practice*, 2018, 9 (2), pp.1-38. mnhn-03988664

HAL Id: mnhn-03988664

<https://mnhn.hal.science/mnhn-03988664v1>

Submitted on 16 Feb 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution - NonCommercial - NoDerivatives 4.0 International License



Access to Indigenous and Allopathic Medicines: A Systematic Review of Barriers and Facilitators

Caroline Ouellet, Thomas Saïas, Vanessa Sit, Lise Lamothe, Michel Rapinski, Alain Cuerrier, and Pierre S. Haddad

Keywords: Systematic literature review, Traditional Medicine, Indigenous, healthcare access, ethnomedicine, Aboriginal.

Mots Clés : Revue de littérature systématique, médecines traditionnelles, Autochtones, accès aux soins de santé, ethnomédecine

Author Biographies: *Caroline Ouellet*, M.Sc holds a master's degree in nutrition and is currently completing a PhD and a PsyD in community psychology at the Université du Québec à Montréal. Recipient of a scholarship from the Canadian Institutes of Health Research - Institute of Indigenous Peoples' Health, her research focuses on the accessibility, namely barriers and facilitators, Indigenous Peoples encounter accessing allopathic and traditional health care and social services in Northern Quebec communities. Her expertise also focuses on knowledge transfer and exchange. *Thomas Saïas*, Dr. Saïas is currently associate professor of community psychology at the University of Quebec at Montréal. He has been working in the field of prevention for the last 15 years. He developed several public-orientated services of prevention targeting early childhood adversities. In Quebec and in France, he is involved in several research projects aiming to identify the facilitators for the success of public (governmental) preventative interventions. He is head of the "Epione: public health-community health" research team. *Vanessa Sit*, registered nurse, Ph.D. candidate at the Université de Montréal School of Public Health specializing in healthcare management. I am interested in understanding the combination of indigenous medicine and allopathic medicine in indigenous communities in Northern Quebec. *Lise Lamothe*, Ph.D. professor at the Department Health Management, Evaluation and Policy School of Public Health of the Université de Montréal. Her research interests are on the governance and transformation of health organizations. More specifically, she studies the professional dynamics associated with the transformation of health organizations in various clinical contexts, notably issues raised by multimorbidity. Also, she studies the dynamics associated with mergers of organizations, the formation of networks of services and the structural effects of NTIC in care and services processes. *Michel Rapinski*, is a PhD student at the Université de Montreal and Université de Guyane. His research areas and interest are multidisciplinary, focusing on ethnobiology, ethnomedicine and health, namely diabetes. Since beginning his master's degree, he has worked with various communities throughout Quebec and French Guiana. Alain Cuerrier, researcher at the Montreal Botanical Garden and writer, Dr. Alain Cuerrier earned his PhD in plant systematics (University of Montreal with one year at Harvard University) before switching to ethnobotany in 2001. He participated at

the creation of the First Nations Garden in Montreal as well as in Laquenexy (France). Since then, he has started ethnobotanical and ethno-ecological projects with the Palikur, Cabécar, Squamish, Inuit, Innu, Naskapi, and Cree people. *Alain Cuerrier* is a member of the Plant Biology Research Institute, adjunct professor at University of Montreal, member of ArcticNet, and Quebec Centre for Biodiversity Science. He has been vice-president of the Natural Health Product Research Society of Canada from 2010-2013 and is now past president of the International Society of Ethnobiology. Dr. Alain Cuerrier has published more than 8 books on plant uses by First Nations and Inuit of Canada. *Pierre Sélim Hadda*, is a tenured professor in the Department of Pharmacology and Physiology at the Université de Montréal, where he obtained his PhD degree in 1986 and returned as an independent researcher in 1990. He has authored over 140 peer-reviewed publications, two-thirds of which about Natural Health Products (NHP). In 2003, he successfully built the Canadian Institutes of Health Research Team in Aboriginal Antidiabetic Medicines, a multidisciplinary group of researchers studying the antidiabetic potential of plants used by the First Nations of Canada in their traditional medicine, which he still leads today. Dr. Haddad is recognized nationally and internationally for his work on NHPs and functional foods in the context of metabolic diseases such as obesity and diabetes. In May 2014, he received the prestigious Neil Towers Award from the NHP Research Society of Canada in recognition of his significant contribution to the field of NHPs. Finally, in 2015, he was appointed to the Advisory Board of the American Botanical Council.

Recommended Citation: Ouellet, C., Saïas, T., Sit, V., Lamothe, L., Rapinski, M., Cuerrier, A., & Haddad, P. S. (2018). Access to Indigenous and Allopathic Medicines: A Systematic Review of Barriers and Facilitators. *Global Journal of Community Psychology Practice*, 9(2), 1-38. Retrieved Day/Month/Year, from (<http://gjcpp.org/>).

Corresponding Authors: Caroline Ouellet, Department of Psychology, Université du Québec à Montréal. 100 Rue Sherbrooke O Montréal, Québec, Canada. H2X 3P2-Montréal <http://communautaire.uqam.ca/ouellet.caroline.3@courrier.uqam.ca>

Access to Indigenous and allopathic medicines: A systematic review of barriers and facilitators

Abstract

Background: Globally, Indigenous peoples are the victims of social inequalities in health. Their state of health is much lower than the health of the general population. Colonialism, living conditions and access to care are the main determinants of observed health conditions. The scientific objective of this systematic literature review is to study the facilitators and barriers to access healthcare for both, traditional and allopathic medicines.

Methods: An inclusive search of electronic databases (e.g ProQuest, Ovid, Medline, CINAHL PLUS, Cochrane Library, ApaPsyNet, PsyINFO and Sociological Abstracts databases) of the past 20 years was performed. We retained studies discussing (1) traditional medicine (TM) or allopathic medicine (AM) or both and occurring (2) within Indigenous population worldwide. We made no distinction between research carried out in rural as opposed to urban areas.

Results: A total of 45 studies published between 1996 and 2016 met our inclusion criteria and this speaks to the high interest and contemporary pertinence of accessing both systems of healthcare for Indigenous populations worldwide. Our thematic analysis enabled us to group barriers and facilitators into five categories, namely related to personal, relational, cultural, structural and policy components. As far as barriers and facilitators are concerned, the category that encompasses the most themes is the structural category.

Conclusions: Mutual respect, trust and understanding of each other's modalities is essential to offer the best healthcare options from both AM and TM to Indigenous peoples and hence pave the way to reducing health inequities. Wellness and strength-based approaches must also be favoured.

Résumé

Problématique : Mondialement, les peuples autochtones sont victimes d'inégalités sociales en santé. Leur état de santé est largement inférieur à celui de la population générale. Le colonialisme, les conditions de vie et l'accès aux soins sont les principaux déterminants des états de santé observés. L'objectif scientifique de cette revue systématique de littérature est d'étudier les leviers et obstacles à l'accès aux soins de santé autant pour les médecines traditionnelles qu'allopathiques.

Méthodes : Une recherche approfondie de bases de données électroniques a été effectuée

sur une période de 20 ans, notamment les bases de données ProQuest, Ovid, Medline, CINAHL PLUS, Cochrane Library, ApaPsyNet, PsyINFO et Sociological Abstracts. Nous avons retenu des études portant sur (1) la médecine traditionnelle (MT) ou la médecine allopathique (MA), ou les deux, et survenant (2) au sein de la population autochtone du monde entier. Nous n'avons fait aucune distinction entre les recherches effectuées dans les zones rurales ou urbaines.

Résultats : Au total, 45 études publiées entre 1996 et 2016 ont répondu à nos critères d'inclusion, ce qui témoigne de l'intérêt élevé et de la pertinence contemporaine de l'accès aux deux systèmes de soins de santé pour les populations autochtones du monde entier. L'analyse thématique a permis de regrouper les obstacles et les facilitateurs en cinq catégories, à savoir les composantes personnelles, relationnelles, culturelles, structurelles et politiques. En ce qui concerne les obstacles et les facilitateurs, la catégorie qui englobe le plus de thèmes est la catégorie structurelle.

Conclusions : Le respect mutuel, la confiance et la compréhension des modalités des uns et des autres sont essentiels pour offrir les meilleures options de soins de santé à la fois des AM et TM aux peuples autochtones et ainsi ouvrir la voie à la réduction des disparités sur le plan de la santé. Les approches axées sur le bien-être et la force doivent également être privilégiées.

Introduction

As for Indigenous populations across the world, each Indigenous community in Canada has a unique heritage, often its own language and cultural practices as well as spiritual beliefs. Likewise, Indigenous peoples have experienced many traumatic events, notably related to colonization. Such colonization has had a major influence on the health of Indigenous peoples and its impacts continue to be profound (Australian Law Reform Commission, 1986). In many instances, treaties have been signed to establish diverse forms of relationships between governments and Indigenous people, rarely to the advantage of the latter. In many countries that have been colonized, notably by Eurocentric powers, several changes occurred. For example, Indigenous were forced to settle down; education was enforced and European culture was mandatorily taught; Indigenous peoples were forced to embrace a new culture and hide their traditions where medical professionals provided acute care; medical

clinics were built thus forcing Indigenous to become dependent of the system (Furniss, 1999). Often, discrimination and racism are still rampant. The colonial trauma associated with the memory of past mental, physical and sexual abuse in several communities is still present today. Despite such trauma, Indigenous people have demonstrated outstanding resilience (Fleming & Ledogar, 2008).

Through such colonization, a "western" or allopathic healthcare system was also gradually introduced in Indigenous communities in replacement of Indigenous Traditional Medicine (TM; both defined in the next section). Despite the efficacy of modern medicine, the health status gap, between Indigenous and non-Indigenous populations, is often increasing year after year, as is the case in Canada (Frohlich, Ross, & Richmond, 2006; Santé Canada, 2016; World Health Organization, 2008). Modern medicine may be efficient for several conditions but it is not

always adapted to meet Indigenous needs. For instance, Canada's Indigenous population faces serious health-related challenges, including higher prevalence of Type 2 diabetes (T2D), tuberculosis and suicide (Government of Canada, 2013; Harris, Bhattacharyya, Dyck, Naqshbandi Hayward, & Toth, 2013; L. Kirmayer, Simpson, & Cargo, 2003; L. J. Kirmayer et al., 2007). Although their life span has increased, Health Canada reports that Indigenous people still die at a younger age than the general population (Statistics Canada, 2015). Health issues are similar to other Indigenous population in the world (Pink & Allbon, 2008).

Moreover, health inequalities persist despite public health efforts, such as prevention programs for tobacco, cancer screening and improved nutrition and physical activities targeting specific Indigenous health issues (Government of Canada, 2015, 2016). Several reasons can be brought forth to explain the greater prevalence of physical and mental health problems amongst Indigenous populations. These include social determinants of health (poorer housing, lower income, education and other conditions), genetic and environmental factors, as well as more problematic access to proper healthcare services (Adelson, 2005; Anand et al., 2001; Cameron, del Pilar Carmargo Plazas, Santos Salas, Bourque Bearskin, & Hungler, 2014; Reading & Wien, 2009). Many of the former factors can be related to the consequences of colonialism as already mentioned above.

It is therefore highly desirable to find novel ways to improve the health status of Canadian Indigenous and, especially, to do so in a culturally appropriate manner. In this context, Indigenous Traditional Medicine (TM) offers a promising avenue to explore. This also resonates with the call for greater autonomy and self-governance expressed by several Canadian Indigenous populations in the context of healthcare (Inuit Tapiriit Kanatami,

2016). Nevertheless, accessing healthcare that involves the use of both medicines, be it in an integrative or parallel fashion, has been problematic in terms of definitions as well as implementation into practice. Indeed, in Canada, there are no guidelines for offering Indigenous TM to Indigenous Canadians alongside or within the current healthcare system.

