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Impact of Assistance Programs on Indigenous Ways of Life in 12 Rural Remote Western Alaska Native Communities: Elder Perspectives Shared in Formative Work for the "Got Neqpiaq?" Project

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ABSTRACT

For more than 50 years, government programmes in the USA have been in place to help those in need have consistent access to food and education. However, questions have surfaced regarding whether or not these support impact traditional ways, such as cultural activities, food preferences, and overall health, particularly for Indigenous populations. In this paper, we share insights voiced by Alaska Native Elders in the Yukon-Kuskokwim region of Alaska and their perceptions of regulations, assistance, and the impact government assistance programmes have had on their culture. Elders raised concerns so that those administering these programmes will consider how best to meet food security and education needs without interfering with Indigenous cultural practices and traditional lifestyle.

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Introduction

Beginning early in the 20th century, the United States (US) government's interest in the social welfare of its people grew. This movement gained momentum in the 1930s with the creation of the New Deal programmes. It took off dramatically in the 1960s and 1970s with the advent of the Aid to Families with Dependent Children (AFDC) (since replaced with the Temporary Assistance for Needy Families programme, TANF), Supplemental Nutrition Assistance Program (SNAP - formerly known as Food Stamps), Medicaid, Supplemental Security Income (SSI), and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)[1]. Additional examples of government-sponsored programmes include Commodity Supplemental Food Program (CSFP), the National School Lunch Program (NSLP), the Child and Adult Care Food Program (CACFP), and in 1977, the Food Distribution Program on Indian Reservations (FDPIR), which was established to specifically offer food assistance to rural Native communities. Additionally, in the 1960s, the Head Start Project was launched as a child development

programme to help break the cycle of poverty by providing a comprehensive programme to meet the physical, nutritional, social, and emotional health of children and families with low income [2]. Collectively, the goals of these federally funded programmes were intended to ensure children, families with low incomes, emergency victims, those on Indian reservations, and the elderly had sufficient resources to aid in their economic well-being and safeguard its most vulnerable populations[3]. These protections and safeguards were the basis for creating the US Fish and Wildlife Service and the US Department of Agriculture (USDA) to provide safety and leadership for food, agriculture, and conservation of fish and wildlife that would benefit millions of Americans. Indeed, millions of individuals and families with low income rely on these food and nutrition assistance programmes each year, which have been shown to benefit health and nutrition status in the populations, including 276 tribes who receive FDPIR [4-11].

More specifically, these government-sponsored assistance programmes impact many living in rural Alaska Native (AN) communities. For example, Alaska Early

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Head Start (EHS) and Head Start (HS) programmes serve more than 3,000 children in 100 communities. These comprehensive child development programmes provide multiple levels of support systems including: a nutritious food programme, general health monitoring (e.g. dental visits, annual physical exams, vaccinationss), family services programming, community outreach services to connect families to local resources. mental health and disabilities services, and an extensive education programme reaching several areas of ageappropriate development and learning. Additionally, close to 12% of Alaska residents receive SNAP benefits; the majority include families with children [12-15]. In the 12 communities participating in this study, approximately 69% of EHS and HS families were enrolled in WIC, and 69% were enrolled in SNAP benefits during the 2019-2020 school year. During the 2020-2021 school year, 71% of the families were enrolled in WIC and 67% were enrolled in SNAP benefits. Despite high programme utilisation, it is unknown whether and to what extent these programmes impact AN's traditional lifestyle and contribute to unintended impacts on Indigenous knowledge and culture.

Varying opinions and perspectives on the effects of government assistance programmes on Indigenous communities beyond Alaska are noted in the literature. One set of findings indicates Indigenous food systems have been displaced with the emergence of highly processed, commercially prepared foods accompanied by cultural, economic, political and environmental changes, which encompass government-sponsored assistance programmes [16-19]. Conversely, other recipients of programmes, including SNAP and WIC, reported that these programmes are helpful in promoting food security [20]. While research efforts have led to an increased awareness that government-sponsored assistance programmes are not universally regarded in the same way, there has been a dearth of attempts to secure the perceptions of Indigenous Elders, particularly with AN populations. This is problematic given that Elders have been identified as important charge agents for health improvement [21]. Indeed, the US Center for Disease Control and Prevention (CDC) indicated in their 2015 publication, Traditional Foods in Native America, that it was important to "engage tribal elders as advisors to guide and inform program development and supporting the role of elders as teachers of traditional knowledge and practices related to Native foodways" (p.8) [22]. Additionally, numerous health initiatives, including many related to infant and breast-feeding, have sought to partner with Elders given their "critical influence for early nutritional interventions" [23,24]. This is because "Elders are older community members who are often sought by parents and children for guidance based on their knowledge and wisdom about what is important for First Nations people to bring from the past into the future in terms of language, culture, spirituality and ways of life" (p.226) [25].

