



**Circumpolar Inuit Health Priorities:
Best Health Practices and Research**

Report to Health Canada (Northern Region)

From

Inuit Circumpolar Council (ICC) Canada
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EXECUTIVE SUMMARY

This report, *Circumpolar Inuit Health Priorities: Best Health Practices and Research*, documents and assesses a comprehensive range of best practice programs and relevant studies which have been implemented across the Arctic in the main health areas of mental health, service delivery, food security and chronic disease. Together, the material provides an important collection of information on the health practices and challenges which are impacting on the health and wellbeing of Inuit living in their Arctic homeland across four countries - Canada, Greenland, Alaska and Chukotka (Russia).

This report is the second part of ICC Canada's overall effort to identify and document the range of health and wellness experiences, studies and practices that impact on Inuit directly and indirectly. The first part of this work was a review of the different health systems which Inuit access in the four different countries. That report, *Health Systems serving Inuit communities across the Arctic*, was completed in 2011. This second report completes the task of documenting the experiences.

With the assistance of the Circumpolar Inuit Health Steering Committee and a range of Inuit and Arctic Indigenous peoples' organizations in the four Inuit countries, ICC Canada was able to collect a total of 284 best practices or programs and relevant studies in the four main health areas. In total, 175 studies were found compared to 109 programs. A major finding of the report is that each of the four countries has responded differently to the four main health areas in terms of the effort or investment of resources applied to a particular health area. For example, of the four health areas covered in this report, service delivery appeared to be the top priority for health programs in Greenland but ranked second in Alaska, third in Canada and not at all in Chukotka.

However, in considering the material in this report, it is important to note that it is not an exhaustive compilation of all best programs and studies being conducted. Instead, it reflects the extent of the search that was undertaken by ICC Canada from July 2011 to February 2012. In addition, the very limited availability of Inuit-specific data notably in Alaska and Russia has also influenced the type and breadth of the information collected. Related to this is the abiding overall constraint in accessing relevant data on indigenous health overall. This is a common concern globally and one which is frequently cited as a major constraining factor in understanding better the major issues impacting on indigenous health.

In its concluding recommendation, the report proposes the establishment of a clearinghouse facility that would bring together information on the research undertaken and evaluations of programs implemented to address Arctic indigenous health challenges. It is clear that without precise sound evidence relevant to the specific health challenges and issues confronted by Inuit across the Arctic, there will be a persistent disconnect between the programs and practices implemented and current and emerging health challenges for Inuit and Arctic Indigenous peoples more broadly.

INTRODUCTION

THE INUIT CIRCUMPOLAR COUNCIL (ICC) AND HEALTH ACTIVITIES

The Arctic is the homeland for approximately 160,000 Inuit¹ who live in four countries – Canada, Greenland, USA (Alaska) and Russia (Chukotka). The Inuit Circumpolar Council (ICC) was formed in 1977 to raise awareness of the challenges confronting Inuit in all four countries and to represent and advance their interests in regional and international forums including the Arctic Council and UN bodies.

Health and wellbeing ranks highly among these challenges. At the quadrennial General Assembly held by ICC in Nuuk, Greenland, in 2010, Inuit delegates from across the Arctic confirmed Inuit health and wellbeing as a top priority for ICC action. ICC Canada has been delegated as the lead office for this work. Through the Nuuk Declaration that came out of the General Assembly, the delegates tasked ICC to implement a range of actions designed to advance awareness and understanding of Inuit health issues and to advocate for appropriate health policies and practices.

ICC's work on health is guided by the Circumpolar Inuit Health Strategy 2010-2014 which delegates also approved at the 2010 General Assembly. This Strategy was developed with the assistance of the Circumpolar Inuit Health Steering Committee which had been formed in 2008 to guide ICC's work on health and wellbeing. With representatives nominated by each of the four Inuit country offices, the steering committee provides ongoing advice and feedback on the work being implemented by ICC. In developing the strategy, the first ever Circumpolar Inuit Health Summit was held in Yellowknife, Canada, in 2009. This meeting brought together the steering committee members to discuss the common challenges and to chart the best way forward for ICC to address these issues. This led to the development of the health strategy which sets out the key tasks to be undertaken in addressing the outstanding health and wellbeing issues affecting Inuit. (See Attachment A for a copy of the strategy.) The objective of the strategy is to improve Inuit health and wellness across the Arctic. Its five goals are:

- **Goal 1:** Influence international, regional and national policies and programs that impact on Inuit health and wellbeing
- **Goal 2:** Improve awareness of Inuit health and wellness across the Arctic
- **Goal 3:** Encourage greater focus on Inuit health and wellness through ICC's representation at international forums
- **Goal 4:** Support improved understanding by health professionals of Arctic/Inuit specific issues
- **Goal 5:** Promote research to improve Inuit health and wellness

¹ For the purposes of this paper, the term "Inuit" will be used when referring to the different Inuit populations in Canada, Greenland, Alaska and Chukotka although locally, they may be described as Inuit, Kalallit (Greenland), Eskimo (Alaska and Chukotka). Iñupiat (Alaska), and Yupik (Alaska and Chukotka).

Within the strategy, there are a range of approaches and activities, which have been identified as the ways in which ICC will meet the objective and achieve the goals of the strategy. Pertinent to this report are four specific activities²:

- Document the different health and wellness experiences in each Inuit region to be used as a reference for ICC in its advocacy work at international, regional and national levels
- Work with the Arctic Council's Human Health Expert Group attached to the Sustainable Development Group to take forward a significant ICC-sponsored activity focusing on Inuit health across the Arctic
- Identify and contribute to Arctic research activities which can make a significant contribution to circumpolar Inuit health
- Develop a communications strategy

One of the important ways in which ICC is meeting the strategy's objective and goals is through its work as a permanent participant to the Arctic Council where ICC Canada represents ICC on the Sustainable Development Working Group's (SDWG) Arctic Human Health Expert Group (AHHEG). The purpose of the Human Health Expert Group is to support and advance knowledge in support of circumpolar communities in developing practical responses to the human health impacts. It aims to strengthen collaboration between Arctic Council Working Groups, indigenous communities and organizations, academic institutions and other relevant circumpolar organizations in the development of sustainable and integrated approaches to address human health issues.

ICC's work on the Arctic Council's working groups provides important opportunities to broaden its own understanding of the major issues impacting on Inuit health and to identify appropriate programs and research which have the potential to contribute to positive improvements.

As such, ICC Canada, in line with the activities set out in the Circumpolar Inuit Health Strategy, has set out to document the range of health and wellness experiences, studies and practices which impact on Inuit directly and indirectly. In working on this priority, ICC has divided the action into two parts. In the first part, ICC Canada, in its paper, *Health Systems serving Inuit communities across the Arctic*³ which was completed in 2011, has described and compared the different health systems accessed by Inuit in Canada, Greenland, Alaska and Chukotka.

The second part of this work, which is the objective of this report, is to document best health practices and the research studies which have influenced these practices or have the potential to do so.

² Full details of the approaches and activities can be seen on pages 7 and 8 of the attached Circumpolar Inuit Health Strategy 2010-2014.

³ Copies of this paper are available from ICC Canada

OBJECTIVES OF THIS REPORT

This report is supporting ICC Canada's work in improving Inuit health and wellbeing through the implementation of priority activities identified in the Circumpolar Inuit Health Strategy 2010-2014. As noted earlier, a priority identified at the 2009 Yellowknife Inuit Health Summit and incorporated into the Inuit Circumpolar Health Strategy is the need to document the different Inuit health and wellness experiences.

The report is a review of best health practices being implemented across the Arctic to address the main Inuit health and wellbeing priorities and issues in four main categories: mental health, chronic diseases, service delivery and food security. The report also documents the wide range of research activities which have either influenced best health practices or which have the potential to influence and shape current or future health practices. A number of the studies do not directly relate to specific Inuit experiences but have been included because of their relevance to the Inuit situation.

While health issues are generally similar across the circumpolar Inuit regions, differences exist both in the severity of the impact but importantly in terms of the responses. As can be expected, some responses are more effective than others and the point of the exercise will be to document those promising and best health practices, which might be applicable to Inuit communities in other parts of the Arctic.

This report is an important source of information in understanding better the impact of the health services being delivered across the Arctic region with particular relevance to the Inuit. In doing so, it can also make a valuable contribution to Health Canada's own policy-making processes and outcomes both at the national and regional level.

METHODOLOGY (STUDY DESIGN)

ICC Canada undertook an extensive literature search and consultation phase with relevant Inuit health bodies and experts to assemble the information required.

In addition to an extensive search on the internet, many people in organizations and governments working on Inuit health were contacted and invited to contribute. Information was received from the following organizations/ persons:

Alaska:

- ICC Alaska
- Circumpolar Inuit Health Steering Committee/ Alaskan Member
- Norton Sound Health Corporation

Canada:

- Circumpolar Inuit Health Steering Committee/ Canadian Member
- National Inuit Committee on Health (NICoH) and Inuit Tapiriit Kanatami
- Inuit Tuttarvingat, National Aboriginal Health Organization
- Newfoundland and Labrador's Food Security Network
- Nasivvik Center for Inuit Health and Changing Environments
- Aboriginal Health Librarian, University of Manitoba
- Qaujigiartiit Health Research Center

Chukotka:

- ICC Chukotka
- Circumpolar Inuit Health Steering Committee / Chukotka Member
- Chukotka Government Department of Aboriginal Affairs

Greenland:

- ICC Greenland
- Circumpolar Inuit Health Steering Committee /Greenland Member

Circumpolar:

- Institute for Circumpolar Health Research

The information was then put in template formats and categorized, and a quantitative analysis was prepared using Excel (Microsoft). Best Practices that were not applicable to Inuit were excluded from the analysis.

RESULTS

A total of 284 best practices or programs and relevant studies have been identified. Figure 1 gives an overview of the programs and studies found by country (in percent), and a further breakdown into the different categories by country.

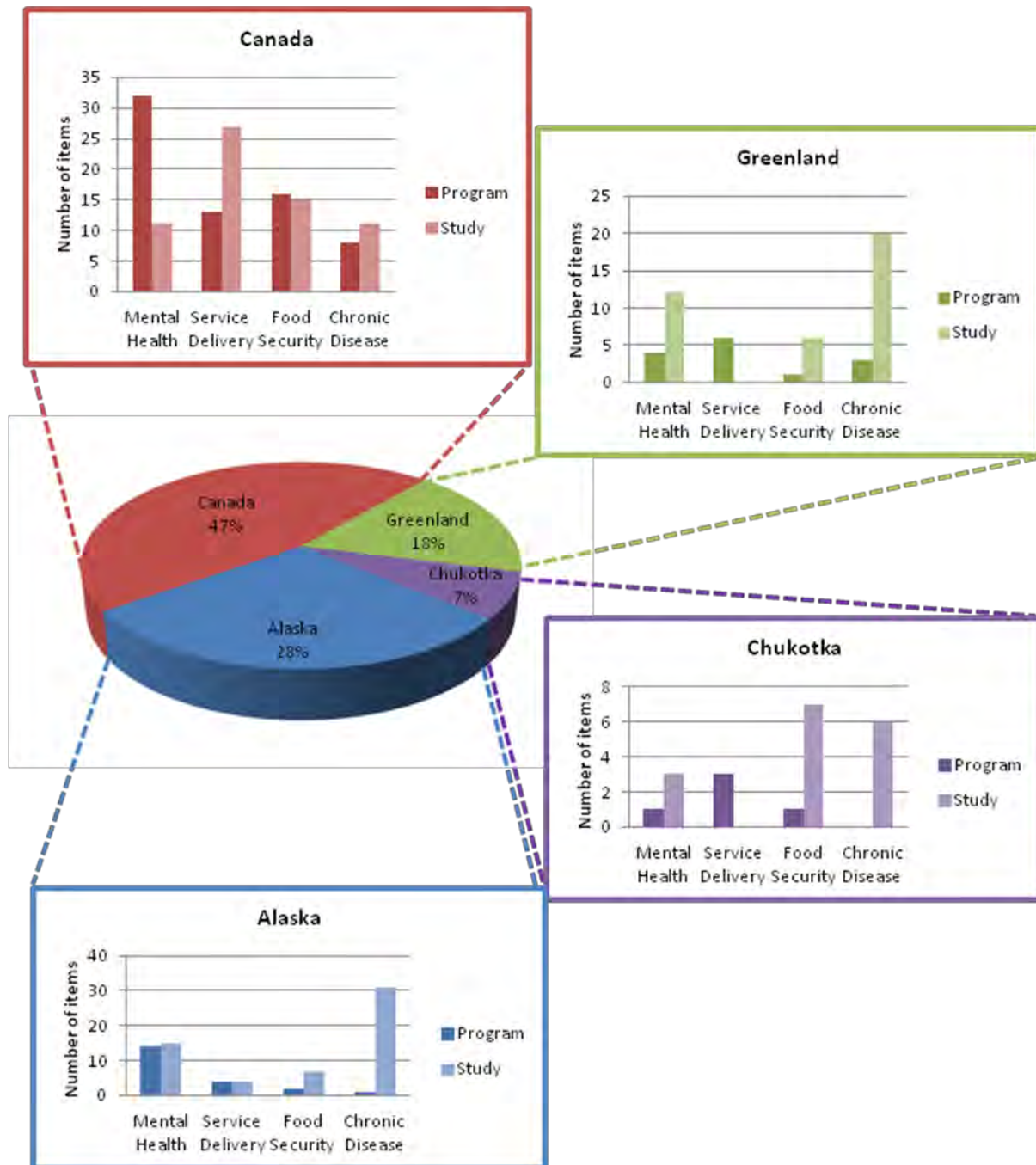


FIGURE 1: OVERVIEW OF BEST PRACTICES IDENTIFIED FOR EACH COUNTRY.

It can be seen that most best programs and studies were found in Canada, where a total of 133 (47% of the total for all countries) have been identified. For Greenland and Alaska, 52 (18%) and 78 (28%) programs and studies were found, respectively. Only 21 programs and studies could be located for Chukotka, which corresponds to 7% of the total. This lower number is likely to be commensurate with a number of factors specific to Chukotka including the small number of Inuit living in Chukotka (less than 2,000) compared to the other three Inuit homelands (each with a population of around 50,000).

It should be noted that the number of programs and studies for the best practices⁴ documentation are not exhaustive. Instead, it reflects the success of the search that was undertaken from July 2011 to the end of February 2012. Difficulties and lengthy delays were encountered in obtaining information and the collection deadline had to be extended beyond the original December 2011 date. In addition, the very limited availability of Inuit-specific data notably in Alaska and Russia has also influenced the type and breadth of the information collected.

The best practice material collected was sorted into two categories for each topic: 'Studies' and 'Programs'. In total, 175 studies were found compared to 109 programs. Studies are usually related to research being carried out. By their nature, they are completed in a shorter time frame than programs and are less complex in their implementation. In essence, while programs can be viewed as the operational form of Best Practices, studies are illustrative (Fig.2). They depict mostly descriptions or analyses of health issues related to the topic in question, and often provide recommendations and examples that can be utilized in order to develop a program. In some cases, studies can also describe a program, and may offer recommendations about the usefulness of it. There can also be a certain overlap between studies and programs, for example if a study is describing a program, and/or evaluates it. An example of this is a mental health activity in Alaska where the information is both a description of the community based prevention program addressing suicide and co-occurring alcohol abuse among rural Yup'ik youth. It is also an evaluation study of the program.

⁴ The term "Best Practices" is used in this report as collective description covering both best practices or programs identified and collected as well as the research studies.

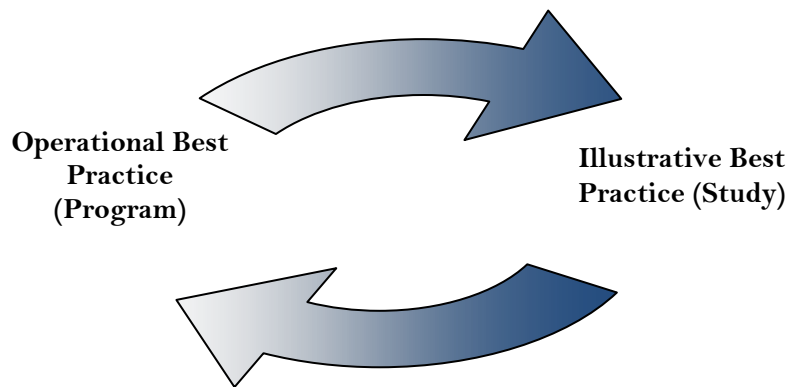


FIGURE 2: SCHEMATIC SHOWING HOW STUDIES AND PROGRAMS INFLUENCE EACH OTHER

In considering the material collected, the documentation was divided between four specific health issues: Mental Health, Service Delivery, Food Security and Chronic Disease. As can be seen in Figure 1, the emphasis on one or other of these areas varied significantly between each country. Furthermore, there are notable differences between countries in terms of the emphasis on either programs or studies under each of these four health issues. For example, the Canadian documentation suggests that there is more program work being undertaken in mental health compared to the other three areas while service delivery is the subject attracting the highest number of studies. However, in Greenland, chronic disease is the topic attracting the greatest amount of study while service delivery has the higher number of programs.

CANADA

A total of 133 Best Practices – programs and studies – have been found for Canada, the largest number of which (32%) were in Mental Health. Service Delivery and Food Security represented respectively 30% and 23% of the documentation collected, while only 14% dealt with Chronic Diseases. It is interesting to note that while most of the Canadian Best Practices fit the “Study” category for three of the four health topics searched, the majority of Best Practices in Mental Health were programs, and not studies (Fig. 3). Furthermore, in the ‘studies’ category, all topics were relatively evenly covered, although the largest proportion of studies were found on service delivery (27). Even within this category there was a variety of topics varying from midwifery, dental, nursing, homecare, telehealth etc.

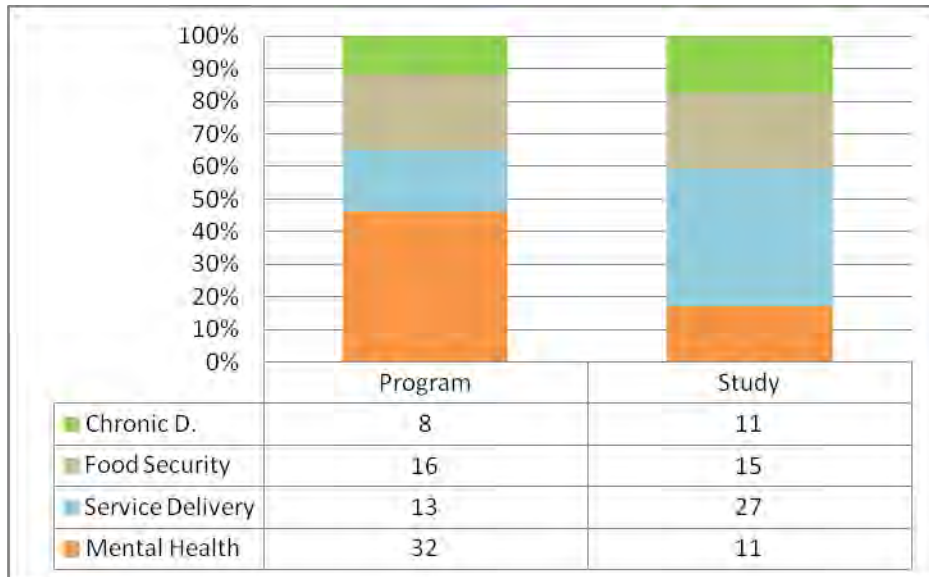


FIGURE 3: BEST PRACTICES BY TOPICS AND CATEGORIES FOR CANADA.

MENTAL HEALTH

Figure 4 below reflects the extent to which different areas within Mental Health are covered. One of the programs captured was overarching, and did not fit in any of the selected sub-categories. The activity, called Alianait, was created to develop an Inuit-specific national strategy that reflects Inuit mental wellness priorities and circumstances (ALIANAIT).

There was overlap for some of the sub-categories. For example from the 11 programs for suicide prevention, four were specifically addressing suicide prevention for youth.

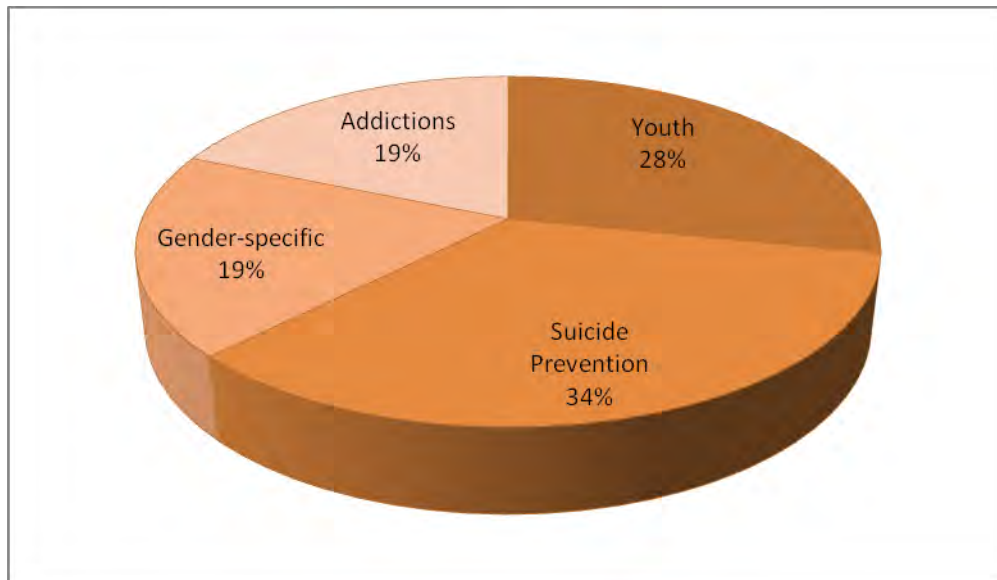


FIGURE 4: MENTAL HEALTH PROGRAMS DIVIDED INTO DIFFERENT CATEGORIES IN CANADA

An example of this is the “Honouring Life Network”, which is a project of the National Aboriginal Health Organization. Culturally relevant information and resources on suicide prevention are provided via a web site with the aim of helping Aboriginal youth and youth workers dealing with suicide. In addition to providing a place for Aboriginal youth to read about others dealing with similar issues, the site allows for those working with Aboriginal youth to connect, discuss and share suicide prevention resources and strategies (HONORING LIFE NETWORK).

One Best Practice covered under “Gender-specific” (Ilisaqsivik – Clyde River Family Resource Center) was the location for a number of other mental health programs, such as youth suicide prevention and suicide prevention for individuals or groups, as well as addiction counseling. Gender-specific activities included counseling for women and families facing abusive situations, or a men’s healing program, where men would meet to talk, play music and make tools. When possible, the group also sponsors hunting trips to get food for community feasts or needy households (ILISAQSIVIK – CLYDE RIVER FAMILY RESOURCE CENTER).

Another Best Practice captured under the sub-category of addictions is the “Meeka Series”. This program not only seeks to enhance substance abuse prevention programs, but also health care service delivery for mental health, and education and training of wellness workers in Canada’s North. The project, which started in 2006, creates better integration of the traditional knowledge of Elders, family and community into current health care practices by providing additional resources grounded in cultural traditions. It provides a four-part series of wellness resources which were transcribed from the original handwritten Inuktitut manuscripts of Elder and Traditional Healer, Meeka Arnakaq, and translated into

English. They include vibrant illustrations to bring to life Meeka’s original drawings and her vision of wellness among Canada’s Inuit (MEEKA PROJECT).

An example of a program dealing explicitly with youth is the “Healthy Buddies – ilannariik” program offered by the Inuvialuit Regional Corporation (IRC). A main part of this program is to pair older students with younger students to help them learn about healthy living and to support them during their time at school (HEALTHY BUDDIES - ILANNARIIK).

SERVICE DELIVERY

A number of the programs documented under Service Delivery have as their aim alternatives to the very costly and complicated travel of northern patients to southern medical centres. They also strive to increase the number and effectiveness of local health care professionals working in the north. For example, of the 13 programs found on Service Delivery in Canada, five dealt specifically to Midwifery in Nunavik and in the Kivalliq region of Nunavut.

One notable program is “Rosie”, a tele-robotic demonstration project which was conducted in northern Labrador (Nain) between January 1, 2010 and March 31, 2011. The project tested a remote presence robot (RP7, named “Rosie”) which enabled support by off-site physicians for local advanced-practice nurses in the delivery of urgent and emergency care. The wireless robot connected the regional health centre in Nain to the physician who used a laptop to move the robot, allowing him to be virtually present in Nain and to freely interact with patients and nurses. The trial was very successful, and included qualitative information to document the usefulness of the program. Although no cost savings were calculated, it was found that more than half of the patients that were part of the trial avoided medical transportation. Of those patients that needed medical transportation, again almost half were able to go on scheduled flights as opposed to medical evacuation, which also results in a considerable cost savings to the government. “Rosie” the robot is still in service in Nain, providing a very valuable service of supporting nurses and physicians in the delivery of health care to patients in a remote community. The evaluation of this trial concluded that this technology would have a very positive impact on health care delivery in northern Canada (TELEHEALTH/TELEROBOTICS – ROSIE).

FOOD SECURITY

The food security programs collected are largely focused on enhancing the availability to and knowledge of a healthy diet. For example, Healthy Foods North was a research project, which began in 2005 with community residents of Gjoa Haven, Taloyoak, and Cambridge Bay. The program tried to understand eating habits of people in the communities, and did in-store presentations as well as workshops to show people how to identify healthy foods, to cut down on junk foods, and to cook and eat traditional foods.

According to a preliminary study⁵ of 700 participants in Healthy Foods North, the program was working and people's eating habits were starting to improve. It was stated that energy from protein increased two per cent, carbohydrates decreased 12 per cent, cholesterol decreased 20 per cent, and unhealthy drinks decreased by 27 per cent. However, funding for the study ran out in fall 2010 (Healthy Foods North).

CHRONIC DISEASE

There is again some overlap between the four health categories when looking at chronic disease. For example, programs that are dealing with nutrition (a food security issue) are usually also trying to prevent diabetes, which is a chronic disease. However, if the programs are largely trying to ensure the availability of healthy and nutritious foods (such as the Healthy Foods North project described earlier), they have been allotted to the topic of food security. At the same time, it was decided in this report to group preventative projects against smoking under Best Practices on chronic disease (and not to mental health/addiction), because of its relevance to lung cancer and respiratory diseases. Smoking is very prevalent in northern communities with smokers often the majority of a given population. It is therefore not surprising that of the eight programs found for chronic disease, four are directed towards reducing smoking. Tuberculosis is also a very big concern in many northern communities, and two programs attempting to address this issue have been included in the documentation. For example, one of the programs, Taima TB program in Nunavut, aims to raise awareness about tuberculosis through a combination of public education, social media outreach and door-to-door screening and treatment, town hall meetings and social media like Facebook (TAIMA TB). The other two activities listed under programs are dealing with respiratory disease and diabetes.

The chronic disease studies capture a reasonably wide variety of topics ranging from arthritis through to tobacco and respiratory disease. There was not one topic which dominated although obesity and respiratory diseases including in relation to tobacco were the topics which tended to be covered a little more than others – but not significantly so.

ALASKA

Similar to Canada, Alaska has more programs focused on mental health compared to the other three health topics, and only a slightly larger number of Best Practices in mental health were studies. As found for Canada, a number of the programs in mental health dealt with suicide (4 out of 14), one of which focused on suicide in youths. Three additional programs were also geared towards youth. Other programs addressed tele-behavioral health care, training for counsellors, or general mental health.

⁵ As reported by CBC News North, September 21, 2010; see <http://www.cbc.ca/news/canada/north/story/2010/09/21/north-healthy-foods-program.html>

Programs on service delivery in Alaska include dental care, primary care, and an epidemiology centre which provides access to health data, statistics, and support activities that promote health.

Food security projects mostly dealt with providing information on nutrition and helping people to make healthy food choices. One program or activity is a website that provides links to the Alaska Traditional Knowledge and Native Foods Databases (ALASKA TRADITIONAL KNOWLEDGE AND NATIVE FOODS). There are nine different databases (contaminants, research on contaminants, nutrition, harvest data, community harvest descriptions, research based knowledge, consumption data, Native knowledge network and Native concerns). These databases enable a search for calorie/nutrition information of a particular Alaskan food item and their parts (plants, meat, seafood) (in raw, cooked, or prepared forms).

The one documented program on chronic diseases focuses on the prevention of diabetes. The CAMP Program from the Norton Sound Health Corporation offered services including diabetes case management, diabetes prevention, health promotion, as well as programs and activities for prevention purposes including individual screening and counselling, community presentations, physical fitness activities, mini grants for villages, tobacco cessation and more (CAMP)

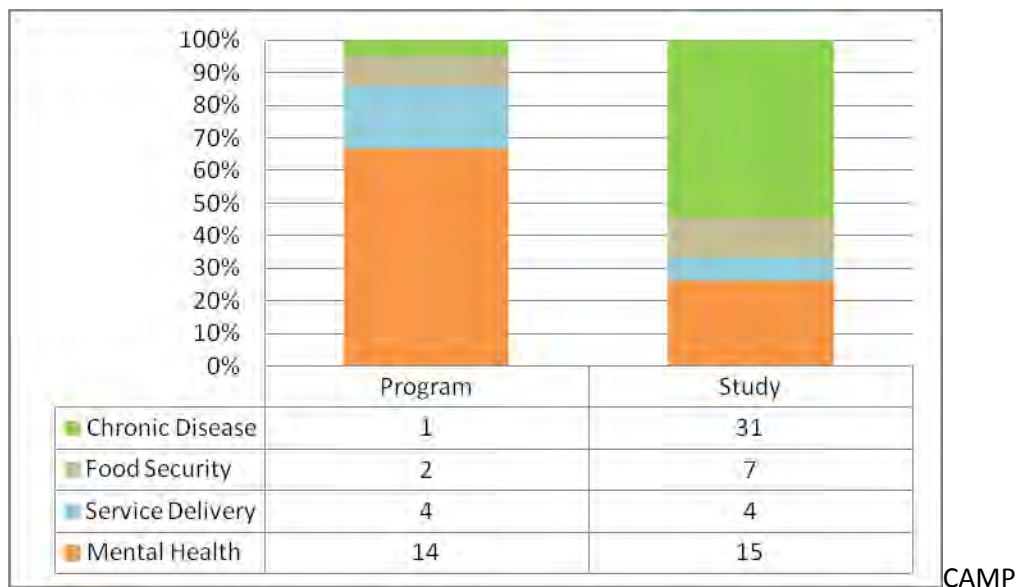


FIGURE 5: BEST PRACTICES BY TOPICS AND CATEGORIES FOR ALASKA

When the total number of studies and programs are combined, the majority of Best Practices (31) dealt with chronic disease, followed by mental health (29) food security (nine) and service delivery with eight cases. As can be seen in Fig. 5, the largest portion of Best Practices examples were studies on chronic disease. Within chronic disease, the vast majority of studies dealt with obesity/diabetes (15 studies), followed by cardiovascular disease (nine), and general chronic disease programs or activities (four). Notably, only one study was found on TB, and two others (one each) addressed arteriosclerosis and respiratory disease, respectively.

The collection of mental health studies also includes information on a national registry for evidence-based programs and practices, as well as several studies describing mental health best practices. Therefore, each of those items provides additional information on best practices in mental health in Alaska.

GREENLAND

The biggest proportion of Best Practice examples found for Greenland was in the area of research studies. Within this category, most cases dealt with either chronic diseases or mental health (Fig. 6). No study on service delivery was found for Greenland. With regards to studies on chronic disease, most of them (eight) dealt with obesity or diabetes, with one also covering heart disease. Four other studies dealt with heart disease only, five with TB and three with respiratory diseases. One of the programs included under the category of chronic disease (*“May: the healthy month”*) encourages healthy living and active lifestyles in Greenland. During the month of May, various activities are planned to motivate people and to participate in the free physical education activities. The other two programs listed under chronic disease try to improve diabetes care, and address TB (MAY IS HEALTHY MONTH).

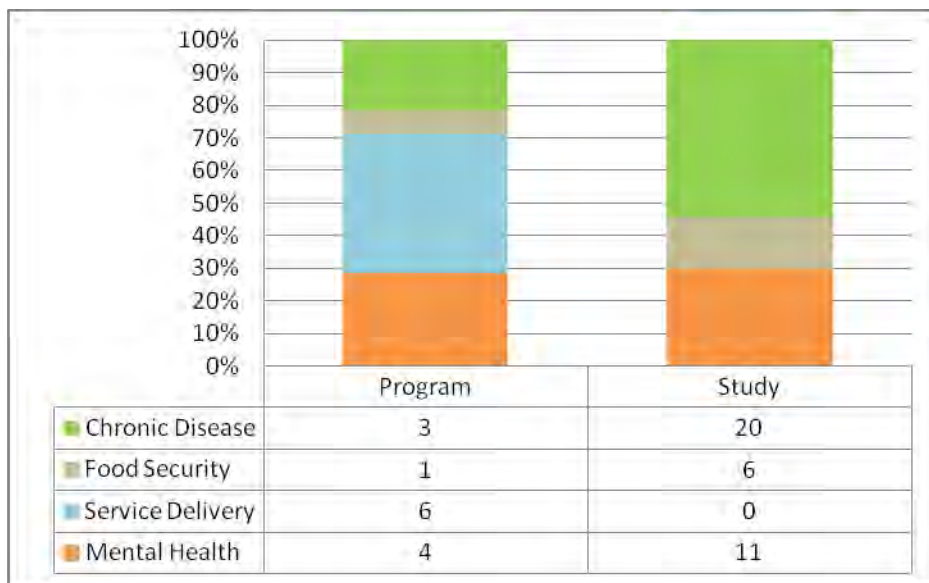


FIGURE 6: BEST PRACTICES BY TOPICS AND CATEGORIES FOR GREENLAND.

Six studies found within the mental health category deal with suicide, four with mental disorders, one addresses cultural change and another youth addictions. Four programs have been listed under the mental health category, all of them directed to suicide (one particularly to youth suicide). The program dealing with youth suicide is the employment of school counsellors in Ilulissat. It is reported that after the school counsellor was put in place, the suicide rate dropped dramatically, although no numbers are

given with regards to the reduction. Numbers of youths that received counseling are given for one year only.

Most of the studies on food security in Greenland deal with the dietary transition experienced in Inuit communities, and two deal with contaminants in the traditional diet. Similar to Alaska, the program on food security in Greenland also comprises dietary recommendations. The website from the National Environmental Research Institute in Denmark provides information on contaminants in the traditional diet in Greenland, gives nutritional advice, and includes an online calculator which enables people to calculate their intake of contaminants through the diet (CONTAMINANT INTAKE WEBSITE).