Our own research group, the Canadian Institutes of Health Research Team on Aboriginal Anti-Diabetic Medicines (CIHR-TAAM) has been working in a close relationship with First Nations of Canada since 2003 to identify plants from their traditional pharmacopeia with anti-diabetic potential (Harbilas et al., 2009; Martineau et al., 2006; Spoor et al., 2006). This work was initiated to counter the fact that, in the absence of scientific evidence, doctors and public health officials are reluctant to use Indigenous TM, notably medicinal plants, as a means of treatment. Despite considerable Indigenous knowledge (often weakly recognized by "western" institutions) and additional scientific evidence generated through research (Eid & Haddad, 2014; Guerrero-Analco et al., 2014; Haddad et al., 2011; Ouellet, Harbilas, Garofalo, Levy, & Haddad, 2016), there still exist several challenges toward the development of new policies, service programs and healthcare delivery that would promote improved access to Indigenous TM.

In this context, it is important to first consider the key factors that intervene in the access to Indigenous as well as allopathic medicine. Indeed, few studies have systematically explored the barriers that impede such access as well as the factors facilitating it. The purpose of this paper is thus to systematically review international articles identifying and discussing barriers and facilitators related to the use of allopathic healthcare, traditional healthcare, or both, among Indigenous populations.

Methods

Research question and definitions

The research question for this systematic literature review was: *What are the barriers and facilitators to access traditional healthcare or allopathic healthcare among Indigenous populations?*

For the purposes of this review, traditional medicine (TM) is defined by WHO as “*the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness*” (World Health Organization, 2013). AM refers to biomedicine, modern medicine or conventional medicine (Dupuis, 1998). It differs from TM in its commitment to diagnosis, treating patients using objective

and progressive science (Kaptchuk & Miller, 2005). In AM, medical knowledge is considered more reliable when tested under controlled experimental conditions even though clinical observations are still valid (Bell et al., 2002).

Literature search strategy

The literature search was performed on several databases, including ProQuest, Ovid, Medline, CINAHL PLUS, Cochrane Library, ApaPsyNet, PsyINFO and Sociological Abstracts databases. Results were limited to works in French, English and Spanish languages, with a publication date up to June 3rd, 2016. Table 1 presents the various keywords that were used in the literature search. The focus was put mainly on Indigenous medicines such that Traditional Chinese, Ayurvedic, Unani, Siddha and other established health system modalities were not included.

Table 1

Terms/keywords used in search strategy

Step	Keywords	Syntax
1	Aboriginal therap*	
2	African traditional medicine	
3	Alternative medicine	
4	Arabic medicine	
5	Australian traditional medicine	
6	Complementary medicine	
7	Complementary therap*	
8	Complementary medicine and therap*	
9	East Asian traditional medicine	
10	Faith healing	
11	Folk medicine	
12	Holistic medicine	
13	Indigenous medicine	
14	Latin American traditional medicine	
15	Native American traditional medicine	
16	Oriental medicine	
17	Shamanism	
18	Tibetan medicine	
19	Traditional medicine	

20	Bush medicine	
21	Ethnomedicine	
22	Traditional heal*	
23	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22	Syntax 1
24	Allopathic medicine	
25	Western medicine	
26	Biomedical health service*	
27	Mainstream health service*	
28	Dominant health care	
29	Non-traditional medicine	
30	24 or 25 or 26 or 27 or 28 or 29	Syntax 2
31	23 or 30	
32	Aboriginal	
33	Native	
34	First Nations	
35	First Nation	
36	First people*	
37	Indigenous	
38	Inuit	
39	Inuits	
40	Inuk	
41	Cree	
42	Maori	
43	Metis	
44	American Indian*	
45	Native American*	
46	Eskimo*	
47	32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46	Syntax 3
48	31 and 47	
49	Health care model*	
50	Organizational model*	
51	Integrat* care*	
52	Integrat* health care*	
53	Health care system*	
54	Health care framework*	
55	Intercultural health care*	
56	Integrat* medicine	
57	Health service	
58	Health services	
59	Mental health service*	
60	49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59	Syntax 4
61	31 and 47 and 60	

Eligibility criteria

We selected eligibility criteria in order to form an analytical corpus that includes the widest possible scope of research and to provide an overall picture of the literature on barriers and facilitators intervening in the use of traditional medicine, allopathic medicine or both types of medicines. We retained studies discussing (1) traditional medicine or allopathic medicine or both, and occurring (2) within Indigenous populations. This brought forth studies concerning Indigenous populations situated principally in the Americas, in Australia/New Zealand as well as in Africa. It is noteworthy that these regions of the world have been colonized by Eurocentric powers and, as such, offer a reliable basis on which to compare results. We made no distinction between research that was performed in rural as opposed to urban areas.

Selection of relevant literature

A total of 1898 articles were identified with our broad search criteria. As shown in Figure 1, those duplicates were removed, this number was reduced to 1290 articles. We focused our study on articles published after 1996 in order to focus on changes that have occurred in the last 20 years. This narrowed down the search results to 845 articles. Relevant papers were then selected by scrutinizing the titles of the 845 works. We retained articles (1) where titles concerned barriers and facilitators toward the use of available or non-available healthcare among Indigenous populations or articles (2) having the potential of discussing such barriers and facilitators. We excluded articles pertaining to unique medical treatments, specific molecules in pharmacology and book pages classified as articles. This resulted in the exclusion of 698 articles, leaving a total of 147. A second reviewer (T.S.) selected one database and performed the same screening process on 90 randomly selected articles, retaining the same

selection of articles than the first reviewer (C.O.), thereby confirming the soundness and reliability of the procedure. An additional 102 articles were found not to be relevant after reading their abstracts. We retained articles where abstracts dealt with barriers and facilitators toward the use of available or non-available healthcare among Indigenous populations. We excluded articles related to demographic studies, symposium summaries, training documentation on western medical treatments and agriculture of medicinal plants. We also removed one Russian and one German article, classified as English, that were not excluded while searching through databases. This yielded a final selection of 45 articles that form the object of our analysis.

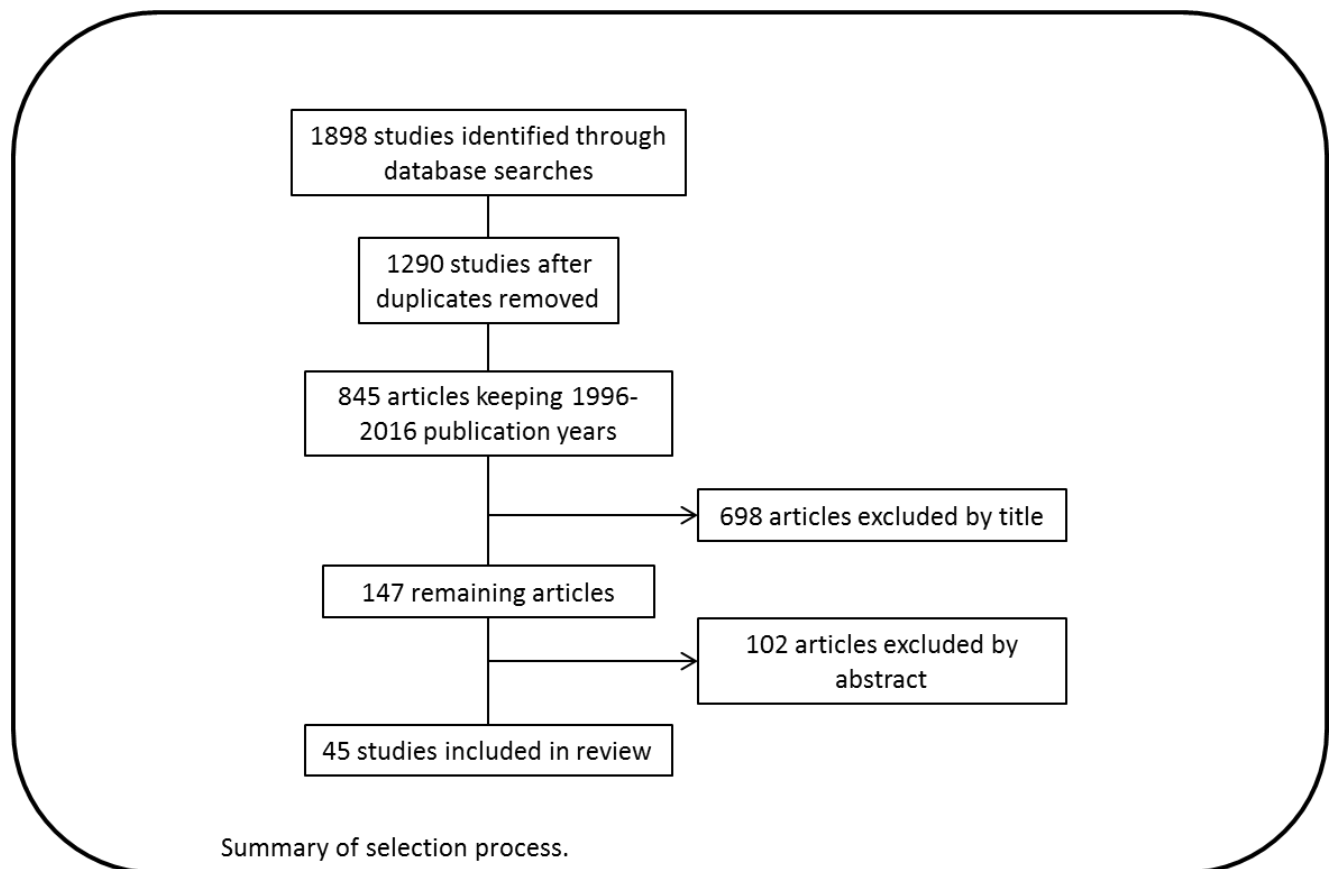
Data analysis

A first reading of the 45 articles was carried out in order to grasp the general content of each text. To facilitate the processing of the data, Microsoft Excel was used to construct a table whereby a first and then a second categorization of data was carried out. All studies retained in this review were placed in random order. Two researchers (C.O., T.S.) reviewed the selected extracts to define a common categorization strategy. Coding was performed based on the thematic analysis of Braun and Clark (2006). Through a six-step process (familiarity with the corpus, code generation, theme generation, theme refining, theme definition and data report generation), the objective is to highlight all the themes addressed in selected articles until saturation of the topics occurs; the process generating a thematic tree gathering all the categories and sub-categories evoked. Recurring themes were classified into a pre-existing coding grid concerning either TM or AM on the one hand, and barriers and facilitators to their access, on the other. Initial categories were then determined on the basis of all the important elements present in the table. A second categorization was conducted on themes to reach a tighter level of category. This process

was repeated until the superior categories could no longer be amalgamate.

