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ORIGINAL ARTICLE

Aging, Health and Place from the Perspective of Elders in an Inuit Community

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Abstract

This paper explores perspectives of Inuit elders on the relationships between aging, health and place. Their views are important to consider in the context of a growing proportion and number of older people in Arctic communities, a new sociological condition. Developing policies and programs to promote healthy aging in Inuit communities is challenging as there is little known about the social and living conditions that promote healthy aging in the Arctic. In this study twenty Inuit aged between 50 to 86, from one community in Nunavut, participated to in-depth qualitative interviews. Themes discussed included aging and health, housing conditions, community conditions, land-based activities, medical and leisure travel outside of the community, and mobility and accessibility. Preliminary analyses of the qualitative data were validated in the community through a focus group with four participants and an interpreter. Interviews and the focus group transcripts were analysed using thematic content analyses and NVivo 12 qualitative data analysis program (QSR International Pty Ltd. 2017). Participants reported that spending time with children, having social support, living in houses adapted to aging health conditions, having access to community activities and services, and time spent on the land were the main resources supporting their health. Several factors limited the availability of these resources. These include: lack of accessibility to resources; structural factors impacting their availability; and natural and social changes in interpersonal relationships. Participants also stressed the importance of being able to grow old in their own community. Knowledge generated in this project contributes to policies and programs targeting housing and community conditions to support healthy aging, and aging in place, in Inuit Nunangat.

Keywords Aging-in-place · Aging research · Canadian Inuit · Healthy aging · Indigenous research · Social determinants of health

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Introduction

Older adults constitute a relatively small, but rapidly growing, segment of the Indigenous population (First Nations, Inuit, and Métis) in Canada (Statistics Canada 2017a). In 2006, 4.8% of the Indigenous population was 65 years and older. By 2016, the proportion had risen to 7.3%. Among Inuit, the proportion of those aged 65 and older only increased by 1% between 2006 and 2016. However, the proportion of Inuit aged between 45 and 64 years increased from 13% to 17%, foretelling the emergence of an aging part of the population (Inuit Tapiriit Kanatami 2008, 2018). While the aging of the population is a recent phenomenon, there have always been aged people among Indigenous populations in Canada where elders have a distinct and highly respected social position. For Inuit, Elders are socially sanctioned leaders whose life experience gives them deep knowledge imperative to successful food production and the maintenance of social harmony (Harrington 2009; Ootoova et al. 2004). With the increase in life expectancy and the growing number of older adults, there is an increase of age-related health conditions affecting physical capacity and mental acuity in Inuit communities. In consequence, the social status and health needs of Inuit elders are evolving and create new health and social challenges in Arctic regions. However, there is little information about the determinants of healthy aging in the Arctic or about the resources supporting a good health for Inuit elders (Somogyi et al. 2015). Anchored in the perspective of Inuit elders, this paper explores the connection between place-based conditions, aging and health in one community in Nunavut.

Background

Inuit Nunangat, the homeland of Inuit in Canada, is comprised of four regions: Nunavut, Nunavik, Nunatsiavut and the Inuvialuit Settlement Region (Fig. 1), and constitutes about 35% of Canada's land mass (Inuit Tapiriit Kanatami 2020). In the last half-century, living conditions in Inuit Nunangat have undergone major transformations (Damas 2002; Young and Bjerregaard 2008).

The settlement into permanent communities started in the late nineteenth century and accelerated in the 1960s. It was driven by a combination of Inuit desires for access to wage labor opportunities and a Canadian government policy coercing Inuit into sedentary residence in permanent communities (Damas 2002; Tester and Kulchyski 1994). Today, older Inuit were born or were children when most of these changes happened; some lived in both a mobile seasonal hunting and gathering location and in fixed dwelling in permanent communities (Condon et al. 1995). Most Inuit elders will have spent significant portions of their life on the land, experiencing over their life course a lifestyle of multiple modes of dwelling and economic activity.

Nunavut is the northernmost Inuit territory, covering more than one fifth of the Canadian landmass. The population of Nunavut was 35,944 in 2016, with 84% self-identifying as Inuk (Statistics Canada 2017b). All but one of the 26 communities are coastal. Communities range in size from 130 to 3000 inhabitants, while there are more than 7000 inhabitants in Iqaluit, the territorial capital. There are no roads connecting the communities, or with southern population centers. Travel between communities is by air, although travel by boat in the summer and snowmobiles and/or dog team in winter is also possible. Primary and secondary schools, nursing stations often staffed by nurses with expanded scope of practice training, and grocery