With the recommendation to utilise the wisdom of Elders, we sought AN Elder input about traditional, or Native, foods and activities to inform a community intervention aimed at reducing childhood obesity in AN children. AN Elders are community members who provide cultural insights on traditional lifestyles and values, including diet and activities; those regarded as Elders are community or context dependent. In particular, we asked Elders about traditional foods, mealtimes, physical activity, and advice for parents of young children in order to answer the initial question, "What information can Elders provide to help us ensure our intervention utilises traditional ways of knowing as we try to improve the health of young children?" Subsequently, the question of whether government assistance programmes actually assist or interfere with AN subsistence practices, traditional lifestyle activities, and the passing of AN culture from one generation to the next emerged during several discussions, prompting us to re-examine the data with the question, "What are AN Elders' perceptions of government-sponsored assistance programs?" This paper shares perspectives of AN Elders that identify the benefits of, and encourage careful consideration of the impact of government-sponsored food, nutrition, and childcare assistance programmes on Indigenous cultures and traditional ways of life. It also highlights the need for ongoing community-based participatory research to identify opportunities for potential partnership and collaboration.

Materials & methods

This exploratory qualitative study was conducted in May through December 2018 in preparation for a large scale, randomised community intervention trial designed to promote healthy eating and physical activity in a culturally congruent way among AN children attending Head Start programmes. All study materials and protocols were reviewed and approved by the Alaska Area Institutional Review Board and by research review bodies at the Alaska Native Tribal Health Consortium and the Yukon-Kuskokwim Health Corporation. AN community members, researchers, and tribal leaders participated in this project from inception and design through implementation and manuscript writing.

Conceptual framework

In traditional Yup'ik communities, spirituality is the core. Children are the centre of all life and Elders are entrusted with passing cultural values and traditional knowledge onto youth [26]. Guided by this ecologically based Yup'ik model, we sought AN Elder advice and perspectives on what lessons are important for preschool age children to learn to live well in their communities. Much of this formative work was reported previously [27]. In "Got Negpiaq?" (the name selected by Yup'ik staff in the 12 participating communities for the project, which translates to "Got Real Food?"), the information gathered from Elders will guide the elements of traditional teaching (e.g. Yup'ik language, subsistence practices, traditional foods and activities, cultural values) and guide the intervention towards the Yup'ik way of life. Employing a community-based participatory research (CBPR) approach in building a community intervention is essential when working with AN people and communities [28,29].

Setting

Members of the research study team conducted Elder focus groups in each of 12 remote rural AN communities in the Yukon-Kuskokwim (Y-K) region in southwest Alaska. While more than 22,000 Yup'ik AN people live in 58 communities within the Y-K area (roughly the size of the state of Oregon), populations of the 12 communities in this study range from 200 to 1,000 [30]. All of the 12 communities are primarily comprised of Yup'ik AN people and located off the road system, accessible year-around only by small aircraft. Although many AN people living in these communities still practice subsistence activities (e.g. hunting, fishing, and gathering), the food system has been altered during the past 75 years by the presence of store-bought foods, which consist of highly processed foods and sugar sweetened beverages [31-37]. Challenges of access to the communities make it difficult to obtain fresh produce or other products with a relative short shelf life. The expense involved in transporting these products is then passed onto consumers, making them cost prohibitive [38]. The addition of time to transport these items increases the chances of spoilage, another factor in increased cost.

Study investigators

The study team was comprised of co-investigators from multiple Alaska-based institutions seeking to improve access to and consumption of traditional healthy foods among AN families with young children who attend Head Start programmes. Investigator organisations include the Alaska Native Tribal Health Consortium (ANTHC) [39], Yukon-Kuskokwim Health Corporation (YKHC) [30], University of Alaska Fairbanks (UAF) [40], and Rural Alaska Community Action Program, Inc. (RC) [41] ANTHC and YKHC are both Tribally owned health care organisations providing healthcare for AN people. Co-investigators with UAF are associated with Center for Alaska Native Health Research, which has focussed research studies with AN people in the Y-K region (CANHR) [42]. RC operates all HS and EHS programmes in the 12 participating Y-K communities, and thus have close relationships with parents, local HS staff, and community members in each of the participating communities.

Recruitment

A cultural liaison living in the region contacted local Tribal councils in the 12 Y-K communities that agreed to participate in the larger intervention study. Tribal councils were asked to recommend AN Elders who could participate in one and a half- to two-hour focus group discussions. Many AN Elders maintain a traditional and healthy lifestyle, have a wealth of cultural wisdom, and typically have reached an advanced age [43]. Elders participated in focus groups in each community. To ensure anonymity and protect confidentiality, we obtained only verbal consent from each Elder and did not gather any identifying information. Each participant received a \$40 gift card at the end of the session. All focus group discussions were recorded, translated, and transcribed.

Data collection

Focus group discussions were conducted in English or in Yup'ik, based on the needs of the Elder group, and described previously [29]. The 12 focus groups varied in size from 3 to 12 people. In aggregate (to maintain both individual and community identities, as agreed with each community), among the 66 Elders participating, 36 were women and 30 were men. Briefly, questions sought perspectives on the importance of traditional foods and physical activities, as well as barriers to traditional ways. A trained and experienced facilitator, and an experienced Yup'ik translator, asked Elders to provide their opinions to the following questions. "In what ways are traditional foods important?", "What is the best way to teach about traditional foods?", "Tell me about mealtimes as a child", "What kinds of activities did children do before TV?" and

"What concerns do you have about how children are raised today in terms of the foods they eat and the activities they do?" Facilitation was rotated between two study staff who relied on past experience and formal training in qualitative data collection. Formal training included a Masters-prepared journalist who had lived and worked in the region (JN) and a PhDprepared study co-principal investigator (KK) with more than 20 years' experience in mixed methods data collection. Both translators were Yup'ik heritage, fluent in both English and Yup'ik, and were part of the research team. All focus group discussions, ranging in length from 90 to 120 minutes, were conducted in person in the communities and were recorded, translated to English when necessary, and transcribed.