Programs on service delivery include use of telemedicine, recruitment programs for health professionals, and health professionals that are flown to the various communities in Greenland to provide care locally. There was also a project called “Older People for older people, O4O”, where communities conducted a survey of older people to find out about their current participation in activities, perceptions of well-being, what they would like to do to help each other, their willingness to volunteer and what they expected of service provision. The project was funded by the EU and finished in 2009 (O4O)

CHUKOTKA

In general, only 21 Best Practices could be found for Chukotka, and not all health topics are covered (Fig. 7). For example, there was no program for chronic disease, although six studies on this topic have been collected, and seven on food security. For service delivery, three programs were found, but no study. In total, of the five programs located, most of them (three) were in service delivery.

One of the programs relates to the Soviet era, when mobile medical teams travelled into remote places to conduct medical examinations including X-Rays (MOBILE HEALTH UNITS). However, this program was discontinued after the collapse of the Soviet Union. A new program that is planned for 2012 is a regional medical information system. This will consist of a unified information network throughout the county, which will enable the maintenance of electronic medical records and the automatic processing health data (REGIONAL MEDICAL INFORMATION SYSTEM FOR CHUKOTKA). The program dealing with mental health addresses alcoholism, which was cited by the Russian delegates attending the 2009 Inuit Circumpolar Health Summit as one of the biggest health issues in Chukotka (MARATHON LIFELONG HEALTH). The studies in the area of mental health addressed suicide, cultural aspects, and included one very comprehensive study that aimed to facilitate the mental health reform using systematic approaches to policy design and implementation (MENTAL HEALTH REFORM IN THE RUSSIAN FEDERATION: AN INTEGRATED APPROACH TO ACHIEVE SOCIAL INCLUSION AND RECOVERY).

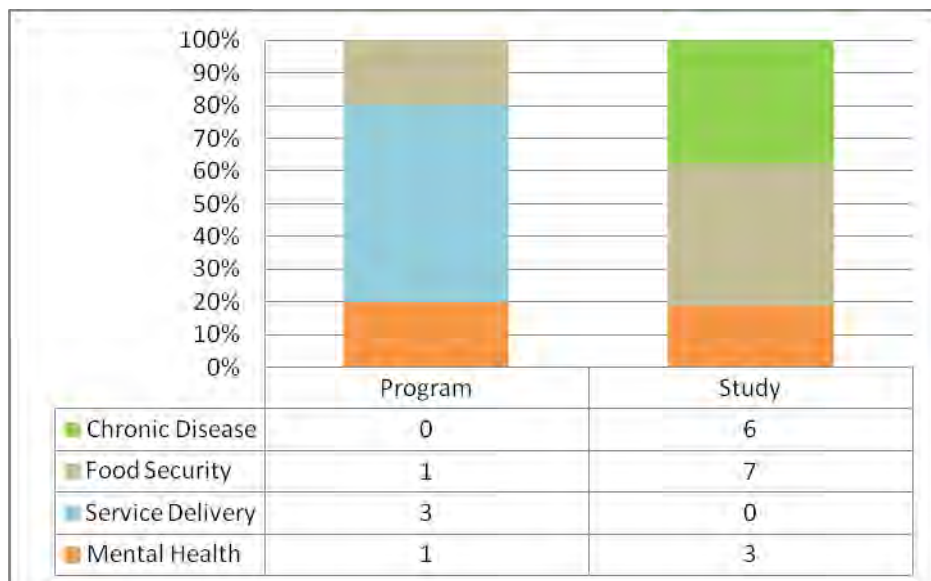


FIGURE 7: BEST PRACTICES BY TOPICS AND CATEGORIES FOR CHUKOTKA

The food security program refers to a 2011 project, where several hundred reindeer were killed to provide local meat to people living in Chukotka (SUPPLY OF VENISON IN CHUKOTKA). Three of the seven studies dealing with food security addressed the topic of contaminants. One of the studies focused on the Persistent Toxic Substances report that the Arctic Monitoring and Assessment Program (AMAP) carried out with the support of the Arctic Council Permanent Participant organization, RAIPON (Russian Association of Indigenous Peoples of the Russian North, Siberia and Far East, PTS REPORT). Another set of studies (REPRODUCTIVE HEALTH EFFECTS ASSOCIATED WITH CONTAMINANT EXPOSURE AMONG NATIVES OF THE RUSSIAN ARCTIC), which were supported by the International POPs Elimination Network (IPEN) and the United Nations Environment Programme (UNEP), led to recommendations which are reported to have resulted in a decrease of contaminant levels in the local indigenous people (REDUCING THE EXPOSURE TO POPS AMONG NATIVES OF THE RUSSIAN ARCTIC).

As mentioned above, six studies were found for chronic disease, covering a broad array of health issues, including TB (which constitutes an article informing about higher TB rates in indigenous peoples, pointing to the availability of segregated data: TUBERCULOSIS IS TWO-FOLD HIGHER IN INDIGENOUS PEOPLES and cardiovascular disease.

DISCUSSION

Health challenges confronting the Inuit are in many cases similar across the Arctic. Although there have been significant improvements in Inuit health and survival over the past 50 years⁶, stark differences persist between the key health indicators for Inuit and those of the national populations in the USA, Canada and Russia and between Greenland and Denmark.

On average, life expectancy in all four countries is lower for Inuit. Infant mortality rates are also markedly different with up to three times more infant deaths than the broader national average. Underlying these statistical differences are a range of health, social, economic and environmental factors which have affected Inuit health outcomes.

This inequity between Inuit and broader national populations is consistent with the poor health status of indigenous peoples globally. It is increasingly recognized that the differentiation is due to a range of factors – physical, psychological and social and reflecting broader contexts including historical, economic and environmental.⁷ It is also a reality that “gaps between indigenous and non-indigenous peoples are not only clear in health status, but also in socioeconomic status, education, employment, environmental and social health and most other social determinants of health”⁸

For Inuit, the responses to these challenges and contributing factors vary significantly across the four countries where Inuit live. This is borne out in the work undertaken by the ICC over the past two years to document the different Inuit health and wellness experiences.

The first part of this work completed last year, *Health Systems serving Inuit communities across the Arctic*, showed there were significant variations in the health systems as well as national political and economic approaches. In Canada, national, government-funded universal health care is administered by territories and provinces with health care funding a mix of largely public and some private. In Alaska, health care is mostly private with personal health insurance an important feature of the funding arrangements. However, within both countries, there are specific government-funded arrangements to support indigenous health. In Greenland, where the population is predominantly Inuit, there is universal government-funded coverage. The Russian system is working through the challenges of shifting from a government-controlled and funded system to a decentralized insurance-based framework.

⁶ Bjerregaard P, Young TK, Dewailly E, Ebbesson SOE; *Indigenous Health in the Arctic: an overview of the circumpolar Inuit population*, 2004; p. 391

⁷ Lisa Jackson Pulver et al, *Indigenous health: Australia, Canada, Aotearoa, New Zealand and the United States: laying claim to a future that embraces health for all*, World Health Report, 2010 Background paper no 33; http://www.who.int/healthsystems/topics/financing/healthreport/whr_background/en

⁸ *ibid*

The report concluded that none of the systems was adequately addressing Inuit health needs. All Inuit populations still have significant gaps between their health status and those of broader national populations. Health expenditure, with the exception of Russia, is high compared to the national averages but this does not correlate with improved health outcomes. Overall, however, meaningful measurement and evaluation of the effectiveness of the respective health systems is severely hindered by the lack of relevant and Inuit specific health data.

This variation in responses is borne out again in the material and information documented in this Best Practices report which represents the second part of ICC's investigation into Inuit health and wellness experiences. In assessing the best programs and relevant studies collected for this report, it is evident that there are major differences between the four countries in terms of the emphasis placed by health practitioners and researchers on the four health categories: mental health, food security, service delivery and chronic disease.

In terms of best practice programs, Canada has the strongest emphasis on mental health although Alaska also had a stronger emphasis on mental health programs than the other categories. Food security was the second highest priority for Canadian programs while it ranked only third both in Greenland and Alaska and not at all in Chukotka. Service delivery was the top priority for program work in Greenland but ranked second in Alaska and third in Canada. It was not addressed at all in the material relevant to Chukotka.

In terms of the research studies, chronic diseases were by far the top priorities for researchers in Greenland and Alaska and to a lesser degree in Chukotka whereas for Canada, it was behind the other three areas. Instead, service delivery ranked strongly as the number one topic for Canadian studies. The country differences are also highlighted by the fact for Greenland, service delivery was the dominant focus for programs but no studies into this area were available.

To determine whether the variations in these responses to the four main health categories reflect either Inuit health needs in the respective countries, researchers preferences and capacity, or available health resources is not within the analytical scope of this report. However, it is important to consider the possibility that these differences may reflect to some degree the variations in current challenges impacting on indigenous peoples living across the Arctic. They may also serve as pointers to the different health practices in the four Inuit countries.

The variations may also reflect the way in which health areas overlap and influence each other e.g. some areas of food security can also be dealt with under chronic diseases in the case of diabetes. So the differences could also reflect the way in which the health challenges have been categorized both by the report's authors as well as in the different country jurisdictions.

Another influence on the variations will be availability of resources to either implement a best program practice or undertake relevant studies. The starkest difference in this case is between Chukotka and the

other Inuit countries. There is significant evidence available which identifies the major health challenges confronting Russia as a whole. While there have been some recent decisions by the Russian Government to increase health spending overall, autonomous okrugs or regions such as Chukotka have continued to suffer from limited resources and isolation. The limited number of studies and programs relevant to Chukotkan Inuit is also, in all likelihood, a reflection of the small number of Inuit living in the region compared to Inuit in the other three Inuit homelands. As noted earlier, while around 50,000 Inuit live in each of the other three countries, there are less than 2,000 Inuit living in Chukotka.

An important hindrance to the analysis of the material is the way in which data on indigenous health, overall, is collected. This is a common concern globally and one which is frequently cited as a major constraining factor in understanding better the major issues impacting on indigenous health. The International Group on Indigenous Health Measurement, at their 2012 conference in Canberra, reflected at length on this dilemma which is often exacerbated by jurisdictional divides. For example, in Canada, the jurisdictional roles and responsibilities of the Federal, Provincial and Territorial authorities in health data collection are not always clear. For Inuit, who can receive health services from multiple jurisdictions, the information is seldom disaggregated. In the absence of specific data, it is difficult for policy makers and health services to precisely identify health priorities and adjust resources and practices accordingly.

CONCLUDING RECOMMENDATION

It is important to remember that the information collected for this report does not represent an exhaustive collection as ICC researchers had to rely on the material that was provided to or could be found by them. However, even taking into account a reasonable level of missing material, what has been collected and analysed does indicate a degree of differences in approaches and responses – despite the similarity in health issues affecting Inuit across the Arctic – that warrants further investigation to determine the drivers behind the differences.

A step in understanding better the reasons behind these differences could be the establishment of a clearinghouse facility which would bring together information on the research undertaken and evaluations of programs implemented to address Arctic indigenous health challenges. Existing examples of study collections include the Alaskan national registry of evidence-based programs and practices. Another example is the Australian program, “Closing the Gap Clearinghouse” initiated by the Australian Government in its response to the Australian Indigenous-led campaign to close the gap in health and education indicators for Australian Aboriginals compared to the broader national population.

A clearinghouse facility would be basically a collection of information on what works to address the challenges confronting Arctic indigenous people’s health. Key findings of each paper or report included

in the clearinghouse, as well as an assessment of its findings would provide stakeholders including policy makers and health practitioners with a pool of information on Arctic indigenous people's health.

It is clear that without precise sound evidence relevant to the specific health challenges and issues confronted by Inuit across the Arctic, there will be a persistent disconnect between the programs and practices implemented and current and emerging health challenges.

APPENDIX

A: CIRCUMPOLAR INUIT HEALTH STRATEGY 2010-2014

Circumpolar Inuit Health Strategy 2010 – 2014

Background

At the 2006 ICC General Assembly in Barrow, Inuit health and wellness was identified as a priority for ICC action. This was expressed in two of the directives contained in the Utqiaġvik Declaration. One of the directives to ICC was to hold a pan-Inuit Summit on health and well-being and the second was to develop a Circumpolar Inuit Health Action Plan. This document sets out the proposed strategy for the Circumpolar Inuit Health Action Plan to guide ICC's health advocacy work over the next four years.

The strategy's development comes out of the work of the Circumpolar Inuit Health steering committee which was formed in 2008 to help shape the health plan by identifying ways for ICC to act as an advocate on behalf of Circumpolar Inuit health. The strategy also reflects the findings and recommendations of the Circumpolar Inuit Health Summit which was held in Yellowknife, Canada in July 2009. The Summit, which was one of the initiatives called for in the Utqiaġvik Declaration, brought together representatives from each of the Inuit regions to consider the health concerns and priorities for Inuit in their respective countries and to identify ways in which ICC could move forward on key health issues.

The Strategy outlined in this document reflects the outcomes of the Yellowknife Summit, the principles expressed by the Summit's participants in their concluding statement and their recommendations. It also reflects the advice and counsel of the Circumpolar Inuit Health Steering Committee since its establishment. The Strategy's objective is to improve Inuit health and wellness across the Arctic. Its goals are to

1. Influence international, regional and national policies and programs that impact on Inuit health and wellbeing;
2. Improve awareness of Inuit health and wellness issues across the Arctic;
3. Encourage greater focus on Inuit health and wellness issues through ICC's representation on international fora;
4. Support improved understanding by health professionals of Arctic/Inuit specific issues;
5. Promote research to improve Inuit health and wellness.

This document summarizes the key health and wellness issues impacting on Inuit, sets out the principles and recommendations for ICC action which came out of the 2009 Circumpolar Inuit Health Summit and describes the actions and activities ICC will undertake to implement this Strategy and achieve its objective and goals.

Key health and wellness issues

The importance of health for ICC is underscored by the fact that across the Arctic, many of the health and wellness challenges are similar, shaped in part by the shared uniqueness of the pan-Inuit experience. However, along with the similarities are differences in the impact and timing of the respective challenges and community responses. The differences are also influenced by social determinants, environmental issues, the effectiveness of the local health services and historical contexts.

While there have been major improvements in health and survival for circumpolar Inuit, advances in some areas have been overshadowed by emerging problems or stalled progress such as tuberculosis and sexually transmitted infections. Furthermore, stark differences still remain between key health indicators for Inuit and those of the broader national populations in USA, Canada and Russia despite the variations in economic, political and social circumstances of the three countries (See table 1). Similar differences can be seen between Greenland and Denmark. For example over the period 2000-2004 in Canada, life expectancy for Inuit men was almost 11 years less than the national statistic, while for Inuit women there was a gap of almost 12 years. Infant mortality rates, another basic indicator of health and wellness within a community, demonstrate the same trend of significant gaps between Inuit and broader national populations.

Table 1 – Comparative health indicators for Inuit and national populations

Indicator (2000-2004)	USA	Alaska natives	Canada	Nunavut	Denmark	Greenland	Russia	Chukotka
Life expectancy at birth	M 74.6 F 80.0	M 68.1 F 75.4	M 77.2 F 82.2	M 66.6 F 70.0	M 74.9 F 79.6	M 63.7 F 70.0	M 58.8 F 72.1	M 53.6 F 63.7
Infant mortality/1000 live births	6.9	10.8	5.3	15.3	4.7	12.1	13.3	20.3

Source: Circumpolar Health Indicators: Sources, Data and Maps; T Kue Young; Circumpolar Health Supplements 2008

Underlying the big gaps in these indicators are a range of health issues, social and economic determinants and environmental factors which have emerged and continue to develop as priority challenges across the Arctic region for Inuit.

The leading causes of death throughout the Arctic are circulatory diseases and cancer. While it is difficult to obtain Inuit-specific data on chronic disease incidence because data is often simply not collected in ethnic-specific ways, Table 2 below provides a stark contrast in the differences in the incidence of lung cancer between broader national populations and Inuit communities. Related to this is the comparatively high usage of tobacco among Inuit particularly among Inuit women.

Table 2 – Rates of lung cancer and daily smoking

Indicator (2000-2004)	USA	Alaska natives	Canada	Inuit (Nunavut)	Denmark	Greenland	Russia	Chukotka
Lung cancer	M 57.0 F 36.3	M 69.2 F 46.6	M 50.7 F 32.9	M 163.7 F 196.0	M 47.0 F 31.8	M 116.7 F 65.4	n/a	n/a
Daily smoking/% of adult population	M 19.3 F 15.6	M 17.5 F 51.1	M 22.4 F 18.5	M 59.1 F 57.2	M 34.0 F 29.8	M 60.6 F 56.0	M 40.8 F 6.9	M n/a F n/a

Source: Circumpolar Health Indicators: Sources, Data and Maps; T Kue Young; Circumpolar Health Supplements 2008

Also very significant across the Inuit regions is the very high incidence of death due to suicide and injury. In Canada, suicide rates for Inuit are estimated to be between 6 and 11 times higher compared to the national average. Furthermore, suicide rates in all Inuit inhabited areas have been increasing during the last 15 years and are the highest in the Nunavik region of northern Quebec. Alarming, 51% of the total suicides in Inuit inhabited areas in Canada are committed by males under the age of 25 and 14% by females in that age range. In Alaska, the north-west coast has the highest rates of suicides. In Russia, the overall suicide rate in Russia was 32.2 per 100,000 in 2005 and experts estimate that the rate for Native peoples in Russia is three to four times higher. In the early 1990s, East Greenland reached one of the highest suicide rates ever recorded with 1,500 per 100,000 in a year. Since then, however, the rates have been declining particularly among young men in Nuuk although they have remained constant for the rest of the west coast and are still highest in East Greenland.

Overall, mental health is a key health concern for Inuit communities and has been identified as one of the highest priority health issues. Factors contributing to mental health difficulties include loss of culture, poverty; inadequate housing and addictions. In responding to mental health problems, Inuit health organizations have recognized that the skills and values that Inuit have traditionally used to cope with life – patience, resolve, perseverance and responsibility – are just as necessary today as they were in the past and that they are the attitudes and behaviours that can help prevent suicide. Better integration of health, school and social services particularly in small communities is also important in promoting and supporting mental health.

Often overlooked is the significance and incidence of injuries which are among the most serious health problems affecting Inuit, particularly younger men, with injuries accounting for the highest number of deaths up until 35 years. Accidents have always been a hazard in the often physically challenging and hostile Arctic environment, but again, the trappings of transition are contributing to the rising incidence of injury and injury-related mortality. Related to the alcohol and other substance abuse is the rise in assault and domestic violence.

While the story of controlling and reducing infectious diseases in the Arctic has been mostly positive, tuberculosis stands out as a stark and tragic exception. A recent report from Canada's Public Health Agency showed that the infection rate of tuberculosis among Canadian Inuit was 185 times greater than others born in the country. The four Canadian Inuit regions have a TB incidence rate of 157.5 for every 100,000 people according to agency's latest data. The rate in southern Canada is 0.8 per 100,000. In Alaska, the rate of tuberculosis continued to be one of the highest in the US with a 2008 rate of 7.4 cases per 100,000 compared to the national average of 4.2 cases per 100,000 according to Alaska's Division of Public Health. More disturbing was the high proportion of Alaska natives infected representing 65 per cent of the cases reported between 1999 and 2008. In Greenland, TB rates are more than 16 times that of Denmark's. In Russia, there is a major concern that many people only receive partial treatment so instead of being eradicated, the TB bacteria is modifying and becoming drug resistant.

While sexually transmitted infection rates are variable across the Arctic and there has been little research into the factors contributing to their escalation, the limited research that has been done shows that rates for some sexually transmitted diseases are very high compared to southern rates.

Social determinants and other factors

Approaching Inuit health and wellness requires an appreciation of the various and in some cases unique factors which impact on Inuit wellbeing. These include:

- The centrality of Inuit culture and traditional knowledge
- Environment particularly the impact of climate change and contaminants, inadequate housing and sanitation
- Continuing access to traditional country foods and other food security issues
- Access to health facilities
- Substance abuse resulting in physical and mental health problems as well as violence, sexual abuse and neglect of children

Traditional knowledge and medicine: A key component in underpinning Inuit health and wellness is traditional knowledge and culture. Alienation from and changes to Inuit culture have been cited as major contributors to both physical and mental health problems. There is an ongoing need to strengthen the interaction between elders and youth to protect and promote these health-reinforcing traditional practices.

Climate change and other environmental drivers: The impact of climate change on the Arctic is now well recognized and well documented. The impact of climate change on Inuit health and wellness in particular is expected to be felt in a number of areas ranging from increased injuries due to fragile and changing ice behaviour through to changes in animal and bird migration patterns and increased exposure to environmental contaminants. Other longstanding environmental issues are housing, water supply and sanitation. Inadequate, overcrowded and damp housing often polluted with tobacco smoke is contributing to high rates of respiratory illness and violence and sexual abuse.

Food security and economic vulnerability: Factors that contribute to food insecurity are the high cost of food in remote communities, the cost of hunting, a limited amount of income and inadequate government support. An additional factor is the concentration of contaminants in animals which comprise much of the traditional diet for Inuit. Inuit have been found to have these contaminants in their blood at levels exceeding international safety guidelines. While the so-called 'nutrition transition', in which the traditional diet is being replaced with a more western one deficient in the range of essential nutrients is observed independently, a fear of contaminants in traditional foods may exaggerate the problem.

Substance abuse: Alcoholism has been and continues to be one of the most acute problems for many Inuit communities. Identified as a primary health and social concern in Inuit communities because of its devastating consequences, alcohol and other substance abuse is both a contributor to behavioural and mental problems and is also a symptom of existing trauma – both at the individual and community level. Sexual abuse, violence, personal injury, neglect of children and Fetal Alcohol Spectrum Disorder are among the major consequences of substance abuse.

Access to services: Access to appropriate health facilities and support services is a longstanding challenge stemming in part from the inherent difficulties of providing services and attracting staff to what are often remote and harsh Arctic locations. The challenge has two parts: getting the diagnosis right and then making sure that the right treatment is provided for the right length of time. In part, innovations in telemedicine and

e-health can help overcome some of the limitations posed by the isolation, distance and climatic constraints of operating health facilities in the Arctic. However, administrative turf battles, budget restrictions and reluctance on the part of patients themselves are contributing to a low usage of this new technology while there remains a significant demand that isn't being met for more standard approaches. Also important in strengthening service capacity is the training of Inuit in health and social services professions.

Circumpolar Inuit Health Summit, Yellowknife July 2009: Principles and recommendations

Representatives from each of the four Inuit regions across the Arctic attended the two-day Circumpolar Inuit Health Summit which was held in Yellowknife on July 9-10, 2009.

In their concluding statement, participants stressed the importance of five overarching principles to underpin improvements to Inuit health and wellness:

- Selflessness, sharing and respect for each other, values that have guided Inuit for millennia, are the fundamental building blocks for healthy Inuit communities;
- Fostering traditional values with the help of elders is essential as communities wrestle with the challenges of balancing traditional and modern approaches to health and other social issues
- Family values and the health and wellness of children and youth are the priorities
- Individuals must take responsibility for their own health, families must take responsibility for ensuring the health and wellness of their children and communities must take ownership over responses to emerging crises and rely less on external support;
- Inuit leaders must respond to their communities' health and wellness needs and ambitions.

The four main recommendations which came out of the Summit for ICC follow-up were:

- ICC to use its circumpolar position to push for amendments to government policies which are at odds with Inuit health and wellness
- Documentation of the different experiences in each region to serve as a reference for ICC in its advocacy work at the international, regional and national levels
- Arctic Council's Human Health Expert Group attached to the SDWG to be approached with a proposal to take forward a significant ICC-sponsored activity focusing on Inuit health across the Arctic
- ICC to advocate for Inuit-specific and culturally-relevant training for non-Inuit health professionals to address the limited understanding of health professionals of Arctic/Inuit specific issues.

Circumpolar Inuit Health Strategy 2010-2014
Objective, goals and action

The health and wellbeing of Inuit is a major priority for ICC. ICC's work in promoting Inuit health and wellness across the Arctic is in keeping with the organization's principal goals including the promotion of Inuit rights and interests at the international level. The objective, goals and actions outlined in this Strategy reflect the principles and recommendations coming out of the 2009 Circumpolar Inuit Health Summit as well as the advice and guidance of the Circumpolar Inuit Health steering committee.

In implementing the Circumpolar Inuit Health Strategy over the next four years, ICC will undertake activities in line with its international focus and advocacy role, using its representation and membership of key international and regional bodies.

Strategy Objective
*Improve Inuit health and wellness
 across the Arctic*

Goal 1	Goal 2	Goal 3	Goal 4	Goal 5
Influence international, regional and national policies and programs that impact on Inuit health and wellbeing	Improve awareness of Inuit health and wellness across the Arctic	Encourage greater focus on Inuit health and wellness through ICC's representation at international fora	Support improved understanding by health professionals of Arctic/Inuit specific issues	Promote research to improve Inuit health and wellness

ICC will advance these goals through the following

ICC's position on Arctic Council working groups (especially AMAP and SDWG health expert groups) to expand understanding and encourage Inuit-specific health activities sponsored by Arctic Council

ICC's position associated with the Convention for Biological Diversity including Access and Benefit Sharing to highlight importance of traditional knowledge for Inuit health and wellness

Negotiations with the European Union, United States of America and Canada relevant to sustainable wildlife to highlight importance to Inuit health and wellness

Highlighting Inuit health and wellness issues through the regular session of the UN Permanent Forum for Indigenous Issues

ICC's ongoing work on climate change to highlight the impact of global warming on the Inuit homeland and the consequences for Inuit health and wellness

ICC's continuing work in highlighting the impact of contaminants in the Arctic environment

ICC's involvement and contribution to WHO forums and meetings on issues of direct relevance to Inuit health

ICC will initiate the following actions to advance these goals

Document the different health and wellness experiences in each Inuit region to be used as a reference for ICC in its advocacy work at international, regional and national levels. Recognizing the importance of this initiative, ICC will seek funding from national and international bodies to undertake the documentation exercise as a matter of priority

Work with the Arctic Council's Human Health Expert Group attached to the Sustainable Development Working Group to take forward a significant ICC-sponsored activity focusing on Inuit health across the Arctic.

Encourage Inuit-specific and culturally relevant training for non-Inuit health professionals to address the limited understanding of health professionals of Arctic/Inuit specific issues. ICC will work in collaboration with Inuit health organizations in advocating this approach.

Identify and contribute to Arctic research activities which can make a significant contribution to circumpolar Inuit health. ICC will use its significant involvement in Arctic Council working groups including the Arctic Monitoring Assessment Programme and Sustainable Development Working Group as well as Canada's Northern Contaminants Program and other research-focused bodies to identify relevant opportunities.

Develop a communications strategy to promote the Circumpolar Inuit Health message. ICC will consult with each of the country offices to identify the key message and theme that ICC wants to promote over the next four years and develop a strategy to support this direction.

Work with national and regional Inuit organizations to promote the Inuit health and wellness message. ICC will collaborate with these organizations to identify the best ways to develop and promote this message and to strengthen the focus on mental health.

B: BEST PRACTICES INVENTORY

CANADA

MENTAL HEALTH

PROGRAMS

ALIANAIT

Form of information: Report. Alianait Inuit Mental Wellness Action Plan. Prepared by Alianait Inuit Specific Mental Wellness Task Group, Inuit Tapiriit Kanatami. 2007.

Project description: Alianait was formed to develop an Inuit Mental Wellness Plan to support the First Nations and Inuit Mental Wellness Advisory Committee's (MWAC) "Strategic Action Plan for First Nations and Inuit Mental Wellness". The committee is comprised of representatives from Inuit Tapiriit Kanatami, First Nations and Inuit Health Branch (FNIHB) of Health Canada, land claim organizations, national Inuit organizations and governments with Inuit populations.

Alianait was mandated to create an Inuit-specific national strategy that reflects Inuit mental wellness priorities and circumstances.

Five Priority goals include:

1. To ensure a continuum of culturally relevant mental wellness programs and supports, including traditional/cultural and clinical approaches
2. To recognize and strengthen community roles and connections.
3. To increase community resources for the mental wellness continuum
4. To ensure Inuit-specific data, research, information, knowledge and training is available.
5. To enable implementation through strong partnerships

HONORING LIFE NETWORK

Form of information: website <http://www.honouringlife.ca/site>

Project description: The Honouring Life Network is a project of the National Aboriginal Health Organization. The Web site offers culturally relevant information and resources on suicide prevention to help Aboriginal youth and youth workers dealing with a problem that has reached crisis proportions in some First Nations, Inuit and Métis communities in Canada.

In addition to providing a place for Aboriginal youth to read about others dealing with similar issues, the site allows for those working with Aboriginal youth to connect, discuss and share suicide prevention resources and strategies. The site's directory of suicide prevention resources is updated on a regular basis with the hopes of providing Aboriginal communities with a comprehensive inventory of suicide prevention materials.

Furthermore, this site is designed to allow for sharing of resources between youth and youth workers to ensure the best possible information is made available to First Nations, Inuit and Métis communities.

ILISAQSIK – CLYDE RIVER FAMILY RESOURCE CENTER

Form of information: website - <http://www.ilisagsivik.ca/eng/home.html>

Project description: Ilisagsivik is a Family Resource Center located in Clyde River, Nunavut. The center strives to achieve community wellness by giving people a place where they can come to find healing, and programs that will help them develop their strengths.

Programs related to mental health include:

Suqqakkut (Inuit Women's Association) Counseling for women and families facing abusive situations

FRIENDS Peer Counselling and Leadership Group. This group of peer helpers for young people focuses on suicide prevention. Drop-In Centre operates Wednesday and Friday nights

Pisutuut The 34 young people who participated in the Walk for Love, Friendship and Suicide Prevention meet every Thursday between 3:30 and 5 p.m. to support each other and learn about personal development

Young Men's Healing Program. Two men work with young men aged 18 - 30 on life development issues, and to build land recreational skills.

Wellness Counseling. Addictions counseling and information. Advice and workshops on healthy lifestyles Radio show every Wednesday morning

Mammisaijiliriji. Crisis counseling for families and individuals, especially on preventing suicide

Irqinnaqruq Project - North Baffin Personal Development (Suicide Prevention) Project

Seven North Baffin communities - Clyde River, Pond Inlet, Arctic Bay, Resolute Bay, Grise Fiord, Igloolik, and Hall Beach - are working together to enhance the connection within families and communities.

Through counselor training, itinerant community counselors, youth leadership programs, summer youth camps, large regional activities such as the Nunavut Quest, and supporting the establishment of community wellness programs.

Inuktitut Personal Development Materials Project Healing materials in Inuktitut will become available on the website. Topics will include suicide, sexual abuse, alcoholism, drug addictions, support for parents and general wellness.

Nunavut Counselor Certification Program Twelve participants from across Nunavut took a course in Choice Theory, Reality Therapy and Lead Management.

Men's Healing Program Men meet Monday evenings to talk, play music and make tools

When possible, the group sponsors hunting trips to get food for community feasts or needy households

MEEKA PROJECT

Form of information: website:

<http://www.ccsa.ca/Eng/Priorities/North/MeekaProject/Pages/default.aspx#background>

Project description: The Meeka series is a four-part set of beautifully illustrated culturally relevant wellness resources that take a holistic approach to Inuit healing, healthy living, child rearing and teamwork through illustrations and exercises that evoke traditional stories. The Meeka wellness resources—a project that started in 2006—create better integration of the traditional knowledge of Elders, family and community into current health care practices by providing additional resources grounded in cultural traditions. Community members, Elders, women and youth are all valuable resources in identifying health issues and are critical to community-based program development.

The four-part series of wellness resources was transcribed from Meeka's original handwritten Inuktitut manuscripts and translated into English, coupled with vibrant illustrations that bring life to Meeka's original drawings and her vision of wellness among Canada's Inuit.

Elders are the connection to the past—a time when language, culture and wellness were strong. Traditional knowledge centered on culture and balance is an integral part of wellness for Inuit. Meeka's collection of traditional knowledge recounts the historical traumas of Inuit colonization and the intergenerational abuse experienced by families of the residential school system—many of the underlying issues that lead to substance abuse among Inuit. This compilation of traditional knowledge and teachings builds a new foundation of strength-based, evidence-informed approaches for working with Inuit to improve health and wellness. The series seeks to enhance substance abuse prevention programs, health care service delivery, and education and training of wellness workers in Canada's North. Released in December 2010, the Meeka series was produced in partnership with Tungasuvvingat Inuit (TI), Meeka Arnakaq (Inuit Elder and healer from Pangnirtung, Nunavut) and the Canadian Centre on Substance Abuse (CCSA).

HEALTHY BUDDIES - ILANNARIIK

Form of information: Newsletter. Inuvialuit Regional Corporation (IRC). Health Matters. Spring 2011

Project description: A main part of this program is bringing older students and younger students together to learn about healthy living. Older 'buddies' are paired up with younger 'buddies' to teach them about healthy living, as well as to support them during their time at school. The practice is "children helping children learn." In the first half of the year, students learn how to be positive buddies and learn about the three components critical to a healthy life. In the second half of the year, students learn to identify the challenges to living a healthy life and learn strategies to overcome these challenges, increasing the likelihood of healthy living success. When the Healthy Buddies program was first introduced to the IRC it did not have any Northern elements. Due to this, the past year has been spent working with the Healthy Buddies BC team; and the Regional Nutritionist to try to make the program more appropriate for Northern children. In addition to including foods and activities that are common in the Beaufort Delta Region, a component of this program includes traditional lifestyle teachings by taking children out on the land. The main goal for this program is for students to have a better understanding on how to have a healthy body and mind, as well having an increase in their self-esteem and overall well-being.

Other: For more information, visit: www.healthybuddies.ca

HOPEDALE TREATMENT SERVICES

Form of information: website: <http://www.naho.ca/inuit/mental-wellness/substance-abuse/treatment-services/>

Project description: This service is for community members of Hopedale. It was developed by the Department of Health and Social Development. Hopedale Treatment Services is a day-treatment program. There are three staff members at the program: an addictions worker, intake assessment worker/mental health worker, and a community health worker. The pre-treatment program is six weeks long with three-hour group sessions three times per week. Individual counseling and group sessions are provided. The program carries out pre-treatment, screening, initial planning, case management, and referrals to a residential treatment centre in Northwest River, Labrador. In addition, the Nunatsiavut Health and Social Development Department has been actively working to start treatment services

throughout Labrador/Nunatsiavut communities. In the Nunatsiavut communities, about 25 people have been trained to do assessments and individual therapy sessions. The community of Hopedale is the first community to start the day-treatment program.