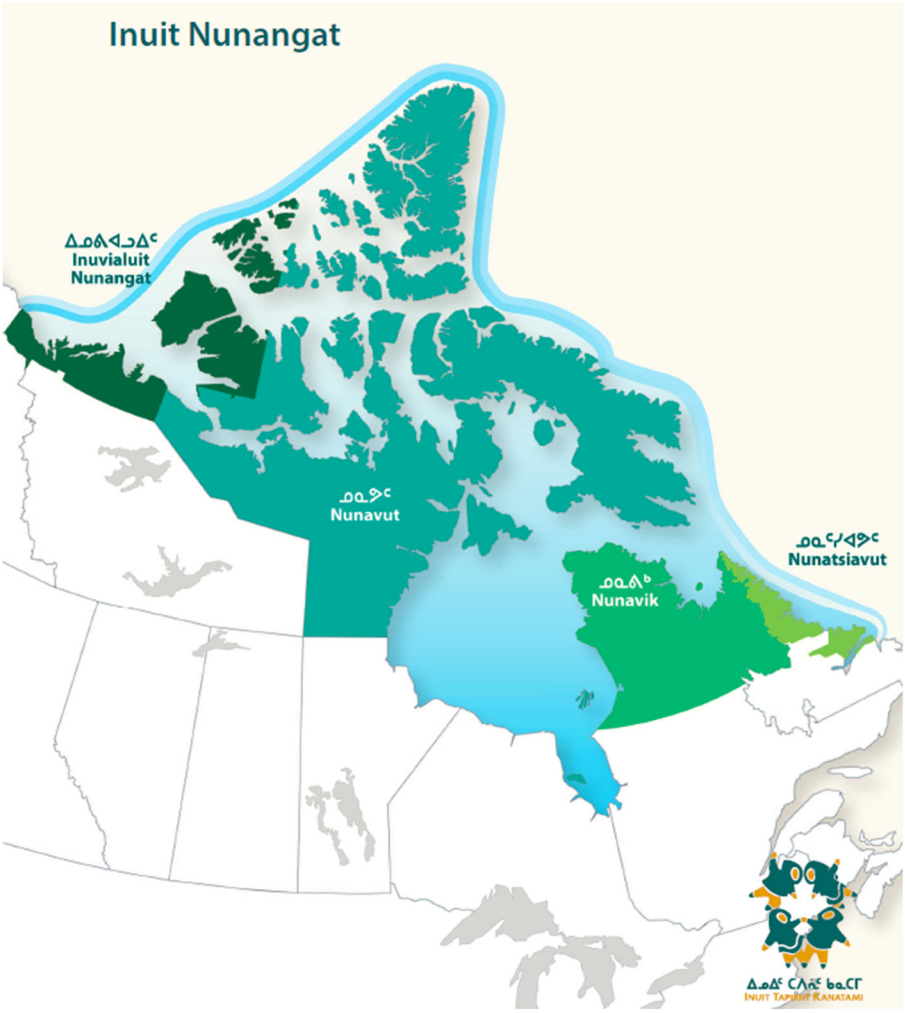


Fig. 1 Inuit Nunangat. Source: Inuit Tapiriit Kanatami (2018) Inuit Statistical Profile 2018

stores are present in all communities. An annual sealift of non-perishable goods is delivered to the local stores. There is one regional hospital in Iqaluit offering primary care services. Inuit have to travel to southern urban centres to receive secondary and tertiary care, as well as continuing to University.

A large majority of the population of Nunavut lives in subsidized housing provided as a part of land claims agreements; only 20% of houses were privately owned in 2016 (Statistics Canada 2017c). Despite the successive implementation of housing programs, there is a major housing shortage in Inuit communities; close to 3000 additional houses are needed in Nunavut to provide adequate housing for the whole population (Nunavut Housing Corporation 2016). This situation results in severe overcrowding: 56% of the population in Nunavut lives in overcrowded houses (Statistics Canada 2017d). The housing crisis is explained in part by the very high cost of housing construction and maintenance in Arctic regions and by the rapidly growing population (Knotsch and Kinnon 2011; Minich et al. 2011). Without an adequate

place to live, some people move to southern centres, or live for long periods of times with family members or friends', a phenomenon referred to as hidden homelessness (Knotsch and Kinnon 2011). Moreover, there is a lack of housing options to accommodate populations with specific needs, including elders with chronic diseases or activity limitations (Nunavut Housing Corporation 2016). Whereas the impact of poor housing conditions is a well-known determinant of Inuit health for all ages, its influence on Inuit elders' health seems less straightforward. In a study, associations between housing conditions and health have been shown to differ by health profiles (Baron et al. 2019). Housing conditions, such as overcrowding and needs for repairs, were differently associated with health for older adults with different health profiles.

The transformations of the living environment also influence family relationships. The introduction of a market-based economy and the increase number of jobs in communities have impacted on gender roles and family structures. While Inuit families traditionally relied on a gendered division of harvesting and domestic roles, participation in wage labor has broadened productive roles (Condon et al. 1995). Decrease of harvesting activities has lessened the role of the men as the provider for the family (Collings 2014; Condon et al. 1995; Quintal-Marineau 2016). These changes have also resulted in an increase number of grandparents adopting and/or raising their grandchildren (Sigouin et al. 2010). Traditional practices such as intergenerational customary adoption have existed for a long time (Ministère de la Justice et ministère de la Santé et des Services sociaux 2012) and spending time with grandchildren is often positive for the health of older adults (Fletcher 1996). However, as a high number of Inuit households experience poverty, taking care of grandchildren can also create financial and psychological stress: raising and providing for children sometimes represents an important financial burden for the aging segment of the Inuit population (Sigouin et al. 2010). Intergenerational relationships have also evolved in the last decades, impacting elders' social position. Formal leadership is now decided through elections and an increase number of younger Inuit access these positions (Oosten and Laugrand 2002). Consequently, the traditional role of Elders as community leaders have decreased in modern communities.

All these transformations have an impact on Inuit health. Inuit models of health are holistic and encompass physical, mental, spiritual, ecological and social dimensions. Relationships between Inuit health and place are interconnected (Kirmayer et al. 2009). Health is fostered by the balance of a person's connections to their family, the community, and the surrounding environment: these connections are fostered through socially organized activities and subsequent interactions with the land (Borré 1994; Kral et al. 2011; Richmond et al. 2007).