Figure 1

Summary of the procedures used for selecting articles for the systematic review



Results

Selection of relevant articles, themes and categories

The selection process presented in Figure 1 yielded 45 articles that met the inclusion criteria on barriers and facilitators toward the use of TM and AM among Indigenous populations. A thematic synthesis of barriers, facilitators as well as solutions and recommendations identified five broad categories that reflect personal, relational,

cultural, structural and policy components. These modulate barriers to the access of either AM or TM as well as factors that facilitate such access. It should be noted that studies differed in their experimental protocols and research questions. Nevertheless, in the following analyses of the results, themes in each category were organized in descending order of their frequency of occurrence. You will find in Appendix 1 the list of works used for this systematic literature review

Table 2

Barriers to the use of Allopathic medicine (Biomedical health care system)

Category	Theme	References
Personal barriers	Personal beliefs against biomedical system	2,7,8,16,18,19,30,35,44
	Poverty	6,8,16,41,43,18,35
	Dissatisfaction with treatment outcomes	8,18,34,35
	Resistance to change while implementing new practice	30
	Health professional's limited knowledge about allopathic medicine	35
	Unease in the hospital setting	39
	Unease with doctor's gender	18
Relational barriers	Difficulties in communicating with health professional (verbal or nonverbal miscomprehension/too rapid pace of conversation)	1,10,13,35,39,40,41,42,43
	Difficulties establishing patient-health practitioner relationships	2,8,18,19,28,41,43,44
	Racial tension	18,35,41,45
	Too little/limited time with health provider	8,18,40
Cultural barriers	Different sociocultural belief systems and cultural background between health care providers and recipients	1,2,4,7,8,16,18,19,30,35,38,39,41,42,44,45
	Lack of adequate cultural training for health professionals	1,4,13,32,39,40,41,42,43,44
	Fear of side-effects of medication/intervention	2,9,19,28
	Not alignment with healer's beliefs and perception	9,37
	Culturally inappropriate care/compromised cultural safety	41,43
	Lack of indigenous cultural settings/unfamiliarity navigating in the system	42,44
	Fear of community judgement toward the choice to use allopathic medicine	2
Structural barriers	Long distance from home – no access to care	2,5,6,12,16,19,32,35,39
	High cost of treatment and medication	2,6,12,16,19,32,34,41
	Lack of options/ non-offered practice	2,5,32,35,38
	Long wait to see health professional / overcrowded	2,18,42,43
	Lack of adequate medical equipment / Undersupplied	2,4,32,38

	Inconvenience of the clinic hours of operation	19,32,39
	Lack of financial means to deliver care	1,32,41
	Lack of health care insurance/ineligibility to care	8,18,19
	Communication - illiteracy/monolingual e.g. difficulties filling out forms	18,41
	Administrative heaviness of health system (Red-tape)	2,44
	Communication – translator’s inadequacy or unavailability	1,41
	Limited amount of staff	19
	Unreliable communication system to reach patients at home	41
	Non-adaptation of the health care system	41
	Scientific studies are not translated to clinical practice/policies	41
	Insufficient indigenous people work in the clinic	42
	Heavy staff turnover	43
	Impersonality of treatments	1
Policy barriers	Social inequity (Inequitable treatment regimes for Indigenous and non-Indigenous patients)	6,8,16,41,43,18,35
	Inefficient funding model	1,32,41
	Ineffective mechanisms to implement Indigenous health framework	41
	Ineffective model of care	41
	Indifference/discrimination of health authority	41

* Refer to Appendix 1 for the full list of studies cited in the table.

Table 2 presents the barriers to the access and to the offering of allopathic healthcare. A total of 42 themes were determined by matching synonyms. These were divided into the five aforementioned categories of barriers.

Personal barriers to accessing AM

The first category related to personal barriers. In this category, the most cited reason for not using the biomedical healthcare system is personal beliefs/attitudes against the

biomedical system that can hinder a person’s use of the offered healthcare. Such beliefs/attitudes often stem from less than optimal experiences with the healthcare received, including racism in the case of Indigenous populations (contextualized further in the Discussion section). The second most cited reason is poverty. Poverty includes lack of money to pay for healthcare and

medication, lack of means to transport sick people to the closest clinic, and impossibility to miss a day of work to attend an

appointment, to name a few. Another cited personal barrier is the dissatisfaction with treatment outcomes, ranging from difficulties following the recommended treatment to major side effects resulting from its use. Other barriers for the access to medical care from the patient's perspective include unease with the hospital setting and unease with a doctor's gender, notably when the doctor is from the opposite gender. In terms of the offering of care, a personal barrier is the health professional's limited knowledge about the culture he is working in, about particular disease prevalence or pattern associated with Indigenous communities, and about specific treatments to help patients. A general barrier influencing the access and the offering is the resistance to change, the difficulty in trying out new avenues in healthcare.

Relational barriers to accessing AM

In the relational barriers category, the most influential barrier to the access and to the offering of allopathic healthcare relates to difficulties in communication. Communication problems include verbal miscomprehension because patients and health practitioners do not always speak the same language, the too rapid pace of conversation for patients, the incomprehension of technical medical vocabularies and the cultural miscomprehension of nonverbal gestures. In addition, difficulties in establishing relationships between patients and health practitioners may influence the access to healthcare for communities. Limitations in the time spent with the healthcare provider as well as racial tensions are other relational barriers encountered.

Cultural barriers to accessing AM

Nineteen studies (42%) from this systematic literature review fall into the cultural barriers category. Sixteen studies (36%) mentioned different sociocultural belief systems and cultural background between providers and

recipients of care as the main barrier to the access and the offering of biomedical healthcare. This is rooted in historical trauma, whereby the biomedical system is seen as an extension of colonization; with dominance of staff over patients causing a feeling of alienation. The lack of adequate cultural training for health professionals is mentioned as one of the main cultural barriers. The lack of indigenous cultural settings inside clinics and the unfamiliarity with the healthcare system are also mentioned. Another encountered barrier is culturally inappropriate care. Cultural protocols are unknown or not respected. This jeopardizes the cultural safety sought by patients. Resistance to using the biomedical system may also come from the community Traditional Healer's negative beliefs and perceptions toward the biomedical system. Patients may fear side effects if they use allopathic treatment. That fear may be influenced by the community's beliefs against the biomedical system as well as previous negative experiences for the patient himself, a relative or a close friend. Patients may also apprehend the community's judgement if they rely on allopathic care; they may feel embarrassment from the community in choosing to consult.

Structural barriers to accessing AM

The largest category in this table encompasses structural barriers. In this category, the most cited reason for not using the biomedical system is remoteness; the long distance from home to access healthcare. Travelling outside their communities to access pharmacies or other modern healthcare services is demanding for elderly people, sick patients and pregnant women. The second most cited barrier is the high cost of medical consultations and medication. Certain individuals lack health insurance, have difficulty accessing insurance or are not eligible for it. On the other hand, certain healthcare practices may not be offered in

communities, clinic staff may not be able to meet the patient’s need and services may have been removed from remote communities to relocate them in urban centers. In other cases, clinics or hospitals lack adequate medical equipment or are undersupplied. Other structural barriers include the limited number and heavy turnover of the staff. This entails overcrowded clinics, causing a long wait to see health professionals, as well as unprepared health professionals working in an unfamiliar setting. Patients also complain about the insufficient amount of Indigenous people working in the clinic, the impersonality of treatments and the fact that health practitioners do not always agree when the whole family wants to be present during a consultation. In terms of communication, a translator’s inadequacy or unavailability causes problems when there is a language barrier. Another communication problem is the lack of adaptation of the system when illiterate or monolingual patients must fill forms for their registration (forms being in an unfamiliar language). It also becomes a communication problem when staff tries to reach patients by phone or mail in remote areas where telephones and addresses may not exist. Patients fail to

receive information about their appointments and they are blamed for not showing up. Other barriers to the access of care relate to the hours of operation of the clinic; these may be incompatible with everyday obligations or conflict with Indigenous traditional activities. Other structural barriers relate to the heavy administration of the health system, the lack of funding for health services and infrastructure and the fact that scientific findings are not translated to clinical practice/policies.

Policy barriers to accessing AM

In the policy barriers category, the most frequently mentioned barrier is social inequity. Studies mentioned inequitable treatment regimes for Indigenous and non-Indigenous patients, reflecting the discrimination of health authorities toward Indigenous communities. Another barrier stems from the allocation of insufficient funds to implement culturally adapted allopathic care and a true Indigenous healthcare framework. Finally, the allopathic model of care prioritizes diagnosis and treatment instead of focusing on prevention programs.

Table 3

Barriers to Indigenous Traditional Medicine

Category	Theme	References
Personal barriers	Personal beliefs against traditional medicine	2,8,11,30,35,37
	Patient or healer limited knowledge - Inappropriate use or dosage / unsafe practice	2,12,20,36
	Health problem is not a priority for the healer or not perceived as being problematic	2
	Erroneous teaching	20
	Resistance to change	30
	Healer’s lack of skill about business administration and financial engagement	32
	Bad reputation of the healer	9

Relational barriers	Negative promotion of traditional medicine	11	
Cultural barriers	Acculturation / beliefs against TM	2,8,11,30,35,37	
	Marginalization/stigmatization of TM	11,21,26,33	
	Loss of knowledge and interest in traditional medicine	12,19,27,37	
	Ignorance of TM from biomedical system/staff or unfamiliarity	20,21	
	Vision of TM as complementary or last resort resource	13	
	Usage is taboo/secret for the user	16	
	Sick patient living in the healer's house	34	
Structural barriers	Informal training to become a TM practitioner	3,11,24,32,33,36	
	Lack of /limited funding from the health care system	3,16,26,28,30,38	
	Lack of research on traditional medicine effectiveness and safety	2,10,11,21,33	
	Unpaid healers or inconsistent payment	3,34,38	
	Long distance from home – difficulty accessing medicines (products/treatments/healers)	7,12,26	
	Harmful procedures	9,11,28	
	Effort/time to prepare traditional remedies	10,12	
	Gap between policies and practices	15,16	
	Regulation: increased cost of care and therapy	15,34	
	Minimal structuring of TM	1	
	Seasonally unavailable traditional medicines	7	
	Scientific studies are not translated to clinical practice	11	
	Unpredictable schedule from healers	26	
	High cost of treatment	36	
	Policy barriers	Non-regulated health workforce	3,6,11,24,28,32,33,34,35,37
		Dominance of biomedical system	19,21,26,34,41
Biopiracy/no knowledge protection		34,37	
Many interpretations of TM/Definitions		21	
Policies encourage drug prescriptions		10	
	Regulation: loss of freedom / lack of control	15	

* Refer to Appendix 1 for the full list of studies cited in the table.

Barriers are also met when populations consider using Indigenous traditional medicine. Table 3 presents a total of 39 themes uncovered when identifying the barriers that pertain to the access and to the offering of traditional medicine, again taking into account synonyms. It also groups these themes into the same five categories used for allopathic medicine.

Personal barriers to accessing Indigenous TM

In the personal barriers category, the most cited reason for not using the biomedical system relates to personal beliefs against TM. This includes health practitioners who are against TM and forbid its use by their patients, patients who fear side effects or have superstitions, and some groups who try to undermine or suppress TM (often on spiritual grounds). The second most cited personal barrier for not using TM stems from the fact that, as in other treatment modalities including AM, some practitioners are not always fully competent. Hence, studies mention the patient or Traditional Healer's limited knowledge about the appropriate use of the medicine, the inadequate dosage while treating a condition or an unsafe practice leading to more harm. Other barriers include the health problem not being a priority for the Traditional Healer or that he does not perceive it as being problematic thus pushing the patient to seek help from the allopathic medical system. Some Traditional Healers might decide to withhold treatment depending on the patient's age. It was also mentioned that Traditional Healers may have received erroneous teachings leading to mistakes in his practice. Additionally, some Traditional Healers may lack skills in business administration and financial engagement and this may interfere with their capacity to maintain a functioning practice. A final personal barrier influencing the access and the offering of TM concerns the resistance to

change or the difficulty in trying out new avenues in health.

Relational barriers to accessing Indigenous TM

Two relational barriers were identified in the literature. Firstly, the bad reputation of a Traditional Healer, may hinder his practice thus limiting the access to TM in a community. Secondly, the negative promotion of TM by health practitioners and community members convey ideas that undermine TM practice.

Cultural barriers to accessing Indigenous TM

In the cultural barriers category, the most influential barrier is the cultural background of users, non-users and health practitioners. Indeed, health practitioners may not have been exposed to traditional medicine before beginning their practice because of cultural differences. This ignorance of, or unfamiliarity with, TM often characterizes the biomedical system or allopathic health practitioners and may thus explain the bias that they can develop against TM. Such a context can also contribute to the negative personal beliefs cited above. The next two barriers were cited equally in the literature. The first one refers to the loss of knowledge and interest in traditional medicine that is often observed in younger generations or can be related to the communities' proximity to hospitals or urban centers, which offer choices of treatment from the dominant system. The second one may derive in part from the former since it concerns the marginalization and stigmatization of traditional medicine. Consequently, TM may also be seen as a complementary or a last resort resource and its usage considered taboo or kept secret. In some cultures, sick patients may actually stay in their Traditional Healer's home. This may discourage some individuals from consulting Traditional Healers.