Future plans include incorporating elders into the program by having them meet with the clients. Another plan is to create an on-the-land program, where clients will spend a week camping. This part of the program will be about violence and sexual abuse, and will involve hunting, fishing and traditional activities

THE INUIT COUNSELORS TRAINING AND MENTORSHIP MANUAL – WITH A FOCUS ON ADDICTIONS

Form of information: report and website: <http://lifeworks.cc/services/programs> ; <http://www.ilisagsivik.ca/eng/home.html>

Project description: This program provides certificate training in Self-Actualization Therapy, Traditional Inuit Therapy, Individual and Group Therapy and Client-Centered Therapy to Counselors. The program provides counselors with the knowledge, skills and abilities to counsel clients suffering from additions, trauma, loss and grief, abuse and violence and suicide ideation.

This program invites Elders, students, interpreters and translators, and facilitates to share their collective wisdom within the context of Inuit Social Values in developing effective councilors.

This two year program divided into four phases that involve a range of 80 to 120 hours of course work, followed by 6-10 hours of work assignment teleconference calls and a mentorship program.

INUIT INTERGENERATIONAL TRAUMA & ADDICTIONS HEALING PROGRAM (IITAHCP)

Form of information: National Inuit Committee of Health, Nunatsiavut Department of Health and Social Development

Project description: The IITAHCP consists of 12 – one week modules being delivered from September 2011 – June 2012. Key to this program will be an attempt to integrate traditional Inuit knowledge and healing practices with modern approaches to counselling. This balance of ancient wisdom and modern science will be ensured by presence of Elders throughout the program in the role of teachers, advisors, guides, and support workers. Between September 2011, and June 2012 this program will consist of 12 weeks of classroom training in addition to selected assignments, teleconferences, and a counselling practicum conducted by each student within her/his community.

The Justice Institute of British Columbia has agreed to certify this Inuit Intergenerational Trauma & Addictions Healing Program. They have approved course content and design to ensure that it meets academic standards; will play a role in assessing participants learning and in program evaluation.

IQALUIT AL-ANON AND ADULTS CHILDREN OF ALCOHOLICS (ACA)

Form of information: website: <http://www.naho.ca/inuit/mental-wellness/substance-abuse/al-anon/>

Project description: There are two programs registered in Iqaluit, under the Al-Anon World Service Organization. One is Al-Anon, which began in September 2008, and the second is for Adults Children of Alcoholics, which began in July 2009. Al-Anon provides services and support to families and friends of problem drinkers; Adult Children of Alcoholics is targeted at people who grew up in an alcoholic or

dysfunctional family. Both organizations use the 12-step program and group therapy, and operate throughout the world.

MAPPING THE WAY: MOBILE MULTIDISCIPLINARY MENTAL WELLNESS CLINIC TEAMS

Form of information: website: <http://www.labradormappingtheway.ca/home/4>

Project description: Partners on the Labrador Aboriginal Health Integration Committee identified a priority for mental health and addictions professional services to be delivered directly in remote Aboriginal communities experiencing a considerable degree of social distress.

Community residents are challenged by such complex issues as alcohol and substance abuse, violence, suicide, intergenerational trauma, personal and family breakdowns, and FASD. While efforts are made to provide counselling and supports by health specialists in several agencies, limited services are delivered directly in Aboriginal communities.

In addition, health specialists working alone in separate agencies often feel isolated and overwhelmed by their workload, and would benefit from collaborating with other specialists on a team and exchanging ideas, approaches and information.

Similarly community health workers need support and value mentoring from clinical specialists, and could assist them with valuable insights on family, community and cultural contexts. The idea of combining skills and resources offered a critical opportunity for improving social conditions in Labrador Aboriginal communities. Proposals for financial assistance for establishing the Team were submitted to the National Northern and Aboriginal Crime Prevention Fund and to each partner organization.

A model was developed for a mobile multidisciplinary mental wellness clinical team to collaborate closely with community members to design an appropriate program for mental wellness and social health that would contribute to community development.

The Mobile Mental Wellness Clinical Team, guided by the Labrador Aboriginal Health Integration Committee and core community wellness teams, aims to:

- Enhance the mental well-being of Labrador Aboriginal children, youth, adults and their families/caregivers;
- Increase knowledge of effective clinical/intervention practices that address risk and protective factors specific to Labrador Inuit and Innu cultures;
- Better coordinate services within and across agencies concerned with Aboriginal health;
- Increase the knowledge and skills of community residents providing and/or supporting the delivery of intervention (prevention and clinical) programs or initiatives; and
- Promote community social development.

HUNT AND HEAL PROGRAM, CAMBRIDGE BAY WELLNESS CENTRE AND KITIKMEOT INUIT ASSOCIATION

Form of information: news article – Nunatsiq News – October 3, 2011 -

http://www.nunatsiagonline.ca/stories/article/65674fall_caribou_hunt_brings_hunt_and_heal_programs_to_cambridge_bay/

Project description: The Cambridge Wellness Centre and the Kitikmeot Inuit Association, which are jointly offering “hunt and heal” programs later this month, hope up to see 30 men and women

participate in the four-day sessions. “Hunt and heal” program offered Oct. 24 to 28 for women, and Oct. 31 to Nov. 4 for men, will combine daily hunting trips with elders along with healing circles led by Terry Garchinski of [Life Works](#) counselling and training services.

[Last year, a longer version](#) of the “hunt and heal” program saw men hunting together and delving into a variety of topics such as trauma, being responsible for one’s choices, exploring ways of showing one’s love to family and friends, appropriate use of power, incarceration, money management, addictions, loss, healthy emotional expression, abuse, violence and father and son relationships.

November 6, 2010 – Nunatsiaq News

http://www.nunatsiaqonline.ca/stories/article/66789_cambridge_bay_men_heal_though_hunting
<http://lifeworks.cc/>

MAMISARVIK HEALING CENTRE

Form of information: website: <http://www.naho.ca/inuit/mental-wellness/substance-abuse/mamisarvik/>

Project description: Tungasuvvingat Inuit (TI) provides a variety of social, cultural and wellness programs to Inuit living in Ottawa and other urban areas. One of its main wellness programs is the Mamisarvik Healing Centre, which is a residential treatment program for Inuit from the North and those living in the South. The Mamisarvik Healing Centre provides treatment services for addictions to drugs and alcohol as well as the effects of trauma, including physical and sexual abuse. The program is an eight-week residential program and is holistic, culturally relevant and language appropriate for Inuit.

QAJAQ MEN’S NETWORK

Form of information: website <http://www.isuma.tv/hi/en/naasautit/qajaq-mens-network>

Project description: The Qajaq Network is a community organization dedicated to helping Inuit men deal with the issues they face in today’s world. It does so through organizing support groups and holding community workshops dealing with men’s health. The Qajaq Network, founded in 2003, is based in Kuujuaq, Nunavik and runs in several communities in the region. Viewers will hear about group and individual counselling services, and its new work in the area of crisis and violence intervention. We will take viewers to the Qajaq Network where they will see how the counsellors promote equality between men and women because they feel this will help create healthier communities.

SPOUSAL ABUSE COUNSELING PROGRAM

Form of information: website: <http://www.pulaarvik.ca/counselling/spousalAbuse.html>

Project description: The [Spousal Abuse Counselling Program](#) provides counselling for abusers, victims, and their families. It is designed to help keep Inuit from becoming violent and abusive and going to jail for these crimes. This project is the first of its kind to be delivered in an Inuit community. We will take viewers to the Pulaarvik Kablu Friendship Centre in Rankin Inlet, where the counselling program is located. Viewers will hear about how the counselling is done from an Inuit perspective using Inuit approaches to healing, and how Inuit elders help the counsellors with group counselling sessions.

<http://www.isuma.tv/hi/en/naasautit/spousal-abuse-counselling-program>

SPOUSAL ABUSE PREVENTION PROGRAM

Form of information: website: <http://www.naho.ca/inuit/mental-wellness/substance-abuse/abuse-prevention/>

Project description: The Spousal Abuse Prevention Program was designed to provide counselling to people who are in the initial stages of developing an abusive lifestyle and who wish to change. There are two components in the program: one for abusers who have been charged and are court mandated and/or referred by a probation officer to take the program; the second component is counselling for victims of abuse. The program provides several services, including individual counselling and group sessions and counselling before the client leaves the program. The Spousal Abuse Prevention Program has two unique committees: an advisory committee and an elders committee. Some of the elders on the committee also conduct healing sessions.

ASIST – APPLIED SUICIDE INTERVENTION SKILLS TRAINING

Form of information: Newsletter. Nunatsiavut Government - Department of Health and Social Development Newsletter - December 2011.

Project description: Nunatsiavut Government, Department of Health & Social Development, with funding assistance from the Provincial Government, has been delivering Applied Suicide Intervention Skills Training in Nunatsiavut communities and the Upper Lake Melville area. ASIST is a two-day intensive, interactive and practice-dominated course designed to help caregivers recognize and review risk, and intervene to prevent the immediate risk of suicide. It is by far the most widely used, acclaimed and researched suicide intervention training workshop in the world.

There have been over 90 people who have attended the workshops and are now trained to offer what is considered, 'suicide first aid'. Upcoming trainings will be held in Nain & Hopedale in early 2012.

ISAKSIMAGIT INUUSIRMI KATUJJIQATIGIIT (EMBRACE LIFE COUNCIL)

Form of Information: website: <http://www.inuusiq.com/>

Project description: The council is guided by Inuit Qaujimagatuqangit, or Inuit traditional knowledge and trains suicide prevention counsellors in Inuit communities of Nunavut and produces "Toolkit" for people working to prevent suicide. In partnership with the National Inuit Youth Council, under the Inuusivut project, the Council trains youth media teams in Inuit communities in all regions.

KAMATSIQUTUT CRISIS LINE

Form of information: website <http://www.kamatsiaqtut.com/>

Project description: Nunavut Kamatsiaqtut Help Line provides an anonymous and confidential telephone counselling and contact service for northerners who need to talk about personal problems or who are in crisis. It has proved to be a valuable service. Services provided 7 nights a week, 7 PM to midnight.

NUNALITUQAIT IKAJUQATIGIITTUT PROGRAM

Form of Information: Report. Conference proceedings, Hope and Resiliency conference, Nuuk

Project description: In Nunavik, Quebec, they have established the Nunalituqait Ikajuqatigiittut program, which provides workshops on suicide prevention for front-line workers and community leaders.

NUNAVUT SUICIDE PREVENTION STRATEGY

Form of information: Report. Nunavut Suicide Prevention Strategy. Government of Nunavut(GN), Nunavut Tunngavik, Inc.(NTI), Embrace Life Council,(ELC) Royal Canadian Mounted Police(RCMP). 2010.

Project description: Since suicide first emerged as a major societal and health issue in the 1970s, many dedicated, passionate, and tireless individuals and many different organizations have worked to prevent it. Over the years, many of these dedicated people have called for a coordinated effort to prevent suicide. This collective effort would recognize and involve all partners, uniting people in their separate but interrelated activities. By supporting informed actions and interventions, it would give a common direction to the suicide prevention efforts of communities, organizations, and governments. In response to this longstanding demand for a coordinated approach, in 2008 the Government of Nunavut (GN), Nunavut Tunngavik Inc. (NTI), the Embrace Life Council (ELC), and the Royal Canadian Mounted Police (RCMP) formed a partnership to create a Nunavut Suicide Prevention Strategy (NSPS).

The NSPS was released in 2010, and outlines 8 commitments:

1. The GN will take a more focused and active approach to suicide prevention
2. The Partners will strengthen the continuum of mental health services, especially in relation to the accessibility and cultural appropriateness of care.
3. The Partners will better equip youth to cope with adverse life events and negative emotions.
4. The GN will deliver suicide-intervention training on a consistent and comprehensive basis.
5. The Partners will support ongoing research to better understand suicide in Nunavut and effectiveness of suicide prevention initiatives.
6. The Partners will communicate and share information with Nunavummiut on an ongoing basis.
7. The GN will invest in the next generation by fostering opportunities for healthy development in early childhood.
8. The Partners will provide support for communities to engage in community-development activities.

In September 2011 the Action Plan for the Strategy was released.

SUICIDE PREVENTION AND INTERVENTION PROGRAM - NUNATSIAVUT

Form of information: **Newsletter.** Tugâpvik Nunatsiavut, Vol. 1, No. 3, 2011.

Project description: The Suicide Prevention and Intervention Program, which consists of several initiatives to be implemented in Nain and Hopedale, including the Applied Suicide Intervention Skills Training (ASIST) Program, Survivor Support Groups, and a Youth Peer Support Program. A two-day Culture as Healing Symposium will be held in Nunatsiavut's five Inuit communities. A Mental Health Intervener Train the Trainer Program will also be implemented, along with a suicide prevention promotional campaign and the creation of a virtual warehouse for suicide prevention and intervention resources.

MOU BETWEEN CANADA AND US ON INDIGENOUS HEALTH - SUICIDE PREVENTION

Form of information: Memorandum of understanding

Project description: The MOU on Indigenous Health is an agreement between Health Canada and the US Department of Health and Human Services, currently covering the period from 2007-2012. (This MOU is tentatively scheduled to be renewed for another 5 year period).

The Suicide Prevention Working Group is part of the MOU Plan of Action. The primary aim of the Working Group is to support the exchange of information and promising practices on suicide prevention and the prevention and treatment of alcohol and substance abuse.

One of the activities was to set up a website creating the Honouring Life Network,

<http://www.honouringlife.ca/>, this site is designed to allow for sharing of resources between youth and youth workers to ensure the best possible information is made available to First Nations, Inuit and Métis communities. (This website is also listed as a separate best practice as part of this report).

ARTCIRQ

Form of information: website: <http://www.naho.ca/wellnessTV/youth.php#vignettes>

Project description: In the summer of 1998, two teenagers committed suicide in Igloolik, Nunavut, once again devastating the community. At the same time Guillaume Saladin, a member of the “Inuusi youth drama group”, was studying at the National Circus School of Montreal. He and eight young people, with assistance from Isuma Productions, created Artcirq to positively impact the lives of youth in the community. You will see how Artcirq helps youth to express themselves physically and spiritually through traditional Inuit themes and circus acts. Today this very successful youth program tours the world, yet continues to train youth in Igloolik to “join the circus”

<http://www.isuma.tv/hi/en/naasautit/artcirq-vignette>

HONORING LIFE NETWORK

Form of information: website <http://www.honouringlife.ca/site>

Project description: The Honouring Life Network is a project of the National Aboriginal Health Organization. The Web site offers culturally relevant information and resources on suicide prevention to help Aboriginal youth and youth workers dealing with a problem that has reached crisis proportions in some First Nations, Inuit and Métis communities in Canada.

In addition to providing a place for Aboriginal youth to read about others dealing with similar issues, the site allows for those working with Aboriginal youth to connect, discuss and share suicide prevention resources and strategies. The site’s directory of suicide prevention resources is updated on a regular basis with the hopes of providing Aboriginal communities with a comprehensive inventory of suicide prevention materials.

Furthermore, this site is designed to allow for sharing of resources between youth and youth workers to ensure the best possible information is made available to First Nations, Inuit and Métis communities.

NATIONAL ABORIGINAL YOUTH SUICIDE PREVENTION STRATEGY

Form of information: report. Conference proceedings. Hope and Resilience Conference, Nuuk, 2009. Pg25

Project description: The strategy was launched by Health Canada in 2005 as five year strategy and developed in full partnership with Inuit Tapiriit Kanatami and Assembly of First Nations, and in collaboration with Aboriginal communities across Canada. The main principles of initiatives are:

- Evidence-informed: traditional, cultural, Western sources
- Community-based; culturally appropriate
- Address all levels of prevention, promotion
- Involve youth
- Consider levels of community readiness

The Strategy's desired outcomes include:

- More Aboriginal youth, families and communities taking part in projects, activities and services that prevent suicide
- More awareness and practice of healthy behaviours among Aboriginal youth
- More community ownership and capacity to identify and address youth suicide and other mental health issues
- Improved access to quality, well-coordinated programs and services for Aboriginal youth, families and communities

INUUSIQQATSIARNIQ PROJECT: NATIONAL INUIT YOUTH SUICIDE PREVENTION FRAMEWORK

Form of information: Report. Conference on Hope and Resilency, Nuuk, 2009. Also Report National Inuit Youth Suicide Prevention Framework, ITK.

Project description: Inuusiqqatsiarniq project which is a National Inuit Youth Suicide Prevention Framework established by the National Inuit Youth Council in partnership with Inuit Tapiriit Kanatami and First Nations and Inuit Health Branch of Health Canada. It is focused on promotion of wellness, stabilizing communities in crisis, maintaining community-based wellness activities, and identifying human resources. Inuusiqqatsiarniq develop and implement community-driven wellness plans and is in continuous discussion with Inuit youth. All these initiatives and projects witness a great effort in promoting mental health and well-being and prevention of suicide in Inuit Nunaat.

CHILD AND YOUTH MENTAL HEALTH AND WELLNESS RESEARCH, INTERVENTION, AND COMMUNITY ADVOCACY IN NUNAVUT

Form of information: Qaujigiaqtiit Arctic Health Research Network website:

<http://www.qhrc.ca/apps/Maps/dspList.aspx?ID=63>

Project description: The purpose of this intervention is to develop, implement, and evaluate, child and youth mental health and wellness interventions in Nunavut that focus on northern and community-based ways of understanding and knowing about healthy children and youth.

The project is proposing to combine community-based programs and activities; research; and evaluation to deliver a multi-level 5-year program to address child and youth mental health and wellness issues in Nunavut. Four components of research include: 1) Children and Youth Health Summer Camps

2) Youth Exploring Mental Health and Wellness Issues through photovoice in Nunavut Communities, 3) Needs assessment for child and youth mental health services in Nunavut, 4) Health Promotion Program/Education Program for Parents.

INUUSIVUT PROJECT - INUIT YOUTH MEDIA

Form of information: website: From the Inuit Wellness TV series, www.naho.ca/wellnessTV/youth.php#vignettes

Project description: Through art, videos, music, photography and other multimedia, Inuit youth are finding new ways to express themselves. The Inuusivut Inuit Youth Media project is helping them to do this. The national Inuusivut Project was created by the Embrace Life Council in Nunavut, in partnership with the National Inuit Youth Council (NIYC) and now other partners in other regions of Inuit Nunaat. The program focuses on building strengths and coping skills among youth to help them positively deal with difficult times. You will see how Inuit youth use art, photographs, web videos and other methods to express themselves and share positive messages with other youth. <http://www.isuma.tv/hi/en/naasautit/inuusivut>

INUVIK YOUTH CENTRE

Form of information: website From the Inuit Wellness TV series, www.naho.ca/wellnessTV/youth.php#vignettes

Project description: The reality for many Inuit living in remote communities is the necessity to move to larger communities to continue their education. Young Inuit in the Inuvialuit region of the Northwest Territories must live in Inuvik to attend high school or college, leaving their families and support systems behind. Since 1996 the Inuvik Youth Centre has been running programs for local youth and students who live in Inuvik during the school year. A number of programs engage the youth in healthy activities. In this video, you will meet several of these youth as they cope with life away from their home with the help of the youth centre and its dedicated youth leaders. <http://www.isuma.tv/hi/en/naasautit/inuvik-youth-centre>

MAKIMAUTIKSAT YOUTH WELLNESS AND EMPOWERMENT CAMP

Form of information: website. <http://www.qhrc.ca/apps/News/dspNews.aspx?ID=48>

Project description: The learning modules focus on fostering healthy personal and community relationships; improving coping skills; increasing awareness of the body, movement & nutrition; exploring creativity; self discovery and future planning; promoting healthy choices (combating peer pressure & substance abuse), and celebrating Inuit culture. A combination of learning approaches have been incorporated into the camp program including group discussions, individual reflection, activity-based learning, role-playing, Elder teaching, skill practice and more. The Makimautiksat Youth Wellness and Empowerment Camp held its first pilots in the summer and fall of 2011. The camp took place in Cambridge Bay with collaboration and support from the Kitikmeot Inuit Association from June 29-July 13, 2011; in Iqaluit in partnership with Iqaluit Social Services from August 1-14, 2011, and in Arviat in partnership with the Arviat Wellness Centre from August 17-30, 2011. Pilots are being planned for Panniqtuuq and 2 other Nunavut communities in 2012 and 2013.

INUUSIVUT: LIFE BOOK

Form of information: Monthly Calendar, available at National Inuit Youth Council/Inuit Tapiriit Kanatami

Project description: The National Inuit Youth Council has created a monthly calendar available for Inuit youth called the LIFE BOOK. This life book aims to assist Inuit Youth to make positive changes in their life by learning how to manage time, set goals, and how to reach them. It is made up of stories, inspirational quotes, and blank spaces to enter the date and other information. There are also phone numbers listed for the crisis and suicide prevention hotlines in the relevant Inuit regions in Canada.

THE SAPUTIIT YOUTH ASSOCIATION

Form of information: Report. Conference proceedings, Hope and Resiliency conference, Nuuk

Project description: The Saputiit Youth Association is a three year summer program where youth travel by qajaq (kayak) along the coast of Nunavik bringing the message of “Live Life and Maintain a Healthy Lifestyle!” to youth.

STUDIES

ACCULTURATION AND MENTAL DISORDERS IN THE INUIT

Form of information: Article. Seltzer, A. (1980). Acculturation and mental disorders in the Inuit. *Canadian Journal of Psychiatry*, 25(2), 173-181.

Project description: The phenomenon of acculturation stress is described with particular reference to the subsequent development of the transitional role conflict. The adolescent and young adult male Eskimo is especially susceptible to the anxiety generated by the process of acculturation and it is the interaction of this external stress with the bio-psychosocial characteristics of the individual within his ecological group that may lead to an increased incidence of mental disorder. The clinical picture that develops will depend on complex interaction of this psychosocial stressor and the level of ego development and its accompanying defense and coping strategies.

We see how the development of manifest psychopathology in two young Inuit males was intimately associated with stress of acculturation acting upon personalities characterized by a low self-esteem and negative self-image, feelings of emasculation and a state of anomie. Coping and defensive strategies exhibited both similarities (drugs, alcohol, withdrawal, acting out) and differences (psychosis versus dissociation). The value of modified supportive therapy with continuity of care aimed at increasing self-esteem through sublimation, identification, reduction of dependency and encouragement of growth and autonomy is described, as are the measures aimed at primary prevention.

ASSESSING DIET AND LIFESTYLE IN THE CANADIAN ARCTIC INUIT AND INUVIALUIT TO INFORM A NUTRITION AND PHYSICAL ACTIVITY INTERVENTION PROGRAMME

Form of information: Article. Sharma, S. (2010). Assessing diet and lifestyle in the Canadian arctic Inuit and Inuvialuit to inform a nutrition and physical activity intervention programme . *Journal of Human Nutrition and Dietetics*, 23(SUPPL. 1), 5-17.

Project description: Inuit in Nunavut (NU) and Inuvialuit in the Northwest Territories (NWT), Canada,

were traditionally nomadic peoples whose culture and lifestyle were founded on hunting and gathering foods from the local environment, primarily land and marine mammals. Lifestyle changes within the last century have brought about a rapid nutrition transition, characterised by decreasing consumption of traditional foods and an associated increase in the consumption of processed, shop-bought foods. This transition may be attributed to a multitude of factors, such as acculturation, overall food access and availability, food insecurity and climate change. Obesity and risk for chronic disease are higher in the Canadian Arctic population compared with the Canadian national average. This present review describes the study population and methodologies used to collect data in order to study the nutrition transition amongst Aboriginal Arctic populations and develop Healthy Foods North (HFN), a novel, multi-institutional and culturally appropriate programme that aims to improve dietary adequacy and reduce risk of chronic disease. Included in this special issue of the Journal of Human Nutrition and Dietetics are papers describing dietary intake patterns, physical activity levels, dietary behaviours, chronic disease prevalence and psychosocial factors that potentially mediate behaviour. A further paper describes how these data were utilised to inform and develop Healthy Foods North.

COMMUNITY PSYCHIATRY IN THE CANADIAN ARCTIC - REFLECTIONS FROM A 1-YEAR CONTINUOUS CONSULTATION SERIES IN IQALUIT, NUNAVUT.

Form of information: Article. Law, S. F., & Hutton, E. M. (2007). Community psychiatry in the Canadian arctic - reflections from a 1-year continuous consultation series in Iqaluit, Nunavut. *Canadian Journal of Community Mental Health, 26*(2), 123-140.

Project description: This study examined the clinical and social characteristics of clients (N = 110) in a retrospective chart review from a 1-year continuous psychiatric consultation series in the Inuit community of Iqaluit, Nunavut. Interpersonal and socio-environmental stressors were found to be unusually extensive and the primary precipitators of psychiatric crises such as suicide attempts. Negative health determinants such as unemployment, overcrowding, domestic violence, substance abuse, and legal charges were also prevalent.

Psychiatric issues in the Arctic appear deeply interwoven with interpersonal, socioeconomic, and societal changes; effective community mental health services must address a broad spectrum of psychosocial issues beyond the medical model.

COMMUNITY-DRIVEN ALCOHOL POLICY IN CANADA'S NORTHERN TERRITORIES 1970-2008.

Form of information: Davison, C. M., Ford, C. S., Peters, P. A., & Hawe, P. (2011). *Health Policy, 102*(1), 34-40.

Project description: Objective: To describe community-driven alcohol policy for 78, primarily First Nations, Métis and Inuit, communities in Canada's three northern territories (Yukon, Northwest Territories and Nunavut) between 1970 and 2008. This is a first step to understanding the policy-oriented prevention system that has evolved in these areas over time. Methods: Regulatory data were compiled from Part II of the Territorial Gazette Indices and the Revised Statutes and Regulations of each territory. Regulations were categorized as open, restricted, prohibited or other.

Results: The number of communities with some form of regulation has increased steadily over time with half of the sample communities adopting some form of regulation between 1970 and 2008. The use of prohibition as a policy choice peaked in 1980 but has remained relatively steady since that time. There has been a steady increase in the adoption of other kinds of restrictions. Communities with regulations tend to have smaller and younger populations, a greater percentage of people with First Nations, Métis or Inuit origin and are more geographically isolated than those with no regulation. Conclusions: This is the first time alcohol control policies have been compiled and described for the Canadian north. The dataset records the collective energies being put into community problem solving and provides a means to interpret the prevalence of health and social problems linked to alcohol use in these communities over time.

DIET AND MENTAL HEALTH OF CIRCUMPOLAR PEOPLES

Form of information: Article. Nancy K. McGrath-Hanna, Dana M. Greene, Ronald J. Tavernier, and Abel Bult-Ito (2003) called, "Diet and Mental Health in the Arctic: Is Diet an Important Risk Factor for Mental Health in Circumpolar Peoples?—A Review," in the *International Journal of Circumpolar Health*, volume 62(3):228–241.

Project description: This study reports that suicide rates are several-fold higher in the Inuit of northern Quebec compared to the general Canadian population. This study is, therefore, a good illustration of the extent of the mental health crisis in circumpolar peoples. This paper also addresses some of the factors that may have contributed to the suicide, such as prior mental health problems and drug abuse. It is also a good example of the fact that diet has not been linked in the past to mental health in circumpolar peoples. Deterioration of mental health has most often been attributed to factors such as social and cultural change, poverty, and social and economic marginalization

FORENSIC PSYCHIATRIC ASSESSMENTS IN THE NORTHWEST TERRITORIES.

Form of information: Article. Seltzer, A., & Langford, A. (1984). Forensic psychiatric assessments in the northwest territories. *Canadian Journal of Psychiatry*, 29(8), 665-668.

Project description: This paper is an analysis of the psychosocial and forensic factors leading to legal referrals to a northern mental health service. It was found, not surprisingly, that most criminal acts were associated with alcoholism, personality disorders, and low socioeconomic status. Young native males figured prominently in both violent and property crimes. Rape offenses and major psychopathology appeared to be more common among Inuit referrals. The influence of rapid culture change and psychosocial and biologic predisposition to the deleterious effects of alcohol were considered relevant criminogenic factors. It was also felt that the high Inuit referral rate might have been related to their willingness to accept consultation and discuss symptoms of mental illness.

HEALING THE BODY AND THE SOUL THROUGH VISUALIZATION: A TECHNIQUE USED BY THE COMMUNITY HEALING TEAM OF CAPE DORSET, NUNAVUT.

Form of information: Article. Kingwatsiaq, N., & Pii, K. (2003). . *Arctic Anthropology*, 40(2), 90-92.

Project description: As Alice Kimiksana indicated, the Healing Circle or Healing Teams evolved to help First Nations people who attended residential schools deal with the aftermath of the abuse many of them suffered there. They use a variety of interventions, some traditional and some more Western in origin, for an innovative approach to a very serious problem. One technique developed by Western psychology, but very useful and adaptable in other cultural settings, is guided imagery or visualization. Often used for performance enhancement in sports, it is also applicable to other situations from medical settings to mental health treatment.

In this presentation, Novaliinga Kingwatsiaq of Kingnait (Cape Dorset) led the audience through a modified version of a visualization used by her Community Healing Team. (During visualization one assumes a relaxed state with one's eyes closed and imagines oneself in the context of a story told by the person guiding the imagery.) The imagery she chose is both symbolically and culturally appropriate. Most audience members were unfamiliar with the process of visualization, and several indicated that they were intrigued by the experience. Kumaarjuk Pii introduced Novaliinga Kingwatsiaq and translated for her.

INUIT COMMUNITY ENGAGEMENT IN SUICIDE PREVENTION

Form of information: Michael J. Kral , Patricia K. Wiebe , Kari Nisbet , Catherine Dallas , Looee Okalik , Nubiya Enuaraq , James Cinotta. International Journal of Circumpolar Health 2009 Jun;68(3):292-308.

Project description: Objectives. To review suicide patterns among Inuit in Canada and highlight new developments in Inuit-driven and community-based suicide prevention.

Study design. Narrative overview of suicide among Inuit in Canada, strides towards Inuit autonomy, and community and government action towards suicide prevention.

Methods. Review of Inuit meanings of mental health, movements towards Inuit control across Inuit Nunaat (the 4 Inuit regions) of Canada, and of community and government action towards suicide prevention. Results. Economic advancement is occurring in Inuit Nunaat following land claim settlements, and territorial and provincial governments are overseeing Inuit well-being. Inuit community engagement in suicide prevention is taking place and studies are being planned to evaluate the efficacy of such action for suicide prevention and community mental health. Initial evidence demonstrates that community control over suicide prevention itself can be effective towards preventing suicide.

Conclusions: A new orientation is taking place in Canada in the name of Aboriginal community empowerment. There is a new hope for the model of meaningful community engagement and partnership with the Canadian government in suicide prevention and well-being.

ISUMAGIJAKSAQ: MINDFUL OF THE STATE: SOCIAL CONSTRUCTIONS OF INUIT SUICIDE

Form of information: Article. Tester, F. J., & McNicoll, P. (2004). Isumagijaksaq: Mindful of the state: Social constructions of Inuit suicide. *Social Science and Medicine*, 58(12), 2625-2636.

Project description: Inuit suicide is the most significant mental health issue in the newly created Nunavut Territory of Canada's eastern Arctic. Suicide rates in Nunavut are 6 times those of Canada's southern provinces. Consistent with other Canadian populations, males aged 15-29 years of age are most at risk. Various social constructions have been used to make sense of Inuit suicide, a phenomenon of historical interest to anthropologists, who popularized the idea of elderly Inuit voluntarily abandoning their lives to the elements so as not to burden their surviving relatives.

An examination of the literature and research dealing with Inuit suicide suggests that three typologies have typically been used to explain the problem: organic or quasi-organic explanations, social explanations involving concepts of social change and social disruption, and socio-psychological models of two types; a risk assessment approach focusing on the circumstances surrounding the deceased or the person with suicidal thoughts and another dealing with norms, values, thought processes and relationships within Inuit culture.

We argue that these approaches offer incomplete explanations of the current problem. Attempts to complete the picture by identifying risk factors have produced contradictory and unsatisfactory results. We conclude that the impact of colonial relations of ruling has much to do with the current problem and advocate an approach that combines narrative research and intergenerational communication with community action to address the problem.

Low Inuit inuusittiaqarniq (self-esteem) is an important factor in Inuit suicide, but rather than a psychological problem, has its roots in a history of colonialism, paternalism and historical events.

MEANINGS OF WELL-BEING, UNHAPPINESS, HEALTH, AND COMMUNITY CHANGE AMONG INUIT IN NUNAVUT, CANADA.

Form of information: Article. Kral, M. J., Idlout, L., Minore, J. B., Dyck, R. J., & Kirmayer, L. J. (2011).

Project description: Suicide among young Inuit in the Canadian Arctic is at an epidemic level. In order to understand the distress and well-being experienced in Inuit communities, a first step in understanding collective suicide, this qualitative study was designed. Fifty Inuit were interviewed in two Inuit communities in Nunavut, Canada, and questionnaires asking the same questions were given to 66 high school and college students. The areas of life investigated here were happiness and wellbeing, unhappiness, healing, and community and personal change. Three themes emerged as central to well-being: the family, talking/communication, and traditional Inuit cultural values and practices. The absence of these factors were most closely associated with unhappiness. Narratives about community and personal change were primarily about family, intergenerational segregation, an increasing population, more trouble in romantic relationships among youth, drug use, and poverty. Change over time was viewed primarily as negative. Discontinuity of kinship structure and function appears to be the most harmful effect of the internal colonialism imposed by the Canadian government in the 1950s and 1960s. Directions toward community control and action are encouraging, and are highlighted. Inuit community action toward suicide prevention and community wellness is part of a larger movement of Indigenous self-determination.

RESIDENTIAL VOLATILE SUBSTANCE MISUSE TREATMENT FOR INDIGENOUS YOUTH IN CANADA.

Form of information: Dell, D., & Hopkins, C. (2011). *Substance use and Misuse*, 46(SUPPL. 1), 107-113.

Project description: The Youth Solvent Addiction Program (YSAP) was established in 1996 in response to the misuse of volatile substances among First Nations and Inuit youth in Canada. This article outlines the role of Indigenous culture and its intersection with Western approaches to recovery in YSAP's operation of nine residential treatment centers for youth. Treatment practices and client outcome data are used to illustrate YSAP's approach. Limitations of the article are noted.

SERVICE DELIVERY

PROGRAMS

TELEHEALTH/TELEROBOTICS – ROSIE

Form of information: Personal Communication Gail Turner, Member of National Inuit Committee of Health and, Evaluation Summary from Grenfell Regional Health

Project description: A telerobotic demonstration project was conducted in northern Labrador between January 01, 2010 and March 31, 2011. The project aims were to assess the impact on health care delivery in a northern remote fly-in community, with off-site physicians supporting advanced practice nurses in the delivery of urgent and emergent care by using a virtual presence robot. In this project the remote presence robot (RP7), which was named “Rosie” was deployed in the Community Health Clinic in Nain, Labrador. Connecting to the Labrador Grenfell Regional Health Center, the wireless, mobile robot allows the physician to be virtually present in Nain. The physician uses a laptop to move the robot unfettered and zoom and pan the camera, while freely interacting with patients and nurses in Nain. The use of “Rosie” the robot facilitated:

- improved access to physicians;
- improved management of urgent and emergent care;
- improved mental health assessments;
- improved personal interactions between nurse, patient/family and physician;
- improved collaboration amongst health care team;
- improved job satisfaction and decrease job stress amongst physicians and nurses; and
- decreased costs of medical transportation.