Data analysis

Two researchers (AW and KO) listened to each recording and read each transcript. Each researcher independently took notes and created a summary and a subsequent reflective memo capturing the most salient themes emerging from the data, using open coding to recognise and recontextualise the data [44]. The memos were then compared and contrasted until consensus was reached by the researchers on the most salient themes to increase the reliability of the analysis. Those themes included emphasis on native foods, importance of learning traditional ways, concerns, active lifestyle, and daily habits around healthy living. After reaching consensus on the themes, the researchers created summative documents by question and themes for each community, which helped condense the bulk of the data sets into analysable units. Those themes were then applied back to the transcripts through selective coding, in which direct quotes were identified. The researchers then moved from coding to interpretation, which "involves the transcendence of 'factual' data and cautious analysis of what is to be made of them" (p.46), noting resulting variations, individual experiences, and relationships [44]. This led the researchers to notice a high number of comments related to the Elders' perceptions of government assistance across themes. Given this, selective codes related to government involvement through food programs, childcare services, and environmental regulations were applied to the transcripts, resulting in new categories such as the introduction of processed foods, difficulty in practicing subsistence, and non-native ways. In the analysis process, AN research team and community members participated not only in the data gathering, but also reviewed the interpretation of the data to ensure continuity of the Elders' meaning and the themes detected. Those themes are shared below.

Results

In this paper, we address comments related to the role of government assistance programmes on a traditional lifestyle, as shared by AN Elders, who reminisced about the traditional ways of living when they were young as part of our desire to answer the research question, "What information can Elders provide to help us ensure our intervention utilises traditional ways of knowing as we try to improve the health of young children?" While reflecting on these past times, many Elders' comments were related to how life has changed. Specifically, they alluded to the introduction of highly processed commercially prepared foods, increased difficulty in practicing subsistence activities, and the adoption of non-Native ways of thinking and doing in the communities, which prompted us to ask the question, "What are AN Elders telling us about their perceptions of government-sponsored assistance programs?"

Introduction of processed foods

Some elders believe the introduction of processed prepared foods began with government food assistance programmes.

Growing up in spring camps, summer camps, and here, we depended on fish just like they said, moose and everything that is provided for us here. And I think that is why there was hardly any deaths here. People were very healthy and strong and lack of dental problems in the future and lack of, no diabetes problems because of the health foods. I think the changes with the federal government coming and starting to feed us processed foods and others really changed our life. And then the food stamps came and then people started buying processed foods or getting the processed foods and that in a very short period of time, it went from very healthy people into you know, getting dependent on somebody else's rules of nutrition. When BIAs [Bureau of Indian Affairs] came over and started the USDA and we just started to eat food in the schools and it was different from our diet at our home. It really changed. (ANV2)

Although they believe that some of the foods in the stores are healthy, they are also concerned that there is too much junk food (such as candy, chips, pizza, pop, and convenience foods) served, eaten, and widely available. One Elder shared, "They take our kids at a very young age and bring them to an institution, and they feed them junk food" (ANV4). Some also believe that processed foods and sugar-sweetened beverages have

brought about the chronic diseases of obesity, diabetes, and dental problems in AN people. As one Elder put it, "drinking soda does not have a good end". Some Elders believe that due to the amount of processed foods available, younger people are not eating as many Native foods and are concerned that they will lose their taste for these traditional foods and lifestyle practices:

But one thing I know is young families that grew up on food stamps, I know their kids, there are some kids who won't eat Native food When we were in [community name withheld], one of them said that in his opinion, food stamps ruined their way of life. (ANV12)

Difficulty in practicing subsistence

Some Elders believe that government entities set up barriers preventing families from accessing their preferred hunting/gathering spots or fish camps and/or implement timelines for subsistence that do not consider factors recognised by the AN people. These factors include knowledge of why the fish end up depleted of their fat or when the flies start laying their eggs on the fish, rendering them inedible (ANV6). For example, one shared,

Yes, the doctors, everyone, tells us to eat healthy food, but the Fish and Game locks it every year. Every year the river is closed down and it's very sad for us. And we are bored in the fish camp, nothing to do, nothing to eat. And then our Elders will say to us, 'Don't eat too much other food that's a white man food. Not our food. Unhealthy food.' We have no choice. I have no choice when my grandchildren and children are hungry. I cry myself and buy food. That's not our way of life. (ANV9)

Not only do some elders believe that the presence of a government agency infringes on their subsistence gathering practices, others believe it poses a safety risk.

When we fish, they come around and look at us. And then when the river is closed they come around, and those Fish and Game, the patrols, they come from out of state and they'll carry a gun, for our own food. They'll carry a gun. And our grandchildren will be scared and they say, 'He has a gun'. They're fearing our own children and making it our children think that it's okay to carry a gun. (ANV9)

They also worry that young people, frustrated by the regulations, will then turn to other nonhealthy habits.