Structural barriers to accessing Indigenous TM

As was seen with allopathic medicine in the previous section, the structural barriers category comprises the largest number of identified themes. In this category, two reasons were cited most frequently for not accessing/offering TM. The first relates to the training of TM practitioners that is considered informal. The second concerns the lack of, or limitations in, financial resources of the healthcare system to include TM in their services. Close third is the relative scarcity of research about the effectiveness and safety of TM, making the latter less “trustworthy” than the dominant biomedical system. These three themes may explain why allopathic practitioners may be reluctant or unable to send patients to the “other system”. Several themes were noted that referred to the payment of Traditional Healers. One barrier is the high cost of treatments that cannot be afforded by the population. Another barrier relates to the patient’s inconsistent payments to the Traditional Healer, which make Traditional Healers’ living difficult. To be noted, in some cultures Traditional Healers do not get any money for their services while in other cultures they receive payment only if the patient is healed. Another mentioned barrier is the Traditional Healers’ unpredictable availability, which makes it difficult to consult them. In remote areas, Traditional Healers may live on the land, forcing patients to travel long distances in nature to access treatment. Similarly, the population may not have access to the appropriate traditional preparations, as some plants are only available seasonally. Also mentioned, the effort and time it takes to prepare traditional remedies may discourage some patients. On an organizational level and

when available, scientific studies are not translated to clinical practice, which affects the gap between the generation of knowledge and the establishment of policies and practice guidelines. In parallel to this last consideration, some communities are weary about TM becoming more regulated. This could modify or limit its practice and cause the cost of care and therapy to increase.

Policy barriers to accessing Indigenous TM

In the policy barriers category, more than 15 studies (33%) mention a non-regulated health workforce as the main barrier to the access and the offering of TM. This theme encompasses the absence of legislation, policies and accreditation for the practice of TM, including the practicing Traditional Healers themselves, their treatments and the natural products used. In parallel, the culturally dominant biomedical system strongly encourages drug prescription and compliant use. Biopiracy is another barrier mentioned that refers to policy or lack thereof. International efforts have been made to improve the protection of traditional knowledge, such as the Nagoya protocol (Secrétariat de la Convention sur la diversité biologique, 2012). Nonetheless, information about TM must be shared with caution since the application of such guidelines is not uniform on an international level. Furthermore, TM is very diverse and often specific to certain Indigenous groups or even communities, making it difficult to establish a uniform policy in its regard. As mentioned with structural barriers, communities also fear that with regulation, Traditional Healers and patients may lose their freedom of choosing what suits them best and Traditional Healers may no longer have full control of their practice.

Table 4

Factors facilitating the use of Allopathic medicine (Biomedical system)

Category	Theme	References
Personal facilitators	Patients' satisfaction of treatment	8,42
	Positive treatment outcomes	18
Relational facilitators	Good patient-health practitioner relationship	8,23,31,32,39,42,43,44
	Iterative dialogue	5,23,32,39,43,44
	Referrals from/to healers	28,33
	Practitioner self-disclosure	31
	Adequate amount of time spent with health professionals	33
	Health practitioner bonds with community	1
Cultural facilitators	Cultural adaptation of tools and programs	1,27,28,39
	Positive cultural background toward biomedical system	8,44
	Origin of modern drugs (plants)	11
	Incorporation of Indigenous traditional practices into biomedical system	39
Structural facilitators	Proximity of/exposure to care	1,7,13,23,39,42
	Presence of Indigenous staff	1,3,29,31,39
	Low cost of treatment / free health care	2,7,12,18,39
	Patient-centered care	32,33
	Modern use/science establishing efficacy	7,12
	Long shelf life of the medication	7
	Modernization of health care	19
	Possibility of home care	28
	Incentive to come at the clinic	39
	Adequate environment	43
	Easy use of treatment	2
Privacy of treatment	2	
Availability of supplies	7	
Policy facilitators	Dominance/power of biomedical care	7,12,26

* Refer to Appendix 1 for the full list of studies cited in the table.

As illustrated in table 4, a total of 26 themes were uncovered when determining the facilitators to the access and to the offering of allopathic healthcare. Categories similar to the ones used to present barriers were selected.

Personal facilitators to accessing AM

Patients' satisfaction with treatment is mentioned as a key personal facilitator for seeking services from the allopathic system of medicine. This satisfaction derives from encountering friendly and caring staff as well as spending enough time with the healthcare professional. Positive treatment outcomes, such as one reducing pain, are often cited as a second factor facilitating the use of allopathic medicine.

Relational facilitators to accessing AM

In the relational facilitator category, the most influential positive factor that was identified relates to the establishment of a good relationship between the patient and the healthcare practitioner. When a good relationship is established, patients perceive that practitioners are more caring. They may also feel recognized and respected as another culture, which helps establish trust. Some patients report that they spend an adequate amount of time with the health professional; this eases the creation of a good relationship and increases attendance to appointments. The second most cited facilitator is the iterative dialogue that can occur between the patient and the healthcare practitioner. As nicely exemplified in an Australian context, this process can yield "*Effective and respectful communication (that) allowed Murri clients to be more informed and empowered so they could make knowledgeable decisions*" (Kendall & Barnett, 2014). A practitioner's self-disclosure about aspects of his private life can help to bridge the gap between patients and health practitioners. Moreover, bonds often develop between a health practitioner and a

community as time spent in a community increases. Another facilitator to engage into allopathic care exists when a reciprocal referral network is established between Traditional Healers and health professionals.

Cultural facilitators to accessing AM

In the cultural facilitators category, the most frequently mentioned facilitator is the cultural adaptation of healthcare tools and programs. Indigenous patients understand and collaborate better with a program when the tools are adapted to fit the community's needs (Abbott, 1998). Patients who are more familiar with or culturally adapted to the biomedical system more easily make use of it. Another facilitator is the incorporation of Indigenous traditional practices into the biomedical system. Sharing circles, smudging, ceremonies, sweat lodges and working with an Elder can be offered to increase the comfort and familiarity to better suit the patient's needs. Additionally, knowing the origin of modern drugs can facilitate their use. Several modern drugs are based on natural sources, many based on their use in TM (King, 2004).

Structural facilitators to accessing AM

In the structural facilitators category, the most explored theme is the proximity to the clinic and exposure to care. Communities are more likely to use services when they are offered nearby. Treating ill patients directly in their home is also mentioned as a facilitator. Hiring Indigenous people was likewise highly mentioned. Patients feel more comfortable when they recognize themselves in the staff but also in an environment where Indigenous artifacts can be shown. In some settings, incentives such as snacks are offered to attract people to the clinic. The low cost of treatment or free healthcare also increases the access to services. Additionally, availability of supplies, including medication, facilitates the uptake of allopathic medicine.

Another facilitator is the care centered on patients, which increases patient satisfaction. *They (nurse practitioners) provide individualized care focusing on both health problems of the individual and effects health problems have on families* (Nzimakwe, 1996). Allopathic treatments are seen as easy to carry, to use and to conceal, allowing greater privacy; for example, oral contraceptives versus a traditional plant preparation (Agadjanian, 1999). On the other hand, the long shelf life of a medication allows patients to take only a portion of the prescription, keeping the unused portion for future manifestations of the disease. The modernization of healthcare enables more patients to be reached (for instance, through telehealth) (Arora, Kurji, & S. Tennant, 2013)

and diseases to be treated more efficiently. The efficacy of modern medicine and scientific studies establishing the latter are not only seen as facilitators for the patients to use its services, but also for governmental entities to set appropriate policies.

Policy facilitators to accessing AM

The dominance of the biomedical system and its power represent the major policy facilitators mentioned in relevant studies. This can simply reflect the fact that by being dominant and powerful, allopathic healthcare is, in principle, indeed accessible to Indigenous populations. This must obviously be nuanced by all the barriers covered in preceding sections.

Table 5

Factors facilitating the use of Indigenous traditional medicine

Categories	Themes	References
Personal facilitators	Healer’s knowledge	3,9,19,30,32,36
	Patients’ satisfaction of treatment	8,15
	Previous positive experiences	15
Relational facilitators	Iterative dialogue	5,23,32
	Establishing a good patient-healer relationship	5,6,8,23,29,32
	Shared stakeholder participation at various levels of health care organization	7,26
	Communication - verbal comprehension – language	9,32
	Dissatisfaction with patient-health professional relationship	10,13,15
Cultural facilitators	Referral from a trusted one	15,26
	Taking/making referrals from/to health professional	26,28,33
	Positive cultural background and beliefs toward traditional medicine	3,7,8,11,12,15,19,25,28,31,32,38
	Traditional teaching	5,2,24,28,29,38
	Cultural safety and preservation of social identity	5,19,28
	Integration of traditional practice into the academic field	11,23,24

	Growing interest in ethnomedicine and traditional medicine	12,37
	Connected to nature / natural	19,39
	Working with knowledge holders	20,35
	Respecting traditional healing protocols	20,26
	Incentive to pass on knowledge	37
Structural facilitators	Staff nationality / hiring native people	1,23,29,31
	Proximity of care / Knowledge's holder / availability of treatment	2,16,19,21,26,30,32
	Confidentiality	2
	Independence from health authority / autonomy / empowerment	3,15,19,26,33
	Associations of Healers/Traditional practitioners	6,22,28,30
	Fewer side effects than medication	9
	Low cost of treatment	9,10,12,16,21,32
	Proximity of traditional material/medicine	9,12,19,21,26
	Care centered on patients	10,23,28,33
	Effectiveness/efficacy known for generations	10,15,16,19,21,38
	Reduction of biomedical side effects	15
	Safety	15,33
	First or only source of care	15,16,19,21,32
	Failure of biomedical system	15
	Research in TM fields	21,25
	Policy's facilitators	Subsidized care (Funding/payment/salary)
Program operation and coordination		26
Recruitment of healers/knowledge holders		26,35
Treating patient at home		26,28
Healers/knowledge holders' accreditation/licenses		6
Intercultural health framework		11,23
Legislation - practice / treatment		11,13,14,28,37
Recognition of TM into social / biomedical sciences		21
	Legislation - Intellectual property rights	37

* Refer to Appendix 1 for the full list of studies cited in the table.

Table 5 presents the factors mentioned in studies that facilitate the access to and the offering of Indigenous traditional medicine. A

total of 43 themes were identified and are grouped in the same five categories as in other tables.

Personal facilitators to accessing Indigenous TM

In the realm of personal facilitators, the Traditional Healer's training and knowledge about traditional practices is brought forth most frequently. While offering a greater variety of care, an effective Traditional Healer is also perceived to work for the community and not for himself (Moorehead, Gone, & December, 2015). This potentially contributes to the patient's satisfaction and their positive experiences with traditional treatments, both mentioned as key facilitating factors.