Definitions of health differs from that of younger generations (Collings 2000; Lewis 2010). Older Inuit give more importance to physical health and growing physical and mental incapacities than younger generations, although these are considered as part of the aging process. When defining healthy aging, elders indicate the importance of relationships with children, particularly their own grandchildren. Community involvement promotes healthy aging as older generations are role models to promote positive relationships among community members (Lewis 2013). The continued practice of land-based activities like hunting, fishing and picking berries are often described as necessary to stay active and healthy for all age groups (Durkalec et al. 2015; Inuit Tapiriit Kanatami 2014). Given the magnitude of the transformations of living conditions in the Arctic, connections between health and place are redefined, at least in part. As cultural models of health evolve with age, a better understanding of Inuit elders' relationships between health and place is necessary to inform social and health policies promoting healthy aging. However, little is known about the mechanisms explaining the links between family relationships, participation to social and land-based activities,

housing and community conditions, and healthy aging in Inuit communities today. This paper examines the perspective of Inuit elders on the relationships between these factors, health and aging in Baker Lake, Nunavut.

Methods

Setting

Baker Lake is the only inland Inuit community, located on the shore of the eponymous lake, 320 km west of the Hudson Bay in the Kivalliq region of Nunavut. The first permanent trading post was established in 1914, followed by the arrival of Christian missionaries and a Royal Canadian Mountain Police station (Canadian Northern Economic Developpement Agency n.d.; Damas 2002). The development of the community accelerated in the 1950s when the Canadian Government moved several families in the Baker Lake area (Robson 1994). The community then developed rapidly in the 1960s when 79 housing units were built in Baker Lake, reflecting the federal government plan to increase the centralisation of the Inuit population in that region (Bonesteel 2006). Today, of the 1690 residents of Baker Lake, 92% self-identify as Inuit. One of the main employers is Agnico Eagle Mines, whose mining activities began in 2010 at a site located 86 km north of the community. Other businesses and services available in Baker Lake are primary and secondary schools, a local health centre, a long-term care facility for elders, and several social and cultural facilities, including a community hall, an art gallery and a library ("Baker Lake, Qamani'tuaq" n.d.).

Research Process and Ethics

The community of Baker Lake was selected for the study because of its provision of several housing units dedicated to adults over 60 years old, as well as the presence of a long-term care centre for Inuit with chronic conditions or disabilities. These types of facilities are present in only a few communities in Nunavut. The community was also selected because of long-standing working relationships with the research team, and especially with MB, and of local support for the project. Prior to implementing the project, initial contact was made with organisms in the community in December 2017. At that time, MB visited the community and discussed the project with municipal leaders, the housing association, health and social services, and the long-term care centre for elders. This visit allowed to develop the research proposal with input from these different local stakeholders and to adapt it to the community's needs and interests. Following this visit, the proposal was submitted for ethical review to Laval University ethics committee (2017-143/25-01-2018), It was also submitted to the Nunavut Research Institute (NRI), the organisation overseeing research in the territory, who approved the proposal and granted a research license (license # 03007 18 N-A).

Data Collection

Data collection took place over three weeks in winter 2018, using in-depth interviews. The recruitment strategy combined purposeful and snowballing sampling (Creswell 2015) to recruit men and women aged 50 years and older living in different housing situations. The threshold of 50 years old was defined in previous research, where Inuit elders described social

and physical health aspects as changing around 50 to 55 years old, indicating the beginning of the aging life stage (Baron et al. under review). Participants were interviewed individually, or as couples, in their houses or at the elders' long-term care centre. Most Interviews were conducted in Inuktitut with the help of an interpreter; some were conducted in English. Participants provided oral consent after receiving information about the project.

Interviews were conducted using an interview grid with open-ended questions focusing on living conditions associated with healthy aging: aging and health, housing and community conditions, activities carried out on the land, medical and leisure travel outside of the community, mobility and transportation in the community and on the land. An example of the basic interview grid is included in Appendix 1. All themes were discussed with all participants, but their order changed according to participants' interests and the conversation flow. MB conducted all interviews, which lasted between 20 and 90 minutes. Length of interviews varied because some participants received visits from family members who either chatted with their relatives or the interviewer, or family members of the household carried out activities in the home. However, the interview was maintained as a flow and visits did not disrupt the discussion between the participants and the researcher. Interviews were recorded and subsequently transcribed. An interview memo was written at the end of each interview to recall major themes discussed as well as relevant information for analyses. Upon completing the interview, participants were compensated for their time with a $40 gift certificate from the local store.

Twenty people participated in the study; 16 were interviewed individually, and four as a couple. Participants were between 50 and 86 years old, and lived in private housing, subsidized housing, or in the elders' long-term care centre. Participants lived alone, with family members, or with friends. An equal number of men and women participated.

After interviews were completed, thematic analysis of interview memos was conducted. Fifteen themes related to community conditions and services, housing conditions, family and cultural connectedness were identified. In order to validate preliminary findings and to add nuance to early interpretations of the interview memos, themes were presented in a focus group at the end of data collection. All participants of the individual interviews were invited to the focus group. To facilitate the discussion and to accommodate different literacy levels, all themes were either written or drawn. Four participants were present for the focus group, in addition to the interpreter, who was over 50 years old and took an active part in the conversation. During the focus group, participants provided detail and complementary information about the role of several social and living conditions in promoting health that had not initially been well understood.

Data Analysis

Interviews and focus group were fully transcribed. Data were analysed with NVivo 12 qualitative data analysis program (QSR International Pty Ltd. 2017). Interview transcripts were analysed with a general inductive approach through thematic content analyses to identify common patterns and themes (Hashemnezhad 2015). First, interviews were coded and analysed. Then the focus group was coded and the lead author proceeded to compare the focus group results to the analysis of the individual interviews. This two-stage method allowed for a reflexive approach during the analyses. When the data analysis was complete with final codes, major themes were identified. In the first step of the analysis we identified individual, housing, community and land-related resources for healthy aging. In the second stage of

analyses we identified of underlying mechanisms explaining how Inuit elders have a limited or adequate access to these resources. Excerpts extracted from the coded material are presented below to illustrate the themes and issues identified.