Qualitative information: The evaluation was conducted using forms that were self-administered by physicians and nurses, after use of the robot. Patient evaluation forms were provided in English and Inuktitut, and completed by the patient after the use of the robot. Qualitative interviews were conducted with the providers at the six month interim and again at the end of the project.

Patients felt that being able to access services at home without the need for travel decreased the disruption to their family and job. Nurses reported reduced stress due to increased accessibility to the physician.

Physicians reported the improved ability to assess, diagnose, treat and manage patients without being present in the community also decreased their job stress as the attending physician practicing in a remote community. Physicians were readily accessed from home, office or hospital.

Of the forty-seven (47) patients for which complete data is available, twenty-eight (28) patients did not require transportation to Goose Bay. Of the nineteen (19) patients who required travel, nine (9) of the patients were able to travel to Goose Bay on the scheduled hospital flights. More than half of the patients avoided medical transportation. The increased ability to use scheduled flights as opposed to medical evacuation (medevac) also lead to decreased the costs for medical transportation.

“Rosie,” the robot is still in service in Nain, providing a very valuable service of supporting nurses and physicians in the delivery of health care to patients in a remote community. The findings of this evaluation indicate that the RP7 robot and this technology would have a very positive impact on health care delivery in northern Canada.

Other: This project was Funded by the First Nations Inuit Health Branch of Health Canada, the partners include Labrador-Grenfell Health, the Department of Health and Social Development with the Nunatsiavut Government and the Division of Neurosurgery at the QEII Health Sciences Complex, Halifax.

ABORIGINAL HEALTH HUMAN RESOURCES INITIATIVE (AHHRI)

Form of information: Report. Program framework for the renewed aboriginal health human resources initiative (AHHRI) 2010 – 2015. Health Canada.

Project description: The AHHRI originated from a commitment made by the Federal Government, at the Special Meeting of the First Ministers and Aboriginal Leaders in September 2004, to new investments in First Nations, Inuit and Métis health. This investment included \$100 million over five years for the Aboriginal Health Human Resources Initiative to begin to address the acute shortages of First Nations, Inuit and Métis health care providers and to explore ways to improve the health care system to better respond to the needs of First Nations, Inuit and Métis. The Aboriginal Health Human Resources Initiative (AHHRI) was launched in 2005/06. The goal of the Initiative was “to lay the foundation for longer term systemic changes in the supply, demand, and creation of supportive environments for First Nations, Inuit and Métis health human resources.” To achieve this, AHHRI focused on three areas of activity including increasing the numbers of Aboriginal health care workers; improving retention of health care providers in First Nations and Inuit communities and improving cultural competence of health care providers serving Aboriginal communities.

DEVELOPMENT OF A COMMUNITY-BASED MEDICAL REHABILITATION PROGRAMME IN THE KIVALLIQ REGION OF NUNAVUT

Form of information: Fricke, M., Achtemichuk, M., Cooper, J., Martin, B., Macaulay, A., & Durcan, A. (2004). *International Journal of Circumpolar Health*, 63 Suppl 2, 101-106.

Project description: OBJECTIVE: In 2000, the University of Manitoba and the Department of Health and Social Services of Nunavut, Canada, jointly embarked upon the development of a community-based medical rehabilitation programme in the Kivalliq Region of Canada's central Arctic. Two main objectives were identified in moving forward with the implementation of a rehabilitation programme. Firstly, to conduct a region wide community needs assessment for rehabilitation services for all age groups of all residents of the Kivalliq Region of Nunavut. Secondly, to provide information from which a community-based rehabilitation therapy programme could be developed.

METHODS: A community needs assessment of the Kivalliq Region was carried out to guide the implementation of physiotherapy, occupational therapy and speech language pathology services.

RESULTS: There are now two physiotherapists, one occupational therapist, and one speech language pathologist providing rehabilitation services to the residents of the Kivalliq Region of Nunavut. The results of this needs assessment, the challenges and successes of this medical rehabilitation programme are discussed. CONCLUSION: The total population of the service area is approximately 8,000 people, the significant majority of whom self-report as Inuit, and are widely dispersed over eight communities.

Despite the challenges in terms of culture, geography and recruitment of introducing a rehabilitation program in Canada's north, the residents of the Kivalliq Region now have a viable model of receiving rehabilitative intervention in their home communities.

AN EXAMINATION OF CONTINUING CARE REQUIREMENTS IN INUIT COMMUNITIES

Form of information: report on website: http://www.hc-sc.gc.ca/fniah-spnia/pubs/services/_home-domicile/2008_assess-eval-exam/index-eng.php

Project description: The current project, the Continuing Care Research and Costing Project, was intended to provide a better understanding of the gaps in the continuing care services available in both First Nations and Inuit communities. The purposes of the project were: to gain an understanding of the continuing care needs of individuals living in First Nations and Inuit communities; to identify what continuing care services are currently provided in First Nations and Inuit communities; and to develop and cost options for the provision of continuing care services in First Nations and Inuit communities. The project primarily focused on First Nations living on reserves or Inuit living in communities south of 60° L.4. The findings from the study will feed into the development of continuing care policy options for First Nations and Inuit in Canada. This document presents the findings from the interviews with Inuit individuals who are receiving continuing care services and their caregivers in the Nunavik Region. The findings from other components of the Continuing Care Research and Costing Project are presented in separate documents.

INUIT MIDWIFE APPRENTICESHIP PROGRAM (NUNAVIK)

Form of information: website: <http://www.isuma.tv/hi/en/naasautit/inuit-midwife-apprenticeship-program>

Project description: The [Inuit midwife apprenticeship program](http://www.isuma.tv/hi/en/naasautit/inuit-midwife-apprenticeship-program) in Nunavik has been running for 22 years. It is seen as a good training model by Indigenous groups worldwide. On this video will learn about how this training program was created and how important it is to Inuit midwives, mothers, families and communities in Nunavik. There are two midwives from Nunavik; Brenda Epoo and Aileen Moorhouse who completed the apprenticeship program and now have licences to practice midwifery throughout Quebec. Their licences also mean they can be midwives in other parts of Canada. The midwife apprenticeship program in Nunavik is unique because the training is based on traditional Inuit ways of learning and it takes place in an Inuit community. You will see on the video the midwives as they receive their licences at a very special swearing-in ceremony in Quebec City and hear about their journeys to this important accomplishment.

IRNISUKSIINIQ – INUIT MIDWIFERY NETWORK

Form of information: website. <http://69.27.97.110/inuit-midwifery/english/index.php>

Project description: This website provides midwives and maternity care workers with up-to-date resources and the latest research on the midwifery field, connects Inuit midwives in remote communities to midwives working in other Inuit regions. It also informs midwives and maternity care workers of upcoming gatherings, training, and events related to their field, assists midwives and maternity care workers to share their stories and experiences with other professionals. As part of the network, recipients receive information on articles, reports and research, midwifery links, and information on Inuit Traditional and Cultural Knowledge.

INUULITSIVIK MIDWIFERY SERVICE AND EDUCATION PROGRAM

Form of information: Article. Van Wagner, V., Epoo, B., Nastapoka, J., & Harney, E. (2007). *Journal of Midwifery and Women's Health*, 52(4), 384-391. Reclaiming birth, health, and community: midwifery in the Inuit villages of Nunavik, Canada.

Project description: This article describes the Inuulitsivik midwifery service and education program, an internationally recognized approach to returning childbirth to the remote Hudson coast communities of Nunavik, the Inuit region of Quebec, Canada. The service is seen as a model of community-based education of Aboriginal midwives, integrating both traditional and modern approaches to care and education. Developed in response to criticisms of the policy of evacuating women from the region in order to give birth in hospitals in southern Canada, the midwifery service is integrally linked to community development, cultural revival, and healing from the impacts of colonization. The midwifery-led collaborative model of care involves effective teamwork between midwives, physicians, and nurses working in the remote villages and at the regional and tertiary referral centers. Evaluative research has shown improved outcomes for this approach to returning birth to remote communities, and this article reports on recent data. Despite regional recognition and wide acknowledgement of their success in developing and sustaining a model for remote maternity care and aboriginal education for the past 20 years, the Nunavik midwives have not achieved formal recognition of their graduates under the Quebec Midwifery Act.

MATERNITY CARE AND MIDWIFERY TRAINING (NUNAVUT)

Form of information: website: <http://www.naho.ca/wellnessTV/maternity.php>

Project description: Video. You will see how Nunavut is making many improvements to its maternity care and midwifery programs. You will hear about Nunavut Arctic College's training programs in maternity care and midwifery. These courses are preparing Inuit for careers in these valuable professions. We will take viewers to the Rankin Inlet birthing centre, where Inuit graduates of the maternity care/midwifery program are practicing their profession. You will hear from the maternity care workers and midwives, as well as the people who trained them.

<http://www.isuma.tv/hi/en/naasautit/maternity-care-and-midwifery-training>

MOBILE X-RAY

Form of information: Newsletter. Tugâpvik Nunatsiavut, Vol. 1, No. 3. Nain Chest X-Ray Clinic successful

Project description: Inuit communities are remote and accessing health services can be a challenge. Many patients have to travel outside their home community to receive specialized care or follow up services. The Nain Mobile X-Ray Clinic provided patients with an opportunity to receive chest x-rays without having to leave their home community. The X-ray machine is aiding in the testing of tuberculosis and has been operational since November.

Qualitative information:

A total of 96 per cent of Nain residents who required x-rays for tuberculosis follow up were able to do so this past fall without having to leave the community and travel to Happy Valley-Goose Bay, saving the government thousands of dollars in medical travel.

NUNAVUT FAMILY EDUCATION PROGRAM

Form of information: web article:

http://www.nunatsiaqonline.ca/stories/article/65674iqaluit_hospital_opens_new_medical_health_learning_centre/

http://www.nunatsiaqonline.ca/stories/article/987889_eight_doctors_earmarked_for_the_baffin_region/

Project description: [Nunavut Family Medicine Education Program](#), or NunaFam, launched in March 2011 to bring medical residents and recent graduates of Memorial University in St. John's, Newfoundland-Labrador, to train in Nunavut. Memorial's medical school is known for its program that trains family doctors for work in remote areas. NunaFam, a six-year program that runs on a \$4.8 million grant from Health Canada, aims to bring eight family doctors-in-training to Iqaluit for the equivalent of "16 doctor years," said Dr. Sandy MacDonald, Nunavut's director of medical affairs.

IMMUNIZATION CAMPAIGN IN NUNAVIK

Form of information: Article. Ndiaye, A. A., De Wals, P., Proulx, J. F., Ouakki, M., Jetté, L., & Déry, S. (2006). *International Journal of Circumpolar Health*, 65(4), 297-304. Impact of a mass immunization campaign to control an outbreak of severe respiratory infections in Nunavik, northern Canada.

Project description: In spring 2002, a mass immunization campaign using a 23-valent pneumococcal polysaccharide vaccine (23-PPV) was launched in order to control an outbreak of severe pneumonia caused by a virulent clone of serotype 1 *Streptococcus pneumoniae* in Nunavik, Quebec, Canada. The objective of the study was to evaluate the impact of this campaign on the incidence of invasive pneumococcal disease (IPD) and hospitalizations possibly associated with pneumococcal infections (HPAPI) in the mostly Inuit population aged 10 to 64 years.

Multivariate Poisson model comparing the frequency rates of selected outcomes before the outbreak, during the outbreak, and after implementation of the mass immunization program.

The reported incidence of serotype 1 IPD decreased markedly after the implementation of the vaccination campaign (rate ratio = 0.16; $p < 0.002$). The frequency of HPAPI and the mean duration of hospital stay also decreased. However, vaccine failures were documented and the HPAPI rate remained higher than in the period prior to the outbreak.

Although 23-PPV contributed to control the outbreak, better vaccines are needed for the prevention of infections caused by serotype 1 *S. pneumoniae*.

PARENTING SUPPORT PROGRAMS IN NUNAVUT: A REVIEW

Form of information: Report. Qaujigiartiit Health Research Center, 2010.

Project description: This report provides a list of parenting programs in Nunavut and in other northern locations in Canada, with some circumpolar examples in Greenland and in Alaska. The parenting support programs report was prepared as part of a 4 part programme reviewing child and youth mental health services in Nunavut; youth health and wellness camps; and a primary research youth photovoice project.

THE RANKIN INLET BIRTHING CENTRE

Form of information: Article. Douglas, V. K. (2011). *International Journal of Circumpolar Health*, 70(2), 178-185.

Project description: Objectives. To trace the historical development of the Rankin Inlet Birthing Centre since its inception in 1993 in the context of plans to make it the nucleus of a system of community birthing centres throughout Nunavut. **Study design.** This is an analytical historical study using a combination of oral history interviews, government documents and existing literature.

Methods. Oral history interviews with current and former employees of the Birthing Centre, founding organizers and women who gave birth there were combined with a review of the literature using MEDLINE, Anthropology PLUS, CINAHL and Historical Abstracts, as well as a search of the records of the Nunavut Government and the debates of the Nunavut Legislature and its predecessor, the NWT Legislature.

Results. The Rankin Inlet Birthing Centre has been successful, but only marginally so. The majority of births for residents of this region still occur in southern hospitals, either in Churchill or Winnipeg. Although the long-term plan for the Centre is to train and employ Inuit midwives, thus far only two maternity care workers are employed at the Centre. All the midwives are from southern Canada and rotate through the Centre and the community on fixed terms. The Centre has been very successful at gaining and retaining support at the political level, with a strong official commitment to it from the Nunavut Legislature, and active support from the medical communities in the Kivalliq and in Manitoba through the Northern Health Unit at the University of Manitoba. Community support within Rankin Inlet is less apparent and has been halting. Plans to extend the model of the Centre to other communities are long-standing, but have been slow to come to fruition.

Discussion. The Rankin Inlet Birthing Centre has remained an important, but peripheral, institution in Rankin Inlet. It is in many ways a southern institution located in the Arctic; for this reason, and due to the social networks present in Rankin Inlet itself, it has suffered from a lack of enthusiastic support from the community. However, the staff at the Birthing Centre are aware of its shortcomings and explicitly support more community-centred approaches in other communities.

Conclusions. The staff and clients of the Rankin Inlet Birthing Centre have broadly recognized the challenges it faces. Future expansion is likely to adapt to local traditions and requirements, leading to new birthing centres that will be integrated into their communities.

STUDIES

CHILDBIRTH AMONG THE CANADIAN INUIT: A REVIEW OF THE CLINICAL AND CULTURAL LITERATURE

Form of information: Article. Douglas, V. K. (2006). *International Journal of Circumpolar Health*, 65(2), 117-132.

Project description: BACKGROUND: This study reviews the historical, anthropological and biomedical literature on childbirth among Canadian Inuit resident in the Canadian Arctic. The modern period is characterised by increased tension as southern intervention replaced traditional birthing with a biomedical model and evacuation to metropolitan hospitals for birth. Inuit concern over the erosion of traditional culture has confronted biomedical concern over perinatal outcomes. Recently, community birthing centres have been established in Nunavik and Nunavut in order to integrate traditional birthing

techniques with biomedical support. OBJECTIVES: To review the literature on Inuit childbirth in order to suggest avenues for future research. STUDY DESIGN: Material for this review was gathered through combining library searches, database searches in ANTHROPOLOGYPlus, MEDLINE, CINAHL and Science-Direct, and a bibliographic search through the results. RESULTS: Epidemiological studies of Inuit childbirth are outdated, inconclusive, or inseparable from non-Inuit data. Anthropological studies indicate that evacuation for childbirth has deleterious social and cultural effects and that there is considerable support for traditional communal birthing in combination with biomedical techniques and technology. CONCLUSIONS: Investigation of alternative solutions to maintaining acceptable perinatal outcomes among the Inuit seems desirable. Epidemiological and comparative qualitative studies of perinatal outcomes across the Arctic are needed to reconcile the cultural desirability of communal birthing with claims of its medical feasibility.

ACHIEVEMENTS AND CHALLENGES ON POLICIES FOR ALLIED HEALTH PROFESSIONALS WHO USE TELEHEALTH IN THE CANADIAN ARCTIC.

Form of information: Hailey, D., Foerster, V., Nakagawa, B., Wapshall, T. M., Murtagh, J. A., Smitten, J., . . . Wong, G. (2005).

Project description: We formulated policies and procedures for allied health professionals (AHPs) who provide services using telehealth in Nunavut, Canada's newest Arctic territory. These are a supplement to the clinical policies and procedures already established for Nunavut physicians and nurses. The services were in the areas of audiology, dietetics/nutrition, midwifery, occupational therapy, ophthalmic services, pharmacy, physiotherapy, psychology, respiratory therapy, social work and speech therapy. Documents specific to each of the services were developed, drawing on information from Government of Nunavut data, Nunavut healthcare providers and links made through the Internet. Topics included the scope and limitations of telehealth services, staff responsibilities, training and reporting, professional standards and cultural considerations. We also considered generic policies covering common issues such as jurisdiction, licensing and liability. The policies and procedures for AHPs will enhance and expand the successes already achieved with telehealth in Nunavut. The challenges are to balance the preferred approaches to service provision with the realities of health care and communications in an Arctic setting.

BUILDING COMMUNITY INVOLVEMENT IN CROSS-CULTURAL INDIGENOUS HEALTH PROGRAMS

Form of information: Hurst, S., & Nader, P. (2006). *International Journal for Quality in Health Care*, 18(4), 294-298.

Project description: Objectives. To gain preliminary knowledge about issues identified by Native health investigators who would encourage greater community involvement in Indigenous health programs and research in Canada, Pacific Rim, and the United States. Design. A pilot/feasibility study, August 2001-April 2002. Setting. Indigenous health agencies and institutions in New Zealand, Australia, Canada, and the United States. Participants. Thirty-six health professionals from rural and urban health centers participated, which resulted in 10 group and four individual interviews. Subjects included program managers, clinical physicians, and health researchers. Approximately 58% of the subjects self-identified as Indigenous. Results. Three overarching themes emerged from the interview data: (i) integration of cultural values of family and community into health provision; (ii) emphasis on health education and prevention programs for Indigenous youth; and (iii) indigenous recognition and self-determination in health delivery and research.

Conclusions. To improve and promote community involvement in primary health programs and services for Indigenous people involves a long-term social and political commitment to health protection on a national and an international level, as well as the understanding that research methodologies and health interventions must explicitly involve culturally appropriate values and behaviors that are implemented by Indigenous people.

BRIGHTER FUTURES AND HEALTHY COMMUNITIES INITIATIVES (FNIHB) SUMMARY REPORT. EVALUATED NOV 2003-DEC 2004

Form of information: http://www.hc-sc.gc.ca/fniah-spnia/pubs/promotion/_mental/2006-sum-rpt/index-eng.php

Project description: Summary report of the Brighter Futures and Healthy Communities Initiatives. The evaluation collected information on the kind of activities that are funded by Brighter Futures and Building Healthy Communities, and the results and impact of them. It looked at whether or not these activities support the achievement of the initiatives' objectives. This report includes information on:

- Brighter Futures and Building Healthy Communities initiatives;
- Goals and objectives of the evaluation;
- How the evaluation was done; and
- Findings and recommendations.

CANADIAN HOME CARE POLICY AND PRACTICE IN RURAL AND REMOTE SETTINGS: CHALLENGES AND SOLUTIONS.

Form of information: Forbes, D., & Edge, D. (2009). *Journal of Agromedicine*, 14(2), 119-124.

Project description: With the aging of the population, especially in Canadian rural areas, providing home care services will be particularly challenging as care is needed by increasingly vulnerable rural older adults in increasingly vulnerable rural settings with fewer services, supports, and caregivers. The purpose of this paper is to present examples of the federal (e.g., First Nations and Inuit Home and Community Care) and provincial (e.g., Ontario's Community Care Access Centres) home care policy context in which Canadian home care is provided, to identify the challenges faced by home care providers in meeting the needs of rural residents, and to offer solutions to these challenges. The most pressing challenges in aging rural settings are to ensure effective access to quality health care services and to address the shortage of home care providers, especially registered nurses. Provincial and federal home care models would be enhanced by an integrative model of continuing care and a national home care framework that would address the broader funding and human resource issues. Other uniquely rural recruitment and retention strategies are suggested such as maximizing the "fit" between the home care provider's attributes and the needs and expectations of the rural community.

Sufficient public funding and resources for rural and remote home care programs are needed to develop and implement (1) the expanded role of case managers; (2) health care teams that include both professionals and paraprofessionals; (3) standardized assessment tools and reporting systems; (4) innovative use and training in the use of technology; and (5) partnerships that optimize resources and build support networks for rural home care providers, clients, and family and friend caregivers.

CANCER-RELATED HEALTH BEHAVIOURS AND HEALTH SERVICE USE AMONG INUIT AND OTHER RESIDENTS OF CANADA'S NORTH.

Form of information: McDonald, J. T., & Trenholm, R. (2010). *Social Science and Medicine*, 70(9), 1396-1403.

Project description: This article identifies the extent to which demographic, socio-economic and geographic factors account for differences between Inuit and other Northern Canadian residents in health-related behaviours and health service use related to cancer incidence and diagnosis. The study population includes Inuit, Métis, First Nation and non-Aboriginal residents aged 21-65 who live in Nunavut, Northwest Territories, Labrador, Nunavik and Jamésie in northern Quebec, and the northern regions of Saskatchewan and Manitoba. Data are drawn from confidential versions of the 2000-2001 and 2004-2005 Canadian Community Health Surveys and the 2001 Aboriginal People's Survey produced by Statistics Canada. Multivariate Logistic regression analysis is applied to a set of health-related behaviours including cigarette smoking, binge drinking and obesity, and a set of basic health service use measures including consultation with a physician, consultation with a nurse, Pap smear testing and mammography. We found that significantly higher smoking and binge drinking rates and lower rates of female cancer screening among Inuit are found not to be accounted for by differences in observable demographic and socio-economic characteristics, location of residence or distance from a hospital. As such we conclude that health-related behaviours leading to increased cancer risk and to a lower utilization of diagnostic cancer screening appear to be due to unobserved factors specific to Inuit and their unique social-cultural context. Policy interventions to address these problems may need to be targeted specifically to Inuit Canadians and should not be considered in isolation of their broader health, economic and social environment.

CARDIOVASCULAR HEALTH IN INDIGENOUS COMMUNITIES: SUCCESSFUL PROGRAMS.

Form of information: Huffman, M. D., & Galloway, J. M. (2010). *Heart Lung and Circulation*, 19(5-6), 351-360.

Project description: Background: Indigenous people across the globe have generally had suboptimal access to quality medical care and effective prevention programs. The available programs that existed have generally been poorly funded and have primarily focussed on infectious diseases. More recent trends denoting significant rising morbidity and mortality of chronic diseases have brought some limited medical focus on cardiovascular diseases, their risk factors and their prevention. However, there is a growing body of evidence-published and unpublished-of developed and developing successful programs to provide culturally appropriate and sensitive treatment for cardiovascular diseases and prevention. Within this report, we aim to describe some of these programs in order to understand common approaches and links that make them successful. Once this survey is completed, a template for successful CVD programs can be created for the development of future programs.

Methods: We used several methods to gather information about successful Indigenous CVD programs: Pub Med search (keywords: Indigenous, native, First Nation, Aboriginal, cardiovascular, cardiac, etc.), online searches of government-based health programs (World Health Organization, Centers for Disease Control, etc.) and non-government health programs (World Heart Federation, Bill & Melinda Gates Foundation, etc.), and, importantly, personal communication with multiple thought leaders and program directors in the field of international CVD treatment and prevention.

Results: Programs can be divided into: (1) epidemiologic programs, which focus on data collection, (2) focussed prevention programs and population approach to CVD prevention, and (3) clinical prevention and intervention programs. Discussion: Common themes that define successful Indigenous CVD programs include: dedicated focus on the Indigenous population, widespread community involvement within the Indigenous population, often through the use of Indigenous community health workers, a focus on high-risk individuals within the population and regularly scheduled contact between the program and participants. We recommend that these themes are incorporated during development of future CVD programs for Indigenous people.

COMMUNITY BASED PHYSIOTHERAPY SERVICES IN THE KIVALLIQ REGION OF NUNAVUT, CANADA.

Form of information: Article. Achtemichuk, M., McKenzie, B., Fricke, M., Cooper, J., Macaulay, A., & Durcan, A. (2004). Community based physiotherapy services in the Kivalliq region of Nunavut, Canada. *International Journal of Circumpolar Health*, 63 Suppl 2, 98-100.

Project description: OBJECTIVES: Community based physiotherapy services are an integral component of the recent implementation of a medical rehabilitation program in the Kivalliq Region of Nunavut. Since the year 2000, the Inuit people of Canada's central Arctic have had direct access to physiotherapy in their home communities. STUDY DESIGN: A quantitative review of physiotherapy services from January 1, 2001 to December 31, 2002. METHODS: Workload measurement data gathered by the physiotherapists in the field will be utilized to present information on referral sources, location of services provided, client diagnoses and average duration of treatment provided. Administrative data will provide information on staffing complements and challenges to date. The need for physiotherapy referrals out of the Kivalliq Region will be reviewed.

RESULTS: Referral sources to physiotherapy services are varied, the majority of diagnoses are musculoskeletal in nature, followed by neurological and cardiovascular. Recruitment of the physiotherapy positions has been successful to date. Referrals out of the region for physiotherapy services have been rare since community based services have begun. CONCLUSIONS: Access to physiotherapy services by the residents of the Kivalliq Region has been significantly enhanced since the implementation of the medical rehabilitation program.

COMMUNITY PSYCHIATRY IN THE CANADIAN ARCTIC - REFLECTIONS FROM A 1-YEAR CONTINUOUS CONSULTATION SERIES IN IQALUIT, NUNAVUT.

Form of information: Law, S. F., & Hutton, E. M. (2007). *Canadian Journal of Community Mental Health*, 26(2), 123-140.

Project description: This study examined the clinical and social characteristics of clients (N = 110) in a retrospective chart review from a 1-year continuous psychiatric consultation series in the Inuit community of Iqaluit, Nunavut. Interpersonal and socio-environmental stressors were found to be unusually extensive and the primary precipitators of psychiatric crises such as suicide attempts. Negative health determinants such as unemployment, overcrowding, domestic violence, substance abuse, and legal charges were also prevalent. Psychiatric issues in the Arctic appear deeply interwoven with interpersonal, socioeconomic, and societal changes; effective community mental health services must address a broad spectrum of psychosocial issues beyond the medical model.

CULTURAL AWARENESS OF INUIT PATIENTS' EXPERIENCES WITH EMERGENCY NURSING CARE

Form of information: Arnaert, A., & Schaack, G. (2006). *Accident and Emergency Nursing*, 14(2), 97-103. **Project description:** Around 1500 Inuit patients fly annually from Nunavik to hospital centres in Montreal. This is a tense experience for many Inuit, due to cultural differences, and task-driven nursing practices often inadequately meeting their holistic health beliefs. In this qualitative study, we explored the experiences of Inuit patients with emergency nursing (EN) in the McGill University Health Centre, to inform on the best holistic nursing practices to meet culturally specific needs. Data analysis from semi-structured interviews with four participants generated a single theme: "rationalizing the care". While staying in the emergency department (ED), Inuit patients progressed through three steps in this rationalization process: first impressions of EN, perceiving the realities of EN, and appreciating EN care. "Being away from home" emerged as a stressor, and "other Inuit support", acted as a mediator. The participants in this study felt they had been shown culturally sensitive treatment through being kept informed, and skills of the nurses. As instruments of healing, therefore, the nurses in this study were able to apply a holistic approach to provide culturally sensitive care. Participants also highlighted speaking the same language and having direct access to an interpreter as key to improving ED experiences.

DESIGN AND IMPLEMENTATION OF A DENTAL CARIES PREVENTION TRIAL IN REMOTE CANADIAN ABORIGINAL COMMUNITIES.

Form of information: Article. Harrison, R., Veronneau, J., & Leroux, B. (2010). [Trials](#). 2010 May 13;11:54. **Project description:** Background: The goal of this cluster randomized trial is to test the effectiveness of a counseling approach, Motivational Interviewing, to control dental caries in young Aboriginal children. Motivational Interviewing, a client-centred, directive counseling style, has not yet been evaluated as an approach for promotion of behaviour change in indigenous communities in remote settings. Methods/design: Aboriginal women were hired from the 9 communities to recruit expectant and new mothers to the trial, administer questionnaires and deliver the counseling to mothers in the test communities. The goal is for mothers to receive the intervention during pregnancy and at their child's immunization visits. Data on children's dental health status and family dental health practices will be collected when children are 30-months of age. The communities were randomly allocated to test or control group by a random "draw" over community radio. Sample size and power were determined based on an anticipated 20% reduction in caries prevalence. Randomization checks were conducted between groups. Discussion: In the 5 test and 4 control communities, 272 of the original target sample size of 309 mothers have been recruited over a two-and-a-half year period. A power calculation using the actual attained sample size showed power to be 79% to detect a treatment effect. If an attrition fraction of 4% per year is maintained, power will remain at 80%. Power will still be >90% to detect a 25% reduction in caries prevalence. The distribution of most baseline variables was similar for the two randomized groups of mothers. However, despite the random assignment of communities to treatment conditions, group differences exist for stage of pregnancy and prior tooth extractions in the family. Because of the group imbalances on certain variables, control of baseline variables will be done in the analyses of treatment effects. This paper explains the challenges of conducting randomized trials in remote settings, the importance of thorough community collaboration, and also illustrates the likelihood

that some baseline variables that may be clinically important will be unevenly split in group-randomized trials when the number of groups is small.

EARLY CHILDHOOD CARIES IN INDIGENOUS COMMUNITIES.

Form of information: American Academy of Pediatrics, Committee on Native American Child Health, *Pediatrics*, 127(6), 1190-1198.

Project description: The oral health of Indigenous children of Canada (First Nations, Inuit, and Métis) and the United States (American Indian, Alaska Native) is a major child health issue: there is a high prevalence of early childhood caries (ECC) and resulting adverse health effects in this community, as well as high rates and costs of restorative and surgical treatments under general anesthesia. ECC is an infectious disease that is influenced by multiple factors, including socioeconomic determinants, and requires a combination of approaches for improvement. This statement includes recommendations for preventive oral health and clinical care for young infants and pregnant women by primary health care providers, community-based health-promotion initiatives, oral health workforce and access issues, and advocacy for community water fluoridation and fluoride-varnish program access. Further community-based research on the epidemiology, prevention, management, and microbiology of ECC in Indigenous communities would be beneficial.

HEALTH CARE IN CRISIS: UNDERSTANDING NURSING TURNOVER IN NORTHERN CANADA

Form of information: Canitz, B. (1991). *Medical Research, Suppl*, 177-180.

Project description: For decades nurses have provided 24 hour comprehensive health care in isolated communities of Canada. As the only health care personnel in most communities of the north, nurses must meet all health care needs ranging from veterinary assistance to health education, emergency care to mental health counselling. This paper will focus on the structural and psychosocial factors affecting isolated post workers. Considering the intense nature of professional responsibility in these isolated settings, it is not surprising that there is frequent turnover of nurses. The constant change in staff results in poor community and staff morale, limited success of programs and increased expenditures for government due to the high costs of additional relief staff, travel, and orientation. Utilizing a mailed survey (N = 55) and on-site interviews (N = 17) collected in two regions of northern Canada, this paper will outline key issues which produce nursing dissatisfaction and ultimately decrease the effectiveness of health care programs. The paper will conclude with suggestions to increase nursing satisfaction and ultimately improve the provision of health care in northern areas. Native health care is in crisis. Health status indicators such as infant mortality and life expectancy lag far behind national statistics. Death due to accidents and violence are almost six times the Canadian rate. Incidence of suicide is three times the national statistics (1-6). The rate of nursing staff turnover in northern communities is high, and most nurses stay less than 2 years in the north (7,8). Native health demands are increasing and it is becoming more difficult for find nurses to provide health care service.

GUIDING HEALTH PROMOTION EFFORTS WITH URBAN INUIT: A COMMUNITY-SPECIFIC PERSPECTIVE ON HEALTH INFORMATION SOURCES AND DISSEMINATION STRATEGIES

Form of information: McShane, K. E., Smylie, J. K., Hastings, P. D., Martin, C. M., Siedule, C., Kigutaq, E., . . . Shappa, K. (2006). *Canadian Journal of Public Health*, 97(4), 296-299.

Project description: Objective: To develop a community-specific perspective of health information sources and dissemination strategies of urban Inuit to better guide health promotion efforts. Methods: Through a collaborative partnership with the Tungasuvvingat Inuit Family Resource Centre, a series of key informant interviews and focus groups were conducted to gather information on specific sources of health information, strategies of health information dissemination, and overall themes in health information processes.

Findings: Distinct patterns of health information sources and dissemination strategies emerged from the data. Major themes included: the importance of visual learning, community Elders, and cultural interpreters; community cohesion; and the Inuit and non-Inuit distinction. The core sources of health information are family members and sources from within the Inuit community. The principal dissemination strategy for health information was direct communication, either through one-on-one interactions or in groups.

Conclusion: This community-specific perspective of health information sources and dissemination strategies shows substantial differences from current mainstream models of health promotion and knowledge translation. Health promotion efforts need to acknowledge the distinct health information processes of this community, and should strive to integrate existing health information sources and strategies of dissemination with those of the community.

INTEGRATING TELEHEALTH INTO ABORIGINAL HEALTHCARE: THE CANADIAN EXPERIENCE.

Form of information: Muttitt, S., Vigneault, R., & Loewen, L. (2004). *International Journal of Circumpolar Health*, 63(4), 401-414.

Project description: Telehealth, the use of information communication technologies to deliver health care over distance, has been identified as a key mechanism for improving access to health services internationally. Canada is well suited to realize the benefits of telehealth particularly for individuals in remote, rural and isolated locations, many of whom are of Aboriginal descent. The health status of Canada's Aboriginal population is generally lower than that of the non-Aboriginal population emphasizing the need for new health care solutions.

The challenges associated with implementing telehealth are not unique to Aboriginal settings but, in many instances, are more pronounced as a result of cultural, political and jurisdictional issues. These challenges are not insurmountable however, and there have been a number of successes in Canada to serve as a blueprint for a national strategy for sustainable Aboriginal telehealth.

This review will highlight challenges and successes related to telehealth implementation in Canadian Aboriginal communities including: geography, technical infrastructure, human resources, cross-jurisdictional services, and community readiness. The need for champions within government, community and health care settings and the use of a needs-driven and integrated approach to implementation are highlighted. Several Canadian examples are provided including lessons learned within the MB Telehealth Network.