Relational facilitators to accessing Indigenous TM

The establishment of a good relationship between the patient and the Traditional Healer stands out as the most important factor in the category of relational facilitators. *The traditional indigenous healer uses good communication methods, reassurance, sympathy, and empathy, [...] (Nzimakwe, 1996).* Moreover, iterative dialogue between patients and Traditional Healers was mentioned in several studies; it not only allows more comprehension about the patient's life but also generates a better understanding about his possible health problems. Generally, the Traditional Healer and the patient share the same language, which helps them to understand one another. When the referral to a Traditional Healer comes from a trusted person, community members are more likely to use his/her services. Additionally, dissatisfaction with allopathic health professionals may encourage a patient to turn to Indigenous TM for healthcare. Studies further uncovered that a health system is perceived as stronger if it involves *referrals among Traditional Healers and health professionals (Mignone, Bartlett, O'Neil, & Orchard, 2007).* *Collaboration among Traditional Healers and health professionals reinforced the trust toward health practices in the community (Mignone et al., 2007).* The

better understanding of TM by communities, healthcare professionals and government entities requires that all stakeholders participate at various levels of service organization. [...] *The cases suggested that when indigenous entities are involved in organizing health care there was an impact in reducing barriers to access and increasing user satisfaction (Mignone et al., 2007).*

Cultural facilitators to accessing Indigenous TM

In terms of cultural facilitators, several studies highlighted the importance of positive cultural background and beliefs toward Indigenous traditional medicine. Individuals access TM more readily when it is part of their culture or when they are exposed to it in their lives. Moreover, choosing Indigenous TM can symbolize a reaffirmation of social identity, all the while providing individuals with a culturally relevant healthcare environment. The sharing of Traditional Knowledge, through teachings (notably identifying medicinal plants and learning how to prepare remedies from them) can be very empowering for patients. It also connects individuals more with nature and contributes to the upkeep of the knowledge. *Medicinal plants are often both nearer and more readily available, and that reality shapes social identity and choice. Plants are part of the culture (Gold & Clapp, 2011).* Interacting with Knowledge keepers, by itself, was found in a few studies to reinforce the offer of and improve the access to TM. Indeed, Knowledge keepers can support academic and medical staff to include TM into scientific and clinical settings, while ensuring traditional healing protocols are being respected. Two studies noted that the growing interest in ethnomedicine and TM contributes to a greater demand for it, as well as calls to regulate it. One study mentioned that some communities could even offer incentives to favour the passing on of Traditional Knowledge.

Structural facilitators to accessing Indigenous TM

A large number of structural factors were brought forth by several studies to highlight their role in facilitating access to TM. The proximity of care, which includes where the knowledge is located and the availability of treatment, was mentioned most frequently in the reviewed studies. It makes sense that the closer the treatment modalities are from home, the higher is the probability to consult. Some Traditional Healers even visit their ill patients at home. Similarly, the traditional material or medicines are often geographically close to communities; some plants actually growing in backyards. Several studies noted that TM might represent the first, or sometimes the only, source of healthcare available, notably in remote communities. Low cost of TM consultation and treatment, combined with the fact that its efficacy has been known for generations, are also seen as factors facilitating the use of TM. Many patients feel safer to use TM and perceive that its usage conveys fewer side effects than allopathic medication or even reduces the side effects of biomedical treatments. Likewise, failure of the biomedical system may influence people to use more TM. Certain studies mentioned that Indigenous TM often offers patient-centered care, which increases patient satisfaction with TM, such positive experiences building confidence towards its use. Also, some patients feel that TM offers more confidentiality, since seeing a Traditional Healer is more discreet than sitting in the waiting room of a biomedical clinic. Some Traditional Healers mentioned that non-regulated traditional practices maintain a distance from the health authority, providing more autonomy and empowerment. The context in which TM is offered can also influence its uptake. Associations of healers or traditional practitioners can provide a greater sense of professionalism. Likewise, it helps when *healer's recruitment (is) based on social standing in the community and (they) must*

abide by a code of conduct (Manitowabi & Shawande, 2013). Hiring Indigenous people in clinics as well as subsidized care, such as programs funding TM and the traditional practitioner's salary, can ease the use to TM for healthcare. For TM to operate properly implies a *good coordination job and ensuring that (Indigenous) protocols are followed* (Manitowabi & Shawande, 2013). Research in the field of TM builds the scientific evidence for safety and efficacy, thus allowing greater acceptance of TM practices.

Policy facilitators to accessing Indigenous TM

In terms of factors concerning policy, a good number of studies highlight the legislation of TM practice and treatment. The legislation of TM can take many forms depending on communities' needs. For instance, traditional practitioners may be delivered practice licences to increase their recognition. Intellectual propriety rights related to Indigenous Traditional Knowledge must also be taken into consideration and has been addressed by the Convention on Biological Diversity (CBD). *The CBD explicitly acknowledges indigenous and local communities' contribution to biodiversity conservation, calls for respect and support for their knowledge, innovations and practices, and confirms indigenous peoples' rights over the knowledge they hold. The CBD also calls for fair and equitable sharing, on mutually agreed terms, of benefits arising from the use of genetic resources and associated knowledge* (Timmermans, 2003). The creation of an appropriate intercultural framework can facilitate reciprocal knowledge exchange between TM and AM systems. Finally, the recognition of TM by social and biomedical sciences can improve its accessibility.

Discussion

The purpose of this research was to systematically review barriers and facilitators

that have been brought forward in the literature concerning the use of TM and AM by Indigenous peoples. A total of 45 studies published between 1996 and 2016 met our inclusion criteria and this speaks to the high interest and contemporary pertinence of accessing both systems of healthcare for Indigenous populations worldwide. Our thematic analysis enabled to group barriers and facilitators into five categories, namely related to personal, relational, cultural, structural and policy components.

In the personal realm, studies highlighted individual beliefs and perceptions as well as experiences and outcomes with either system of healthcare; discrimination and racism unfortunately still playing an important role. As expected, when these are negative they impede the use of a given system and when they are positive, they contribute to enhance access to the same. Similarly, positive or negative perceptions concerning the quality of practitioners themselves, be it in AM or TM, directly influence an Indigenous person's decision to make use of that medicine or not. On the other hand, poverty stands out as a more specific and recurring barrier that prevents individuals from accessing AM.

On the next level, relationships between patients and practitioners play a key role in helping individuals establish trust and decide which system to turn to. The ease or difficulty with which a practitioner can communicate and interact with his/her patient is a key determinant; language being the first and foremost component to consider (Moerman, 2007). As will be discussed further in the next section, cultural differences or similarities also impact patient-practitioner relationships negatively or positively; racism being particularly, and understandably, the worst-case scenario. On another hand, the more time a practitioner devotes to the patient, the better the latter's inclination to use the system to which the former belongs. In this context, TM generally fares better than AM

and this can involve the use of iterative dialogue. Interestingly, cross-referral between AM and TM practitioners favours the use of the system being recommended; with TM additionally benefiting from referrals of trusted individuals.

As mentioned above and encountered in a large number of studies, cultural divides represent the major barrier for Indigenous patients to choose and access AM. They often face an AM practitioner lacking cultural training, evolve in a setting (clinic, hospital and so on) devoid of Indigenous references and must navigate in a complex healthcare system (forms to fill, moving between departments and so on), not rarely in a language other than their own. The physical, mental and emotional disorientation and distress that can ensue, especially in the context of ill health, compromises the Indigenous patient's feeling of safety. Hence, it follows that the putting in place of culturally adapted practitioner training, healthcare programs, tools and services in AM greatly favour its choice and access by Indigenous individuals; as does providing help to navigate the healthcare system. Despite such efforts, several Indigenous patients may still prefer, or wish to access, TM. Indeed, it resonates with their beliefs, reinforces their cultural identity and is more connected to nature. For others, on the contrary, TM can clash with their beliefs (notably religious, for instance in regards to more ceremonial parts), be seen as marginalized and its practitioners or treatments considered unreliable. This may be related to the loss of TM knowledge and its alienation, notably through colonization.

According to our thematic analysis, components belonging to the structural category account, by far, for the largest number of factors influencing positively or negatively the selection of, and access to, either AM or TM by Indigenous peoples. The structural category encompasses financial resource allocation as well as the roles, tasks

and responsibilities of practitioners intervening in the delivery, coordination and administrative oversight of healthcare in AM. Structural components also take into account rules and procedures. Using a different worldview and different terminology, such considerations may nonetheless be applied, at least in part, to TM. However, it is important to note that the establishment of rules and procedures are often elaborated and mandated by governing instances or professional associations that belong to the dominant system rather than to Indigenous ones (Atleo, 1997; Castellano, 2004; Spak, 2005).

In this context, many Indigenous patients find it difficult to choose and access AM. This is generally related to its high cost (services and treatments), to the limited equipment or offer of healthcare services, or their remoteness from communities. Overcrowding, long delays to access health professionals, inconvenient clinic hours and side effects of drugs also contribute. Conversely, AM is chosen and accessed much more readily when it is close, affordable and notably involves Indigenous staff; reaffirming cultural and relational facilitators discussed above. Technological advances and scientific support for the safety and efficacy of AM diagnostic and treatment modalities (surgery, drug-based therapies) also contribute to its significant positive outcomes.

In terms of TM, the most important structural barriers that were brought forth in several studies have to do with the lack of trust toward practices and practitioners, notably due to the scantiness of scientific evidence and informal training. This is especially true for Indigenous individuals who have little knowledge of, or have been acculturated from, TM, as discussed above with cultural barriers. On the other hand, TM is often considered as proximal, accessible, affordable, safe and effective, as attested by often long historical use. In some settings, it may represent the

first or only source of primary healthcare, especially in remote communities or while out on the land. Other significant structural factors facilitating the selection and access to TM include the existence of Traditional Healer/Traditional practitioner associations and their independence from mainstream health authorities. Not only does this raise the confidence level toward TM but it also fosters autonomy, empowerment and self-determination for Indigenous peoples. In contexts outside the focus of this systematic study, TM is often recognized for its holistic approach toward health and wellness, as well as its celebration of strength and resilience (Andersson & Ledogar, 2008; Currie, Wild, Schopflocher, Laing, & Veugelers, 2013; HeavyRunner & Sebastian Morris, 1997). In contrast, the dominant AM is generally based on a more reductionist, disease- and symptom-based approach, albeit there is a growing movement toward more holistic integrative medicine (Aronowitz, 2001; Giordano, Boatwright, Stapleton, & Huff, 2002).

Finally, components related to healthcare policies can influence Indigenous individuals in their choice and access of AM and TM. Indeed, policy generally emanates from the conjunction of cultural, societal and structural priorities and constraints. It is therefore not surprising that social inequities – that is, inequitable healthcare for Indigenous versus non-Indigenous populations – are considered by several studies as the major barrier preventing Indigenous patients from having optimal access to AM. This is exacerbated by unfavourable social determinants (low income, poor housing, limited education, trauma from colonization and so on) that constitute greater challenges to the health and wellbeing of Indigenous people, as discussed in the introduction section of this review. The dominant AM healthcare system may sometimes appear to be indifferent or it simply fails to provide sufficient resources (financial and human) or implement

Indigenous health frameworks. Access to TM by Indigenous patients is likewise severely limited by the lack of policies to regulate and properly fund its “workforce” (Traditional practitioners). Indeed, the dominant system (and, to a certain extent, acculturated Indigenous people themselves) can see the establishment of a regulatory framework as a positive way to render TM more “trustworthy”. However, Traditional practitioners are quite wary of losing the essence and the control of their own healthcare modalities. Recognition of TM by social and biomedical sciences represents a promising avenue, as does the establishment of intercultural frameworks such as integrative healthcare policies. In this context, the previous work of our research group contributed substantial scientific evidence in support of the antidiabetic activity of medicinal plants of the traditional pharmacopeia of the Eastern James Bay Cree Nations of Canada (Fraser et al., 2007; Meddah et al., 2009; Ouellet et al., 2016). Despite this, great challenges remain to translate such findings into policies that will improve access to safe and efficacious TM for Indigenous diabetics.

Limits

Although we tried to capture a broad span of studies to inform on barriers and facilitators influencing access to TM and AM in Indigenous populations worldwide, our literature sample captured principally works concerning such populations in the Americas, in Australia/New Zealand and in Africa. Hence, we acknowledge the fact that the statements that we make are not necessarily generalizable to all Indigenous populations. However, the Indigenous populations concerned by our study have all been colonized by Eurocentric powers and may thus share a similar context related to TM and AM. Moreover, this study does not distinguish whether care is available in rural or urban settings. Barriers and facilitators are expected

to be different in both locations. However, the purpose of the study is to highlight as many topics as possible in order to better understand the access processes that Indigenous people face.

Finally, all results cannot be generalized throughout all communities. For example, access to healthcare in villages that are located far from an urban center might not be the same as villages nearby in those areas. Also, laws and rights for Indigenous population differ in each country, influencing the access to healthcare.