Findings and Discussion

Resources for Healthy Aging

Four main groups of resources for healthy aging were identified by participants during individual interviews and the focus group: 1) family relationships; 2) adequate housing conditions; 3) positive community conditions, and; 4) being on the land. These groups of resources reflect those identified among Inuit of all-ages (Inuit Tapiriit Kanatami 2014) and elders (Baron et al. 2019).

Spending time with children, and especially with grandchildren, and social support were the most important family relationships described by participants. Spending time with grandchildren was a source of joy and well-being promoting healthy aging. Grandmothers also described how they enjoyed having a parenting role, to foster children or raising their grandchildren.

> *[Through an interpreter]: Her pain seems to be away, and she forgets all about her pain when her grandkids come around. They uplift her and her heart is warm, her feelings is like warm-hearted when they are all around. (Woman, 70–79)*

Social support referred to getting help from family members, mostly adult children, to perform daily activities and take care of the house. Older participants described the aging process as slowing down as years passed. As their physical capacity decreased, they reduced the number and the difficulty of their activities.

> *[Through an interpreter]: She has five adopted children. One of them will bring her [to the community hall] and another one will bring her home.*
> *MB: You have a big support network, I guess, support group to help you do your activities. A lot of people?*
> *[Through an interpreter]: Family support. A lot of family support. […] One of her adopted child, even though he's a [boy], he sweeps, cleans and does the cooking for her. (Woman, 70–79)*

To participants, having an adequate house meant a house not needing major reparations, being safe, having enough space to live in and to invite family, feeling at home, and being located close to services and to the land. Having an adequate house was especially important for Inuit elders who suffered from decreased mobility, activity limitations, or from chronic diseases, and needed material support to deal with their health condition such as ramps or bathroom adaptations.

> *MB: What do you think about the housing situation in Baker Lake?*
> *Participant: They should put better view [from the houses]. […] Yeah, and I think the kitchen and the living room like this is ok, but having stairs for someone [with low mobility], like for old person, might be hard for stairs, [they should] be on a flat house. (Woman, 50–59)*

At the community level, Inuit elders indicated several features important for healthy aging. Feeling safe in the community promoted physical activity such as walking and was important for well-being. Having access to health services locally was important as participants often suffered from chronic illnesses that require regular care. Attending community activities, especially community feasts and dances, provide important opportunities to socialize and eat country food.

> *MB: About the community events, feasts, and so on, are there enough activities like that in the community?*
> *[Through an interpreter]: Yeah.*
> *MB: Why is it important, why is it good?*
> *[Through an interpreter]: He says it's important going, because it's so boring here and sometimes [there is] hardly any food. So, it's his only chance to go eat around people and socialize with others. (Man, 60–69)*

Being on the land, either to observe the landscape and the wildlife or to participate in land-based activities was very important to promote well-being. Most participants were born on the land near Baker Lake, before being sent to school in the community. They enjoyed spending time on the land, an experience they associate with reliving the happy times of their childhood.

> *[Through an interpreter]: When she's on the land too that's when her stress is all come out, like less stress, good stress relief, because that's where she pretty much grew up so it's big stress relief when she finally goes out on the land. (Woman, 70–79)*

Whereas participants view family relationships, adequate housing and community conditions, and spending time on the land as needed to age healthy, they did not always have access to these resources. They identified several mechanisms that explained the limited access or availability of living conditions promoting healthy aging in or around Baker Lake; these are explored in the following section.

Exploring Mechanisms Linking Healthy Aging and Place-Based Resources for Healthy Aging

Participants discussed three types of mechanisms supporting or hindering healthy aging in Baker Lake: 1) informational, physical and symbolic access to resources; 2) structural factors limiting access to, and impacting, resources promoting healthy aging; and 3) natural and social changes impacting interpersonal relationships.

Informational, physical, and symbolic accessibility to the resources

Unequal access to the resources that promote healthy aging creates inequalities among elders in the community. There are multiple forms of accessibility to resources that were described by participants. One was the possibility of getting important information about community and housing conditions promoting healthy aging such as community activities, financial assistance programs and services provided in the community. These types of information are usually relayed through the local FM radio, which used to be the main mode of public communication in Arctic communities before the internet. However, due to financial difficulties, the FM radio had not been working for several months prior to the interviews. At the same time, there is an increase in the use of internet-based social media, Facebook most notably, for sharing

community information especially among younger generations. Older participants complained about not having access to this information channel. Some of them depended on their family to get information about community activities and services.

> *[Through an interpreter]: Nowadays, when there are events going on it's posted only on Facebook not through local radio, so it's hard to know now nowadays and at his age, having no internet, it's difficult and hard to know what events are going on. People barely going on air to let the community know about what event is going on. (Man, 60–69)*

Limited access to the internet or limited digital literacy also created challenges as an increasing amount of official information is relayed through governmental websites. For example, one participant had only recently learned that renovation funding programs were offered to homeowners. However, the information had been broadcast on the organisation website for some time. Not having internet access, he heard about it from other community members.

Internet and social media use is increasing in Inuit communities but not all community members have access to the internet. In a study conducted in Nunavik, language and technological barriers explained why part of the population, including elders, had limited access to internet and social media (Lyonnais 2017). Most elders mainly speak Inuktitut while social media and softwares are developed in English. The technological requirements limit their ability to learn how to use social media. However, most communities still use FM radio to keep people informed of events in town, a critical source of information for those who do not use the internet. In Baker Lake, the lack of radio contributed to information inequalities between younger and older generations, and between elders who have support from their family and those who are alone.