MEETING THE NEEDS OF NUNAVUT FAMILIES: A COMMUNITY-BASED MIDWIFERY EDUCATION PROGRAM

Form of information: James, S., O'Brien, B., Bourret, K., Kango, N., Gafvels, K., & Paradis-Pastori, J. (2010). *Rural and Remote Health*, 10(2), 1355.

Project description: CONTEXT: Pregnant Nunavut women are usually expected to relocate to distant and

larger urban centres, often for several weeks, to give birth. A national study revealed that these women are less likely to have necessary information on pregnancy related topics and less satisfied with their maternity experiences. While prenatal and postpartum care can be accessed through nursing stations, opportunities for intrapartum care within Nunavut are limited to the hospital in Iqaluit or the birthing centre in Rankin Inlet. ISSUES: One strategy that may help ameliorate these regional differences is increasing the integration of midwifery services. Many historical and political factors have contributed to the loss of traditional maternity care among the Inuit of Nunavut. A unique, multi-layered midwifery education program, with a range of exit points from maternity care worker to baccalaureate degree, was implemented by a partnership between the Government of Nunavut and Nunavut Arctic College (NAC). Creative approaches were invoked to develop a program that is both culturally safe and ensures that graduates at midwifery diploma level are eligible to write the Canadian Midwifery Regulatory Exam (CMRE). The loss of traditional midwifery and the very dispersed population created challenges with respect to development of appropriate clinical learning sites where students can learn midwifery from midwives. Because NAC does not grant degrees, a collaborative partnership with Laurentian University is underway to meet the needs of those midwifery students who wish to complete a degree. LESSONS LEARNED: Midwifery has a bright future in Nunavut. Two students have already passed CMREs on their first attempt. Plans are in place to enroll a class in Cambridge Bay in the fall of 2010. One NAC student is enrolled in courses at Laurentian University and should complete the third year of that program in 2010.

IDENTIFYING THE NEEDS OF INNU AND INUIT PATIENTS IN URBAN HEALTH SETTINGS IN NEWFOUNDLAND AND LABRADOR.

Form of information: Hanrahan, M. C. (2002). *Canadian Journal of Public Health*, 93(2), 149-152.

Project description: Background: Labrador's Innu and Inuit live in nine small, isolated villages, and must travel to the urban centres of Goose Bay, Labrador and/or St. John's, Newfoundland for most health services. This study responds to anecdotal evidence of Aboriginal dissatisfaction with these services from the St. John's Native Friendship Centre Association (SjNFCA); it describes Aboriginal experiences and identifies relevant needs. Methods: The study consisted of qualitative interviews (N=143), conducted by trained local researchers, and nine focus groups. The interviews were narrative-based, appropriate to the Aboriginal culture of participants. Participants were recruited from the client list of the SjNFCA.

Findings: Almost all study participants experience significant difficulties including profound disorientation, language and communication difficulties, inadequate accommodations, and altered diets. Cross-cultural relations are particularly problematic for the Innu. Conclusions: These findings, and 19 recommendations made to the provincial government (8 main recommendations appear in Table II), could lead to improved services for Innu and Inuit using urban health services. Workshops in development could mean more awareness among health care practitioners.

THE OUTCOME OF PERINATAL CARE IN INUKJUAK, NUNAVIK, CANADA 1998-2002.

Form of information: Houd, S., Qinuajuak, J., & Epoo, B. (2004). *International Journal of Circumpolar Health*, 63 Suppl 2, 239-241

Project description: INTRODUCTION: From the 1950s women in Nunavik were transferred to South Quebec to give birth. Since 1986 women have had the opportunity to give birth in Povungnituk, Nunavik, and the education of community midwives began. Inukjuak, a small community in Nunavik, was included in the project in 1998. There is no possibility for caesarean section or transfer during birth, in any of the places. Women can be transferred in pregnancy or post partum to the small hospital in Povungnituk or to a specialist obstetrical unit in Montreal. STUDY DESIGN: A 5-year retrospective survey of the perinatal care in Inukjuak. METHOD: Data were collected from 1. Birth registrations. 2. Antenatal records in Inukjuak. 3. Records and follow-up of medical evacuations to either Povungnituk or Montreal.

RESULTS: Of the 182 women from Inukjuak who gave birth, 72.5% of the women gave birth in their own community. 4.5% women or/and newborn was evacuated for reasons related to birth. The rate of premature birth is 3.3% of all pregnant women from Inukjuak. The PMR is 0.5% of all babies born by women from Inukjuak and 0.7% of all babies born in Inukjuak. CONCLUSION: Three out of four women can stay in Inukjuak and give birth with a PMR of 0.7%

PORTRAIT OF OUTPATIENT VISITS AND HOSPITALIZATIONS FOR ACUTE INFECTIONS IN NUNAVIK PRESCHOOL CHILDREN.

Form of information: Dallaire, F., Dewailly, E., Vézina, C., Bruneau, S., & Ayotte, P. (2006). *Canadian Journal of Public Health*, 97(5), 362-368.

Project description: Objective: Inuit children from around the world are burdened by a high rate of infectious diseases. The objective of this study was to evaluate the incidence rate of infections in Inuit preschool children from Nunavik (Northern Québec). Methods: The medical chart of 354 children from a previously recruited cohort was reviewed for the first five years of life. All outpatient visits that led to a diagnosis of acute infection and all admissions for acute infections were recorded.

Results: Rates of outpatient visits for acute otitis media (AOM) were 2314, 2300, and 732 events/1000 child-years for children 0-11 months, 12-23 months, and 2-4 years, respectively. Rates of outpatient visits for lower respiratory tract infections (LRTI) were 1385, 930, and 328 events/1000 child-years, respectively. Rates of hospitalization for pneumonia were 198, 119, and 31 events/1000 child-years, respectively. Conclusion: Inuit children from Nunavik have high rates of AOM and LRTI. Such rates were higher than that of other non-native North-American populations previously published. Admission for LRTI is up to 10 times more frequent in Nunavik compared to other Canadian populations.

A POLITICAL ECONOMIC HISTORY OF MEDICAL AND DENTAL CARE IN NUNAVUT

Form of information: Article. Quiñonez, C. R. (2006). A political economic history of medical and dental care in Nunavut, Canada. *International Journal of Circumpolar Health*, 65(2), 101-116.

Project description:

OBJECTIVES: To describe the historical development of medical and dental care in the territory of Nunavut, Canada.

STUDY DESIGN: Ethnographic case study using political economy as a mode of explanation.

METHODS: Participant observations, document reviews and stakeholder interviews, conducted over a four-year period.

RESULTS: There is a clear and now long-term movement from state and professionally controlled health care delivery to Indigenous control over care.

CONCLUSIONS: Indigenous groups increasingly hold control over health care delivery through a complex form of management that straddles both public and private organisational spheres.

CLINICAL AND ECONOMIC EFFECTS OF A THERAPEUTIC SUBSTITUTION POLICY FOR PROTON PUMP INHIBITORS IN ABORIGINAL PATIENTS IN NORTHERN COMMUNITIES IN CANADA'S NORTHWEST TERRITORIES.

Form of information: Gaebel, K., Toeg, N., & Levine, M. (2008). *Disease Management and Health Outcomes*, 16(3), 175-182.

Project description: Background and objective: Proton pump inhibitors (PPIs), which are used to treat gastroesophageal symptoms, can vary in price, but are thought not to differ in clinical benefits. Health Canada's Non-Insured Health Benefits Program instituted a therapeutic substitution policy for PPIs as a cost-containment strategy in 2005. The objective of this pilot study was to identify signals of what might be occurring as a result of this policy in Aboriginal people in northern, isolated communities. Methods: Five pharmacies in the Northwest Territories identified a sample of patients who were affected by the substitution policy. Eligible patients who provided informed consent had a face-to-face or telephone interview with a pharmacist using a standardized questionnaire. Results: Of 66 identified patients, 44 consented to be interviewed, and 40 were used in the analyses: 70% were female and the mean age of the patients for whom data were analyzed was 57 years. Thirty-four (85%) patients reported health problems after the switch in PPI. Nineteen (48%) patients visited a local nursing station or physician and six (15%) visited a hospital for assessment because of perceived health problems following the switch in PPI. During the initial 15 months of the therapeutic substitution policy, there was a net increment in drug costs of \$Can30.96 (year 2006 values) per person due to drug wastage, delayed switching to the policy PPI, and switching back to the patient's original PPI. A conservative estimate of the additional healthcare service costs related to health problems perceived to be due to the switch was \$Can36 624.41 for the 40 patients. Conclusions: The majority of the sampled patients who took part in the PPI therapeutic substitution policy experienced problems following the PPI switch that were possibly associated with either diminished treatment efficacy or adverse drug effects. Although causality was not proven, patient perceptions in this sample did influence resource use, resulting in no net savings (average incremental cost of \$Can915.61 per patient) during the first 15 months of the policy. © 2008 Adis Data Information BV. All rights reserved.

Qualitative information: Yes: no net savings of program/policy

DISTANCE EDUCATION FOR INUIT SMOKING COUNSELLORS IN CANADA: A CASE REPORT.

Form of information: Hammond, M., Rennie, C., & Dickson, J. (2007). *International Journal of Circumpolar Health*, 66(4), 284-286.

Project description: OBJECTIVES: To describe a pilot program to implement and evaluate a part-time, community-based distance education course for Inuit smoking counsellors in Canada. STUDY DESIGN: Case report. METHODS: The distance education course used mailed resources, e-mail correspondence, conference calls and individual telephone calls. Evaluation of participant satisfaction at the end of the pilot program used e-mail questionnaires.

RESULTS: Seventeen out of 21 (81%) students successfully graduated. Fourteen of 16 respondents would recommend the course, and all 16 respondents reported that they were ready to conduct both individual and group counselling for smokers who want to quit. Both learners and their supervisors reported very high levels of satisfaction with the course.

CONCLUSIONS: Using distance education with adult Inuit learners worked very well. The very high completion rate achieved in this pilot program proves that there is great potential for the use of culturally affirming, structured yet flexible, learner-supportive approaches to training and capacity development in the Arctic where distances are so vast, travel costs are prohibitive and extreme weather often prevents people from attending face-to-face workshops.

DEVELOPMENT OF A PHYSIOTHERAPY PRIORITIZATION TOOL IN THE BAFFIN REGION OF NUNAVUT: A REMOTE, UNDER-SERVICED AREA IN THE CANADIAN ARCTIC.

Form of information: Miller Mifflin, T., & Bzdell, M. (2010). *Rural and Remote Health*, 10(2), 1466.

Project description: **CONTEXT:** This article describes the development and evaluation of a tool to prioritize physiotherapy referrals in a remote, under-serviced region in Canada's eastern Arctic. The Baffin Region of Nunavut is home to approximately 16 000 people dispersed across 12 communities accessible only by air. Physiotherapists are based out of the capital city, but provide services to clients throughout the region. Physiotherapists in the Baffin Region are generalists, treating clients from across the lifespan and from all practice areas. The region is under-serviced with regard to physiotherapy, and long waitlists for service are maintained. No previous physiotherapy prioritization tool existed to manage the diverse caseload. **ISSUE:** Physiotherapists were dissatisfied with perceived inequities in service delivery among the different communities in the region, and between client types. In response, a tool was created to prioritize physiotherapy referrals based on urgency and need, regardless of client location. The prioritization tool was developed by combining the authors' knowledge of the distinct and unique characteristics of the Baffin Region with background research. Three methods were used to collect background information: (1) a literature search; (2) a review of prioritization policies from other regions; and (3) interviews with physiotherapists working in similar remote areas in Canada. From the background research, common characteristics in prioritizing physiotherapy referrals as 'high priority' emerged. These were combined with the identified characteristics of the Baffin Region to create a tool that could prioritize physiotherapy referrals from multiple client types. The prioritization tool was then implemented and evaluated over a four-month period.

LESSONS LEARNED: Following the implementation of the prioritization tool, a greater percentage of scheduled physiotherapy appointments were devoted to high priority groups, and there was a greater amount of service delivered to clients from the remote communities. Physiotherapists subjectively reported improved job satisfaction knowing that clients over the entire region were being assessed in order of priority, and decreased job stress as a result of reduced therapist time spent triaging referrals. Unanticipated outcomes from using the prioritization tool included subjectively reported improved communication with other health professionals, and changes in physiotherapy service delivery methods in the Baffin Region. Using the prioritization tool prompted increased client travel to the capital city for urgent physiotherapy appointments, increased use of videoconferencing for follow-up physiotherapy appointments, and increased use of a consultative model to deliver physiotherapy services. The tool could be adapted for use by other rural or remote physiotherapists working with multiple client populations in under-serviced areas. The Baffin Region Physiotherapy Prioritization Tool provides an

objective method for making triage decisions, and has improved the equity with which physiotherapy services are delivered across the region.

A REPORT ON BEST PRACTICES FOR RETURNING BIRTH TO RURAL AND REMOTE ABORIGINAL COMMUNITIES.

Form of information: Article. Couchie, C., & Sanderson, S. (2007). A report on best practices for returning birth to rural and remote aboriginal communities. *Journal of Obstetrics and Gynaecology Canada : JOGC = Journal d'Obstétrique Et Gynécologie Du Canada : JOGC*, 29(3), 250-260.

Project description: BACKGROUND: During the last four decades, policies and practices based on modern obstetrical techniques and knowledge have replaced traditional practices in many rural and remote Aboriginal communities. As most of these communities do not have obstetrical facilities or staff, women often have to leave their communities to give birth. OBJECTIVE: To review policies currently in place in Aboriginal communities that recommend evacuation of all pregnant women at 36 to 37 weeks' gestation to deliver in a Level 2 hospital. OPTIONS: Allowing Aboriginal women, their families, and their communities to decide whether it is safe and practical for women to deliver close to home. OUTCOMES: Increased opportunities for Aboriginal women in remote and rural communities to deliver within their own communities or closer to home in a familiar environment.

EVIDENCE: PubMed was searched for articles on subjects related to birth in Aboriginal communities, birth in rural and remote communities, and midwifery in Aboriginal and remote communities. The web sites and libraries of the National Aboriginal Health Organization, The First Nations and Inuit Health Branch, and Health Canada were also searched for relevant documents. In addition, the authors visited three communities that have trained local midwives and that support deliveries within the community to observe and participate in their programs.

BENEFITS: It is hoped that improved communication between health institutions and remote and rural communities and changes in policies and procedures concerning the care of pregnant women in these communities will contribute to reductions in perinatal morbidity and mortality. SPONSORS: First Nations and Inuit Health Branch (FNIHB), Health Canada.

RECOMMENDATIONS: 1. Physicians, nurses, hospital administrators, and funding agencies (both government and non-government) should ensure that they are well informed about the health needs of First Nations, Inuit, and Métis people and the broader determinants of health. 2. Aboriginal communities and health institutions must work together to change existing maternity programs. 3. Plans for maternal and child health care in Aboriginal communities should include a "healing map" that outlines the determinants of health. 4. Midwifery care and midwifery training should be an integral part of changes in maternity care for rural and remote Aboriginal communities. 5. Protocols for emergency and non-emergency clinical care in Aboriginal communities should be developed in conjunction with midwifery programs in those communities. 6. Midwives working in rural and remote communities should be seen as primary caregivers for all pregnant women in the community.

SURVEY ON ABORIGINAL ISSUES WITHIN CANADIAN MEDICAL PROGRAMMES

Form of information: Article: **Medical Education**, [Volume 39, Issue 11](#), pages 1101–1109, November 2005

PROJECT DESCRIPTION: INTRODUCTION: Medical programmes across Canada recognise the increased need for Aboriginal doctors. This study aimed to determine Canadian medical programmes'

commitment towards Aboriginal health issues, recruitment, admission policies, educational opportunities and support offered to Aboriginal medical undergraduate students. **METHODS:** Medical school websites were initially reviewed to identify recruitment initiatives, admission policies and curriculum activities related to Aboriginal health. A questionnaire was sent to each dean of medicine to collect additional data on the programmes' recruitment strategies, admission policies, educational opportunities and the type of support offered to Aboriginal medical students.

RESULTS: Sixteen medical programmes completed the questionnaire (return rate = 100%). There were 56 Aboriginal medical students enrolled across these medical programmes. More than 75% of students were completing their training in a western province. Over half of the medical programmes had recruitment initiatives and admission policies specific to Aboriginal applicants and the majority reported that their programmes' curricula included learning objectives specific to Aboriginal health. Most offered lectures and training opportunities to medical students and few offered core curriculum activities focusing on Aboriginal health. **DISCUSSION:** This descriptive paper offers a snapshot of initiatives across medical programmes aimed at increasing the number of Aboriginal applicants and medical students and at supporting their journeys towards the attainment of medical degrees. More research is needed to evaluate these initiatives' effectiveness. The results of such studies would not only provide needed information aimed at meeting the specific health needs of Aboriginal people, but may also contribute towards the laying of a framework to help narrow the gaps that exist within health care delivery to other minority groups.

THE NORTH-SOUTH GRADIENT IN HEALTH: ANALYTIC APPLICATIONS FOR PUBLIC HEALTH

Form of information: Veugelers, P. J., Yip, A. M., & Mo, D. (2001). *Canadian Journal of Public Health*, 92(2), 95-98.

Project description: Health in the northern territories does not reach that of national standards. Investigations in these areas are hampered by small population size, which limits both the identification of local health problems as well as the planning and prioritizing of prevention and interventions. We report on health deficiencies of the northern territories and illustrate how our analytic applications supplement traditional approaches to benefit public health objectives. We reveal that life expectancy in Northern Canada has increased such that health deficiencies between the North and South have decreased substantially, although they still persist at a high level. The current health status of Northwest Territories residents approximates that of Canadians 15 to 25 years ago. In addition, while chronic diseases were previously less of a concern for Northwest Territories residents, they show increasing trends in importance. This is of particular significance in light of an aging population in the northern territories.

UNDERSTANDING AND IMPROVING ABORIGINAL MATERNAL CHILD HEALTH IN CANADA

Form of information: Report on Website: http://www.healthcouncilcanada.ca/rpt_det.php

Project description: This commentary highlights the health inequities between Aboriginal and non-Aboriginal Canadians, and aims to create a better understanding of the programs and initiatives that have potential to reduce these inequities.

In January and February 2011, the Health Council held seven regional sessions across the country to learn which programs and practices are making a difference in the health of Aboriginal mothers and

young children. The report content was drawn from these sessions, where a large portion of the participants were front-line health care workers.

FOOD SECURITY

PROGRAMS

HEALTHY FOODS NORTH

Form of information: on AHRN website QAUJIGIARTIIT (AHRN-NU)

Spring 2009. Food Security in Nunavut: A Review of peer reviewed literature and programs 2010.

Project description:

Healthy Food North Is a research project, which began in 2005-2010 with community residents of Gjoa Haven, Taloyoak, Cambridge Bay.

The goal of the program was to understand what people are eating, to better understand people's values around food, where food is found, and how food is shared. Community involvement is a key component to this research.

Steps of the project included:

- Formative Research - in-depth interviews, 24 hour food recalls
- Community Workshops – outlining of intervention, foods to target
- Baseline Data Collection – food frequency questionnaire, adult impact questionnaire
- Material Development – focus groups, advisory boards
- Intervention – of 24 months for 6 to 8 week phases, done by local interventionists
- Post-Intervention Data Collection
- Results have and will continue to be presented to the community at each phase of the project
- Once complete, the study results will be submitted for publication

ADDRESSING THE PUBLIC HEALTH BURDEN CAUSED BY THE NUTRITION TRANSITION THROUGH THE HEALTHY FOODS NORTH NUTRITION AND LIFESTYLE INTERVENTION PROGRAMME.

Form of information: Article. Sharma, S., Gittelsohn, J., Rosol, R., & Beck, L. (2010). Addressing the public health burden caused by the nutrition transition through the healthy foods north nutrition and lifestyle intervention programme. *Journal of Human Nutrition and Dietetics*, 23(SUPPL. 1), 120-127.

Project description: Dietary inadequacies, low levels of physical activity, excessive energy intake and high obesity prevalence have placed Inuit and Inuvialuit populations of the Canadian Arctic at increased risk of chronic disease.

Qualitative information: An evidence-based, community participatory process was used to develop Healthy Foods North (HFN), a culturally appropriate nutrition and physical activity intervention programme that aimed to reduce risk of chronic disease and improve dietary adequacy amongst

Inuit/Inuvialuit in Nunavut and the Northwest Territories. HFN was implemented over the course of 12 months in a series of seven phases between October 2008 and 2009 (Nunavut) and June 2008 and 2009 (Northwest Territories). Combining behaviour change and environmental strategies to increase both the availability of healthful food choices in local shops and opportunities for increasing physical activity, HFN promoted the consumption of traditional foods and nutrient-dense and/or low energy shop-bought foods, utilisation of preparation methods that do not add fat content, decreased consumption of high-energy shop-bought foods, and increased physical activity.

Messages identified in the community workshops, such as the importance of family eating and sharing, were emphasised throughout the intervention. Intervention components were conducted by community staff and included working with shops to increase the stocking of healthy foods, point of purchase signage and promotion in shops and community settings, pedometer challenges in the workplace and use of community media (e.g. radio and cable television advertisements) to reinforce key messages.

HFN represents an innovative multilevel approach to the reduction of chronic disease risk factors amongst Inuit and Inuvialuit, based on strong collaboration with local agencies, government and institutions.

BACK TO THE FUTURE: USING TRADITIONAL FOOD AND KNOWLEDGE TO PROMOTE A HEALTHY FUTURE AMONG INUIT

Form of information: report. Chapter 1. Indigenous Peoples Food Systems. Harriet V. Kuhnlein, Bill Erasmus, Dina Spigelski. Centre for Indigenous Peoples' Nutrition and Environment (CINE)
http://www.cemi.org.co/images/PUBLICACIONES/FAO_foodsys_i0370e.pdf

Project description: The purpose of the Inuit community case study in Pangnirtung is to utilize traditional knowledge, Inuit story telling, and country food to promote the health and well-being of community members. The study highlights the importance of Inuit culture and country food and the integrity of the Arctic ecosystem for the promotion of Indigenous Peoples' health. The current report discusses two projects. The first was the Baffin component of a five-Inuit region dietary and traditional food-use survey, and the second project is the community health promotion project in which selected results of a baseline adult assessment are reported.

"DEVELOPING HEALTHY COMMUNITIES" A PUBLIC HEALTH STRATEGY FOR NUNAVUT 2008-2013

Form of information: report. website. Developed and published by the Government of Nunavut, Department of Health & Social Services
<http://www.hss.gov.nu.ca/PDF/Public%20Health%20Strategy%20-%20English%20final.pdf>

Project description:

The report outlines a vision for public health, setting two Priorities and eight Goals

• Specific to food security are Goals 2 and 3:

Goal 2: To Increase the Number of Children Achieving Age Appropriate Developmental Milestones

• Objective – By 2013, increase the number of children eating country foods – Country foods available in day cares and schools on a regular basis

Goal 3: To Improve Food Security for All Families Especially Families with Infants and Children

- Objective - By 2010, improve understanding of determinants of food insecurity in Nunavut through in depth analysis
- Objective – By 2013 reduce the number of pregnant women experiencing food insecurity
- Objective – Increase access to nutritious and acceptable food, both traditional and commercial (with a focus on pregnant women and children)
- Objective – Increase knowledge and skills regarding healthy foods, menu options and budgeting

FOOD BASED DIETARY GUIDELINES IN CANADA

Form of information: Report. International Journal of Circumpolar Health. Circumpolar Health Supplements (8) 2011. Page 22

Project description: (1) *Canada's Food Guide* is used by Canadians everywhere, including some of the population living in the northern regions such as Yukon, which does not have its own territorial FBDG, and in the NWT and Nunavut
(2) *Eating Well with Canada's Food Guide: First Nations, Inuit and Métis* is designed for use by Aboriginal communities. These guidelines have been adopted by regions such as Nunavik and by individual First Nations communities in the North
(3) *The Northwest Territories Food Guide* was designed in 1988 by the NWT Department of Health and Social Services for use within its jurisdiction. The NWT has a population that is approximately 50% non-Aboriginal, 9% Inuit and the remainder First Nations and Métis
(4) *The Nunavut Food Guide* was designed by the Nunavut Department of Health and Social Services for use within Nunavut, which has a population that is about 85% Inuit. The guide was revised in 2005 to incorporate new guidelines from Health Canada

FOOD INSECURITY AMONG INUIT PRESCHOOLERS: NUNAVUT INUIT CHILD HEALTH SURVEY

Form of information: Egeland, G. M., Pacey, A., Cao, Z., & Sobol, I. (2010). 2007-2008. *CMAJ*, 182(3), 243-248. Food insecurity among Inuit preschoolers: Nunavut Inuit child health survey

Project description: Background: Food security (i.e., a condition in which all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life) has been noted to be lower in indigenous communities in Canada. We investigated the prevalence of inadequate food security, or food insecurity, among Inuit households with preschool children.

A cross-sectional survey of the health status of 388 randomly selected Inuit children aged three to five years in 16 Nunavut communities during the period from 2007 to 2008. From the survey data, we classified levels of food insecurity specifically among children. We also classified levels of overall food insecurity of the household of each child. We calculated the weighted prevalence of levels of child food insecurity and of household food insecurity.

Nearly 70% of Inuit preschoolers resided in households rated as food insecure (69.6%; 95% confidence interval [CI] 64.7%-74.6%).

Overall, 31.0% of children were moderately food insecure, and 25.1% were severely food insecure, with a weighted prevalence of child food insecurity of 56.1% (95% CI 51.0%-61.3%).

Primary caregivers in households in which children were severely food insecure reported experiencing times in the past year when their children skipped meals (75.8%), went hungry (90.4%) or did not eat for a whole day (60.1%).

Primary caregivers in households in which children were moderately food insecure reported experiencing times in the past year when they worried food would run out (85.1%), when they fed their children less expensive food (95.1%) and when their children did not eat enough because there was no money for food (64.3%).

Interpretation: A high prevalence of household food insecurity, with a substantial proportion of children with severely food insecure status. Interventions are needed to ensure a healthy start in life for Inuit preschoolers.

FOOD MAIL PROGRAM/ NUTRITION NORTH CANADA

Form of information: Website <http://www.ainc-inac.gc.ca/nth/fon/fm/index-eng.asp>
<http://nutritionnorthcanada.ca/index-eng.asp>

Project description: Food subsidy program

- Since 1986, the Government of Canada, Department of Indian Affairs and Northern Development (DIAND) collaborated with Canada Post Corporation to subsidize cost of shipping food to northern communities across Canada
- Goal of the program was to reduce the cost of nutritious perishable food and other essential items, to improve nutrition, health and well-being of Canadians living in isolated communities
- Uniform postage rate of \$0.80/kg shipping and \$0.75 per parcel
- Designated entry points for food are chosen by INAC
- Impact of Food Mail Program studied in Kugaaruk in 2001, in Repulse Bay in 1992 and 1997 and in Pond Inlet in 1992 and 1997
- Current review held in fall of 2008 with discussion around the need for monitoring of the program, alternate ways to distribute subsidy, accountability, location of entry points, multi-year funding

This program is now renamed Nutrition North Canada and the department is now called Aboriginal Affairs and Northern Development Canada (AANDC) and has replaced the Food Mail Program effective April 1, 2011. The objective of the new program is to make nutritious, perishable foods accessible to Canadians living in isolated northern communities.

THE FOOD SECURITY REFERENCE GROUP (FSRG)

Form of information: on AHRN website. Food security in Nunavut: A review of peer reviewed literature and programs 2010. <http://www.qhrc.ca/apps/Docs/displayDocs.aspx>

Project description:

Established in 2005 with a purpose to bring together the federal government, Inuit Tapiriit Kanatami (ITK), the Assembly of First Nations (AFN) to share information, discuss strategies and opportunities, and plan collective actions for improving food security for Inuit and First Nations

- The group has met approximately twice a year since 2005

- The Food Security Reference Group has focused on defining the issue of food security (relating to Inuit and First Nations), filling knowledge gaps and building the evidence base for supporting, planning and decision making
- Nunavut Tunngavik Inc. (NTI) and Government of Nunavut (GN) are members from Nunavut.

HEALTHY LIVING IN NUNAVUT: AN ON-LINE NUTRITION COURSE

Form of information: Article. Hamilton, S., Martin, J., Guyot, M., Trifonopoulos, M., Caughey, A., & Chan, H. M. (2004). Healthy living in nunavut: An on-line nutrition course for Inuit communities in the canadian arctic. *International Journal of Circumpolar Health*, 63(3), 243-250.

Project description: OBJECTIVES: It is recognized that empowerment of Indigenous Peoples through training and education is a priority. The objective was to design a course that would provide an innovative training approach to targeted workers in remote communities and enhance learning related to the Nunavut Food Guide, traditional food and nutrition, and diabetes prevention.

STUDY DESIGN: A steering committee was established at the outset of the project with representation from McGill University and the Government of Nunavut (including nutritionists, community nurses and community health representatives (CHRs), as well as with members of the target audience. Course content and implementation, as well as recruitment of the target audience, were carried out with guidance from the steering committee.

METHODS: An 8-week long course was developed for delivery in January - March, 2004. Learning activities included presentation of the course content through stories, online self-assessment quizzes, time-independent online discussions and telephone-based discussions. Invitations were extended to all prenatal nutrition program workers, CHRs, CHR students, home-care workers, Aboriginal Diabetes Initiative workers and public health nurses in Nunavut.

RESULTS: Ninety-six health-care workers registered for Healthy Living in Nunavut, with 44 actively participating, 23 with less active participation and 29 who did not participate.

CONCLUSIONS: Despite having to overcome numerous technological, linguistic and cultural barriers, approximately 40% of registrants actively participated in the online nutrition course. The internet may be a useful medium for delivery of information to target audiences in the North.

THE INUIT COMMERCIAL CARIBOU HARVEST IN NUNAVUT

Form of information: Article. Aldene Meis Mason, Leo-Paul Dana, Robert Anderson. *International Journal of Entrepreneurship and Small Business* 2007 - Vol. 4, No.6 pp. 785 - 806

Project description: The commercial caribou harvesting and related agri-food processing industries in Nunavut have grown global since 1995. These industries have a significant impact on Nunavut's GDP, add key infrastructure, and foster self-reliance and employment for Inuit people in Rankin Inlet and Coral Harbour. The caribou hunt occurs once per year and is the largest in the world. This case focuses on Kivalliq Arctic Foods and Coral Harbour Development Corporation and the local harvesting and processing of Nunavut's caribou meat products. Kivalliq's caribou meat products are exported to clients in the USA as well as the European Union. Both Kivalliq's processing plant and Coral Harbour's portable

abattoir have received European Union Certification. The case discusses how the companies used quality assurance, aboriginal branding, e-commerce, and international trade shows to overcome barriers resulting from their northern isolation.

KNOWLEDGE SHARING PROJECT: EXPLORING FOOD SECURITY IN NUNAVUT

Form of information: website: <http://www.qhrc.ca/apps/Maps/dspList.aspx?ID=67>

Project description: Briefing on Food Security - translating evidence into policy and programs to address food insecurity in Nunavut. They plan to develop a briefing using the best practices identified in a review conducted in 2007-08 geared towards policy- and decision-makers.

This includes synthesis of health information on Food Security in Nunavut and the use of best practices to share knowledge between policy makers, communities and the research community.

This topic has been identified at the community and tri-territorial level as an important area requiring attention in Nunavut.

MONITORING FOOD SECURITY IN NUNATSIAVUT, LABRADOR.

Form of information: Article. Natcher, D. C., Felt, L., & Procter, A. (2009). Monitoring food security in Nunatsiavut, Labrador. *Plan Canada*, 49(2), 52-54.

Project description: This paper describes the research and monitoring program implemented by the Nunatsiavut Government to respond to mounting community concerns over food insecurity. Through the use of Inuit Domestic Harvest Levels (IDHL), or the amount of traditional foods and resources required to satisfy individual consumptive needs, the Nunatsiavut Government has put into place a process to effectively monitor changes in household food production (harvesting, sharing and consuming), implement informed and responsive food security policy, and ultimately mitigate future conditions of food insecurity in the Nunatsiavut region of northern Labrador.

THE DEVELOPMENT OF THE NAIN COMMUNITY FREEZER PROGRAM: ADDRESSING FOOD SECURITY IN NUNATSIAVUT

Form of information: Presentation. Chris Furgal, Trent University in cooperation with, and for the Nunatsiavut Government and Dalhousie University.

Project description: This document discusses the statistics of food insecurity in Nunatsiavut, role of community freezers, the current situation in Nain, who was involved in the project and the need for research and action.

Data was collected in Nain over a one month period in 2010 that included focus groups with harvesters and managers, interviews with residents who use the freezer, managers, and elder harvesters.

Observations of community freezer and harvesting activities (to help understand information gained during interviews) were also conducted.

A document review of community freezer programs in Northern Canada is yet to be completed.

NIKIGIJAVUT HOPEDALIMI, OUR FOOD IN HOPEDALE

Form of information: report. Food Security Network of Newfoundland and Labrador. April 2010.

Project description: Inuit communities across Canada continue to face challenges related to accessing adequate amounts of nutritional food. The high cost of nutritional foods, high cost of gas and hunting equipment, and limited awareness of healthy eating habits are some of the many factors contributing to this food security challenge. These factors can have significant negative impacts on Inuit health, family dynamics, and overall community well-being. *NiKigijavut Hopedalimi, which translates to "Our Food in Hopedale*. The purpose of the NiKigijavut Hopedalimi Project is to perform a community-led food security assessment in the Labrador coastal community of Hopedale in order to ultimately develop community-based solutions to community food security challenges.

SOCIO-ECONOMIC IMPLICATIONS OF NUNAVIK'S HUNTER SUPPORT PROGRAM.

Form of information: Article. Gombay, N. (2009). Sharing or commoditising? A discussion of some of the socio-economic implications of Nunivak's hunter support program. *Polar Record*, 45(2), 119-132.

Project description: The article considers the perceptions of Inuit in one settlement in Nunavik regarding the dynamic relations between market and subsistence economies. The socio-economic role of country foods in Inuit society are described followed by a discussion about the impacts of the Hunter Support Program (HSP) on Inuit society. A hybrid institution, the HSP buys country foods in order to give them away.

Based on interviews that included Inuit purveyors to, and administrators of, the programme, the article discusses some socio-economic effects of commoditisation of country foods on subsistence economies and explores the ways in which this food moves in and out of commodity status. It is argued that these shifts are linked to conflicting notions of value. Some Inuit justify the existence of the HSP because they perceive it to be an essentially non-Inuit institution which lies outside the realm of customary socio-economic organization and thereby frees them from the need to observe those rules strictly while providing them with the income to be able to respect the requirement to share food amongst Inuit. Others express reservations about the programme because it elicits behaviours amongst Inuit that they perceive as threatening their socio-economic reproduction. It is argued that the HSP, an institution that both mimics and breaks with tradition, one which is designed to help Inuit to promote the subsistence way of life yet does so in the context of at least some components of the market, is an example of Wenzel's (2001) contention that the analytical distinction between acculturation and adaptation is not a matter of oppositions, but rather, part of a whole.