Conclusions

The current systematic review covered the literature of the past 20 years and identified a large number of key components that influence Indigenous individuals in their selection and access of AM and TM healthcare systems. Barriers and facilitators were successfully grouped into five major categories encompassing personal, relational, cultural, structural and policy factors. Power imbalances between AM and TM systems as well as the cultural disconnect of AM represent major challenges. Likewise, TM practice and practitioners stand a lot to gain by improving their perception and appreciation by AM stakeholders as well as some of their fellow Indigenous patients. Mutual respect, trust and understanding of each other’s modalities is essential to offer the best healthcare options from both AM and TM to Indigenous peoples and hence pave the way to reducing health inequities. Wellness and strength-based approaches must also be favoured.

Disclosure

The authors declare no conflict of interest.

References

Abbott, P. J. (1998). Traditional and Western Healing Practices for Alcoholism in

- American Indians and Alaska Natives. *Substance Use & Misuse*, 33(13), 2605-2646.
doi:10.3109/10826089809059342
- Adelson, N. (2005). The embodiment of inequity: Health disparities in Aboriginal Canada. *Canadian Journal of Public Health/Revue Canadienne de Sante'e Publique*, S45-S61.
- Agadjanian, V. (1999). Women's Choice Between Indigenous and Western Contraception in Urban Mozambique. *Women & Health*, 28(2), 1-17.
doi:10.1300/J013v28n02_01
- Ahuriri-Driscoll, A., A., B., Hudson, M., Potaka-Osborne, G., & Stewart, A. (2015). Mā mahi, ka ora: by work, we prosper - traditional healers and workforce development. *The New Zealand Medical Journal*, 128, 34-44.
- Alarcón, A. M., Astudillo, P., Barrios, S., & Rivas, E. (2004). Política de Salud Intercultural: Perspectiva de usuarios mapuches y equipos de salud en la IX región, Chile. *Revista Médica de Chile*, 132(9), 1109-1114.
- Anand, S. S., Yusuf, S., Jacobs, R., Davis, A. D., Yi, Q., Gerstein, H., . . . Investigators, S.-A. (2001). Risk factors, atherosclerosis, and cardiovascular disease among Aboriginal people in Canada: the Study of Health Assessment and Risk Evaluation in Aboriginal Peoples (SHARE-AP). *The Lancet*, 358(9288), 1147-1153.
- Anderson, J. F., Pakula, B., Peters, V., Schroeder, L., & Smye, V. (2011). Strengthening Aboriginal Health through a Place-Based Learning Community. *Journal of Aboriginal Health*, 7(1), 42-53.
- Andersson, N., & Ledogar, R. J. (2008). The CIET Aboriginal youth resilience studies: 14 years of capacity building and methods development in Canada. *Pimatisiwin*, 6(2), 65.
- Aronowitz, R. A. (2001). When do symptoms become a disease? *Annals of internal medicine*, 134(9_Part_2), 803-808.
- Arora, S., Kurji, A., & S. Tennant, M. (2013). Dismantling Sociocultural Barriers to Eye Care with Tele-Ophthalmology: Lessons from an Alberta Cree Community. *Clinical & Investigative Medicine*, 36(2), E57-E63.
- Atleo, M. (1997). The Healing of First Nations: Dominance or Health? *Canadian Journal for the Study of Adult Education*, 11(2), 63-77.
- Audet, C. M., Blevins, M., Moon, T. D., Sidat, M., Shepherd, B. E., Pires, P., . . . Vermund, S. H. (2012). HIV/AIDS-related attitudes and practices among traditional healers in Zambezia Province, Mozambique. *Journal of Alternative and Complementary Medecine*, 18(12), 1133-1141.
doi:10.1089/acm.2011.0682
- Australian Law Reform Commission. (1986). Aboriginal Societies: The Experience of Contact. In [https://www.alrc.gov.au/publications/3.%20Aboriginal%20Societies%3A%20The%20Experience%20of%20Cont act/impacts-settlement-aboriginal-people](https://www.alrc.gov.au/publications/3.%20Aboriginal%20Societies%3A%20The%20Experience%20of%20Contact/impacts-settlement-aboriginal-people). Retrieved 2017-07-23.
- Babis, D. (2014). The role of civil society organizations in the institutionalization of indigenous medicine in Bolivia. *Social Science and Medecine*, 123, 287-294.
doi:10.1016/j.socscimed.2014.07.034
- Baines, D. (2012). Working with Patients Who Are also Seeing a Traditional Healer. *Journal of Cancer Education*, 27(1), S9-S11. doi:10.1007/s13187-012-0319-2
- Balilla, V. S., McHenry, J. A., McHenry, M. P., Parkinson, R. M., & Banal, D. T. (2014).

- The assimilation of Western medicine into a semi-nomadic healthcare system: a case study of the Indigenous Aeta Magbukun, Philippines. *Ecohealth*, 11(3), 372-382. doi:10.1007/s10393-014-0919-x
- Bell, I. R., Caspi, O., Schwartz, G. E. R., Grant, K. L., Gaudet, T. W., Rychener, R., . . . Weil, A. (2002). Integrative Medicine and Systemic Outcomes Research. Issues in the Emergence of a New Model for Primary Health Care. *Archives of Internal Medicine*, 162(2), 133-140.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Broad, L. M., & Allison, D. M. (2002). Nurse practitioners and Traditional Healers: an alliance of mutual respect in the art and science of health practices. *Holistic Nursing Practice*, 16(2), 50-57.
- Bruun, H., & Elverdam, B. (2006). Los Naturistas-Healers Who Integrate Traditional and Biomedical Explanations in Their Treatment in the Bolivian Health Care System. *Anthropology and Medicine*, 13(3), 273-283. doi:10.1080/13648470600863605
- Burke, A., Clayson, Z., & Wong, Y.-Y. (2003). Traditional medicine in China today: Implications for indigenous health systems in a modern world. *American Journal of Public Health*, 93(7), 1082-1084.
- Caceres Guido, P., Gaioli, M., Macchi, A., Quattrone, F., & Ribas, A. (2015). The state of the integrative medicine in Latin America: The long road to include complementary, natural, and traditional practices in formal health systems. *European Journal of Integrative Medicine*, 7(1), 5-12. doi:10.1016/j.eujim.2014.06.010
- Calvet-Mir, L., Reyes-Garcia, V., & Tanner, S. (2008). Is there a divide between local medicinal knowledge and Western medicine? a case study among native Amazonians in Bolivia. *Journal of Ethnobiology and Ethnomedicine*, 4, 18. doi:10.1186/1746-4269-4-18
- Cameron, B. L., del Pilar Carmargo Plazas, M., Santos Salas, A., Bourque Bearskin, R. L., & Hungler, K. (2014). Understanding Inequalities in Access to Health Care Services for Aboriginal People *Advances in Nursing Science*, 37(3), E1-E16.
- Carrie, H., Laird, S. N., & Mackey, T. K. (2015). Integrating traditional indigenous medicine and western biomedicine into health systems: a review of Nicaraguan health policies and miskitu health services. *International Journal For Equity In Health*, 14, 129. doi:10.1186/s12939-015-0260-1
- Castellano, M. B. (2004). Ethics of Aboriginal research. *International Journal of Indigenous Health*, 1(1), 98.
- Currie, C. L., Wild, T. C., Schopflocher, D. P., Laing, L., & Veugelers, P. (2013). Illicit and prescription drug problems among urban Aboriginal adults in Canada: the role of traditional culture in protection and resilience. *Social Science & Medicine*, 88, 1-9.
- Duarte-Gómez, M. B., Brachet-Márquez, V., Campos-Navarro, R., & Nigenda, G. (2004). Políticas nacionales de salud y decisiones locales en México: el caso del Hospital Mixto de Cuetzalan, Puebla. *Salud Pública de México*, 46(5), 388-398.
- Durey, A., & Thompson, S. C. (2012). Reducing the health disparities of Indigenous Australians: time to change focus. *BMC Health Services Research*, 12, 151. doi:10.1186/1472-6963-12-151

- Eid, H. M., & Haddad, P. S. (2014). Mechanisms of action of indigenous antidiabetic plants from the Boreal Forest of Northeastern Canada. *Advances in Endocrinology*, 2014.
- Evans, A., Duncan, B., McHugh, P., Shaw, J., & Wilson, C. (2008). Inpatients' use, understanding, and attitudes towards traditional, complementary and alternative therapies at a provincial New Zealand hospital. *The New Zealand Medical Journal*, 121, 21-34.
- Fink, S. (2002). International efforts spotlight traditional complementary, and alternative medicine. *American Journal of Public Health*, 92(11), 1734-1739.
- Fleming, J., & Ledogar, R. J. (2008). Resilience, an evolving concept: A review of literature relevant to Aboriginal research. *Pimatisiwin*, 6(2), 7.
- Fraser, M.-H., Cuerrier, A., Haddad, P. S., Arnason, J. T., Owen, P. L., & Johns, T. (2007). Medicinal plants of Cree communities (Québec, Canada): antioxidant activity of plants used to treat type 2 diabetes symptoms This article is one of a selection of papers published in this special issue (part 2 of 2) on the Safety and Efficacy of Natural Health Products. *Canadian Journal of Physiology and Pharmacology*, 85(11), 1200-1214.
- Frohlich, K. L., Ross, N., & Richmond, C. (2006). Health disparities in Canada today: Some evidence and a theoretical framework. *Health Policy*, 79(2), 132-143.
- Furniss, E. (1999). *The burden of history: Colonialism and the frontier myth in a rural Canadian community*: UBC Press.
- Gallagher, J., Kehoe, T., & Mendez, J. K. (2015). The First Nations Health Authority: A transformation in healthcare for BC First Nations. *Healthcare Management Forum*, 28(6), 255-261.
doi:10.1177/0840470415600131
- Gamlin, J. B. (2013). Shame as a barrier to health seeking among indigenous Huichol migrant labourers: An interpretive approach of the "violence continuum" and "authoritative knowledge". *Social Science and Medicine*, 97, 75-81.
doi:10.1016/j.socscimed.2013.08.012
- Giordano, J., Boatwright, D., Stapleton, S., & Huff, L. (2002). Blending the boundaries: steps toward an integration of complementary and alternative medicine into mainstream practice. *The Journal of Alternative & Complementary Medicine*, 8(6), 897-906.
- Gold, C. L., & Clapp, R. A. (2011). Negotiating Health And Identity Lay Healing Medicinal Plants and Indigenous Healthscapes in Highland Peru. *Latin American Research Review*, 46(3), 93-111.
- Government of Canada. (2013). The Chief Public Health Officer's Report on the State of Public Health in Canada 2013 – Tuberculosis – past and present. *Public Health Agency of Canada*
<https://www.canada.ca/en/public-health/corporate/publications/chief-public-health-officer-reports-state-public-health-canada/chief-public-health-officer-report-on-state-public-health-canada-2013-infectious-disease-never-ending-threat/tuberculosis-past-and-present.html>.
- Government of Canada. (2015). Health Canada - First Nations and Inuit Health Programs - 2016-2017 In H. Canada (Ed.),
<https://www.aadncaandc.gc.ca/eng/1448306812550/1448306892779>.
Canada.