With regard to physical accessibility of resources in the community and on the land, the presence of stairs and transportation were identified as two main issues. Steep indoor and outdoor stairs in houses and other buildings were a common theme raised in interviews. They are perceived as being a risk for health. Participants were afraid of falls and feared for their personal safety. Not being able to climb up and down the stairs also limited participation in social activities. Even participants who were still active enough to walk around town and go out on the land on their own would prefer to stay inside when the stairs were too steep. Stairs acted as mental and physical barriers.

> *[Through Interpreter]: It's not bad with this place inside, but the only problem is the stairs. Sometimes he wants to go out but there's no help for him to help him go down the stairs. (Man, 70–79)*

Transportation to activities was another barrier for participants with mobility issues. In Baker Lake, almost all services are concentrated on the lakeshore in the oldest part of the community. Yet new neighborhoods can be as far as a 45 minutes walk from these services even for those in good physical health. People who lived close to services could walk to carry on their daily activities and did not rely on transportation such as cars, ATV and skidoos.

> *MB: Are there other reasons you want to stay closer to the centre of town?*
> *Participant: Yeah, the Northern store is rather close, and the school is closer and, like, all the places I usually go to are closer, living here in the community rather than in the subdivision, where it's a 45 minutes walk. (Man, 50–59)*

However, the elders long-term care centre provided an efficient and free bus service for those aged over 60 in the community. This bus was an important support to participants who experienced walking difficulties and who did not have their own vehicle. Elders relied on it

to go to the health centre, the municipal office, and to the stores. Moreover, several participants used this service only occasionally, calling the bus if they felt too weak or unable to walk. The reassurance provided by the bus service was an important motivation to stay active even when it was not used.

> *[Through an interpreter]: [The participant] encourages the [elders long-term care centre] where they have a van, and he encourages him not to pick him up while he's still moving around and he can walk on his own with his cane. He is happy to be moving around instead of getting a ride. (Man, 60–69)*

The importance of living close to, and being able to walk to, services have mostly been explored in urban settings among older adults. Living in a neighborhood with a higher density of services is an important feature for healthy aging (Glass and Balfour 2003) and is associated with better health and well-being (Annear et al. 2014; Cramm et al. 2012; Takano et al. 2002). In rural Indigenous communities in Canada, living in small communities increased the need for car transportation to go outside of town and access services and resources (Bartlett et al. 2012). However, few communities in Inuit Nunangat are connected by roads to urban centres and all services are concentrated locally. Proximity to community services may enhance independence in this specific context.

Having access to transportation is also necessary to travel on the land. Participants who did not have a skidoo, an ATV, or a boat had difficulty to engage in activities on the land or on the lake. However, older participants indicated that aging was associated with slowing down and limiting outside activities. The extent of the space they used for activities was reduced and concentrated in and around the dwelling they occupy. They enjoyed being at home and receiving visits instead of going out to visit others. Participants who lived with their family spent more time at home with their children, and especially with their grandchildren. However, most participants still wanted to have access to the land. Having a house with a view on nature promoted a symbolic connection to the land, without travelling. Observing wildlife and people travelling to go camping from the window was described as good for well-being and reinforced connection to the land.

> *[Through an interpreter]: He'd be happier if he moved to a different unit with a scenery towards the Lake and it's what they are normally used to, the elders. […] They were hunters before and they know what's coming, they know what's going to come around and they want to see who's coming from the Land. And that's their favorite part of their lives, the scenery. (Man, 60–69)*

As Inuit elders experience a loss of physical strength and have the desire to stay close to their home and family, symbolic connections to the land become more important. It has been argued that the land cannot be reduced to its physical dimension in Indigenous contexts; the land also represents the intricate relationship between health and place in everyday life (Wilson 2003). These observations about the importance of proximity to nature are echoed in research with older Métis in Canada where positive feelings about the closeness of nature and wilderness around the communities were associated with the nostalgia of outdoor activities during childhood (Bartlett et al. 2012). As elders' strength and will for travelling decreases, Inuit elders also described the growing importance of symbolic dimensions of the land over travelling and performing activities. Community planning and housing designs can promote housing conditions that allow for the maintenance of symbolic connections to the land for people with mobility problems.

Participants in this study indicated that a balance of individual and environmental adaptations to age-related social and health needs are necessary to promote healthy aging. Environmental adaptations include, for example, having ramps instead of stairs and adequate transportation systems. However, resources in Baker Lake were sometimes ill-suited to elders needs. The ability of families and services to adapt to the rapid changes happening in the community, such as the growing importance of the internet, was limited. Several mechanisms related to structural factors and social changes explained these limitations and are further explored in the following sections.

Structural Factors Limiting Accessibility and Impacting Resources Promoting Healthy Aging

Several structural factors limited elders' ability to access resources for healthy aging; most are associated with the difficulties with housing conditions for elders in the community. The housing crisis in Nunavut communities is also felt in Baker Lake. Overcrowding, poor quality housing, and hidden homelessness all have negative effects on elders' health and well-being. Participants indicated that they were unable to move to another dwelling more adequate to their needs and preferences because of a lack of housing. Participants' houses were ill-adapted to their health conditions, did not have enough bedrooms to adopt or foster children without being overcrowded, or were located far from services or from the land. Living in a house with indoor stairs or in block apartments increased stress and limited the activity of elders who suffered from chronic illnesses. A couple who lived in a block apartment were afraid for their safety because their dwelling faced the furnace room; they feared that they would be unable to escape the building in case of a fire.

> *Participant: [There is] only one doorway. If there's ever…. If there's ever a fire… The windows, we can try and get out through the windows, I guess. […]. We're not agile anymore. […]. Not like in our thirties. (Man, 60–69)*

The shortage of houses increases the risks of homelessness. Focus group participants detailed how the lack of housing opportunities forced families to move in other people's homes, increasing hidden homelessness. For elders, homelessness was mostly experienced by participants who had lived outside of Baker Lake for some time, and then returned to the community later in life. Before moving to their current house, they had to live at family members or friends' houses for varying periods of time.