Native people, we know what to eat right food, our own food. But Fish and Game close it, unhealthy side. Always on the unhealthy side. There's a lot of reasons, a lot of reasons when they close the river. And young people, they mostly help their parents in fishing and therefore turn to drugs and alcohol It's so depressing for all of us. Even it affects all through, maybe the state of Alaska as we Yupik's are depending on our own food, sustenance, food. (ANV9)

Others stated that even when Native foods are sourced, access to government approved commercial facilities to process these foods to the standards required for donation are not available. This barrier prevents local community members from donating subsistence foods to schools and other non-profit organisations that might help with distribution, as there are a number of government rules regarding what can be donated and rules around serving these traditional foods, particularly in the schools. They stated that rules and restrictions around what can be served at school are not in line with what the community wants or believes. As one Elder put it, "I'm sorry, the way we process it, we feed it to our family and our family goes to Head Start. What's the difference?" (ANV11)

The adoption of non-native ways

There are many concerns around the current generation of young parents not learning traditional knowledge or practicing a traditional lifestyle. Many of these concerns are that non-Native ways and entities have greater influence on children than the Elders and the local culture. For example, several Elders believe children should not be attending a government-sponsored early education programme, as it does not reinforce Native ways that could be provided by parents. "My uncle used to say, 'These kids are going to have Head Start too early ... they should start school at a later date and should be taught at home first because we learn our values at home first'" (ANV1). They also worry about local programmes, like Head Start, not reinforcing the local culture. They list restrictions placed on the programme's curriculum and other logistical issues, like running out of space in the freezers to store Native foods, being closed during certain seasons of the year, and not being able to take donated foods that haven't been commercially processed, which is difficult to do.

Additionally, the adoption of non-Native ways has changed lifestyles. AN people no longer have to worry about working to survive because, "Their main food is the store, also from the food bank or Quest card" (ANV6), which helps them to avoid "the starvation". While some Elders expressed that this was good, others worried about the new generation not being motivated to hunt and gather as previous generations used to: "Unfortunately, with the younger parents, it's hard because they depend on the help that they get from the state, food stamps" (ANV11). As another shared, "As I observe it, the Food Stamp Program has hurt the Yup'ik people. With food stamps, people don't have to get food from the wilderness, and it has significantly hindered the process of learning how to prepare subsistence food" (ANV7).

Opportunities for good

While there were many concerns expressed about non-Native and governmental influences, there were also comments that suggested opportunities for collaboration. Specifically, in the early education programme, Elders saw opportunities for Head Start to talk about, serve, and reinforce Native foods. "Even in Head Start, they should be teaching two things, language and traditional foods. The Head Start program should do that because it is the beginning of education" (ANV8). As another put it,

I think our traditional food is important. If we start off young, I know some families in the village that hardly eat Native food on account of the SNAP program that got started years back. Nowadays, they prefer storebought meat and I think this would be very vital for Head Start Program to get this started. That way, the Head Start Program, children will be able to identify what they're going, what they're eating and they'll also know that it's very, our food is very healthy. (ANV1)

These comments acknowledge the power and influence that Head Start can have on both children and their parents. For example, another Elder shared, "It would be a good idea to start a program with Head Start because some families rarely eat our traditional food. If you get started with the Head Start Program, when students are a lot older, they'll know what the healthy foods are". (ANV1)

The potential for good as it relates to Head Start was acknowledged in other communities as well. "He [an Elder] said, when you start, when you have our foods right from the beginning, it affects your brain, your growth, your whole body, the way you act. That is why I am very excited if we have, in Head Start, if we start serving food like that". (ANV4)

Another entity recognised as a source of promise and good was WIC. For example, when discussing how cash-poor his community was, one Elder shared,

Our people are so poor, cash poor, that WIC program, I think really focuses on iron and health foods for our young children, milk and other nutritious foods that can help sustain our young children. So I think that WIC program really helps with the iron deficiency because for years, our people were deficient in iron I think that program needs to continue for the health of our children and the food that they provide nutrition to our children. So that's good along with our wild foods and fish. (ANV2) $% \left(ANV2\right) \left(ANV2\right)$

These comments add to the complexity of the varying perceptions of whether these services are assisting or interfering within these Alaska Native communities.

Discussion

Findings from focus groups conducted with Yup'ik Elders indicate that some elders perceive federal food assistance has had a negative impact on traditional lifestyles. They believe that the introduction of federal food assistance programmes precipitated a shift in dietary patterns characterised by a decline in consumption of traditional foods and an increased intake of highly processed foods from the store. They attribute increasing rates of many health problems to this shift in dietary patterns. They also shared that programmes teaching AN children about their traditional foods and encouraging traditional food consumption will promote health.

As is the case with many Indigenous populations, AN communities have a unique history with state and federal programmes and how they were implemented. We suspect there may be a higher level of mistrust regarding the motivations behind programmes like Head Start, WIC, and Alaska Fish and Game than is present in other non-Native communities because of the longrange impacts of state and federal regulations that have placed restrictions on hunting, fishing, and other access to traditionally AN subsistence foods. Because of this, we believe all involved in intervention efforts seeking to change human behaviour and the health and educational outcomes of AN people must consider unintended consequences that may interfere with cultural beliefs and practices that cause more harm than benefit. These important cultural aspects can only be considered if the community is involved in intervention creation and implementation.