THE COMMODITIZATION OF COUNTRY FOODS IN NUNAVIK

Form of information: Article. Gombay, N. (2005). The commoditization of country foods in Nunavik: A comparative assessment of its development, applications, and significance. *Arctic*, 58(2), 115-128.

Project description: The article presents the historical roots of development policy vis-à-vis Canadian Inuit as it relates to the commoditization of country foods in the Canadian North, with particular reference to Nunavik. Although Inuit place an emphasis on sharing country foods, they have developed various mechanisms that allow them to be sold. Such sales are complicated for a number of reasons.

Legislation at various levels of government either prohibits or severely restricts the commercial sale of country foods, particularly for an export market. Despite this, individual businesspeople, Makivik Corporation (the regional Inuit development agency), and the government-sponsored Hunter Support Program (HSP) have all, with varying degrees of success, started to commoditize country foods. The requirement to meet conservation measures and respect government processing standards has restricted the commercial development of these foods for export, which, in turn, has limited such development both by individuals and by Makivik Corporation. The HSP, which pays people to supply country foods that are then given away to beneficiaries under the James Bay and Northern Quebec Agreement, is the most accepted and successful form of commoditization. The reason for its success is twofold. First, regulations generally favour the development of a local market for country foods. Second, at an ethical level the HSP is tolerable to people because it both curbs the practice of selling country foods purely for individual self-interest and underscores sociality by replicating the Inuit tradition of sharing food with the community. Although Inuit are consumers of the commoditized country foods to some extent, the Inuit who produce those foods for sale insist that they do not sell them to other Inuit, but rather continue to share. They have made a teleological distinction between the sale of country foods to Inuit, which tradition inhibits, and the sale of country foods to institutions, which is acceptable. The latter removes country foods from the domestic sphere, thereby enabling Inuit to sell the foods without challenging the principle that they be shared.

STUDIES

ASSESSMENT OF DIETARY EXPOSURE TO TRACE METALS IN BAFFIN INUIT FOOD

Form of information: Article. Chan, H. M., Kim, C., Khoday, K., Receveur, O., & Kuhnlein, H. V. (1995). Assessment of dietary exposure to trace metals in Baffin Inuit food. *Environmental Health Perspectives*, 103(7-8), 740-746.

Project description: Chronic metal toxicity is a concern in the Canadian Arctic because of the findings of high metal levels in wildlife animals and the fact that traditional food constitutes a major component of the diet of indigenous peoples.

We examined exposure to trace metals' through traditional food resources for Inuit living in the community of Qikiqtarjuaq on Baffin Island in the eastern Arctic. Mercury, cadmium, and lead were determined in local food resources as normally prepared and eaten. Elevated concentrations of mercury ($>50 \mu\text{g}/100 \text{g}$) were found in ringed seal liver, narwhal mattak, beluga meat, and beluga mattak, and relatively high concentrations of cadmium and lead ($> 100 \mu\text{g}/100 \text{g}$) were found in ringed seal liver, mussels, and kelp. Quantified dietary recalls taken seasonally ally reflected normal consumption patterns of these food resources by adult men and women (> 20 years old) and children (3-12 years old). Based on traditional food consumption, the average daily intake levels of total mercury for both adults ($65 \mu\text{g}$ for women and $97 \mu\text{g}$ for men) and children ($38 \mu\text{g}$) were higher than the Canadian average value ($16 \mu\text{g}$). The average weekly intake of mercury for all age groups exceeded the intake guidelines ($5.0 \mu\text{g}/\text{kg}/\text{day}$) established by the Joint Food and Agriculture Organization/World Health Organization Expert Committee on Food Additives and Contaminants.

The primary foods that contributed to metal intake for the Baffin Inuit were ringed seal meat, caribou meat, and kelp. We review the superior nutritional benefits and potential health risks of traditional food items and implications for monitoring metal contents of food, clinical symptoms, and food use.

CONTRIBUTION OF SELECTED TRADITIONAL AND MARKET FOODS TO THE DIET OF NUNAVIK INUIT WOMEN.

Form of information: Article. Blanchet, C., Dewailly, É., Ayotte, P., Bruneau, S., Receveur, O., & Holub, B. J. (2000). *Canadian Journal of Dietetic Practice and Research*, 61(2), 50-59. Contribution of selected traditional and market foods to the diet of Nunavik Inuit women.

Project description: Food composition data were determined for food consumed by 226 Inuit women in Nunavik, estimating the relative contribution of traditional and market food for energy, protein, lipid, carbohydrate, vitamin A, vitamin D, iron, calcium, magnesium, phosphorus, selenium, zinc, and eicosapentaenoic and docosahexaenoic acids. Traditional Inuit food was an important source of protein, vitamin D, iron, selenium, and phosphorus, as well as the main source of eicosapentaenoic and docosahexaenoic acids.

The mean contribution of traditional and market food to energy and nutrients was analyzed according to age groups (18-39 and 40-74). Analysis of Inuit women's nutrient intake showed that the contribution of traditional food was greater in the older group than in the younger group, for whom the contribution of market food was greater. Market food contributed the most to Inuit women's energy intake, while 40% of the intake of several nutrients, including protein, vitamin D, iron, phosphorus, and zinc, was derived from traditional food. Inuit women had low vitamin A and calcium intakes. Traditional food had low calcium and vitamin A concentrations, and the Inuit infrequently consumed market food such as milk, dairy products, and yellow and green vegetables. Thus, even though the present study showed that traditional food was the major source of many nutrients in the Inuit diet, market food was also important for the nutritional status of this population, particularly young women. In promoting safe nutritional habits among the Inuit, dietitians must help them maintain traditional food use, which has provided some health advantages (e.g., a lower incidence of cardiovascular disease); encourage consumption of nutritious market foods; and consider the societal values reflected in the traditional diet.

FEEDING THE FAMILY DURING TIMES OF STRESS: EXPERIENCE AND DETERMINANTS OF FOOD INSECURITY IN AN INUIT COMMUNITY

Form of information: Article. Ford, J. D., & Beaumier, M. (2011). *Geographical Journal*, 177(1), 44-61. Feeding the family during times of stress: Experience and determinants of food insecurity in an Inuit community.

Project description: This paper uses a mixed methods approach to characterise the experience of food insecurity among Inuit community members in Igloodik, Nunavut, and examine the conditions and processes that constrain access, availability, and quality of food. We conducted semi-structured interviews (n= 66) and focus groups (n= 10) with community members, and key informant interviews with local and territorial health professionals and policymakers (n= 19). The study indicates widespread experience of food insecurity. Even individuals and households who were food secure at the time of the research had experienced food insecurity in the recent past, with food insecurity largely transitory in nature. Multiple determinants of food insecurity operating over different spatial-temporal scales are

identified, including food affordability and budgeting, food knowledge and preferences, food quality and availability, environmental stress, declining hunting activity, and the cost of harvesting. These determinants are operating in the context of changing livelihoods and climate change, which in many cases are exacerbating food insecurity, although high-order manifestations of food insecurity (that is, starvation) are no longer experienced.

FOOD SECURITY IN NUNAVUT, CANADA: BARRIERS AND RECOMMENDATIONS

Form of information: Article. Chan, H. M., Fediuk, K., Hamilton, S., Rostas, L., Caughey, A., Kuhnlein, E., Egeland, G; Loring, E. (2006). *International Journal of Circumpolar Health*, 65(5), 416-431. Food security in Nunavut, Canada: Barriers and recommendations

Project description: OBJECTIVES: The food supply of Inuit living in Nunavut, Canada, is characterized by market food of relatively low nutritional value and nutrient-dense traditional food. The objective of this study is to assess community perceptions about the availability and accessibility of traditional and market foods in Nunavut. STUDY DESIGN: A qualitative study using focus group methodology. METHODS: Focus groups were conducted in 6 communities in Nunavut in 2004 and collected information was analyzed.

RESULTS: Barriers to increased traditional food consumption included high costs of hunting and changes in lifestyle and cultural practices. Participants suggested that food security could be gained through increased economic support for local community hunts, freezers and education programs, as well as better access to cheaper and higher quality market food. CONCLUSIONS: Interventions to improve the dietary quality of Nunavut residents are discussed.

HEALTHY FOOD INTENTIONS AND HIGHER SOCIOECONOMIC STATUS ARE ASSOCIATED WITH HEALTHIER FOOD CHOICES IN AN INUIT POPULATION.

Form of information: Article. Mead, E., Gittelsohn, J., Roache, C., & Sharma, S. (2010). Healthy food intentions and higher socioeconomic status are associated with healthier food choices in an Inuit population. *Journal of Human Nutrition and Dietetics*, 23(SUPPL. 1), 83-91.

Project description: Background: Changing food behaviours amongst Canadian Inuit may contribute to rising chronic disease prevalence, and research is needed to develop nutritional behaviour change programmes. The present study examined patterns of food acquisition and preparation behaviours amongst Inuit adults in Nunavut and associations with psychosocial and socioeconomic factors. Methods: Developed from behavioural theories and community workshops, Adult Impact Questionnaires were conducted with adult Inuit (≥ 19 years) from randomly selected households in three remote communities in Nunavut, Canada, to determine patterns of healthy food knowledge, self-efficacy and intentions, frequencies of healthy and unhealthy food acquisition and healthiness of preparation methods. Associations between these constructs with demographic and socioeconomic factors were analysed using multivariate linear regressions.

Results: Amongst 266 participants [mean (SD) age 41.2 (13.6) years; response rates 69-93%], non-nutrient-dense foods were acquired a mean (SD) of 2.9 (2.3) times more frequently than nutrient-dense, and/or low sugar/fat foods. Participants tended to use preparation methods that add fat. Intentions to perform healthy dietary behaviours was inversely correlated with unhealthy food acquisition ($\beta = -0.25$, $P < 0.001$), and positively associated with healthy food acquisition ($\beta = 0.22$, $P < 0.001$) and healthiness of preparation methods ($\beta = 0.15$, $P = 0.012$). Greater healthy food knowledge and self-efficacy were associated with intentions ($\beta = 0.21$, $P = 0.003$ and $\beta = 0.55$, $P < 0.001$, respectively). Self-efficacy was

associated with healthier preparation ($\beta = 0.14$, $P = 0.025$) and less unhealthy food acquisition ($\beta = -0.27$, $P < 0.001$), whilst knowledge was associated with acquiring healthy foods ($\beta = 0.13$, $P = 0.035$). Socioeconomic status was positively associated with healthy preparation and food acquisition behaviours.

Conclusions: Interventions to improve diet in Nunavut Inuit should target healthy food intentions, knowledge and self-efficacy. Behaviour change strategies emphasising economic benefits of a healthy diet should be employed to target individuals of low socioeconomic status.

HIGHLY UNSATURATED N-3 FATTY ACIDS STATUS OF CANADIAN INUIT: INTERNATIONAL POLAR YEAR INUIT HEALTH SURVEY, 2007-2008.

Form of information: Article. Yuan E. Zhou, Stan Kubow, Grace M. Egeland. Highly unsaturated n-3 fatty acids status of Canadian Inuit: International Polar Year Inuit Health Survey, 2007-2008. *International Polar Year Inuit Health Survey, 2007-2008. International Journal of Circumpolar Health* 70: X2011.

Project description: Previous studies suggest that dietary patterns and the extent of reliance upon traditional food vary among Inuit communities. Inuit traditional foods are an important source of nutrients such as highly unsaturated n-3 fatty acids (HUFA n-3), whose beneficial effects include protection against ischemic heart disease. Dietary transition is occurring with younger generations consuming less traditional foods and more market foods with low nutrient density. Utilizing erythrocyte membrane fatty acid composition as an indicator of body HUFA n-3 status, which reflects dietary intake levels of traditional Inuit foods, we explored the regional and age variability of highly unsaturated n-3 fatty acids (HUFA n-3) in the International Polar Year Inuit Health Survey. Study design. Cross-sectional health survey.

Methods. Participants were recruited through random sampling of households. Fatty acid data were available among 2,200 adults (≥ 18 yr). Results. HUFA n-3 levels in the Eastern Arctic were significantly higher than in the Western Arctic, with Nunatsiavut (northern Labrador) and Baffin showing the highest HUFA n-3 status compared to Kivalliq, Kitikmeot and Inuvialuit Settlement Region (ISR) ($p < 0.0001$). Fatty acid proportion in erythrocyte membranes showed pronounced differences between coastal communities and inland communities, including a higher HUFA n-3 status among the coastal communities ($p < 0.0001$). Additionally, the HUFA n-3 status showed a strong positive association with age, particularly in Baffin and Kivalliq. HUFA n-3 were inversely associated with saturated ($s = -0.98$ [SE=0.03], $R^2 = 0.36$, $p < 0.0001$) and trans fatty acids ($s = -0.06$ [SE=0.004], $R^2 = 0.07$, $p < 0.0001$). Conclusions. The present study results provided biochemical support for varying dietary patterns and dietary transition among Inuit across the Canadian Arctic. The analyses also suggested multifactorial determinants of HUFA n-3 status among Canadian Arctic Inuit. A nutritional intervention strategy with multiple approaches may be needed to improve and maintain their HUFA n-3 status.

LOCAL OBSERVATIONS OF CLIMATE CHANGE AND IMPACTS ON TRADITIONAL FOOD SECURITY IN TWO NORTHERN ABORIGINAL COMMUNITIES.

Form of information: Guyot, M., Dickson, C., Paci, C., Furgal, C., & Chan, H. M. (2006). *International Journal of Circumpolar Health*, 65(5), 403-415. Local observations of climate change and impacts on traditional food security in two northern aboriginal communities.

Project description: OBJECTIVES: Our primary objective was to record participant observations of changes in the local environment, harvesting situations and traditional food species and to explore what impact these may have on traditional food. STUDY DESIGN: A participatory study with 2 northern Aboriginal communities in Canada. METHODS: Focus groups were conducted in both communities. Both specific and open-ended questions were asked, to gather information about the traditional food harvest and a qualitative analysis was conducted. RESULTS: Members from both communities are witnessing variable changes in climate that are affecting their traditional food harvest. New species and changes in migration of species being observed by community members have the potential to affect the consumption of traditional food. Similarly, changes in water levels in and around harvesting areas are affecting access to harvest areas, which in turn affects the traditional food harvest. CONCLUSIONS: Community members have been required to change their harvest mechanisms to adapt to changes in climate and ensure an adequate supply of traditional food. A strong commitment to programs that will ensure the protection of traditional food systems is necessary.

ASSESSING DIET AND LIFESTYLE IN THE CANADIAN ARCTIC INUIT AND INUVIALUIT TO INFORM A NUTRITION AND PHYSICAL ACTIVITY INTERVENTION PROGRAMME.

Form of information: Article. Sharma, S. (2010). Assessing diet and lifestyle in the Canadian arctic Inuit and Inuvialuit to inform a nutrition and physical activity intervention programme. *Journal of Human Nutrition and Dietetics*, 23(SUPPL. 1), 5-17.

Project description: Inuit in Nunavut (NU) and Inuvialuit in the Northwest Territories (NWT), Canada, were traditionally nomadic peoples whose culture and lifestyle were founded on hunting and gathering foods from the local environment, primarily land and marine mammals. Lifestyle changes within the last century have brought about a rapid nutrition transition, characterised by decreasing consumption of traditional foods and an associated increase in the consumption of processed, shop-bought foods. This transition may be attributed to a multitude of factors, such as acculturation, overall food access and availability, food insecurity and climate change. Obesity and risk for chronic disease are higher in the Canadian Arctic population compared with the Canadian national average. This present review describes the study population and methodologies used to collect data in order to study the nutrition transition amongst Aboriginal Arctic populations and develop Healthy Foods North (HFN), a novel, multi-institutional and culturally appropriate programme that aims to improve dietary adequacy and reduce risk of chronic disease.

Included in this special issue of the *Journal of Human Nutrition and Dietetics* are papers describing dietary intake patterns, physical activity levels, dietary behaviours, chronic disease prevalence and psychosocial factors that potentially mediate behaviour. A further paper describes how these data were utilised to inform and develop Healthy Foods North.

OBSERVATIONS OF ENVIRONMENTAL CHANGES AND POTENTIAL DIETARY IMPACTS IN TWO COMMUNITIES IN NUNAVUT, CANADA.

Form of information: Article. Nancarrow, T. L., & Chan, H. M. (2010). *Rural and Remote Health*, 10(2), 1370. Observations of environmental changes and potential dietary impacts in two communities in Nunavut, Canada.

Project description: Inuit from communities across the Arctic are still existing in subsistence living. Hunting, fishing and gathering is an important part of the culture and the harvested 'country food'

provides sources of nutrients invaluable to maintaining the health of the populations. However, Inuit are voicing their concerns on how observed climate change is impacting on their traditional life. The objective of this study was to report on observed climate changes and how they affect the country food harvest in two communities in the Canadian Arctic. The nutritional implications of these changes are discussed and also how the communities need to plan for adaptations. **METHODS:** A total of 17 adult participants from Repulse Bay and Kugaaruk, Nunavut were invited to participate. Participants were selected using purposeful sampling methods selecting the most knowledgeable community members for the study. Inuit Elders, hunters, processors of the animals, and other community members above the age of 18 years were selected for their knowledge of harvesting and the environment. Two-day bilingual focus groups using semi-directed, unstructured questions were held in each community to discuss perceived climate changes related to the access and availability of key species. Key topics of focus included ice, snow, weather, marine mammals, land mammals, fish, species ranges, migration patterns, and quality and quantity of animal populations. Maps were used to pinpoint harvesting locations. A qualitative analysis categorizing strategy was used for analysis of data. This strategy involves coding data in order to form themes and to allow for cross-comparison analysis between communities. Each major animal represented a category; other categories included land, sea, and weather. Results were verified by the participants and community leaders.

RESULTS: Three themes emerged from the observations: (1) ice/snow/water; (2) weather; and (3) changes in species. Climate change can affect the accessibility and availability of the key species of country foods including caribou, marine mammals, fish, birds and plants. Various observations on relationship between weather and population health and distributions of the animal/plant species were reported. While many of the observations were common between the two communities, many were community specific and inconsistent. Participants from both communities found that climate change was affecting the country food harvest in both positive and negative ways. Key nutrients that could be affected are protein, iron, zinc, n-3 fatty acids, selenium and vitamins D and A.

CONCLUSION: Community members from Repulse Bay and Kugaaruk have confirmed that climate change is affecting their traditional food system. Local and regional efforts are needed to plan for food security and health promotion in the region, and global actions are needed to slow down the process of climate change.

PREVALENCE OF AFFIRMATIVE RESPONSES TO QUESTIONS OF FOOD INSECURITY: INTERNATIONAL POLAR YEAR INUIT HEALTH SURVEY, 2007-2008.

Form of information: Article. Renata Rosol, Catherine Huet, Michelle Wood, Crystal Lennie, Geraldine Osborne, Grace M. Egeland. Prevalence of affirmative responses to questions of food insecurity: International Polar Year Inuit Health Survey, 2007-2008. *International Journal of Circumpolar Health* 70: X2011.

Project description: Objectives. Assess the prevalence of food insecurity by region among Inuit households in the Canadian Arctic. Study design. A community-participatory, cross-sectional Inuit health survey conducted through face to-face interviews.

Methods. A quantitative household food security questionnaire was conducted with a random sample of 2,595 self-identified Inuit adults aged 18 years and older, from 36 communities located in 3 jurisdictions (Inuvialuit Settlement Region; Nunavut; Nunatsiavut Region) during the period from 2007 to 2008. Weighted prevalence of levels of adult and household food insecurity was calculated.

Results. Differences in the prevalence of household food insecurity were noted by region, with Nunavut having the highest prevalence of food insecurity (68.8%), significantly higher than that observed in

Inuvialuit Settlement Region (43.3%) and Nunatsiavut Region (45.7%) ($p \leq 0.01$). Adults living in households rated as severely food insecure reported times in the past year when they or other adults in the household had skipped meals (88.6%), gone hungry (76.9%) or not eaten for a whole day (58.2%). Adults living in households rated as moderately food insecure reported times in the past year when they worried that food would run out (86.5%) and when the food did not last and there was no money to buy more (87.8%).

Conclusions. A high level of food insecurity was reported among Inuit adults residing in the Canadian Arctic, particularly for Nunavut. Immediate action and meaningful interventions are needed to mitigate the negative health impacts of food insecurity and ensure a healthy Inuit population.

TRADITIONAL FOOD ATTRIBUTES MUST BE INCLUDED IN STUDIES OF FOOD SECURITY IN THE CANADIAN ARCTIC

Form of information: Article. Lambden, J., Receveur, O., Kuhnlein, H.V. *International Journal of Circumpolar Health* 2007 Sep;66(4):308-19. Source Centre for Indigenous Peoples' Nutrition and Environment (CINE), McGill University, Montreal, Canada.

Project description: The objective was to explore some typically understudied characteristics of food security in Arctic Canada: observed changes to traditional food systems, perceived advantages and health benefits of traditional food and traditional food preferences. Data analysis used a cross-sectional survey of Yukon First Nations, Dene/Métis and Inuit women in 44 Arctic communities.

Open-ended responses to 4 questions were used to qualitatively investigate roles traditional foods play in Arctic food security. Chi-square tests were applied to responses to ascertain differences by age and region. A fifth question explored agreement with cultural responses to harvesting and using traditional food.

Traditional food was regarded as natural and fresh, tasty, healthy and nutritious, inexpensive, and socially and culturally beneficial. Between 10% and 38% of participants noticed recent changes in the quality or health of traditional food species, with physical changes and decreasing availability being reported most often. Caribou, moose and seal were among the foods considered particularly healthy and held special values in these populations. The opinion that all traditional food was healthy was also popular. More than 85% of participants agreed with most cultural attributes of traditional food.

This study confirms that traditional food remains important to Arctic indigenous women and that food security in the Arctic is contingent upon access to these foods.

THE INUIT COMMERCIAL CARIBOU HARVEST AND RELATED AGRI-FOOD INDUSTRIES IN NUNAVUT.

Form of information: Article. Mason, A. M., Dana, L. -, & Anderson, R. (2007). *International Journal of Entrepreneurship and Small Business*, 4(6), 785-806. The Inuit commercial caribou harvest and related agri-food industries in Nunavut.

Project description: The commercial caribou harvesting and related agri-food processing industries in Nunavut have grown global since 1995. These industries have a significant impact on Nunavut's GDP, add key infrastructure, and foster self-reliance and employment for Inuit people in Rankin Inlet and Coral Harbour. The caribou hunt occurs once per year and is the largest in the world. This case focuses on Kivalliq Arctic Foods and Coral Harbour Development Corporation and the local harvesting and processing of Nunavut's caribou meat products. Kivalliq's caribou meat products are exported to clients

in the USA as well as the European Union. Both Kivalliq's processing plant and Coral Harbour's portable abattoir have received European Union Certification.

The case discusses how the companies used quality assurance, aboriginal branding, e-commerce, and international trade shows to overcome barriers resulting from their northern isolation.

TRADITIONAL AND MARKET FOOD ACCESS IN ARCTIC CANADA

Form of information: Article. Lambden, J., Receveur, O., Marshall, J., & Kuhnlein, H. V. (2006). *International Journal of Circumpolar Health*, 65(4), 331-340. Traditional and market food access in arctic Canada is affected by economic factors.

Project description: OBJECTIVES: This study aimed to evaluate the access that Indigenous women have to traditional and market foods in 44 communities across Arctic Canada. STUDY DESIGN: This secondary data analysis used a cross-sectional survey of 1771 Yukon First Nations, Dene/Métis and Inuit women stratified by age.

METHODS: Socio-cultural questionnaires were used to investigate food access and chi-square testing was used to ascertain the distribution of subject responses by age and region.

RESULTS: There was considerable regional variation in the ability to afford adequate food, with between 40% and 70% saying they could afford enough food. Similarly, regional variation was reflected in the percentage of the population who could afford, or had access to, hunting or fishing equipment. Up to 50% of the responses indicated inadequate access to fishing and hunting equipment, and up to 46% of participants said they could not afford to go hunting or fishing.

CONCLUSIONS: Affordability of market food and accessibility to hunting and fishing in Arctic Canada were major barriers to Indigenous women's food security.

UNIQUE PATTERNS OF DIETARY ADEQUACY IN THREE CULTURES OF CANADIAN ARCTIC INDIGENOUS PEOPLES

Form of information: Article. Kuhnlein, H. V., Receveur, O., Soueida, R., & Berti, P. R. (2008). *Public Health Nutrition*, 11(4), 349-360.

Project description: Background: Information is needed on dietary adequacy of Arctic indigenous populations in Canada. Extensive work has been completed on composition of Arctic food and food use, and dietary reference intakes are available. Objective: To complete the first comprehensive dietary adequacy assessment of three populations of adult Arctic indigenous people.

Setting and subjects: Dietary assessment interviews were conducted with randomly selected indigenous adults during two seasons in 44 representative communities of Yukon First Nations (n = 797), Dene/Métis, (n = 1007) and Inuit (n = 1525).

Methods: Twenty-four-hour recalls were used to derive adjusted distributions of usual nutrient intakes in four age/gender groups for assessment of dietary adequacy for carbohydrate, dietary fibre, protein, n-3 fatty acids, n-6 fatty acids, calcium, copper, iron, magnesium, manganese, phosphorus, selenium, zinc, vitamin A, riboflavin, folate, vitamin B6, vitamin C, vitamin D and vitamin E.

Results: Nutrients with high prevalence of adequacy for most age/gender groups in all three cultures were protein, carbohydrate, n-3 fatty acids, iron, copper, zinc, manganese, selenium, riboflavin and vitamin B6; some individuals exceeded the upper intake level for iron, zinc, selenium, vitamin A and vitamin D. Estimated average requirement nutrients of concern for adequacy were magnesium, folate, vitamin A, vitamin C and vitamin E; however, a few age/gender groups were exceptions. Prevalence of

inadequacy for AI nutrients which may be undesirably high were fibre, n-6 fatty acids and calcium. Vitamin D was more adequate in Inuit women and men than for Yukon First Nations or Dene/Métis. Conclusions: Unique patterns of dietary adequacy exist among Arctic indigenous peoples. Local wildlife food sources and market food sources should be maximised for their nutrient contributions to Arctic diets.

VULNERABILITY OF INUIT FOOD SYSTEMS TO FOOD INSECURITY AS A CONSEQUENCE OF CLIMATE CHANGE: A CASE STUDY FROM IGLOOLIK, NUNAVUT.

Form of information: Article. Ford, J. D. (2009). *Regional Environmental Change*, 9(2), 83-100. Vulnerability of Inuit food systems to food insecurity as a consequence of climate change: A case study from Igloolik, Nunavut.

Project description: This paper develops a conceptual model to examine the vulnerability of Inuit food systems to food insecurity as a consequence of climate change.

The model illustrates that food system vulnerability is determined by the exposure and sensitivity of the food system to climate-related risks and its adaptive capacity to deal with those risks. The model is empirically applied using a case study from Igloolik, Nunavut. Specifically, the paper focuses on how extreme climate-related conditions in 2006 interacted with the food system to affect food security, using 2006 as a lens to identify and characterize some of the processes and conditions shaping vulnerability, and establishing a baseline for identifying and characterizing processes that are likely to shape future vulnerability. There is a high level of adaptive capacity among Igloolik Inuit, with food sharing mechanisms, hunting flexibility, and store-food access moderating the impact of climatic-risks on food security. However, high fuel and commodity prices, the increasing economic burden of adapting to back-to-back years with unfavorable climatic conditions, underlying community vulnerabilities, and the nature to the climate extremes in 2006, overwhelmed the adaptive capacity of many community members. Those dependent on traditional foods and having limited access to financial resources were particularly vulnerable.

CHRONIC DISEASE

PROGRAMS

TAIMA TB

Form of information: website: <http://www.tunngavik.com/taimatb/>

Project description: A combination of public education, social media outreach and door-to-door screening and treatment, Taima TB aims to raise awareness about Tuberculosis through town hall meetings and social media like Facebook.

TAIMA TB is a new public health campaign happening in Iqaluit that will enhance the existing preventative efforts in the fight against tuberculosis (TB) in Nunavut. The project has two phases. **Phase 1** of the project focuses on increasing TB awareness and knowledge in Iqaluit by engaging and educating the community through gatherings, focus groups, and social media including this website, YouTube videos and Facebook page. **Phase 2** is a door to door TB awareness campaign offering in home information sessions, screening and treatment of sleeping/latent TB infection (LTBI).

Taima TB is funded by the Public Health Agency of Canada. Partners include the Government of Nunavut, Nunavut Tunngavik Inc., the Ottawa Hospital Research Institute at the University of Ottawa; Inuit Tapiriit Kanatami; the National Aboriginal Health Organization; and the New Brunswick Lung Association.

The program started April 2011. Results will be released March 22, 2012.

Other:

PHAC TB <http://www.phac-aspc.gc.ca/tbpc-latb/index-eng.php>

WHO TB <http://www.who.int/topics/tuberculosis/en/>

ITK <http://www.itk.ca>

NAHO <http://www.naho.ca>

New Brunswick Lung Association <http://www.nb.lung.ca>

CHANGING THE CULTURE OF SMOKING

Form of information: report, website: http://www.naho.ca/documents/naho/english/2011_04_Lung-Health-E-Scan.pdf

Project description:

This case study examines the community-based participatory research project called “Changing the Culture of Smoking: Community-Based Participatory Research to Empower Inuvialuit Communities” (the CCS Project). This is a tobacco control program led by the National Indian and Inuit Community Health Representatives Organization (NIICHO) and their partner, Consultancy for Alternative Education (CAE Canada). It runs in Ulukhaktok and Aklavik in the Inuvialuit region of the Northwest Territories.

Smoking rates in the Inuvialuit region are estimated at 61 per cent of the population (based on 2006 Statistics Canada data). Consequently, tobacco control is a priority for health care providers and community residents alike.

The CCS Project is a five-year community-based participatory research (CBPR) tobacco reduction project running in Aklavik and Ulukhaktok.

INUIT TOBACCO-FREE NETWORK

Form of information: Newsletter, Article from Inuit Tuttarvingat of the National Aboriginal Health Organization, also on www.InuitTobaccofree.ca

Project description:

The Inuit Tobacco-free Network is coordinated by Inuit Tuttarvingat of the National Aboriginal Health Organization. It was funded in 2009-2010 by Health Canada, and received advice and guidance from the National Inuit Tobacco Task Group, coordinated by Inuit Tapiriit Kanatami. The Inuit Tobacco-free

Network (ITN) wants to help lower smoking rates and use of tobacco among Inuit. That's why the network provided smoking cessation training for health workers in Inuit communities and gave Inuit youth their own video cameras to record personal, creative stories about quitting smoking. Prior to the training course, ITN prepared a literature search to help inform the training component. This led to the publication: *What works in reducing tobacco use in Indigenous communities? A summary of promising practices for Inuit*. It is available at www.InuitTobaccofree.ca in three dialects of the Inuit language, English and French.

Qualitative information: The evaluation involved conducting a detailed pre- and post-self assessment on the knowledge, attitudes and skills of the trainees. Most participants felt they made very significant advances in learning. The trainers agreed that the self-assessments were quite reflective of the participants' initial levels and advances. It is important to note that the successful outcome of the course was only possible due to the enthusiasm of the participants who made the effort to take on the extra load (and opportunity) of the course during their work schedules.

A lack of on-going support is one of the reasons why many health workers in Inuit communities haven't been able to sustain work on the challenging topic of tobacco reduction in the past. To mitigate against this, trainers planned follow-up activities with each participant to make use of the resources they received during their course to continue to improve their practice in tobacco cessation.

LIVING WITH DIABETES ON BAFFIN ISLAND

Form of information: Article. Bird, S. M., Wiles, J. L., Okalik, L., Kilabuk, J., & Egeland, G. M. (2008). Living with diabetes on Baffin Island: Inuit storytellers share their experiences. *Canadian Journal of Public Health, 99*(1), 17-21

Project description: The prevention and management of Type 2 diabetes mellitus has become a concern in Inuit communities across Canada. Although Inuit living with diabetes in remote Canadian Arctic communities could help guide the development of health services, their voices have not been heard. The experiences and perceptions of Inuit themselves are often overlooked in research. In this study, Inuit living in a small rural Arctic community on Baffin Island were invited to share their experiences of living with diabetes.

A qualitative multi-case study approach was taken. In-depth interviews (n=4), field observations, and informal interviews over one month in the community were used to build and contextualize the cases. In-depth interviews were transcribed, and analyzed using holistic thematic analysis and open coding.

Accessibility was a concern with respect to foods, health knowledge, language interpretation and health services. In all methods of analysis, the importance of language and effective cross-cultural communication figured prominently. It was also evident that trust and rapport is crucial when discussing diabetes. There was strong interest in promoting diabetes education and prevention within the community. Interpretation: These findings suggest that current health education and services may not be adequate for this setting. The voices of Inuit should be integral in steering the direction of their future diabetes education and health service delivery. Focusing on language barriers may help to improve the accessibility of knowledge about diabetes and nutrition, and enhance relationships between non-Inuit health service providers and Inuit.

RESPIRATORY SYNCYTIAL VIRUS RESEARCH AND PROGRAM, NUNAVUT

Form of information: report, website: http://www.naho.ca/documents/naho/english/2011_04_Lung-Health-E-Scan.pdf

Project description: This case study examines initial research and the subsequent territorial government program related to lower respiratory tract infections (LRTI) caused by RSV among Inuit infants in Nunavut.

Qualitative information: The research project was successful at revealing previously unknown information about the high rates of LRTIs among Inuit children, including:
Identification of RSV as the dominant virus affecting children hospitalized for LRTIs.
Identification of a series of risk factors associated with increased risk of hospitalization.
Evidence that RSV infection (alone, and in combination with other viruses) is impacting Inuit infants and children much more severely than other population groups.

An analysis of the costs for hospitalization versus preventive use of Palivizumab for the area involved in the study, although this activity was outside of the scope of the original proposal. These findings provided evidence to guide public health management initiatives and advocacy for Nunavut, as well as providing more direction for future research. The project results have been published. Further, the Canadian Paediatric Society has recently undertaken a review of the cost analysis study.

STAY QUIT TO WIN CHALLENGE – TOBACCO CONTROL, NUNAVIK

Form of information: report, website: http://www.naho.ca/documents/naho/english/2011_04_Lung-Health-E-Scan.pdf

Project description: This case study examines the “Stay Quit to Win” tobacco control program run by the Public Health Department of the Nunavik Regional Board of Health and Social Services (NRBHSS) in the Nunavik region of Quebec.