> *MB: How have you been feeling with all these moving in and out in the past years?*
> *Participant: Very stressful. I had a good job and my own apartment for a while, it was $100 a month, but after I lost my job I couldn't afford it, I've been moving, I moved about. This is my 15th time in 13 months. (Woman, 50–59)*

All participants living in social housing indicated that their houses were in need of minor to major renovations. Participants described major issues such as poor electrical wiring, structural deficits, absence of running water because of broken sewage systems, and health risks associated with outdated ventilation systems. Living in poor quality houses impacted well-being and created frustration.

> *MB: How long have you lived in this house?*

Participant: Oh, too long, it's been how many years now? 16 years! September 20. Been waiting to get out of here for a while, I feel rather trapped in here. You know that movie 1408, where that guy goes to that hotel and he can't get out of there for some reason, out of that particular room. That's what I feel here, horror movie. ((laugh)).
[…]
MB: Ok, so what do you dislike about the house then?
Participant: Huh, ((laughs)), practically everything. It's old, it smells old at times, from time to time we have little bugs because it's so [old], you know. […] The unit itself is like so run down. The floor is kind of falling apart, sort of, in a way. And it's getting kinda hard to close the outside doors because, it's like, it needs to be levelled. (Man, 50–59)

Renovation costs were also an important strain for private homeowners. While high renovation costs are strenuous for all homeowners in Arctic communities, the situation becomes critical for the retired segment of the population. Homeowners in Nunavut were mostly government or municipal workers who had a steady income at the time the house was built. When they retired, their pension plan was not adequate to cover furnace maintenance, change broken windows, and afford structural renovations of the house. The financial burden was stressful and even life threatening in extreme cases when homeowners were unable to heat the house.

Participant: I think to be an owner of the house, anywhere in Nunavut, or NWT [Northwest Territories], you got to be working to keep up with the power and the fuel, and whatever the house needs, like cable, TV, telephone. So, everything costs, and they do not guarantee you free… (...) There got to have help from federal and Nunavut government to help citizens over 65. We have got to fight for that. Otherwise, a person retired over 65 are not able to pay for power and fuel. They run out of power. No sewer, water, pipes damages, need new. (Man, 70–79)

In addition to the lack of adapted houses for elders with chronic illness, there are very few long-term care facilities in Nunavut. At the time of data collection, all residents of the elders long-term care centre of Baker Lake came from other communities, and sometimes from other regions of Nunavut. Being separated from their family had negative impacts on their mental health and increased their feeling of loneliness. Participants sometimes felt that they did not get as much support as they would if they lived in their own community. Being forced to move to another community also caused integration challenges: elders do not always speak English, and residents who came from other Nunavut regions had to overcome language barriers as they spoke another Inuktut dialect.

MB: Has it been difficult for you to move from [your community] to Baker Lake?
[Through an interpreter]: He said that in the beginning, it was hard for him because he was by himself, all alone... Thinking that he doesn't have real family members to go with him and speaking English was another thing that stressed him out. Well, not being able to speak or understand English. (…) He said: "It's getting way better now that I'm getting to understand their, our, dialect." Because my dialect and their dialect are slightly different. (Man, 70–79)

Structural conditions such as high costs of construction and maintenance, housing shortages, and lack of opportunities to run long-term care facilities are at the root of systemic overcrowding, homelessness and poor housing conditions in Indigenous communities in Canada (Adelson 2005). In her work, Christensen (2013) argued that the collective experience of

homelessness in Indigenous communities is experienced as a repetition of the historical traumas that began with the settlement of the population. One participant in our study indicated that he had felt homeless since he was five years old when he had been forced to go to school in Baker Lake, leaving his family on the land. This experience reflects Christensen's findings and illustrates the magnitude of distress experienced through homelessness in Inuit communities. In consequence, poor housing conditions seem to have amplified, and in some cases have life-threatening, repercussion on elders health.

Social Changes Impacting Interpersonal Relationships

Whereas family and community relationships offer social support to elders, changes in these relationships impact healthy aging. One important challenge described was the loss of a spouse. While some people emphasised how they were able to heal and adapt after their loss, others described the event as a pivotal moment in their life.

> *Participant: So, short 30 years I've lived in that house and my wife had one of those trip away. Operation for her kidney, all the way up to the bones up here, and there was a long piece of some kind of solution in the back of her inside back spine. And the doctor says: "You have 10% survival." I looked at her and I said, that's not much. She said: "I know I'm dead both ways, if it breaks inside me, I'm dead. Even if it's taken out, and I'm dead. And I said, do what you want to do, love. And I said, I won't be hard on you, I won't be the hard type. She did. (…) but, when the wife passed, it's just like the door closed on me. You're on your own buddy. I said, I know. (Man, 70–79)*

Beyond sadness and emotional distress, losing one's spouse presaged important changes in living conditions. As they grow older, spouses rely on each other to perform daily activities such as going to town, taking care of the house, and going on the land. People who lost their spouse also lost their main companion for these activities. The impact was particularly important for those who would often go on the land. Retired couples found themselves with the time to go on the land, unlike many other adults who were obliged to stay in the community for work and school. Once widowed the possibilities for going one the land decreased.