The negative view Elders shared about food assistance programmes is consistent with those shared by Native American leaders [18]. A study conducted in three Tribes in the Klamath River Basin found that although the FDPIR was important ensuring food security, it does not ensure food sovereignty and instead may contribute to "nutritional colonialism". Though early FDPIR boxes contained some low nutrient density foods, improvements include options to request frozen foods and fresh fruits and vegetables [45]. Lobbying efforts continue to include traditional foods in FDPIR. In Alaska, SNAP and WIC support traditional ways through evidence-based nutrition education materials that encourage consumption of traditional plants and berries such as the Tundra to Table YouTube series [46]. Hunting and fishing equipment may also be purchased with SNAP benefits [47,48]. These efforts help to support local community subsistence activities and encourage traditional foods consumption as a means to improve holistic health in communities.

Some Elders believe that government programmes are interrupting the traditional flow of knowledge and values from Elders to families and that local voices are not heard. These concerns may be a result of past government policies aimed at erasing Native culture and traditional ways of knowing and living through forced relocation and education efforts connected to the boarding school movement [49-51]. While the requirement for children to attend school locally has altered the time families can travel for subsistence foods, other factors have intervened that also discourage subsistence practice. Chief among these factors is the high cost of fuel to power fishing boats and allterrain vehicles needed to access hunting and fishing camps distant from the communities [52]. Meanwhile, anecdotal discussions in some of the communities revealed that rural public schools are doing more to align their curricula with traditional values. Some schools have equipped kitchens to process caribou, moose, and other Native foods. At least one school among the communities we visited had revised its class schedule to enable older high school students to participate in fall hunting season. Other schools have created visiting Elder's programmes and language immersion programmes.

The belief that government policies (i.e. ADFG) make it harder to practice subsistence was also mentioned. AN people have been practicing subsistence in ways that are sustainable for millennia (e.g. only taking one egg from a nest when bird egg hunting); in short, they do not appreciate being told what to do and how to do it, especially without trust in the organisation nor the belief that the regulations are necessary. We recognise the validity of these concerns and acknowledge they play a large role in how subsistence activities and traditional lifestyle are currently practiced. At the same time, we acknowledge that traditional knowledge around sustainability has been documented through ADFGs reports and technical papers [53]. A disconnect surely exists between AN people and government programmes.

Despite this disconnect in areas related to subsistence practices, Elders did suggest early education programmes, such as Head Start (HS), can support cultural preservation and traditional lifestyle by being more culturally responsive and keeping local people involved in decision making. They suggested programmes invite local community Elders to tell children traditional Native stories, have children learn Yup'ik words for their Native foods, teach children the importance of their traditional foods in relation to health, and work with the community to get Native foods available in the preschool meals. These suggestions will form the framework for the in-facility work our programme develops. It will also inform the work we envision conducting with parents to enable them to serve more traditional foods at home.

While the concerns of Elders are real and important and point to a fear of being left out of decision-making, we are also aware of a number of projects and agencies that work with Alaska Native communities on issues related to health, nutrition, and early child care that respects and promotes traditional ways of knowing. AN Tribal leaders and health care providers, aware of the increasing prevalence of obesity and nutritionrelated chronic diseases [54-56] introduced Helping Ourselves to Health (HOTH), a programme to assess the impact of FDPIR (funded through the USDA) as it was introduced to AN communities [57,58]. Based on the data collected in 2007 [58,59], an important recommendation made by HOTH investigators was for rural community residents to increase their traditional plant foods intake, seeking advice of local AN Elders and traditional foods (TFs) experts. In addition to scientific journal articles, important outputs produced during HOTH include the original "Traditional Food Guide for Alaska Native Cancer Survivors" [59]; a food frequency questionnaire containing traditional foods developed and validated for the Y-K region [60]; and Nellie's Recipes [61], a collection of traditional food recipes in Y-K. Additional efforts evolving from HOTH include Store Outside Your Door (SOYD) and Traditional Foods Contemporary Chef (TFCC), which produced enduring materials documenting Alaska traditional food use and practices, as well as annual Alaskan Plants as Food & Medicine (APFM) symposia [59,62,63]. Originally held only in Anchorage, ANTHC Wellness and Prevention has assisted regional Tribal partners to produce their own symposia. In 2020, symposia were held in the Interior, Northwest Arctic, Norton Sound, and Kenai Peninsula in addition to the Anchorage south central region, reflecting the need expressed by AN people desiring future generations to be knowledgeable about the nutritional and health benefits of Alaska plants. Store Outside Your Door endeavoured to "promote the knowledge and use of traditional foods and traditional ways" by collecting AN traditional foods and practices in multiple diverse regions of Alaska [62]. Knowledge and practices gathered were preserved in

Webisodes averaging five to six minutes in length (available at https://www.youtube.com/user/ ANTHCStoreOutside).

Strengths and limitations

A major strength of this formative work lies in its reliance on Elders for advice on what and how to teach children about their culture, community, and traditional way of life. The work thus acknowledges the important historical role AN Elders assume in each community. Although the findings we report here cannot be generalised to all Yup'ik or AN communities, they do represent the Elders' perspectives in the 12 communities participating in the "Got Neqpiaq?" project so that future work within these communities will continue to incorporate Elder perspectives.