The reduction of tobacco use and addiction among Nunavik residents has long been a priority for the Public Health Department of NRBHSS, where up to 70 per cent of adults and youth in Inuit communities are smokers.

The Nunavik program is an incentive-based intervention program initiated in 2003 when the NRBHSS decided to adapt a provincial program called the Quit to Win! Challenge.

The Quit to Win! Challenge is an initiative of ACTI-MENU, a company affiliated with the Montreal Heart Institute’s Prevention Division (see website: www.defitabac.qc.ca/defi/en). The Quebec initiative was, in turn, inspired by the World Health Organization’s international “Quit & Win” challenge, originally developed in Finland and subsequently administered in various countries since 1994.

TUBERCULOSIS MANAGEMENT AND TREATMENT PROGRAM, NUNATSIAVUT

Form of information: report, website: http://www.naho.ca/documents/naho/english/2011_04_Lung-Health-E-Scan.pdf

Project description: This case study examines the unique approaches taken by the Nunatsiavut Government (NG) and Labrador-Grenfell Regional Health Authority in the treatment and management of tuberculosis (TB) in the Nunatsiavut Region.

The TB Management and Treatment Program was initiated as part of the newly formed Nunatsiavut Government's responsibilities for public health services in 2005.

Based on *Canadian Tuberculosis Standards – 5th Edition* (2000), NG developed a TB control manual that outlines the roles of participating professionals (community and hospital) in the management and treatment of TB, and defines specific communications processes among the parties. The manual ensures consistent, standardized practice over time and in the face of staff turnover.

A second key aspect of the TB Program is the NG community health aides. These are NG positions at the community level that (among other duties) fulfill critical responsibilities for direct observation therapy, direct observation prophylaxis, contact identification, and contact tracing.

Thirdly, the Nunatsiavut TB Program benefits from access to a unique set of information resources, called "TB Bibles," that are kept in each community. These are alphabetical ledgers containing TB related histories by family, which date back to the 1950s.

The program evolves continuously in response to changing circumstances and opportunities for improvement. For instance, the designation of two responsible physicians at the hospital in Goose Bay and regular bi-weekly TB clinics at the hospital has created more consistency than having community assigned doctors managing TB cases from "their" communities.

WHAT WORKS IN REDUCING TOBACCO USE IN INDIGENOUS COMMUNITIES? A SUMMARY OF PROMISING PRACTICES FOR INUIT

Form of information: report. <http://www.naho.ca/itn/documents/ITNPromisingPractices-updatedOct2010.pdf>

Project description: This summary describes programs, services and activities that we have identified in a review of promising practices in tobacco reduction in Canada and internationally. These are the practices most relevant or feasible for Inuit communities.

Almost all of the relevant practices that are described in this summary are based on a similar body of knowledge, one that defines the scope of the problem, identifies research that is needed and suggests possible solutions.

STUDIES

ADDRESSING THE PUBLIC HEALTH BURDEN CAUSED BY THE NUTRITION TRANSITION THROUGH THE HEALTHY FOODS NORTH NUTRITION AND LIFESTYLE INTERVENTION PROGRAMME.

Form of information: Article. Sharma, S., Gittelsohn, J., Rosol, R., & Beck, L. (2010). Addressing the public health burden caused by the nutrition transition through the healthy foods north nutrition and lifestyle intervention programme. *Journal of Human Nutrition and Dietetics*, 23(SUPPL. 1), 120-127.

Project description: Dietary inadequacies, low levels of physical activity, excessive energy intake and high obesity prevalence have placed Inuit and Inuvialuit populations of the Canadian Arctic at increased risk of chronic disease. An evidence-based, community participatory process was used to develop Healthy Foods North (HFN), a culturally appropriate nutrition and physical activity intervention programme that aimed to reduce risk of chronic disease and improve dietary adequacy amongst Inuit/Inuvialuit in Nunavut and the Northwest Territories.

HFN was implemented over the course of 12 months in a series of seven phases between October 2008 and 2009 (Nunavut) and June 2008 and 2009 (Northwest Territories). Combining behaviour change and environmental strategies to increase both the availability of healthful food choices in local shops and opportunities for increasing physical activity, HFN promoted the consumption of traditional foods and nutrient-dense and/or low energy shop-bought foods, utilisation of preparation methods that do not add fat content, decreased consumption of high-energy shop-bought foods, and increased physical activity.

Messages identified in the community workshops, such as the importance of family eating and sharing, were emphasised throughout the intervention. Intervention components were conducted by community staff and included working with shops to increase the stocking of healthy foods, point of purchase signage and promotion in shops and community settings, pedometer challenges in the workplace and use of community media (e.g. radio and cable television advertisements) to reinforce key messages. HFN represents an innovative multilevel approach to the reduction of chronic disease risk factors amongst Inuit and Inuvialuit, based on strong collaboration with local agencies, government and institutions.

ARTHRITIS IN THE CANADIAN ABORIGINAL POPULATION: NORTH-SOUTH DIFFERENCES IN PREVALENCE AND CORRELATES.

Form of information: Article. Ng, C., Chatwood, S., & Young, T. K. (2011). *Preventing Chronic Disease*, 8(1) Arthritis in the Canadian aboriginal population: North-south differences in prevalence and correlates.

Project description: Information on arthritis and other musculoskeletal disorders among Aboriginal people is sparse. Survey data show that arthritis and rheumatism are among the most commonly reported chronic conditions and their prevalence is higher than among non-Aboriginal people. To describe the burden of arthritis among Aboriginal people in northern Canada and demonstrate the public health significance and social impact of the disease.

Using cross-sectional data from more than 29,000 Aboriginal people aged 15 years and over who participated in the Aboriginal Peoples Survey 2006, we assessed regional differences in the prevalence of arthritis and its association with other risk factors, co-morbidity and health care use. The prevalence of arthritis in the three northern territories ("North") is 12.7% compared to 20.1% in the provinces ("South") and is higher among females than males in both the North and South. The prevalence among Inuit is lower than among other Aboriginal groups.

Individuals with arthritis are more likely to smoke, be obese, have concurrent chronic diseases, and are less likely to be employed. Aboriginal people with arthritis utilized the health care system more often than those without the disease. Aboriginal-specific findings on arthritis and other chronic diseases as well as recognition of regional differences between North and South will enhance program planning and help identify new priorities in health promotion.

AWARENESS OF CHRONIC DISEASE DIAGNOSIS AMONGST FAMILY MEMBERS IS ASSOCIATED WITH HEALTHY DIETARY KNOWLEDGE BUT NOT BEHAVIOUR AMONGST INUIT IN ARCTIC CANADA.

Form of information: Article. Pakseresht, M., Mead, E., Gittelsohn, J., Roache, C., & Sharma, S. (2010). *Journal of Human Nutrition and Dietetics*, 23(SUPPL. 1), 100-109. Awareness of chronic disease diagnosis amongst family members is associated with healthy dietary knowledge but not behaviour amongst Inuit in Arctic Canada.

Project description: The extent to which awareness of chronic disease (CD) diagnosis affects one's healthy food knowledge, self-efficacy and intentions or healthy dietary and physical activity (PA) behaviours remains unexplored among Inuit in Canada.

Methods: A food frequency questionnaire and an adult impact questionnaire were used in a cross-sectional study to collect self-reported data on daily energy and nutrient intake, PA and the diagnosis of hypertension, diabetes, heart disease and cancer amongst adult Inuit and their family members. Associations between awareness of personal and family CD status and healthy food knowledge, self-efficacy and intentions, percentage of energy consumed from non-nutrient-dense foods and PA were assessed via ordinal logistic regression.

Results: Of the 266 participants, those who self-reported CD for both themselves and their relative(s) were more likely to have high healthy food knowledge [odds ratio (OR) = 2.45] than those who did not. Reporting hypertension and heart disease amongst only relatives increased the likelihood of high knowledge (OR = 5.20) and intentions (OR = 5.10) for healthy eating. Heart disease in both participants and their relatives was associated with high levels of PA (OR = 12.24). However, there were no associations when only participants (but not their relatives) reported having CD. A joint effect between a high level of education and awareness of CD was positively related to high food knowledge (OR = 38.93). An inverse association between awareness of CD and unhealthy eating was not observed.

Conclusions: Awareness of a relative having a CD was a more important factor in increasing knowledge and, to a lesser degree, self-efficacy or intentions to eat healthy than participants' awareness of personal CD. However, awareness was not associated with lower non-nutrient-dense food intake

CHILDREN FROM BAFFIN ISLAND HAVE A DISPROPORTIONATE BURDEN OF TUBERCULOSIS IN CANADA: DATA FROM THE CHILDREN'S HOSPITAL OF EASTERN ONTARIO (1998-2008).

Form of information: Article. Clark, M., & Hui, C. (2010). Children from Baffin Island have a disproportionate burden of tuberculosis in Canada: Data from the Children's Hospital of Eastern Ontario (1998-2008). *BMC Pediatrics*, 10

Project description: Background: The Children's Hospital of Eastern Ontario (CHEO) provides services to children in Baffin Island, through the Baffin Island Pediatric Health Initiative. Tuberculosis (TB) remains a major public health problem in that region.

The objective of our study was to describe the origin and clinical characteristics of patients with TB disease at CHEO, since the inception of the Baffin Island Pediatric Health Initiative.

Methods: All charts with a discharge diagnosis of TB disease during the first 10 years of the Baffin Island program were reviewed. Patients meeting a pre-determined case definition were included in analyses. A standard medical record abstraction form was used for patient data collection.

Results: Twenty patients met our case definition. Seven (35%) were Canadian-born children from Baffin Island. Seven resided in Ontario, 4 in Quebec, and 2 were visiting from other countries. All 7 children residing in Ontario were born in African countries. Endothoracic disease occurred in 16 patients (80%), including 9 with primary pulmonary TB, and 3 with sputum smear positive "adult-type" disease. Extrathoracic disease was present in 6 children (30%), including 3 with CNS disease. Three children had disease in 2 separate sites.

Conclusions: While Baffin Island makes up 1% of the hospital catchment population, they contributed 35% of TB patients, and the only TB death. While TB in foreign-born children is due in part to epidemics abroad, the problem in Baffin Island is a reflection of disease burden and transmission within Canada.

HIGH RATES OF HOSPITALISATION FOR BRONCHIOLITIS IN INUIT CHILDREN ON BAFFIN ISLAND.

Form of information: Article. Banerji, A. (2001). High rates of hospitalisation for bronchiolitis in Inuit children on Baffin Island. *International Journal of Circumpolar Health*, 60(3), 375-379.

Project description: It has been suspected that Inuit Children on Baffin Island suffer from severe, recurrent episodes of bronchiolitis, but this has never been documented previously. This study is a retrospective chart review of children less than 48 months of age hospitalised at Baffin Regional Hospital, Nunavut with a diagnosis of bronchiolitis over a one year period.

This study documented that the admission rate for bronchiolitis in the first year of life was 306 per 1000 infants on Baffin Island, with an intubation rate of 12.8% in admitted children. One quarter of the infants were born prematurely, and half had their first presentation for bronchiolitis at less than 3 months of age. Ten of the 78 cases (12.8%) were identified as having a positive test for *C. trachomatis* by EIA, and Respiratory syncytial Virus was identified in 14 of 50 (28%) of those tested. This study documents that bronchiolitis in Inuit children on Baffin Island is a serious health concern and needs to be studied further.

HYPERTENSION AMONG THE INUIT FROM NUNAVIK: SHOULD WE EXPECT AN INCREASE BECAUSE OF OBESITY?

Form of information: Article. *International Journal of Circumpolar Health*, 69(4), 361-372. Chateau-Degat, M. -, Dewailly, E., Noël, M., Valera, B., Ferland, A., Counil, E., . . . Egeland, G. M. (2010). Hypertension among the Inuit from Nunavik: Should we expect an increase because of obesity?

Project description: Because of their recent adoption of a Westernized lifestyle, an increased risk of developing hypertension (HTN) is suspected among Inuit populations. This study aimed to assess the exact prevalence of HTN in Nunavik Inuit and to examine its association with other major risk factors of cardiovascular disease.

Study design. A cross-sectional population-based study.

Methods. We analysed biological and anthropometric data and the medical history of 832 Inuit.

Results. The overall prevalence of HTN ($\geq 140/90$ mmHg or the use of medication) was 19% with no gender difference. Obesity (body mass index [BMI] ≥ 30 kg/m²) was the highest prevalent cardiovascular risk factor (23%), and was significantly associated with HTN (OR for BMI < 25 kg/m² vs. BMI 30-34 kg/m²: 7.9 [3.5-17.9]; OR for BMI < 25 kg/m² vs. BMI ≥ 35 kg/m²: 14.4 [5.6-36.7]). An increase in odds of

prehypertension (preHTN) (130-139/80-89 mmHg) was also observed as the BMI increased (p for trend, $p < 0.0001$).

Conclusion. The prevalence of HTN in the Inuit populations has reached values similar to those of their Westernized counterparts. Furthermore, not only HTN but also preHTN states are significantly associated with obesity even after adjusting for confounding variables.

These results clearly indicate that HTN is becoming a growing health challenge in Nunavik because of pandemic obesity.

IMPACT OF THE CHANGING FOOD ENVIRONMENT ON DIETARY PRACTICES OF AN INUIT POPULATION IN ARCTIC CANADA

Form of information: Article. Mead, E., Gittelsohn, J., Kratzmann, M., Roache, C., & Sharma, S. (2010). *Journal of Human Nutrition and Dietetics*, 23(SUPPL. 1), 18-26. Impact of the changing food environment on dietary practices of an Inuit population in Arctic Canada

Project description: Background: Nutritional inadequacies and increasing chronic disease prevalence amongst Inuit in the Canadian Arctic highlight the need to address dietary practices. Research is needed to investigate the individual and environmental factors impacting diet to guide interventions. The present study aimed to explore multiple community perspectives of key factors affecting food choice and availability in Inuit communities in Nunavut, Canada.

Methods: Semi-structured in-depth interviews were conducted with Inuit adults ($n = 43$) in two communities in Nunavut, Canada, and included community members, community leaders, elders, health staff and food shop staff. The interviewer transcribed the audio-taped interviews. Data were analysed using codes and the constant comparative method to determine categories and emergent themes.

Results: Thirty-three Inuit (27 females and six males) and 10 non-Inuit (four females and six males) adults participated. Traditional foods procured through hunting and gathering were considered the healthiest by community members, although multiple factors inhibited their procurement, including high petrol cost and decrease in traditional knowledge about hunting and gathering practices. Cost and quality were the main barriers to purchasing healthy foods at the shops. Community leaders and health staff identified multiple barriers to healthy eating in the community, such as skills to prepare some shop-bought foods. Shop managers identified several challenges to providing fresh produce and other perishable foods, such as long transportation routes that increase costs and harsh climatic conditions that may cause spoilage. They also cited factors influencing their decisions regarding whether to stock/discontinue certain foods, such as customers' requests, food cost and shelf-life.

Conclusions: An intervention to reduce chronic disease risk and improve dietary adequacy amongst Nunavut Inuit may be effective by supporting individual behaviour modifications with food environment changes.

ASSESSING DIET AND LIFESTYLE IN THE CANADIAN ARCTIC INUIT AND INUVIALUIT TO INFORM A NUTRITION AND PHYSICAL ACTIVITY INTERVENTION PROGRAMME.

Form of information: Article. Sharma, S. (2010). Assessing diet and lifestyle in the Canadian Arctic Inuit and Inuvialuit to inform a nutrition and physical activity intervention programme. *Journal of Human Nutrition and Dietetics*, 23(SUPPL. 1), 5-17.

Project description: Inuit in Nunavut (NU) and Inuvialuit in the Northwest Territories (NWT), Canada, were traditionally nomadic peoples whose culture and lifestyle were founded on hunting and gathering

foods from the local environment, primarily land and marine mammals. Lifestyle changes within the last century have brought about a rapid nutrition transition, characterised by decreasing consumption of traditional foods and an associated increase in the consumption of processed, shop-bought foods. This transition may be attributed to a multitude of factors, such as acculturation, overall food access and availability, food insecurity and climate change. Obesity and risk for chronic disease are higher in the Canadian Arctic population compared with the Canadian national average.

This present review describes the study population and methodologies used to collect data in order to study the nutrition transition amongst Aboriginal Arctic populations and develop Healthy Foods North (HFN), a novel, multi-institutional and culturally appropriate programme that aims to improve dietary adequacy and reduce risk of chronic disease.

Included in this special issue of the Journal of Human Nutrition and Dietetics are papers describing dietary intake patterns, physical activity levels, dietary behaviours, chronic disease prevalence and psychosocial factors that potentially mediate behaviour. A further paper describes how these data were utilised to inform and develop Healthy Foods North.

OBESITY RISKS: TOWARDS AN EMERGING INUIT PATTERN.

Form of information: Article. Château-Degat, M., Dewailly, E., Charbonneau, G., Laouan-Sidi, E. A., Tremblay, A., & Egeland, G. M. (2011). Obesity risks: Towards an emerging Inuit pattern. *International Journal of Circumpolar Health*, 70(2), 166-177.

Project description: The aim of this study was to provide analytical overviews of anthropometric measurements and their relationships with type 2 diabetes and cardiovascular disease (CVD) risk factors within the Inuit population, given that few studies have focused on this issue. Study design. Cross-sectional study.

Methods: Anthropometric and biological data were obtained from 867 Inuit participants from Nunavik (≥ 18 years).

Results: Obesity prevalence for men and women, respectively, was 25.1% and 31.3% according to body mass index (BMI: >30 kg/m²); 20.2% and 55.3% according to waist circumference (WC: >102 cm for men and >88 cm for women); 22.4% and 22.5% according to body fat percentage (%BF: ≥ 30 in men and ≥ 40 in women). There was substantial agreement between anthropometric obesity measurements, except for the waist-to-hip ratio (WHR) which showed the lowest agreement with the other measurements. All risk factors were significantly associated with anthropometry. The prevalence of abnormal values for risk factors increased across quartiles of BMI and WC. Among obese participants, as defined by the WC cutoff, 22% had metabolic syndrome based on the National Cholesterol Education Program in the Adult Treatment Panel III (NCEP-ATPIII) definition and 64.8% of them were also insulin resistant.

Conclusion: Obesity rates among Inuit are high, especially among women. Inuit women display especially high rates of abdominal obesity. Further longitudinal work is needed to evaluate the effects of central and global obesity among Inuit.

PARTICIPATORY RESEARCH FOR CHRONIC DISEASE PREVENTION IN INUIT COMMUNITIES.

Form of information: Article. Gittelsohn, J., Roache, C., Kratzmann, M., Reid, R., Ogina, J., & Sharma, S. (2010). *American Journal of Health Behavior*, 34(4), 453-464. Participatory research for chronic disease prevention in Inuit communities.

Project description: To develop a community- based chronic disease prevention program for Inuit in Nunavut, Canada.

Methods: Stakeholders contributed to intervention development through formative research (in-depth interviews (n=45), dietary recalls (n=42)), community workshops, group feedback and implementation training. Results: Key cultural themes included the perceived healthiness of country foods, food sharing, and importance of family. During community workshops, key problem foods for intervention were identified as well as healthier culturally and economically acceptable alternatives for these foods. Behaviors for promotion were identified and prioritized.

Conclusions: This approach resulted in project acceptance, stakeholder collaboration, and a culturally appropriate program in stores, worksites, and other community venues.

PREVALENCE AND RISK FACTORS FOR SELF-REPORTED CHRONIC DISEASE AMONGST INUVIALUIT POPULATIONS.

Form of information: Article. Erber, E., Beck, L., De Roose, E., & Sharma, S. (2010). Prevalence and risk factors for self-reported chronic disease amongst Inuvialuit populations. *Journal of Human Nutrition and Dietetics*, 23(SUPPL. 1), 43-50.

Project description: Chronic disease prevalence amongst Canadian Arctic populations is increasing, but the literature amongst Inuvialuit is limited. The present study aimed to provide baseline data that could be used to monitor changes in chronic disease risk factors and long-term health in the Arctic by determining prevalence and risk factors of self-reported chronic disease amongst adult Inuvialuit in remote communities.

Methods: Self-reported demographics and history of chronic disease (hypertension, heart disease, diabetes and cancer) were collected in three communities between July 2007 and July 2008 in the Northwest Territories. Food frequency questionnaires recorded dietary intake, International Physical Activity Questionnaires recorded physical activity and anthropometric measures of height and weight were obtained. Results: Response rates ranged from 65-85%. More than 20% of the 228 participants aged 19-84 years reported having a chronic disease. Age-adjusted prevalence was 28, 9, 9 and 6 per 100 for hypertension, heart disease, diabetes and cancer, respectively. Compared with non-cases, participants reporting hypertension were more likely to have a higher body mass index and a lower level of education. Hypertension was more common amongst participants reporting heart disease and diabetes than Inuvialuit not reporting these morbidities.

Conclusions: Inuvialuit participants in this study were most affected by hypertension and diabetes compared with heart disease or any cancer. Female participants had a higher prevalence of heart disease compared with the Canadian average. Primary preventive strategies are necessary to mitigate the increasing rates of chronic disease risk factors in this population. Further studies with a larger sample size and measured chronic disease are necessary to confirm the findings obtained in the present study.

LOWER RESPIRATORY TRACT INFECTIONS IN INUIT INFANTS ON BAFFIN ISLAND.

Form of information: Article. Banerji, A., Bell, A., Mills, E. L., McDonald, J., Subbarao, K., Stark, G., . . . Loo, V. G. (2001). Lower respiratory tract infections in inuit infants on baffin island. *CMAJ*, 164(13), 1847-1850.

Project description: Background: It has long been suspected that Canadian Inuit children suffer from frequent severe lower respiratory tract infections (LRTIs), but the causes and risk factors have not been documented.

This study assessed the infectious causes and other epidemiologic factors that may contribute to the severity of LRTI in young Inuit children on Baffin Island. Methods: A prospective case study was carried out at the Baffin Regional Hospital in Iqaluit, Nunavut, of infants less than 6 months of age, who were admitted to hospital between October 1997 and June 1998 with a diagnosis of LRTI. Immunofluorescent antibody testing was used to identify respiratory viruses, and enzyme immunoassay (EIA) and polymerase chain reaction (PCR) were used to test for Chlamydia trachomatis. Demographic and risk factor data were obtained through a questionnaire. Results: The annualized incidence rate of admission to hospital for bronchiolitis at Baffin Regional Hospital was 484 per 1000 infants who were less than 6 months of age; 12% of the infants were intubated. Probable pathogens were identified for 18 of the 27 cases considered in our study. A single agent was identified for 14 infants: 8 had respiratory syncytial virus, 2 adenovirus, 1 rhinovirus, 1 influenza A, 1 parainfluenza 3 and 1 had cytomegalovirus. For 4 infants, 2 infectious agents were identified: these were enterovirus and Bordetella pertussis, adenovirus and enterovirus, cytomegalovirus and respiratory syncytial virus, and respiratory syncytial virus and adenovirus. C. trachomatis was not identified by either EIA or PCR. All infants were exposed to maternal smoking in utero, second-hand smoke at home and generally lived in crowded conditions.

Interpretation: Inuit infants in the Baffin Region suffer from an extremely high rate of hospital admissions for LRTI. The high frequency and severity of these infections calls for serious public health attention.

ALASKA

MENTAL HEALTH

PROGRAMS

BEST PRACTICES IN TELEBEHAVIORAL HEALTH IN ALASKA, UNIVERSITY OF ALASKA FAIRBANKS. ALASKA RURAL BEHAVIORAL RURAL HEALTH TRAINING ACADEMY

Form of information: website <http://www.uaf.edu/arbhta/training-institute/>

Project description: This Institute is designed for Mental Health Professional – Rural Coordinator teams to enhance their ability to respond to the unique challenges presented by telebehavioral health care. Participants will have an opportunity to practice video conference skills using a variety of video conferencing equipment.

Other: This institute was last offered in October 2008

CHALLENGE LIFE

Form of information: Uniq magazine, North Slope Borough

Project description: Challenge Life is a program dedicated to building mental and physical wellness of the people of North Slope and Northwest Coast.

Challenge life has organized basketball tournaments across the Slope, as well as golf volleyball, ultimate Frisbee and other athletic events for youth and adults

Challenge Life expanded to every village on the Slope to organize activities such as basketball clinics and classroom lectures on health and nutrition.

FAMILY WELLNESS WARRIORS.

Form of information: Article. Gottlieb, K., & Outten, B. (2011). Family and Community Health, 34(3), 235-241.

Project description: This article discusses the development and implementation of a culturally relevant resiliency model to address the physical, mental, emotional, and spiritual wellness needs of adults who have experienced harm. Common diseases in adulthood have been linked to abuse in childhood. To end abuse and improve health in Alaska, Alaska Native people are forming partnerships with health care organizations, government agencies, social service providers, and faith communities to disseminate Family Wellness Warriors Initiative strategies. Nearly 3000 people have participated in Family Wellness Warriors Initiative trainings. Through this healing work, families and communities are working together to change health disparities and restore hope.

HEALTHY COMMUNITIES INITIATIVE: NORTH SLOPE BOROUGH

Form of information: website: <http://www.co.north-slope.ak.us/departments/mayorsoffice/HCinitiative.php>

Project description: The Division of Healthy Communities work with leaders to promote each communities health.

- Coordinating and participating in an annual Healthy Communities Summit
- Holding annual Healthy Communities forums in each village
- Working with each department to identify areas in which they can meaningfully participate
- Assisting with healthy alternative activities for all residents.
- Promoting the twelve Inupiaq Values. (Humility, hunting traditions, cooperation, compassion, humor, sharing, love and respect for elders and one another, knowledge of our language, family and kinship, respect for nature, spirituality, avoidance of conflict).

INDIAN HEALTH SERVICE AMERICAN INDIAN AND ALASKA NATIVE SUICIDE PREVENTION WEBSITE

Form of information: website. <http://www.ihs.gov/nonmedicalprograms/nspn/>

Project description: The purpose of the Indian Health Service's (IHS) Community Suicide Prevention Website is to provide American Indian and Alaska Native communities with culturally appropriate

information about best and promising practices, training opportunities, and other relevant information regarding suicide prevention and intervention. The goal of the Website is to provide Native communities with the tools and information to create, or adapt to, their own suicide prevention programs.

THE ROLE OF INDIVIDUALIZED CARE IN A SERVICE DELIVERY SYSTEM FOR CHILDREN AND ADOLESCENTS WITH SEVERELY MALADJUSTED BEHAVIOR.

Form of information: Article. Burchard, J. D., & Clarke, R. T. (1990). *The Journal of Mental Health Administration*, 17(1), 48-60.

Project description: Individualized care is a total system of care that is tailored to a child with severely maladjusted behavior. The services are unconditional, flexible, child and family focused, and interagency coordinated. The services follow the child until the child is adjusting in a normalized, mainstream environment. Individualized care is illustrated through two different projects.

One is the Alaska Youth Initiative where individualized care was used to return children from out-of-state, residential programs. The other is Project Wraparound where it was used to prevent children from being removed from their families. This paper begins with the principles of individualized care and then describes the ecological, multilevel assessment process that coincides with the delivery of services.

Qualitative information: A case example from Project Wraparound is provided for clarification. Following the case example is a discussion of the need for evaluation data with some suggested strategies for documenting effectiveness. The final section focuses on two barriers to the implementation of individualized care. One is the tendency to think in terms of component programs rather than individualized services. The other barrier is the competition for scarce resources. Strategies are presented for overcoming both barriers.

THE ALASKA MENTAL HEALTH LANDS.

Form of information: Article. Schrader, J. L. (1987). *American Journal of Psychiatry*, 144(1), 107-109.

Project description: The Alaska mental health program is endowed with a 1-million-acre trust fund. A coalition of groups that make up the mental health constituency of the state united in a lawsuit to establish the trust. The history of this legacy, the struggle to realize its benefits, its current status, and some of its psychopolitical significance are discussed.

RURAL HUMAN SERVICES PROGRAM

Form of information: website - <http://www.uaf.edu/rhs/>

Project description: The Rural Human Service (RHS) Program, [College of Rural and Community Development](#), is a [32-credit certificate University of Alaska academic program](#) developed for Alaska village-based human service providers. It is intended for rural residents who are natural helpers and healers in their communities, and it is designed to help further develop skills and credentials in the helping profession. RHS offers a culturally appropriate training program designed for rural, village-based human service workers. Skills and training are provided in services such as crisis intervention, suicide prevention, community development, and counseling in mental health, substance abuse, interpersonal violence, grief, and healing. The program is offered over a two-year period, in an intensive cohort model (1, 2, or 3 week classes - [see schedules](#)) at four regional sites across the state of Alaska. Students are

often employed full-time and return to work after the intensive classes. Students are supported by numerous [partnerships and collaborations](#) throughout Alaska.

THE ALASKA COMMUNITY-BASED SUICIDE PREVENTION PROGRAM

Form of information: report. Arctic Suicide Prevention Workshop, Iqaluit March 2003, p7

Project description: The Alaska Community-Based Suicide Prevention Program is an attempt to empower local communities. The program is based on the idea that physical, mental and cultural health are all related and that active, healthy communities will have active, healthy residents. The program offers non-competitive two-year grants of up to US \$20,000 per year for each community that applies. Communities must submit a proposal that outlines plans for suicide prevention activities. The proposal is reviewed by the community council and then reviewed by the staff of the Department of Health and Social Services' Division of Alcoholism & Drug Abuse.

ASSIST (APPLIED SUICIDE INTERVENTION SKILLS TRAINING)

Form of information: report. Circumpolar Inuit Health Summit, 2009. Inuit Circumpolar Council-Canada.

Project description: Assist is a formalized, two-day training program provided by a minimum of two ASIST trainers. In combination with traditional "talking circles", ASIST training helps to get people talking about suicide and teaches people how to intervene in a situation where someone may be at risk of suicide, to provide a form of suicide first-aid. It teaches people to recognize a person at risk, to get that person to obtain help, or to keep that person safe until professional help can be found. It is hoped that the combination of traditional and formalized training will reduce suicide rates in Northwest Alaska, which (at the time this report was published) has four ASIST trainers, three in Kotzebue and one in Nome.

ALASKA YOUTH INITIATIVE: THE DREAM, THE REALITY.

Form of information: Article. Minton, B. A. (1995). Journal of Mental Health Administration, 22(3), 293-300.

Project description: Many states have been interested in revising their systems of care for young people. The Alaska Youth Initiative (AYI) attempted to improve the system of care by providing community-based, individualized services to youths who would otherwise be institutionalized outside the state. Major policy changes included emphasis on local service provision, individualized services, unconditional care, and coordination of services. The AYI's performance on its original goals is mixed. Complications in implementation arose from lack of provider training, conflict over coordination at the state level, and difficulty in individualizing programs. Although significant successes have occurred, administrators could improve the implementation of similar types of programs by making specific plans to address concerns of various stakeholders, providing fiscal incentives for cooperation for state workers, and providing ongoing training in both clinical and administrative areas.

THE ROLE OF INDIVIDUALIZED CARE IN A SERVICE DELIVERY SYSTEM FOR CHILDREN AND ADOLESCENTS WITH SEVERELY MALADJUSTED BEHAVIOR.

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A case example from Project Wraparound is provided for clarification. Following the case example is a discussion of the need for evaluation data with some suggested strategies for documenting effectiveness. The final section focuses on two barriers to the implementation of individualized care. One is the tendency to think in terms of component programs rather than individualized services. The other barrier is the competition for scarce resources. Strategies are presented for overcoming both barriers.

WORLD ESKIMO-INDIAN OLYMPICS (WEIO)

Form of information: Report. Circumpolar Inuit Health Summit. Also at: www.weio.org

Project description: First held in Fairbanks, Alaska, in 1961 and annually since then, WEIO aims to keep alive the tradition of circumpolar gatherings in which Native peoples competed in games of strength, endurance, balance and agility – all of which were required for daily survival. The games are accompanied by dancing, storytelling, and other activities. Competitions include traditional skill-testing challenges, such as the high-kick, the blanket toss, and seal skinning

PROJECT LIFE

Form of information: website: <http://www.naho.ca/wellnessTV/youth.php#vignettes>

Project description: Project Life is a youth wellness and suicide prevention program for the Maniilaq area of Alaska. It uses digital story-telling to help Alaskan Native youth to connect with and express their culture. It also helps the youth learn about leadership. These digital stories created by the youth allow them to explore their culture and interact with their elders by interviewing them and then sharing the interviews with the community. We will meet a young Inupiat woman whose life has been dramatically changed through the Project Life program and hear how this program hopes to impact many more youth.

<http://www.isuma.tv/hi/en/naasautit/project-life>

STUDIES

TWO ESKIMO VILLAGES ASSESS MENTAL HEALTH STRENGTHS AND NEEDS.

Form of information: Article. Minton, B. A., & Soule, S. (1990). American Indian and Alaska Native Mental Health Research : Journal of the National Center, 4(2), 7-24.

Project description: Due to a growing consensus of the inadequacy of the current mental health system in rural Alaska, an assessment of mental health strengths and needs was conducted in two Eskimo villages. Respondents were 216 Eskimos who completed a structured interview. Results document perceptions of problems and strengths unique to the village cultures and settings. To increase effectiveness, programs must take into account the perspectives expressed by village people.

BEST PRACTICES IN BEHAVIORAL HEALTH SERVICES FOR AMERICAN INDIANS AND ALASKA NATIVES

Form of information: report – from website -

<http://www.oneskycenter.org/mhsa/documents/BPMonograph3.pdf>

Project description: In October of 2004, the One Sky National Resource Center, in collaboration with the Center for Substance Abuse Treatment (CSAT) in the Substance Abuse and Mental Health Services Administration (SAMHS) and the National Diabetes Prevention Center in the Centers for Disease Control and Prevention (CDC), convened a resource panel of leading scientists, researchers, community leaders, and traditional healers to discuss the state of the literature in substance abuse prevention, substance abuse treatment, mental health treatment, and co-occurring disorders treatment.

Page 95 of this report– Summary of Best Practices for Mental Health Treatment

BEST PRACTICES REGISTRY (BPR) AND LOCAL EFFORTS FOR SUICIDE PREVENTION / SUICIDE PREVENTION RESOURCE CENTER, AMERICAN INDIAN / ALASKA NATIVE SUICIDE PREVENTION

Form of information: website <http://www2.sprc.org/aian/best-practices>

Project description: Best Practices Registry (BPR) for Suicide Prevention consists of three sections, each with different types of best practice listings. The purpose of the BPR is to identify, review, and disseminate information about best practices that address [specific objectives](#) of the NATIONAL STRATEGY FOR SUICIDE PREVENTION. The BPR is a collaborative project of the [Suicide Prevention Resource Center](#) (SPRC) and the [American Foundation for Suicide Prevention](#) (AFSP). It is funded by the [Substance Abuse and Mental Health Services Administration](#) (SAMHSA). The BPR is organized into three sections, each with different types of best practices. In essence, the BPR is three registries in one. The three sections do not represent "levels", but rather include different types of programs and practices reviewed according to specific criteria for that section.