> *[Through an interpreter]: Ever since she lost her husband she's been quite… She would really love to go out hunting and she's tired of being stationary, so…*
> *MB: Was it something you did a lot with your husband? Going out in the Land?*
> *[Through an interpreter]: Yes, that's what she was saying. […] When her husband was alive, they both, each had ATV and they would follow each other. (Woman, 70–79)*

Losing one's spouse further increased the need for social support from family members. However, several participants had moved to other communities when they got married. After they lost their partner, they decided to come back to Baker Lake to be able to grow old among their family. The situation created a double burden for the widowed who felt lonely because they had to learn to live alone as well as recreate a social network in the community.

> *[Through an interpreter]: He thought of coming [back], but […] he didn't want to leave the wife. So, he waited to see who would pass away first, him or her, and she passed away. He finally came back home after she passed. That's when he finally decided to*

come back home.
[…]
He was more happy when the wife was around.
MB: What kind of change, living alone, what kind of things does it change on a daily basis?
Through interpreter: He says, most time, so quiet and boring with people barely come around, and he gets so happy when people finally come and visit. (Man, 60–69)

Widowers had to rely on younger family members to get social support. However, the important social changes in Inuit societies have repercussions on intergenerational relationships. Several participants observed changes in the relationships among community members of different generations over time: between grandparents and grandchildren, and between parents and their adult children. Participants felt that the western education system and the rapid changes of the social and living conditions were the source of these changes. One such repercussion was communication with children. As children go to school in English, and as themselves mostly speak Inuktitut at home, several participants felt that communication was more difficult.

Participant (wife): When we want to speak to them in Inuktitut, we try to speak to them in Inuktitut. When they don't understand what we're saying, we're saying it in English. Even the baby, he knows more Inuktitut than these two.
MB: Oh, really?
Participant (husband): That's because he hasn't started school yet.
Participant (wife): Because we talk to him in Inuktitut.
Participant (husband): Once he starts going to school…
Participant (wife): English. (Couple, 60–69)

During the focus group, participants felt that residents of Baker Lake spoke less Inuktitut than in other communities. The decrease of Inuktitut was attributed to mining activities that attracted people from other communities who spoke other Inuktitut dialects, English, or French. While the specific context of language use in Baker Lake is likely unique, the language barrier between generations has been described elsewhere in the Arctic (Collings 2001). Communication difficulties are not restricted to language. Participants sometimes felt that the important cultural and social transformation limited their ability to share knowledge and take care of children. Several participants complained that elders' voices were not respected as it used to be in older days.

[Through an interpreter]: He said he enjoys taking the children out [on the land] but at times he worries because nowadays children want to look cool and look just nice and you know... And yet, they're out there getting cold and that's what he worries about. You know? And I understand that. (Man, 70–79)

Positive relationships and interactions with community members and younger generations is a very important dimension of healthy aging across the Arctic (Baron et al. under review; Collings 2001; Lewis 2013). The importance of relationships is reciprocal: Elders have a role as leaders to pass wisdom to younger generations, while needing increased support from younger adults who have strength and energy (Collings 2001; Lewis 2011). However, the social transformations of Inuit societies seem to disrupt this reciprocity. As King and colleagues observed for Indigenous communities (2009: 82): "Many elderly people have

experienced residential schools, lost children to non-Indigenous adoptions, and lived with the consequences of policies (government appointed leadership, loss of language, loss of culture), which reduced the role of Elders—all within their lifetimes." As participants in this study observed, there was a large gap between elders who were born on the land, and younger generations who are used to social media, internet and western education. This gap hinders communication both in terms of language barriers and in the value attributed to land-based activities. Elders who were interviewed in this project were the last generation who experienced the nomadic ways of life around Baker Lake. Relationships between elders and younger generations will still evolve as younger generations of elders were born in the communities and have different life experiences.

Conclusions

The aim of this paper was to describe the relationships between health, aging, and place in an Inuit community. For Inuit in Baker Lake, healthy aging was possible through varied social and living conditions: good family relationships; adequate housing conditions; community activities, services and resources such as transportation and health services; and relationships created through connections with the land. Some of the resources identified by elders are common to all generations (Inuit Tapiriit Kanatami 2014; Parnasimautik 2014). These resources are embedded in modern community features, such as adapted housing conditions and community services, and more traditional factors such as access to the land. For Inuit elders, housing and community resources bring material support important for healthy aging such as physical safety, access to health services, and transportation. Family relationships and connections to the land provided support to healthy aging: being with children increases happiness, having support from adult children decreases everyday life stress, as do connections to the land.

This study illustrates the relationships between place and healthy aging in one Inuit community. Inuit indicate that health is created by a balanced relationship between health and place (Kirmayer et al. 2009; Kral et al. 2011). In their work, Collings (2001) and Lewis (2013) indicated that healthy aging was defined by good physical and mental health, having relationships with younger generations, having positive relationships with family members and staying away from alcohol and drug. Elders said that healthy aging was promoted by the adoption of a good attitude toward natural changes happening with age such as decrease in physical capacity (Collings 2001). Adaptation to new health-related challenges was also an important theme developed in this study. Healthy aging requires adapting to individual and environmental changes. However, living conditions were not always supportive for healthy aging in Baker Lake. Inadequate living conditions such as steep stairs, out-of-date electric and ventilation systems, houses being too small, were sources of stress and health risks while increasing the impact of activity limitations on everyday life. Unsupportive environments, for example poor housing conditions or lack of transportation, unbalanced the relationships between health and place.