This topic, which broaches the question of whether government assistance programmes are assisting or interfering with AN communities' traditional ways, is not one that was explicitly asked during the focus groups, which is a significant limitation. It is possible that had we asked these questions directly, we would have received different responses. However, given the number of comments that, unsolicited, came from Elders across multiple communities on this topic, we felt it was important to pay attention to them and remind others that governmentsponsored assistance programmes are not universally seen as assistance but also as an interference.

Conclusion

Our findings indicate that some Elders in rural AN communities believe that government food assistance, early childcare programmes, and government regulations can and do conflict with their mixed cash and subsistence economies. As a result, government entities need to continue working with community Tribal leaders, Elders, and the younger generations of AN people to help communities embrace and transmit traditional ways of knowing, including knowledge of subsistence practices and local Native foods. The goal would be for communities to use the resources provided through government assistance programmes (e.g. WIC, SNAP, FDPIR) to supplement the traditional resources obtained through subsistence activities - at the least, quoting one Elder, to "stop the starvation". Subsistence practices, traditional lifestyles, and government sponsored food assistance programmes should not conflict. Instead, each should be used to improve the lives and wellbeing of AN people.

The "Got Neqpiaq?" project will use the knowledge and recommendations of community Elders as the foundation for development. The multi-level project will focus on teachings of traditional food and subsistence practices on the child, parent, and community levels. The project will incorporate more traditional foods and recipes at HS meals, will include education on traditional foods and subsistence practices in the classroom, and will include greater involvement of families and Elders through guest storytelling and other lessons in the classroom, improved subsistence food donation processes, and traditional nutrition education during family events. We will update community Tribal Councils monthly for continued support and guidance on the "Got Neqpiaq?" project.

Based on the guidance provided by Elders in these communities, supplemented by our experiences and the literature, our project goals will be successfully achieved through community-based participatory research [64], the approach we have embedded in our project methods. The information gained from focus group discussions with community Elders form the foundation of our formative process. Community-based participatory research (CBPR) approach has been encouraged by AN Tribal health leaders and advocates as vital to implementing research within communities [65,66]. CBPR can result in a shared understanding of health issues and support new and locally based interventions and outcomes; the embracing of culturally responsive pedagogy within the local educational entities [44]; and both investigators and community members engaging in critical reflection, considering both the intended and unintended consequences of our actions and interventions [45].

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References

- [1] Moffitt RA. Welfare, the family, and reproductive behavior: research perspectives. Washington (DC): National Academies Press (US); 1998.
- [2] National Head Start Association. cited 2021 Mar 20. Available from: https://www.nhsa.org
- [3] USA Department of Agriculture. Food and nutrition assistance programs. cited 2021 Feb 10. Available from: https://www.usda.gov/topics/food-and-nutrition/fooddistribution
- [4] Carlson S, Keith-Jennings B. Center of Budget and Policy Priorities. SNAP is linked with improved nutritional outcomes and lower health care costs. https://www.cbpp. org/research/food-assistance/snap-is-linked-withimproved-nutritional-outcomes-and-lower-health-care
- [5] Gregory CA, Smith TA. Salience, food security, and SNAP receipt. J Policy Anal Manage. 2019 Jan;38(1):124–154.
- [6] Johnson P, Montgomery M, Ewell P. Federal Food Assistance Programs and cardiovascular risk factors in low-income preschool children. J Community Health. 2016 Jun 1;41(3):626–634.
- [7] Hamad R, Batra A, Karasek D, et al. The impact of the revised WIC food package on maternal nutrition during pregnancy and postpartum. Am J Epidemiol. 2019 Aug 1;188(8):1493–1502.
- [8] Tester JM, Leung CW, Crawford PB. Revised WIC food package and children's diet quality. Pediatrics. 2016 May 1;137(5). 10.1542/peds.2015-3557.
- [9] Keith-Jennings B, Llobrera J, Dean S. Links of the Supplemental Nutrition Assistance Program with food insecurity, poverty, and health: evidence and potential. Am J Public Health. 2019 Dec;109(12):1636–1640.
- [10] National Head Start Association Center for Policy, Data, and Research. cited 2021 Mar 16. Available from: https:// www.nhsa.org/knowledge-center/center-policy-data-and -research/research-0
- [11] USDA Food distribution programs on Indian reservations [Washington (DC): USDA; 2018 cited 2021 Sept 7. Available from: https://fns-prod.azureedge.net/sites/ default/files/fdpir/pfs-fdpir.pdf
- [12] U.S. Department of Health & Human Services. Head Start Early Childhood Learning & Knowledge Center. cited 2020 Nov 12. Available from: https://eclkc.ohs.acf.hhs.gov/ about-us/article/head-start-program-facts-fiscal-year-2019
- [13] Kids Count Data Center. Households receiving SNAP by race and ethnicity. cited 2021 Jan 22. Available from: https://datacenter.kidscount.org/data/tables/5571households-receiving-snap-by-race-and-ethnicity#detailed
- [14] Alaska Head Start Association. cited 2021 Feb 23 https:// www.akheadstart.org/programs
- [15] Center on Budget and Policy Priorities. Alaska Supplemental Nutrition Assistance Program. cited 2021

Jan 15. Available from: https://www.cbpp.org/sites/ default/files/atoms/files/snap_factsheet_alaska.pdf