- Government of Canada. (2016). *Overview of Federal Initiatives in Suicide Prevention*. Canada.
- Guerrero-Analco, J. A., Muhammad, A., Saleem, A., Martineau, L. C., Musallam, L., Eid, H. M., . . . Haddad, P. S. (2014). Bioactive Phytochemicals from Canadian Boreal Forest Species Used Traditionally by Eastern James Bay Cree Aboriginals to Treat Diabetes Mellitus. In *Phytochemicals—Biosynthesis, Function and Application* (pp. 57-84): Springer.
- Haddad, P. S., Musallam, L., Martineau, L. C., Harris, C., Lavoie, L., Arnason, J. T., . . . Cuerrier, A. (2011). Comprehensive evidence-based assessment and prioritization of potential antidiabetic medicinal plants: a case study from canadian eastern james Bay cree traditional medicine. *Evidence-Based Complementary and Alternative Medicine, 2012*.
- Harbilas, D., Martineau, L. C., Harris, C. S., Adeyiwola-Spoor, D. C., Saleem, A., Lambert, J., . . . Cuerrier, A. (2009). Evaluation of the antidiabetic potential of selected medicinal plant extracts from the Canadian boreal forest used to treat symptoms of diabetes: part II. *Canadian Journal of Physiology and Pharmacology, 87*(6), 479-492.
- Harris, S. B., Bhattacharyya, O., Dyck, R., Naqshbandi Hayward, M., & Toth, E. L. (2013). Type 2 Diabetes in Aboriginal Peoples. *Canadian Diabetes Association Clinical Practice Guidelines Expert Committee*.
- Hartmann, W. E., & Gone, J. P. (2012). Incorporating Traditional Healing into an Urban American Indian Health Organization: A Case Study of Community Member Perspectives. *Journal of Counseling Psychology, 59*(4), 542-554. doi:10.1037/a0029067
- Hayman, N. (2010). Strategies to Improve Indigenous Access for Urban and Regional Populations to Health Services. *Heart, Lung and Circulation, 19*(5), 367-371. doi:10.1016/j.hlc.2010.02.014
- Hayman, N. E., Spurling, G. K., & White, N. E. (2009). Improving Indigenous patients' access to mainstream health services: the Inala experience. *The Medical Journal of Australia, 190*(10), 604-606.
- HeavyRunner, I., & Sebastian Morris, J. (1997). Traditional Native culture and resilience.
- Hollenberg, D., Zakus, D., Cook, T., & Xu, X. W. (2008). Re-positioning the role of traditional, complementary and alternative medicine as essential health knowledge in global health: do they still have a role to play? *World Health & Population, 10*(4), 62-75. doi:10.12927/whp.2009.20785
- Indigenous and Northern Affairs Canada. (2015). Aboriginal arts, culture & heritage. In <http://www.aadnc-aandc.gc.ca/eng/1100100012788/1100100012792>. Retrieved 2017-07-23.
- Inuit Tapiriit Kanatami. (2016). Inuit Tapiriit Kanatami Submission to the Naylor Panel for Canada's Fundamental Science Review. <https://www.itk.ca/wp-content/uploads/2017/03/ITK-Submission-to-the-Naylor-Panel-for-Canada's-Fundamental-Science-Review.pdf>.
- Jowsey, T., Yen, L., Ward, N., McNab, J., Aspin, C., & Usherwood, T. (2012). It hinges on the door: Time, spaces and identity in Australian Aboriginal Health services. *Health Sociology Review, 59*(4), 542-554.

- 21(2), 196-207.
doi:10.5172/hesr.2012.21.2.196
- Kaptchuk, T. J., & Miller, F. G. (2005). Viewpoint : What is the best and most ethical model for the relationship between mainstream and alternative medicine: opposition, integration or pluralism? *Academic Medicine, 80*(3), 286-290.
- Kendall, E., & Barnett, L. (2014). Principles for the development of Aboriginal health interventions: culturally appropriate methods through systemic empathy. *Ethnicity and Health, 1*-16.
doi:10.1080/13557858.2014.921897
- Kent, H. (1999). The Yukon takes native health a step further at Whitehorse hospital. *Canadian Medical Association Journal, 161*(10), 1312.
- Keshet, Y., & Popper-Giveon, A. (2013). Integrative Health Care in Israel and Traditional Arab Herbal Medicine: When Health Care Interfaces with Culture and Politics. *Medical Anthropology Quarterly, 27*(3), 368-384. doi:10.1111/maq.12049
- Kesler, D. O., Hopkins, L. O., Torres, E., & Prasad, A. (2015). Assimilating Traditional Healing Into Preventive Medicine Residency Curriculum. *American Journal of Preventive Medicine, 49*(5 Suppl 3), S263-269.
doi:10.1016/j.amepre.2015.07.007
- King, S. R. (2004). Phytomedicine, public health, and traditional healers: Health care at the crossroads of the earth and sky. *Journal of Alternative and Complementary Medicine, 10*(6), 921-923. doi:10.1089/acm.2004.10.921
- Kirmayer, L., Simpson, C., & Cargo, M. (2003). Healing traditions: culture, community and mental health promotion with Canadian Aboriginal peoples. *Australasian Psychiatry, 11*(sup1), S15-S23.
doi:10.1046/j.1038-5282.2003.02010.x
- Kirmayer, L. J., Brass, G. M., Holton, T., Paul, K., Simpson, C., & Tait, C. (2007). *Suicide Among Aboriginal People in Canada*. Retrieved from Ottawa:
- Manitowabi, D., & Shawande, M. (2013). Negotiating the Clinical Integration of Traditional Aboriginal Medicine at Noojmowin Teg. *The Canadian Journal of Native Studies, 33*(1), 97-124.
- Marsh, T. N., Coholic, D., Cote-Meek, S., & Najavits, L. M. (2015). Blending Aboriginal and Western healing methods to treat intergenerational trauma with substance use disorder in Aboriginal peoples who live in Northeastern Ontario, Canada. *Harm Reduction Journal, 12*.
doi:10.1186/s12954-015-0046-1
- Martineau, L. C., Couture, A., Spoor, D., Benhaddou-Andaloussi, A., Harris, C., Meddah, B., . . . Le, P. M. (2006). Anti-diabetic properties of the Canadian lowbush blueberry *Vaccinium angustifolium* Ait. *Phytomedicine, 13*(9), 612-623.
- Meddah, B., Ducroc, R., Faouzi, M. E. A., Eto, B., Mahraoui, L., Benhaddou-Andaloussi, A., . . . Haddad, P. S. (2009). *Nigella sativa* inhibits intestinal glucose absorption and improves glucose tolerance in rats. *Journal of Ethnopharmacology, 121*(3), 419-424.
- Mignone, J., Bartlett, J., O'Neil, J., & Orchard, T. (2007). Best practices in intercultural health: five case studies in Latin America. *Journal of Ethnobiology and Ethnomedicine, 3*(1), 31.
doi:10.1186/1746-4269-3-31
- Moerman, D. E. (2007). Agreement and meaning: rethinking consensus analysis. *Journal of Ethnopharmacology, 112*(3), 451-460.

- Moghaddam, J. F., & Momper, S. L. (2011). Integrating spiritual and Western treatment modalities in a Native American substance user center: provider perspectives. *Substance Use & Misuse*, 46(11), 1431-1437. doi:10.3109/10826084.2011.592441
- Moorehead, V. D., Gone, J. P., & December, D. (2015). A Gathering of Native American Healers: Exploring the Interface of Indigenous Tradition and Professional Practice. *American Journal of Community Psychology*, 56(3-4), 383-394. doi:10.1007/s10464-015-9747-6
- Napoli, M. (2002). Holistic health care for native women: an integrated model. *American Journal of Public Health*, 92(10), 1573-1575. doi:10.2105/ajph.92.10.1573
- Nzimakwe, D. (1996). Primary health care in South Africa: private practice nurse practitioners and traditional healers form partnerships. *Journal of the American Academy of Nurse Practitioners*, 8(7), 311-316.
- O'Sullivan, B. (2013). Considering culture in Aboriginal care. *Canadian Medical Association Journal*, 185(1), E27-E28. doi:10.1503/cmaj.109-4376
- Ouellet, C., Harbilas, D., Garofalo, C., Levy, E., & Haddad, P. S. (2016). Balsam Poplar (*Populus Balsamifera*), a Traditional Eastern James Bay Cree Medicine, exerts a Limited Modulation of Intestinal Lipid Homeostasis in an Animal Model of Diet-Induced Obesity *Journal of Diabetes Research and Therapy*, 2(3). doi: http://dx.doi.org/10.16966/2380-5544.121
- Pink, B., & Allbon, P. (2008). *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples*. Retrieved from file:///C:/Users/caroline/Desktop/Th e%20health%20and%20welfare%20of%20Australia's%20Aboriginal%20and%20Torres%20Strait%20Islander%20peoples.pdf:
- Reading, L. C., & Wien, F. (2009). Health Inequalities and Social Determinants of Aboriginal Peoples' Health. *National Collaborating Center for Aboriginal Health*.
- Santé Canada. (2016). Prévention du suicide. *Santé des Premières nations et des Inuits: Promotion de la santé*, <https://www.canada.ca/fr/sante-canada/services/sante-premieres-nations-inuits/promotion-sante/prevention-suicide.html>.
- Secrétariat de la Convention sur la diversité biologique. (2012). Protocole de Nagoya sur l'accès aux ressources génétiques et le partage juste et équitable des avantages découlant de leur utilisation relatif à la Convention sur la diversité biologique. *Programme des Nations Unies pour l'environnement*.
- Spak, S. (2005). The position of indigenous knowledge in Canadian co-management organizations. *Anthropologica*, 233-246.
- Spoor, D. C., Martineau, L. C., Leduc, C., Benhaddou-Andaloussi, A., Meddah, B., Harris, C., . . . Joly, E. (2006). Selected plant species from the Cree pharmacopoeia of northern Quebec possess anti-diabetic potential. *Canadian Journal of Physiology and Pharmacology*, 84(8-9), 847-858.
- Statistics Canada. (2015). Life expectancy. In S. Canada (Ed.), <https://www.statcan.gc.ca/pub/89-645-x/2010001/life-expectancy-esperance-vie-eng.htm>.
- Templeman, K., & Robinson, A. (2011). Integrative medicine models in contemporary primary health care.

- Complementary Therapies in Medicine*, 19(2), 84-92.
doi:10.1016/j.ctim.2011.02.003
- Timmermans, K. (2003). Intellectual property rights and traditional medicine: policy dilemmas at the interface. *Social Science & Medicine*, 57(4), 745-756.
doi:10.1016/s0277-9536(02)00425-2
- Tsey, K. (1997). Traditional medicine in contemporary Ghana: A public policy analysis. *Social Science & Medicine*, 45(7), 1065-1074.
doi:10.1016/S0277-9536(97)00034-8
- Waldram, J. B. (2013). Transformative and Restorative Processes: Revisiting the Question of Efficacy of Indigenous Healing. *Medical Anthropology*, 32(3), 191-207.
doi:10.1080/01459740.2012.714822
- Walker, R., Cromarty, H., Linkewich, B., Semple, D., St. Pierre-Hansen, N., & Kelly, L. (2010). Achieving Cultural Integration in Health Services: Design of Comprehensive Hospital Model for Traditional Healing, Medicines, Foods and Supports. *Journal of Aboriginal Health*, 6(1), 58-69.
- World Health Organization. (2008). Closing the gap in a generation: Health equity through action on the social determinants of health. *Final report of the Commission on Social Determinants of Health*, Geneva: World Health Organization.
- World Health Organization. (2013). WHO traditional medicine strategy: 2014-2023. *WHO Library Cataloguing*(http://apps.who.int/iris/bitstream/10665/92455/1/9789241506090_eng.pdf?ua=1), 5.