Important resources have been developed in Baker Lake to provide a supportive environment to Inuit elders, such as the bus system, the long-term care centre, and feasts for elders. These resources are examples of useful and successful community response to address elders' needs. However, challenges faced by Inuit communities are difficult to overcome and limit to a large extent the capacities of families and communities to answer elders' needs for a supportive

environments at home and in the community. For example, between 2004 and 2010 in Nunavut, despite ongoing construction programs, the housing shortage increased from 3000 to 3500 houses; investments in housing during that period were just enough to keep up with the population growth (Nunavut Housing Corporation 2016). In our study, participants identified rapid transformations of the community as the source of poor housing conditions and intergenerational cultural and communication barriers. Community transformation and structural conditions are external factors that are created and maintained through regional and national policies. Inuit communities and families have limited capacity to address these challenges locally. This project mostly focused on individual, housing and community resources for healthy aging. However, resources beneficial for healthy aging such as funding for housing constructions, and adapted housing solutions, and communities' health and social services are influenced by decisions made at the regional and national levels. These need to be addressed.

Strengths and Limitations

Cross-language qualitative research presents specific challenges to ensure that the researcher accurately understands participants' discourse (Squires 2009). While information can be lost in translation and a lack of awarenss of cultural references, the two-phase design of this study ensures the trustworthiness of the results. Preliminary findings and interpretations were discussed between the researcher and Inuit elders during the focus group conducted at the end of data collection. Open discussion about preliminary interpretations allowed the participants, interpreter and the lead researcher to add nuances and deepen the understanding of the mechanisms underlying the relationships between health and place in Baker Lake.

In terms of transferability (Lincoln and Guba 1985), some observations that emerged from this study might be influenced by the specific historical and cultural context of Baker Lake. Most participants were forced to move to Baker Lake to attend the federal day school that opened in the early 1950s. The detrimental health and emotional impacts of this type of schooling are comparable to other residential schools experiences throughout the Arctic (Truth and Reconciliation Commission of Canada 2015). However, the presence of a school in the community also impacted the development of the community. Several Inuit family groups coming from across the Arctic were brought together in Baker Lake (Damas 2002). Participants said that social cohesion is weaker in Baker Lake than in other communities because of how the community came to be. More recently, the activities of the mine seemed to further impact community communication and social relationships. Participants linked these activities to the growing use of English in the community, which increases communication barriers between generations. While this context shapes healthy aging resources characteristics such as family and community relationships, the mechanisms linking the resources to healthy aging are likely to be common to all Inuit communities. While specific resources characteristics need to be contextualised, information garnered in this study should be relevant for healthy aging in Inuit Nunangat.

To conclude, one of the most important observations developed in this project was the necessity to have facilities promoting aging-in-place, i.e. allowing Inuit elders to age among their family, in their community and close to the land where they grew up. The wish to age-in-place is shared among several populations (Benefield and Holtzclaw 2014). It has been associated with nostalgia of childhood times (Bartlett et al. 2012) and a strong sense of belonging (Gilleard et al. 2007; Kivett 1988). In this project, aging-in-place was the main

factor that ensured elders would get the community and family support necessary to access resources important for healthy aging. Adapting and developing resources that facilitate homecare are also necessary to promote aging-in-place. More adapted housing conditions for older adults with mobility limitations and who move back to their community in later life would prevent loneliness and decrease homelessness. Moreover, implementing long-term care facilities is necessary for Inuit elders who need daily medical attention and wish to be surrounded by their family while getting appropriate care.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Appendix: Interview grid

In this interview, I would like to talk with you about your health and living conditions that are good for your health. By living conditions, I mean housing conditions, community services. But first, I would like to talk with you about your health now.

Block: Meaning of age and health and discussion opening

- As a beginning, I thought that you could tell me where you come from? Would you like to tell me a little about you? Where were you born? Tell me about where you lived?
- And what about now? How long have you lived here?

I would like to ask you a few questions about your life now, and your health.

- What does it mean being (xx) years old to you? How would you describe your life now?
- How is your health now/these days?
- Has it changed in the last years? If yes: what happened (and when)?
- (depending answers to last questions) What helped improving your health/maintain it/protecting it?
- What would help someone maintain/improve health when getting older? What is important for the health of older people?

Block: Housing conditions

Now I will ask you questions about your house. I would like to talk about specific environmental features that help/could help you be healthy.

If living in own house.

- How long have you lived in this house? Have you always lived here?
- Let's talk about your house. Do you think your house is a good place to be healthy? To grow old? Why/why not? What would you like to improve?
- What features of your house do you like? Would you like to have? do you dislike?
- What do you think would be a good house for older people? Do you think the houses are good for older people in Baker Lake?
- (if not living alone): is it important /good for you to have people living around you? how do you like having people/your family living with you?
- (if leaving alone): how do you like living in your own house?

Elders long-term care centre:

- How long have you been in Martha's centre? Where did you live before?
- Is living here good for you? For your health?
- What do you like about the centre? What don't you like?
- What are the features/commodities/ you like? What is missing?
- What would you like to be improved?
- Do you think places like Martha's centre should exist in other communities? Why?

Block: Community

Let's talk about Baker Lake.

- Is Baker Lake a good place to grow old? Do you like living in Baker Lake?
- What do you specifically like here? What do you dislike?
- Are there places in Baker Lake that are good for you? For your health?
- Are there places that are good for Elders/Older people?
- Are there activities organised that are good for older people's health? Who organises them? Why are they good/not?
- Do you have all the services you need to be healthy?
- What is missing? What would you think would be important to have? Not important?

Block: Other places

- What other places and activities are good for your health outside of Baker Lake? For older adults health?
- Going on the Land? Elsewhere in Nunavut? Winnipeg?
- Why is this place good for health?
- Is it easy to go there? Can people easily go there? if yes/no: why?
- Do you go there alone? Who do you go there with?

Block: mobility.

- Is it easy for you to get to the places you need to be healthy/for your health?
- Can you go where you want in Baker Lake/elsewhere?
- Do you think some people have difficulties to go everywhere they need? Why? What is done for them/could be done?

– What limits your mobility? What could help you go where you need (for example people, skidoo, community bus).

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