- [16] Kuhnlein HV, Kuhnlein HV, Erasmus B, Spigelski D, Burlingame B. . Indigenous peoples' food systems and well-being: interventions and policies for healthy communities. Food and agriculture Organization of the United Nations (FAO); 2013.
- [17] Vantrease D. Commod bods and frybread power: government food aid in American Indian culture. J Am Folklore. 2013;126(499):55–69
- [18] Mucioki M, Sowerwine J, Sarna-Wojcicki D. Thinking inside and outside the box: local and national considerations of the Food Distribution Program on Indian Reservations (FDPIR). J Rural Stud. 2018 Jan 1;57:88–98.
- [19] Johnson-Jennings M, Paul K, Olson D, et al. Ode'imin Giizis: proposing and piloting gardening as an indigenous childhood health intervention. J Health Care Poor Underserved. 2020;31(2):871–888.
- [20] Shanks BC, Wee WK, For WC, et al. Perceptions of food environments and nutrition among residents of the Flathead Indian Reservation. BMC Public Health. 2020;20(1):1–15.
- [21] Herman J, Herman J, Jackson T, Miracle S, Parker S, Robertson D. Utilizing the Socioecological Model as a Framework for Understanding Elder Native Americans' Views of Type 2 Diabetes for the Development of an Indigenous Prevention Plan. Education. 2010.
- [22] Centers for Disease Control and Prevention. Traditional Foods in Native America – part IV: a Compendium of Stories from the Indigenous Food Sovereignty Movement in American Indian and Alaska Native Communities. Atlanta GA: Native Diabetes Wellness Program, Centers for Disease Control and Prevention. 2013.
- [23] Houghtaling B, Byker Shanks C, Ahmed S, et al. Grandmother and health care professional breastfeeding perspectives provide opportunities for health promotion in an American Indian community. Social sci medi. 2018; 208:80–88.
- [24] Horodynski MA, Calcatera M, Carpenter A. Infant feeding practices: perceptions of Native American mothers and health paraprofessionals. Health Educ J. 2012;71 (3):327–339.
- [25] Ball J, Lewis M. First Nations Elders' and parents' views on supporting their children's language development. 2014.
- [26] Ayunerak P, Alstrom D, Moses C, et al. Yup'ik culture and context in Southwest Alaska: community member perspectives of tradition, social change, and prevention. Am J Community Psychol. 2014;54(1–2):91–99.
- [27] Walch A, Ohle K, Bersamin A, et al. Alaska Native Elders' Perspectives on Changing Dietary Patterns in Rural, Remote Communities. BMC Public Health. 2021;21 (1):1645.
- [28] Smith S, Bjerregaard P, Chan HM, et al. Research with Arctic peoples: unique research opportunities in heart, lung, blood and sleep disorders. Int J Circumpolar Health. 2006 Feb 18;65(1):79–90.
- [29] Cochran PA, Marshall CA, Garcia-Downing C, et al. Indigenous ways of knowing: implications for participatory research and community. Am J Public Health. 2008 Jan;98(1):22–27.
- [30] Yukon-Kuskokwim Health Corporation. cited 2020 Dec 16. https://www.ykhc.org/story/about-yk

- [31] Chi DL. Reducing Alaska Native pediatric oral health disparities: a systematic review of oral health interventions and a case study on multilevel strategies to reduce sugar-sweetened beverage intake. Int J Circumpolar Health. 2013;72(1):21066.
- [32] Chi DL, Hopkins S, O'Brien D, et al. Association between added sugar intake and dental caries in Yup'ik children using a novel hair biomarker. BMC Oral Health. 2015;15 (1):1–8.
- [33] Elwan D, Schweinitz P, Wojcicki JM. Beverage consumption in an Alaska Native village: a mixed-methods study of behaviour, attitudes and access. Int J Circumpolar Health. 2016;75(1):29905.
- [34] Johnson JS, Nobmann ED, Asay E, et al. Dietary intake of Alaska Native people in two regions and implications for health: the Alaska Native Dietary and Subsistence Food Assessment Project. Int J Circumpolar Health. 2009;68 (2):109–122.
- [35] Johnson J, Nobmann ED, Asay E. Factors related to fruit, vegetable and traditional food consumption which may affect health among Alaska Native People in Western Alaska. Int J Circumpolar Health. 2012;71(1):17345.
- [36] Meter K, Goldenberg MP. Building food security in Alaska. Commissioned by the Alaska department of health and social services, with collaboration from the Alaska food policy council. Minneapolis MN: Crossroads Resource Center; 2014.
- [37] Nobmann ED, Byers T, Lanier AP, et al. The diet of Alaska Native adults: 1987–1988. Am J Clin Nutr. 1992 May 1;55 (5):1024–1032.
- [38] Koller KR, Flanagan CA, Nu J, et al. Storekeeper perspectives on improving dietary intake in 12 rural remote western Alaska communities: the "Got Neqpiaq?" project. Int J Circumpolar Health. 2021;80(1):1961393.
- [39] Alaska Native Tribal Health Corporation. cited Aug 2021. Available from: https://anthc.org
- [40] University of Alaska Fairbans. cited Sept 2021. Available from: https://uaf.edu
- [41] Rural Alaska Community Action Program, Inc. cited Aug 2021. Available from: https://ruralcap.org
- [42] Center for Alaska Native Health Research . cited Sept 2021. Available from: https://canhr.uaf.edu
- [43] Graves K, Rosich R, McBride M, et al. Alaska Native Older Adults. 2010.
- [44] Coffey A, Atkinson P. Making sense of qualitative data: complementary research strategies. Sage Publications, Inc; 1996.
- [45] Zimmerman T, Sun B, Hu J, et al. Nutrient and MyPyramid Analysis of USDA Foods in the NSLP. CACFP, CSFP, TEFAP, and FDPIR. 2011.
- [46] Tundra to Table cooking series. cited 2021 Dec 20. Available from: https://www.youtube.com/playlist?list= PLM4Od3HF5F4VR0gbc2SnbF1c6Y1st0P4e
- [47] Bleich SN, Moran AJ, Vercammen KA, et al. Strengthening the public health impacts of the Supplemental Nutrition Assistance Program through policy. Annu Rev Public Health. 2020 Apr 1;41(1):453–480.
- [48] Aussenberg RA. Supplemental Nutrition Assistance Program (SNAP): a primer on eligibility and benefits. Washington DC: Congressional Research Service; 2014 Dec 29.
- [49] Andersen-Spear D. Alaska Native Education: past, Present and Future. Sharing Our Pathways. 2003;8(2):1–4.