Appendix 1

List of works used for the synthesis

Reference number	Authors	Papers used for the systematic literature review
1	(Abbott, 1998)	Abbott, P. J. (1998). Traditional and Western Healing Practices for Alcoholism in American Indians and Alaska Natives. <i>Substance Use & Misuse</i> , 33(13), 2605-2646.
2	(Agadjanian, 1999)	Agadjanian, V. (1999). Women's Choice Between Indigenous and Western Contraception in Urban Mozambique. <i>Women & Health</i> 28(2), 1-17.
3	(Ahuriri-Driscoll, Boulton, Stewart, Potaka-Osborne, & Hudson, 2015)	Ahuriri-Driscoll, A., Boulton, A. Stewart A, Potaka-Osborne, G, Hudson, M. (2015). Mā mahi, ka ora: by work, we prosper - traditional healers and workforce development. <i>The New Zealand Medical Journal</i> , 128, 34-44.
4	(Alarcón, Astudillo, Barrios, & Rivas, 2004)	Alarcón, A. M., Astudillo, P., Barrios, S., Rivas, E. (2004). Política de Salud Intercultural: Perspectiva de usuarios mapuches y equipos de salud en la IX región, Chile. <i>Revista Médica de Chile</i> , 132(9), 1109-1114.
5	(Anderson, Pakula, Peters, Schroeder, & Smye, 2011)	Anderson, J. F., Pakula, B., Peters, V., Schroeder, L., Smye, V. (2011). Strengthening Aboriginal Health through a Place-Based Learning Community. <i>Journal of Aboriginal Health</i> , 7(1), 42-53.
6	(Babis, 2014)	Babis, D. (2014). The role of civil society organizations in the institutionalization of indigenous medicine in Bolivia. <i>Social Science and Medicine</i> , 123, 287-294.
7	(Balilla, McHenry, McHenry, Parkinson, & Banal, 2014)	Balilla, V. S., McHenry, J.A., Parkinson, P.A., Parkinson, R.M., Banal, D.T. (2014). The assimilation of Western medicine into a semi-nomadic healthcare system: a case study of the Indigenous Aeta Magbukun, Philippines. <i>Ecohealth</i> , 11(3), 372-382.
8	(Broad & Allison, 2002)	Broad, L. M., Allison, D.M. (2002). Nurse practitioners and traditional healers: an alliance of mutual respect in the art and science of health practices. <i>Holistic Nursing Practice</i> , 16(2), 50-57.

9	(Bruun & Elverdam, 2006)	Bruun, H., Elverdam, B. (2006). Los Naturistas-Healers Who Integrate Traditional and Biomedical Explanations in Their Treatment in the Bolivian Health Care System. <i>Anthropology and Medecine</i> , 13(3), 273-283.
10	(Burke, Clayson, & Wong, 2003)	Burke, A., Clayson, Z., Wong, Y-Y. (2003). Traditional medicine in China today: Implications for indigenous health systems in a modern world. <i>American Journal of Public Health</i> , 93(7), 1082-1084.
11	(Caceres Guido, Gaioli, Macchi, Quattrone, & Ribas, 2015)	Caceres Guido, P., Gaioli, M., Macchi, A., Quattrone, F., Ribas, A.. (2015). The state of the integrative medicine in Latin America: The long road to include complementary, natural, and traditional practices in formal health systems. <i>European Journal of Integrative Medicine</i> , 7(1), 5-12.
12	(Calvet-Mir, Reyes-Garcia, & Tanner, 2008)	Calvet-Mir, L., Reyes-Garcia, V., Tanner, S. (2008). Is there a divide between local medicinal knowledge and Western medicine? a case study among native Amazonians in Bolivia. <i>Journal of Ethnobiology and Ethnomedicine</i> , 4, 18.
13	(Carrie, Laird, & Mackey, 2015)	Carrie, H., Laird, S.N., Mackey, T.K. (2015). Integrating traditional indigenous medicine and western biomedicine into health systems: a review of Nicaraguan health policies and miskitu health services. <i>International Journal For Equity In Health</i> , 14, 129.
14	(Duarte-Gómez, Brachet-Márquez, Campos-Navarro, & Nigenda, 2004)	Duarte-Gómez, M. B., Brachet-Márquez, V., Campos-Navarro, R., Nigenda, G. (2004). Políticas nacionales de salud y decisiones locales en México: el caso del Hospital Mixto de Cuetzalan, Puebla. <i>Salud Pública de México</i> , 46(5), 388-398.
15	(Evans, Duncan, McHugh, Shaw, & Wilson, 2008)	Evans, A., Duncan, B., McHugh, P., Shaw, J., Wilson, C. (2008). Inpatients' use, understanding, and attitudes towards traditional, complementary and alternative therapies at a provincial New Zealand hospital. <i>The New Zealand Medical Journal</i> , 121, 21-34.
16	(Fink, 2002)	Fink, S. (2002). International efforts spotlight traditional complementary, and alternative medicine. <i>American Journal of Public Health</i> , 92(11), 1734-1739.
17	(Gallagher, Kehoe, & Mendez, 2015)	Gallagher, J., Kehoe, T., Mendez, J.K. (2015). The First Nations Health Authority: A transformation in healthcare

		for BC First Nations. <i>Healthcare Management Forum</i> , 28(6), 255-261.
18	(Gamlin, 2013)	Gamlin, J. B. (2013). Shame as a barrier to health seeking among indigenous Huichol migrant labourers: An interpretive approach of the "violence continuum" and "authoritative knowledge". <i>Social Science and Medecine</i> , 97, 75-81.
19	(Gold & Clapp, 2011)	Gold, C. L., Clapp, R.A. (2011). Negotiating Health And Identity Lay Healing Medicinal Plants and Indigenous Healthscapes in Highland Peru. <i>Latin American Research Review</i> , 46(3), 93-111.
20	(Hartmann & Gone, 2012)	Hartmann, W. E., Gone, J.P. (2012). Incorporating Traditional Healing into an Urban American Indian Health Organization: A Case Study of Community Member Perspectives. <i>Journal of Counseling Psychology</i> , 59(4), 542-554.
21	(Hollenberg, Zakus, Cook, & Xu, 2008)	Hollenberg, D., Zakus, D., Cook, T., Xu, X.W. (2008). Re-positioning the role of traditional, complementary and alternative medicine as essential health knowledge in global health: do they still have a role to play? <i>World Health & Population</i> , 10(4), 62-75.
22	(Keshet & Popper-Giveon, 2013)	Keshet, Y., Popper-Giveon, A. (2013). Integrative Health Care in Israel and Traditional Arab Herbal Medicine: When Health Care Interfaces with Culture and Politics. <i>Medical Anthropology Quarterly</i> , 27(3), 368-384.
23	(Kent, 1999)	Kent, H. (1999). The Yukon takes native health a step further at Whitehorse hospital. <i>Canadian Medical Association Journal</i> , 161(10), 1312.
24	(Kesler, Hopkins, Torres, & Prasad, 2015)	Kesler, D. O., Hopkins, L.O., Torres, E., Prasad, A. (2015). Assimilating Traditional Healing Into Preventive Medicine Residency Curriculum. <i>American Journal of Preventive Medicine</i> , 49(5 Suppl 3), S263-269.
25	(King, 2004)	King, S. R. (2004). Phytomedicine, public health, and traditional healers: Health care at the crossroads of the earth and sky. <i>Journal of Alternative and Complementary Medecine</i> , 10(6), 921-923.
26	(Manitowabi & Shawande, 2013)	Manitowabi, D., Shawande, M. (2013). Negotiating the Clinical Integration of Traditional Aboriginal Medicine at

		Noojmowin Teg. <i>The Canadian Journal of Native Studies</i> , 33(1), 97-124.
27	(Marsh, Coholic, Cote-Meek, & Najavits, 2015)	Marsh, T. N., Coholic, D., Cote-Meek, S., Najavits L.M. (2015). Blending Aboriginal and Western healing methods to treat intergenerational trauma with substance use disorder in Aboriginal peoples who live in Northeastern Ontario, Canada. <i>Harm Reduction Journal</i> , 12.
28	(Mignone et al., 2007)	Mignone, J., Bartlett, J., O'Neil, J., Orchard, T. (2007). Best practices in intercultural health: five case studies in Latin America. <i>Journal of Ethnobiology and Ethnomedicine</i> , 3(1), 31.
29	(Moghaddam & Momper, 2011)	Moghaddam, J. F., Momper, S.L. (2011). Integrating spiritual and Western treatment modalities in a Native American substance user center: provider perspectives. <i>Substance Use & Misuse</i> , 46(11), 1431-1437.
30	(Moorehead et al., 2015)	Moorehead, V. D., Gone, J.P., December, D. (2015). A Gathering of Native American Healers: Exploring the Interface of Indigenous Tradition and Professional Practice. <i>American Journal of Community Psychology</i> , 56(3-4), 383-394.
31	(Napoli, 2002)	Napoli, M. (2002). Holistic health care for native women: an integrated model. <i>American Journal of Public Health</i> , 92(10), 1573-1575.
32	(Nzimakwe, 1996)	Nzimakwe, D. (1996). Primary health care in South Africa: private practice nurse practitioners and traditional healers form partnerships. <i>Journal of the American Academy of Nurse Practitioners</i> , 8(7), 311-316.
33	(Templeman & Robinson, 2011)	Templeman, K., Robinson, A. (2011). Integrative medicine models in contemporary primary health care. <i>Complementary Therapies in Medicine</i> , 19(2), 84-92.
34	(Tsey, 1997)	Tsey, K. (1997). Traditional medicine in contemporary Ghana: A public policy analysis. <i>Social Science & Medicine</i> , 45(7), 1065-1074.
35	(Walker et al., 2010)	Walker, R., Cromarty, H., Linkewich, B., Semple, D., St-Pierre-Hansen, N., Kelly, L. (2010). Achieving Cultural Integration in Health Services: Design of Comprehensive Hospital Model for Traditional Healing, Medicines, Foods and Supports. <i>Journal of Aboriginal Health</i> , 6(1), 58-69.

36	(Audet et al., 2012)	Audet, C.M., Blevins, M., Moon, T.D., Sidat, M., Shepherd, B.E., Pires, P., Vergara, A., Vermund, S.H. (2012). HIV/AIDS-related attitudes and practices among traditional healers in Zambezia Province, Mozambique. <i>Journal of Alternative and Complementary Medicine</i> , 18(12), 1133-1141.
37	(Timmermans, 2003)	Timmermans, K. (2003). Intellectual property rights and traditional medicine: policy dilemmas at the interface. <i>Social Science & Medicine</i> , 57(4), 745-756.
38	(Waldram, 2013)	Waldram, J. B. (2013). Transformative and Restorative Processes: Revisiting the Question of Efficacy of Indigenous Healing. <i>Medical Anthropology</i> , 32(3), 191-207.
39	(Arora et al., 2013)	Arora, S., Kurji A.K., Tennant, M.T.S.(2013). Dismantling Sociocultural Barriers to Eye Care with Tele-Ophthalmology: Lessons from an Alberta Cree Community. <i>Clinical & Investigative Medicine</i> , 36(2), 57-63.
40	(Baines, 2012)	Baines, D. (2012). Working with Patients Who Are also Seeing a Traditional Healer. <i>Journal of Cancer Education</i> , 27(1), 9-11.
41	(Durey & Thompson, 2012)	Durey, A., Thompson, S.C. (2012). Reducing the health disparities of Indigenous Australians: time to change focus. <i>BMC Health Services Research</i> , 12, 151.
42	(N. Hayman, 2010; N. E. Hayman, Spurling, & White, 2009)	Hayman, N. (2010). Strategies to Improve Indigenous Access for Urban and Regional Populations to Health Services. <i>Heart, Lung and Circulation</i> , 19(5), 367-371. Hayman, N. E., Spurling, N.E., White, G.K. (2009). Improving Indigenous patients' access to mainstream health services: the Inala experience. <i>The Medical Journal of Australia</i> , 190(10), 604-606.
43	(Jowsey et al., 2012)	Jowsey, T., Yen, L., Ward, N., McNab, J., Aspin, C., Usherwood, T., SCIPPS team. (2012). It hinges on the door: Time, spaces and identity in Australian Aboriginal Health services. <i>Health Sociology Review</i> , 21(2), 196-207.
44	(Kendall & Barnett, 2014)	Kendall, E., Barnett, L. (2014). Principles for the development of Aboriginal health interventions: culturally appropriate methods through systemic empathy. <i>Ethnicity and Health</i> , 1-16.

45	(O'Sullivan, 2013)	O'Sullivan, B. (2013). Considering culture in Aboriginal care. <i>Canadian Medical Association Journal</i> , 185(1), 27-28.
----	--------------------	---