- [50] Talahongva P. No more "die bread": how boarding schools impacted native diet and the resurgence of Indigenous Food Sovereignty. J Am Indian Educ. 2018 Apr 1;57(1):145–153. DOI
- [51] Warne D, Wescott S. Social determinants of American Indian nutritional health. Curr Dev Nutr. 2019 Aug;3 (Suppl 2):12–18.
- [52] Brinkman T, Maracle KT, Kelly J, et al. Impact of fuel costs on high-latitude subsistence activities. Ecol Soc. 2014 Dec 1;19(4). 10.5751/ES-06861-190418.
- [53] Alaska Department of Fish and Game website. cited 2021 Feb 21. http://www.adfg.alaska.gov
- [54] Schraer CD. Diabetes among the Alaska Natives-The emergence of a chronic disease with changing lifestyles. In: Diabetes as a Disease of Civilization. De Gruyter Mouton; 2012 Feb 13. De Gruyter Mouton, 169–194.
- [55] Murphy NJ, Schraer CD, Theile MC, et al. Hypertension in Alaska Natives: association with overweight, glucose intolerance, diet and mechanized activity. Ethn Health. 1997 Nov 1;2(4):267–275.
- [56] Wiggins CL, Espey DK, Wingo PA, et al. Cancer among American Indians and Alaska natives in the USA, 1999– 2004. Cancer: Interdiscip Int J Am Cancer Soc. 2008 Sep 1;113(S5):1142–1152.
- [57] Alaska Native Tribal Health Consortium. Helping Ourselves to Health: addressing factors that contribute to obesity among Alaska Natives. USA Department of Agriculture; Research, Education & Economics Information System website; cited 2020 Dec 12. Available from: https://reeis.usda. gov/web/crisprojectpages/0209495-helping-ourselves-tohealth-addressing-factors-that-contribute-to-obesityamong-alaska-natives.html
- [58] Food Distribution Program on Indian Reservations. Alaska Native Tribal Health Consortium Traditional Foods & Nutrition. cited 2020 Dec 12. Available from: https://anthc.org/what-we-do/traditional-foods-andnutrition/food-distribution-program-on-indianreservations
- [59] Alaska Native Tribal Health Consortium. Traditional Foods Guide for Alaska Native Cancer Survivors Additional information, 2008. Anchorage Alaska: Alaska Native Tribal Health Consortium; cited 2020 Dec 12. Available from: https://anthc.org/news/second-edition-of-traditionalfood-guide-supports-modern-health
- [60] Johnson JS, Nobmann ED, Asay E, et al. Developing a validated Alaska Native food frequency questionnaire for western Alaska, 2002–2006. Int J Circumpolar Health. 2009 Apr 1;68(2):99–108.
- [61] Alaska Native Tribal Health Consortium. (2008). Nellie's recipes: an Alaska Native traditional foods cookbook for assisted living homes. Anchorage Alaska: Alaska Native Tribal Health Consortium; cited 2020 Dec 12. Available from: http://dhss.alaska.gov/dsds/documents/ rural/nellies_recipes.pdf
- [62] Store Outside Your Door. Alaska Native Tribal Health Consortium Traditional Foods & Nutrition. cited 2020 Dec 12. Available from: https://anthc.org/what-we-do/tra ditional-foods-and-nutrition/store-outside-your-door
- [63] Alaskan Plants as Food & Medicine. Alaska Native tribal Health Consortium Traditional Foods & Nutrition. cited

2020 Dec 12. Available from: https://anthc.org/what-we-do/traditional-foods-and-nutrition/alaskan-plants-as-food-medicine

- [64] Johnson RM. Addressing challenges in participatory research partnerships in the North: opening a conversation. Int J Circum Health Online. 2012;71:1.
- [65] Gay G. Culturally responsive teaching: theory, research, and practice. Teachers College Press; 2018 Jan 26.
- [66] Oliver K, Lorenc T, Tinkler J, et al. Understanding the unintended consequences of public health policies: the views of policymakers and evaluators. BMC Public Health. 2019 Dec;19(1):1–9.