- **Section I: Evidence-Based Programs** lists interventions that have undergone evaluation and demonstrated positive outcomes.
- **Section II: Expert and Consensus Statements** lists statements that summarize the current knowledge in the suicide prevention field and provide best practice recommendations to guide program and policy development.
- **Section III: Adherence to Standards** lists suicide prevention programs and practices whose content has been reviewed for accuracy, likelihood of meeting objectives, and adherence to program design standards. Inclusion in this section means only that the program content meets the stated criteria; being included does not mean that the practice has undergone evaluation and demonstrated positive outcomes (those programs are in Section I.)

ORGANIZATION AND FINANCING OF ALCOHOL AND SUBSTANCE ABUSE PROGRAMS FOR AMERICAN INDIANS AND ALASKA NATIVES.

Form of information: Article. McFarland, B. H., Gabriel, R. M., Bigelow, D. A., & Walker, R. D. (2006). American Journal of Public Health, 96(8), 1469-1477.

Project description: Although American Indians and Alaska Natives have high rates of substance abuse, few data about treatment services for this population are available.

We used national data from 1997-2002 to describe recent trends in organizational and financial arrangements. Methods: Using data from the Indian Health Service (IHS), the Substance Abuse and Mental Health Services Administration, the National Institute on Alcohol Abuse and Alcoholism, the Henry J. Kaiser Family Foundation, and the Census Bureau, we estimated the number of American Indians served by substance abuse treatment programs that apparently are unaffiliated with either the IHS or tribal governments. We compared expected and observed IHS expenditures.

Results: Half of the American Indians and Alaska Natives treated for substance abuse were served by programs (chiefly in urban areas) apparently unaffiliated with the IHS or tribal governments. IHS substance abuse expenditures were roughly what we expected. Medicaid participation by tribal programs was not universal.

Conclusions: Many Native people with substance abuse problems are served by programs unaffiliated with the IHS. Medicaid may be key to expanding needed resources.

PERSPECTIVES ON SUICIDE PREVENTION AMONG AMERICAN INDIAN AND ALASKA NATIVE CHILDREN AND ADOLESCENTS: A CALL FOR HELP.

Form of information: Gary, F. A., Baker, M., & Grandbois, D. M. (2005). Online Journal of Issues in Nursing [Electronic Resource]., 10(2), 6.

Project description: Suicide rates among American Indian Alaska Native (AIAN) children and adolescents are the highest in the United States. Risk factors for suicide among AIAN youth include: strained interpersonal relationships, family instability, depression, low self-esteem, and alcohol use or substance abuse. Protective factors include: caring family relationships, supportive tribal leaders, and positive school experiences. Carefully planned, culturally sensitive, comprehensive programs that address the social determinants of health outcomes such as poverty, school failure, familial conflicts, and limited access to health care, should be the focus of blueprints for change for these vulnerable children. Moreover, culturally competent providers are key elements associated with reducing the suicide rates among AIAN children and adolescents.

SUICIDE PREVENTION AS A COMMUNITY DEVELOPMENT PROCESS: UNDERSTANDING CIRCUMPOLAR YOUTH SUICIDE PREVENTION THROUGH COMMUNITY LEVEL OUTCOMES.

Form of information: Allen, J., Mohatt, G., Fok, C. C. T., Henry, D., & People Awakening Team. (2009). *International Journal of Circumpolar Health*, 68(3), 274-291.

Project description: Objectives. Community-based models have become increasingly prominent in prevention, and have special relevance for suicide prevention in circumpolar Indigenous communities. It follows that outcomes from circumpolar suicide prevention programs might be more completely understood at the community level. We present here a methodology for analysis at this level. This paper seeks to understand a cultural prevention program for rural Yup'ik youth in Alaska targeting suicide and co-occurring alcohol abuse as a community development process through changes at the community level. Study Design. Quasi-experimental design with assessment at pre- and post-intervention or at 4 time points. The community development process for this project began in October 2004. The first program baseline assessment began in November 2006, prior to prevention activities with youth and parents, and the post-intervention assessment concluded in March 2008. Methods. Five key informants pre- and post-intervention completed a community readiness assessment, which is a structured procedure assessing a community's awareness of suicide as an issue and its organizational readiness for prevention programming. Forty-three adult caregivers or sponsors of youth in the prevention program completed an assessment of behaviours that contributed to community protective factors from youth suicide and alcohol abuse at 4 time points before, during and after the intervention. The 54 youth who participated in the prevention program completed an assessment of community protective factors, also at 4 time points before, during and after the intervention. The community protective factors from suicide that were assessed included safety, enforcement of alcohol prohibitions, role models, support and opportunities for youth. Results. Community readiness for the prevention efforts increased to new developmental stages of readiness post-intervention, and a trend in the data suggested community protective factors increased in the amount of protective behaviours performed by adults (slope estimate=0.0162, 95% CI-0.0028-0.0351, $d=.55$) and in the perceptions of youth (slope estimate=0.0148, 95% CI-0.0004-0.0291, $d=.45$), in a dose response relationship to the number of prevention program sessions attended by adults and youth. Conclusions. Using data from a feasibility study, this paper demonstrates the feasibility and potential utility of methodological approaches that use community-level variables beyond individual level outcomes in circumpolar suicide prevention research.

Qualitative information: Yes – qualitative assessment of amount of protective behaviours after intervention (program).

SCREENING FOR DEPRESSION AND THOUGHTS OF SUICIDE: A TOOL FOR USE IN ALASKA'S VILLAGE CLINICS.

Form of information: Article. Niven, J. A. (2007). *American Indian and Alaska Native Mental Health Research*, 14(2), 16-28.

Project description: Depression occurs at a significant rate in the U.S. population. Untreated depressive symptoms are a primary risk factor for suicide. Studies show that a significant percentage of individuals who commit suicide had visited their health care providers in the months before their deaths. Alaska

ranks number one in the nation for suicide. Routine screening for depression and risk of suicide in Alaska village clinics could lead to reduced depressive illness and death state wide.

AN OVERVIEW OF MENTAL HEALTH SERVICES FOR AMERICAN INDIANS AND ALASKA NATIVES IN THE 1990S

Form of information: Article. Nelson, S. H., McCoy, G. F., Stetter, M., & Vanderwagen, W. C. (1992).
Project description: Native Americans appear to be at higher risk than other U.S. ethnic groups for mental health problems, including depression, substance abuse, domestic violence, and suicide. Despite recent increases in the federal budget for mental health services for Native Americans, less than 50 percent of the estimated need for ambulatory services is being met. Initiatives to improve the quantity and quality of mental health services for Native Americans in the 1990s include development of a national mental health plan, increased technical assistance to Native American communities, additional training and research, and continued attention to standards that promote high-quality, culturally relevant care. Tribes themselves are seen as the most appropriate locus for initiation of programs for preventing emotional problems in their communities.

MENTAL HEALTH SERVICES FOR AMERICAN INDIANS AND ALASKA NATIVES: NEED, USE, AND BARRIERS TO EFFECTIVE CARE.

Form of information: Article. Manson, S. M. (2000). *Canadian Journal of Psychiatry*, 45(7), 617-626.
Project description: This special review summarizes and illustrates the state of our knowledge regarding the mental health needs of American Indians and Alaska Natives. These needs are considerable and pervasive. The discussion begins by reflecting on the limits of psychiatric nomenclature and conceptual frameworks for revealing Native constructions of mental health and mental illness. The experience and manifestation of psychopathology can be both different and the same across cultures, hinging upon the extent to which such basic assumptions as the relationship of mind to body - and spirit in the case of Native people - or the primacy of the individual or social collective are shared. Having set the stage, this paper moves to recent empirical evidence regarding the mental health needs of American Indians and Alaska Natives: we review that evidence and consider it within the broader context of available services. The report closes with a brief overview of the most pressing issues and forces for change afoot in Indian country in the US. Most have to do with the structure and financing of care as tribes and other Native community-based organizations seek to balance self-determination and resource management to arrive at effective, fiscally responsible, culturally informed prevention, treatment, and aftercare options for their members. These changes may herald similar trends among First Nations people to the immediate north.

STRESS, COPING, AND WELL-BEING AMONG THE YUP'IK OF THE YUKON-KUSKOKWIM DELTA: THE ROLE OF ENCULTURATION AND ACCULTURATION

Form of information: Wolsko, C., Lardon, C., Mohatt, G. V., & Orr, E. (2007). *International Journal of Circumpolar Health*, 66(1), 51-61.

Project description: OBJECTIVES: To report on the relationships between cultural identity and stress, coping, and psychological well-being in Yup'ik communities. STUDY DESIGN: A quantitative self-administered questionnaire. METHODS: A health and wellness survey was completed by a total of 488

Yup'ik participants (284 women and 204 men) from 6 rural villages in the Yukon-Kuskokwim Delta region. Respondents were fairly equally distributed across an age range of 14 to 94 (mean +/- SD = 38.50 +/- 17.18). RESULTS: Participants who reported living more of a Kass'aq way of life (greater acculturation) reported experiencing greater psychosocial stress, less happiness, and greater use of drugs and alcohol to cope with stress. Participants who reported identifying more with a traditional Yup'ik way of life reported greater happiness, more frequent use of religion and spirituality to cope with stress, and less frequent use of drugs and alcohol to cope with stress. CONCLUSIONS: In conjunction with previous research, the data strongly indicates that in general, Yup'ik people in the Y-K Delta tend to associate stress and negative health outcomes with the process of acculturation, and health and healing with the process of enculturation.

ALASKA SUICIDE FOLLOW-BACK STUDY FINAL REPORT

Form of information: website:

http://www.hss.state.ak.us/suicideprevention/pdfs_sspc/sspcfollowback2-07.pdf

Study period September 1, 2003 to August 31, 2006 Alaska Injury Prevention Center Critical Illness and Trauma Foundation, Inc. American Association of Suicidology

Project description: There were two goals for the study: (1) to do an in-depth demographic analysis of the suicides in Alaska for three years from September 1, 2003 through August 31, 2006 and (2) to conduct interviews with key informants for as many suicide cases as possible. This report is divided into two sections, Section 1 addressing the epidemiological data and, Section 2 addressing the data derived from the interviews. The purpose of the data gathering, reporting, and analysis was to better understand the etiology and antecedents of suicide among Alaskans, in order to identify potential points of intervention and strategies to reduce the rate of suicide.

Death certificates attributed to suicides occurring in Alaska between September 1, 2003 and August 31, 2006 were reviewed retrospectively. Information from the Alaska State Medical Examiner, State Troopers, and other law enforcement agencies was collated and reviewed for each suicide death. A cadre of Native and non-Native interviewers was trained in how to use the interview protocol and how to conduct follow-back interviews with survivors of the decedents. All information was entered into a secure database. All efforts to protect confidentiality were in accordance with the Institutional Review Board requirements of the Alaska Native Medical Center, the University of Alaska – Anchorage, and the National Institutes of Health (Certificate of Confidentiality).

There were 426 suicides during the 36 month study period. The average annual suicide rate for the three year study period was 21.4/100,000 (U.S. Census, 2005 estimated population). Males outnumbered females 4 to 1. The age-group of 20 to 29 had both the greatest number of suicides and the highest rate per 100,000 population. Alaska Natives had a significantly higher average rate of suicide than the non-Native population (51.4/100,000 compared to 16.9/100,000). The leading mechanism of death was firearms, accounting for 63% of the suicides. The use of handguns was more prevalent in the non-Native population whereas long guns were used more often by Alaska Natives. The EMS region with the greatest number of Native suicides was Region 4, which includes Bethel and the Yukon-Kuskokwim Delta. Region 2, which includes the Northwest Arctic census area had the highest overall rate of suicide deaths. Follow-back interviews were conducted with 71 informants for 56 of the suicide decedents. Reported alcohol/drug use was the same for Urban as for Rural Native decedents. The same

alcohol/drug use pattern was seen for Urban and for Rural non-Native decedents. Toxicology results were received for 33% of all the suicide cases. Alcohol was found in 44% of the toxicology tests and THC (marijuana) was found in 15%.

This study adds volumes of information to our existing knowledge of suicide in Alaska. More in-depth studies are already in progress, which will continue to add to our knowledge base while bringing in additional resources for prevention and treatment. The report also highlights the need for better death data collection, to quantify alcohol and drug involvement and other contributing factors.

A SUMMARY OF BEST AND PROMISING MENTAL HEALTH PRACTICES FOR SELECT CONSUMER POPULATIONS / THE WASHINGTON INSTITUTE FOR MENTAL ILLNESS RESEARCH TRAINING

Form of information: Report on Website

<http://www.dshs.wa.gov/pdf/dbhr/mh/resourceguide/Bestpracexecsum.pdf>

Project description: The following document is a summary of resource guide created for the Mental Health Division by the Washington Institute for Mental Illness: Research and Training-Eastern Branch (WIMIRT). The summary lists best and promising practices for the following consumers of mental health services:

- children
- American Indian/Alaska Native children
- ethnic minorities
- gay, lesbian, bisexual and transgender individuals
- people with co-occurring mental health and substance disorders, and
- older adults or “geriatric” clients

The full literature review and detailed resource guides will be available on the WIMIRT website: <http://www.spokane.wsu.edu/research&service/WIMIRT> . You can go directly to this site by clicking on the program listed on this site. Best practices are noted. All others are promising practices.

THE EXPERIENCE OF BEING A CLIENT IN AN ALASKA PUBLIC HEALTH NURSING HOME VISITATION PROGRAM

Form of information: Article. DeMay, D. A. (2003). Public Health Nursing, 20(3), 228-236.

Project description: This qualitative study reports on the content analysis of 62 essays written by clients about their experiences in an Alaska public health nursing home visitation project for prevention of child abuse and neglect. Home visitation services were provided to two groups of demographically matched first-time mothers: intense protocol services (intervention group) and "usual" services (current practice group). Intervention and current practice group essays were analyzed separately.

The purpose was to determine how congruent client experiences were with public health nurse perspectives of the care they gave to clients. Similarities and differences between groups were also examined. Although in different order of frequency, themes about knowledge and learning, nurse qualities, validation of parenting skills, and suggestions emerged for both groups, but the intervention group essays were, on average, seven times longer and more descriptively rich. Client experiences were similar to public health nurse concepts of effective service and to other findings in existing research.

TRADITIONAL AND WESTERN HEALING PRACTICES FOR ALCOHOLISM IN AMERICAN INDIANS AND ALASKA NATIVES.

Form of information: Article. Abbott, P. J. (1998). Substance use and Misuse, 33(13), 2605-2646

Project description: The American Indian and Alaska Native population is a culturally diverse population with a current census of 1,959,000. Prior to White contact, there was historically little use of alcoholic beverages except for American Indians in the Southwest. After White contact, use and misuse of alcohol escalated rapidly; however, the prevalence, patterns, and problems of drinking alcoholic beverages vary enormously even in tribes closely linked geographically. American Indians and Alaska Natives have preserved and revitalized a number of traditional healing practices and applied these to the treatment of alcohol-related problems. These healing practices include the following: nativistic movements, sacred dances, sweat lodges, talking circle, four circles, and cultural enhancement programs. Additionally, Western treatment approaches have been applied in the treatment of problems related to alcohol, such as medication for detoxification, disulfiram (Antabuse), Alcoholics Anonymous, and behavioral interventions.

Several investigators have completed a small number of naturalistic follow-up studies, but no one has undertaken a randomized controlled trial looking at specific methods of alcohol treatment in American Indians or Alaska Natives. American Indian and Alaska Native communities have adapted and integrated both Traditional and Western approaches to fit their own unique sociocultural needs.

SUICIDE PREVENTION AS A COMMUNITY DEVELOPMENT PROCESS: UNDERSTANDING CIRCUMPOLAR YOUTH SUICIDE PREVENTION THROUGH COMMUNITY LEVEL OUTCOMES.

Form of information: Allen, J., Mohatt, G., Fok, C. C. T., Henry, D., & People Awakening Team. (2009). *International Journal of Circumpolar Health*, 68(3), 274-291.

Project description: Objectives. Community-based models have become increasingly prominent in prevention, and have special relevance for suicide prevention in circumpolar Indigenous communities. It follows that outcomes from circumpolar suicide prevention programs might be more completely understood at the community level. We present here a methodology for analysis at this level. This paper seeks to understand a cultural prevention program for rural Yup'ik youth in Alaska targeting suicide and co-occurring alcohol abuse as a community development process through changes at the community level. Study Design. Quasi-experimental design with assessment at pre- and post-intervention or at 4 time points. The community development process for this project began in October 2004. The first program baseline assessment began in November 2006, prior to prevention activities with youth and parents, and the post-intervention assessment concluded in March 2008. Methods. Five key informants pre- and post-intervention completed a community readiness assessment, which is a structured procedure assessing a community's awareness of suicide as an issue and its organizational readiness for prevention programming. Forty-three adult caregivers or sponsors of youth in the prevention program completed an assessment of behaviours that contributed to community protective factors from youth suicide and alcohol abuse at 4 time points before, during and after the intervention. The 54 youth who participated in the prevention program completed an assessment of community protective factors, also at 4 time points before, during and after the intervention. The community protective factors from

suicide that were assessed included safety, enforcement of alcohol prohibitions, role models, support and opportunities for youth.

Results. Community readiness for the prevention efforts increased to new developmental stages of readiness post-intervention, and a trend in the data suggested community protective factors increased in the amount of protective behaviours performed by adults (slope estimate=0.0162, 95% CI-0.0028-0.0351, $d=.55$) and in the perceptions of youth (slope estimate=0.0148, 95% CI-0.0004-0.0291, $d=.45$), in a dose response relationship to the number of prevention program sessions attended by adults and youth. Conclusions. Using data from a feasibility study, this paper demonstrates the feasibility and potential utility of methodological approaches that use community-level variables beyond individual level outcomes in circumpolar suicide prevention research.

SERVICE DELIVERY

PROGRAMS

ALASKA DENTAL HEALTH AIDE THERAPIST INITIATIVE

Form of information: website: <http://www.anthc.org/chs/chap/dhs/>

Project description: Dental therapists work in over 50 countries worldwide, from New Zealand to Nepal to the United Kingdom, and have been providing quality preventive and restorative services to their patients for nearly 100 years. As part of a community-driven solution, Alaska Native Tribal Health Consortium introduced the first successful dental therapist workforce in the United States.

Alaska Dental Health Aide Therapists (DHATs) are trained in Alaska according to a proven worldwide model: a two-year, post-high school competency-based primary care curriculum, incorporating innovative preventive and clinical strategies.

Qualitative information: A recent [study of Alaska's dental therapists](#) finds they are providing effective, highest quality oral healthcare in the Alaska communities where they live and serve.

<http://www.wkkf.org/news/Articles/2010/10/Alaska-Dental-Therapist-Program-Study.aspx>

ALASKA NATIVE EPIDEMIOLOGY CENTER

Form of information: website: <http://www.anthctoday.org/community/epicenter.html>

Project description: The Alaska Native Epidemiology center contributes to the wellness of Alaska Native People by Monitoring and reporting on health data, providing technical assistance and supporting initiatives that promote health

HIS HEAD START: START HEALTHY, GROW HEALTHY: ORAL HEALTH BEST PRACTICES

Form of information: document on website:

<http://www.ihs.gov/headstart/documents/OralHealthBestPractices.pdf>

Project description: American Indian and Alaska Native (AI/AN) children experience dental caries at a higher rate than the general U.S. population. Data from 2,663 children ages 2-5 years documented that 79 percent had experienced dental caries (filled or unfilled decay) and 68 percent had untreated dental caries. Over 50 percent of the children ages 2-5 years had severe Early Childhood Caries (ECC).* This Document describes best practices for oral health care for pregnant women and to children up to age 5.

PRIMARY CARE AT THE ALASKA NATIVE MEDICAL CENTER: A FULLY DEPLOYED "NEW MODEL" OF PRIMARY CARE.

Form of information: Article. Eby, D. K. (2007). International Journal of Circumpolar Health, 66 Suppl 1, 4-13.

Project description: Beginning in the 1940s health care for Alaska Native people was delivered by the United States Indian Health Service. The transition to Alaska Native ownership was completed in 1998-9 with the transfer of the Alaska Native Medical Center to Alaska Native corporations.

METHODS: The Native leaders of Southcentral Foundation made a conscious decision to redesign the medical primary care system around the core premise of optimizing long-term, trusting, accountable relationships. The medical system was reoriented to optimize these relationships, assure whole system intentional and integrated design, and remove barriers to these relationship being formed.

RESULTS: The transformed system allowed Alaska Native individuals and families to choose a primary care provider, enter into long-term trusting relationship with the provider, and partner in the journey towards wellness. It was a fully integrated approach that used every part of the system to best advantage, put the power in the hands of the individual and family, and effectively focused on the underlying determinants of health.

CONCLUSIONS: The primary care system created and managed by Southcentral Foundation at the Alaska Native Medical Center demonstrated a system built on similar premises to the "New Model" of family medicine.

STUDIES

ACHIEVING BEST PRACTICE IN LONG TERM CARE

Form of information: Report. Bernard Segal, Ph.D. Stacy L. Smith, MFA (Editor)
Cheryl Easley, Ph.D. Dean, College of Health and Social Welfare University of Alaska
Kanaqlak (George P. Charles), Ph.D. Center Director *September 2004* **National Resource Center for American Indian, Alaska Natives.** http://elders.uaa.alaska.edu/reports/yr2_1best-practices.pdf

Project description: These papers are intended to provide information to decision makers on all levels in the Alaska Native community statewide and regionally, to the State of Alaska, and to various federal offices in Washington, D.C. so that culturally appropriate Elder health care services and programs can be designed and implemented with input from the Elders themselves. By extension the information provided here would be of interest to the many American Indian tribes and Native Hawaiian Elders. Dr.

Josefina Carbonell, the Assistant Secretary on Aging, has directed the NRC to concentrate its efforts in Alaska in the first and second contract years.

This project started with meetings between the Alaska Native Tribal Health Consortium (ANTHC) and the NRC Alaska. A memorandum of agreement was reached to have a joint Alaska Native Elder Health Advisory Committee. This committee has met several times to give direction to both organizations. Meetings with our Elders were then held in regional Alaska Native areas that represent all of our Alaska Native cultural groups. All of the meetings were recorded, transcribed, and later analyzed by our research associates. The transcribed regional meetings papers were then sent back to the regional centers, mostly at senior centers, for their review and comments. Cultural consultants from all of the regional areas were also included to review the final comments in the paper entitled, "Our View of Dignified Aging" to provide an extra cultural review to maintain accuracy.

This project, also referred to as "Voices of Our Elders," is funded by the Department of Health and Human Service through the Administration on Aging in Washington, D.C. Grant No. 90AM2752. The NRC is officially located at the College of Health and Social Welfare (CHSW).

The NRC started in the fall of 2003. Dean Cheryl Easley of CHSW traveled with the NRC staff to many of our regional meetings. The strategic focus chosen for the College of Health and Social Welfare is gerontology and this gives the NRC Alaska additional administrative support. The NRC is one of two resource centers in the nation. The other, entitled the National Resource Center for Native American Aging, has been in existence for twelve years and is located at the University North Dakota. Among other activities, the NRC North Dakota conducts surveys on the status of Native American Elder health and related issues across the nation. Both NRCs are undertaking a joint project to address the issue of elder abuse and exploitation, and its several other related dynamics.

AN EVALUATION OF ALCOHOLISM TREATMENT SERVICES FOR ALASKAN NATIVES

Form of information: Article. Miller, S. I., Helmick, E., & Berg, L. (1975). Hospital and Community Psychiatry, 26(12), 829-831.

Project description: Using chart review procedures, the authors examined the management of patients with a recognized alcohol problem in 12 medical facilities and 20 alcoholism programs throughout Alaska. The evaluation, which covered a 1 yr period, focused on the service delivery system rather than on treatment outcome, and sought to determine if problems of alcohol abuse were being solved. The authors found that a treatment plan was developed, followed up, and evaluated for 8% of the problem drinkers treated in medical facilities and for 16.7% of those in alcohol programs.

GATHERING INFORMATION TO DEVELOP PALLIATIVE CARE PROGRAMS FOR ALASKA'S ABORIGINAL PEOPLES.

Form of information: Article. DeCourtney, C. A., Branch, P. K., & Morgan, K. M. (2010). Journal of Palliative Care, 26(1), 22-31.

Project description: Over an eight-year period, the authors conducted focus groups in six Alaska Aboriginal communities. They sought information about traditional ways of caring for the dying, current values and preferences surrounding death, the kind of support caregivers need, and how a palliative care program could assist families caring for loved ones in the community. Focus groups are a standard qualitative research tool for gathering information when a new program or service is planned. However, for Alaska's Aboriginal people living in remote settings, the standard focus group design is not useful. That design was modified to reflect cultural norms and communication methods while adhering to

standards of qualitative research. Communities selected represented different groups of Alaska's Indigenous people; 84 Aboriginal elders participated. Culturally modified focus groups yielded rich and useful information about historical and traditional practices surrounding death. Participants also vocalized expectations and concerns regarding their own eventual deaths. The process of conducting six different focus groups throughout Alaska yielded valuable information about community engagement in Aboriginal communities.

THE EXPERIENCE OF BEING A CLIENT IN AN ALASKA PUBLIC HEALTH NURSING HOME VISITATION PROGRAM

Form of information: Article. DeMay, D. A. (2003). Public Health Nursing, 20(3), 228-236.

Project description: This qualitative study reports on the content analysis of 62 essays written by clients about their experiences in an Alaska public health nursing home visitation project for prevention of child abuse and neglect. Home visitation services were provided to two groups of demographically matched first-time mothers: intense protocol services (intervention group) and "usual" services (current practice group). Intervention and current practice group essays were analyzed separately.

The purpose was to determine how congruent client experiences were with public health nurse perspectives of the care they gave to clients. Similarities and differences between groups were also examined. Although in different order of frequency, themes about knowledge and learning, nurse qualities, validation of parenting skills, and suggestions emerged for both groups, but the intervention group essays were, on average, seven times longer and more descriptively rich. Client experiences were similar to public health nurse concepts of effective service and to other findings in existing research.

FOOD SECURITY

PROGRAMS

ALASKA TRADITIONAL KNOWLEDGE AND NATIVE FOODS

Form of information: website <http://www.nativeknowledge.org/login.asp>
<http://www.nativeknowledge.org/start.htm>

Project description: Foods from the land and sea have been nourishing Alaska Natives for thousands of years. They have, and they continue to nourish the body, the spirit and the community. Today people are asking, what should they eat? "Is my food safe?" Many non-Native foods are available. What should a person, Native or non-Native, eat? To answer this question, a person needs to know the benefits and the risks, if any, of eating subsistence foods and then weigh this information in terms of his or her personal values.

The Institute of Social and Economic Research (ISER) requested information to assist in developing a comprehensive program that assists individuals and agency personnel in understanding the nutritional

aspects of subsistence foods so that they can make informed decisions about the consumption of subsistence foods. The purposes of this report are to 1.) Review and summarize published information about the nutritional benefits of subsistence or Native foods consumed in Alaska; 2.) Identify the gaps in written knowledge about the nutritional benefits, and 3.) Propose ways to address them. The report is intended for administrators in villages and agencies who may deal with subsistence foods. It also is intended for anyone interested in subsistence or Native foods in Alaska and their benefits.

Other: Traditional Knowledge and Contaminants Project accessed from:

<http://www.nativeknowledge.org/db/explain/progreport.PDF>

Traditional Knowledge and Native Foods Database: <http://www.nativeknowledge.org/db/dropbox.asp>

FOOD BASED DIETARY GUIDELINES IN ALASKA

Form of information: Report. International Journal of Circumpolar Health. Circumpolar Health Supplements (8) 2011. Page 31

Project description: For the State of Alaska, 2 Food Based Dietary Guidelines are available. One is the general set of guidelines describing the components of the diet. The other is for Alaskan women and children regarding fish consumption. These guidelines are unique for Alaska.

STUDIES

DIET QUALITY AMONG YUP'IK ESKIMOS LIVING IN RURAL COMMUNITIES IS LOW: THE CENTER FOR ALASKA NATIVE HEALTH RESEARCH PILOT STUDY.

Form of information: Article. Bersamin, A., Luick, B. R., Ruppert, E., Stern, J. S., & Zidenberg-Cherr, S. (2006). Diet quality among yup'ik eskimos living in rural communities is low: The center for Alaska native health research pilot study. *Journal of the American Dietetic Association*, 106(7), 1055-1063.

Project description: Objective: The objectives of this pilot study were to describe the nutrient intake of Yup'ik Eskimos in comparison with national intake, identify dietary sources of key nutrients, and assess the utility of the Healthy Eating Index (HEI) to measure diet quality of Yup'ik Eskimos living in rural Alaskan Native communities. Participants and Design: A single 24-hour recall was collected from 48 male and 44 female Yup'ik Eskimos (aged 14 to 81 years), who resided in three villages in the Yukon Kuskokwim River Delta, AK, during September 2003.

Main Outcome Measures: HEI scores, nutrient intake, and traditional food intake. Statistical Analyses Performed: Spearman correlations for associations between variables.

Results: Youth scored higher than elders despite similar nutrient intakes. Overall diet quality was generally low; 63% of all participants' diets were classified as poor. Although the HEI serves to identify areas of concern with respect to diet quality, it is limited in its ability to detect the positive value of traditional foods.

Conclusions: Traditional foods and healthful market foods, including rich sources of fiber and calcium, should be encouraged. Although traditional foods were important sources of energy and nutrients, market foods composed the preponderance of the diet, emphasizing the importance of appropriately modifying a diet quality index based on a Western framework, such as the HEI.

DIETARY INTAKE AMONG ALASKA NATIVE WOMEN RESIDENT OF ANCHORAGE, ALASKA.

Form of information: Article. Nobmann, E. D., & Lanier, A. P. (2001). Dietary intake among Alaska native women resident of Anchorage, Alaska. *International Journal of Circumpolar Health*, 60(2), 123-137.

Project description: OBJECTIVE: We summarized data from a study of Alaska Native women living in predominantly urban communities to assess the quality of their dietary intakes and compare to current US dietary recommendations. STUDY DESIGN: Descriptive cross sectional study of seventy-four Alaska Native women living in and around Anchorage, Alaska. Each completed up to four 24-h diet recalls during one year. Participants were enrolled in 1996 and 1997. Blood samples were analyzed for hematocrit, vitamin A, vitamin C, vitamin E and folate.

RESULTS: Results were compared with current US dietary guide lines for food groups and nutrients. Mean intake of these women fell below recommendations for all food groups except the Meat and Beans Group. Mean intakes of sweets, sodium and energy from fat and saturated fat exceeded recommendations. Red blood cell folate levels were low in 32% of the women. Only one-quarter of the women reported eating Native foods.

CONCLUSIONS: The survey shows room for improvement in diet to include reduced intakes of saturated fat, and increased intakes of folate, calcium, and dietary fiber by increasing consumption of fruits and vegetables, whole grain breads and cereals, non-fat milk products, and Native foods.

DIETARY INTAKES VARY WITH AGE AMONG ESKIMO ADULTS OF NORTHWEST ALASKA IN THE GOCADAN STUDY, 2000-2003.

Form of information: Article. Nobmann, E. D., Ponce, R., Mattil, C., Devereux, R., Dyke, B., Ebbesson, S. O. E., . . . Howard, B. V. (2005). Dietary intakes vary with age among Eskimo adults of Northwest Alaska in the GOCADAN study, 2000-2003. *Journal of Nutrition*, 135(4), 856-862.

Project description: Dietary factors influence the development of cardiovascular disease (CVD). The diet of Alaskan Eskimos differs from that of other populations. We surveyed Eskimo adults in Northwest Alaska to document their usual dietary intakes, differences based on gender and age, and sources of selected nutrients, and to generate appropriate dietary advice to reduce CVD. Interviewers surveyed 850 men and women 17-92 y old, using a quantitative food-frequency instrument. We observed many significant (χ^2 analysis $P < 0.05$) differences in nutrient intakes among 3 age-groups. Energy intake from carbohydrate was negatively related to participant age-group ($P < 0.01$). Energy intake from all fats ($P < 0.001$) and polyunsaturated fat ($P < 0.01$) was positively related to age-group among both men and women in contrast to other studies in which age differences were either not observed or decreased with age. Native foods were major sources of monounsaturated and polyunsaturated fats, including 56% of (n-3) fatty acids primarily from seal oil and salmon. However, Native foods contributed significantly less to the diets of young adults than to those of elders, especially among women. Store-bought foods were the main sources of energy, carbohydrate, fat, saturated fat, and fiber for all adults. Based on their nutrient density and potential to inhibit CVD, continued consumption of traditional foods is recommended. Variations in intake by age may portend changing eating patterns that will influence CVD

as participants age. These data will contribute to understanding dietary risk factors for cardiovascular disease in this population.

FOOD CUSTOMS OF ALASKA WOMEN OF CHILDBEARING AGE: THE ALASKA WIC HEALTHY MOMS SURVEY.

Form of information: Article. Smith, J., Johnson, P., Easton, P., Wiedman, D., & Widmark, E. (2008). Food customs of Alaska women of childbearing age: The Alaska wic healthy moms survey. *Ecology of Food and Nutrition*, 47(6), 485-517.

Project description: A survey of 60 rural, 62 urban Alaska women (64% Alaska Native) indicated positive dietary and lifestyle habits. Diets were characterized by boiled meats, high intakes of omega-3 fish, sea mammals and few desserts. Food insecurity reported by 39% rural and 7% of urban. Hunger was reported by 16% of rural and 5% of urban women. Traditional activities were walking, harvesting fish and picking berries. One third of calories came from non-traditional sugared and fruit juice beverages. Few respondents reported chronic diseases. Nutrition and health educational interventions in Alaska Native communities should reinforce existing positive lifestyle habits, involve Elders and tribal leaders, and incorporate Native values, customs and traditions.

ORGANOCHLORINE AND METAL CONTAMINANTS IN TRADITIONAL FOODS FROM ST. LAWRENCE ISLAND, ALASKA.

Form of information: Article. Welfinger-Smith, G., Minholz, J. L., Byrne, S., Waghiyi, V., Gologergen, J., Kava, J., . . . Carpenter, D. O. (2011). Organochlorine and metal contaminants in traditional foods from st. lawrence island, Alaska. *Journal of Toxicology and Environmental Health - Part A: Current Issues*, 74(18), 1195-1214.

Project description: Marine mammals (bowhead whale, walrus, and various seals) constitute the major component of the diet of the Yupik people of St. Lawrence Island, Alaska. St. Lawrence Island residents have higher serum concentrations of polychlorinated biphenyls (PCB) than in the general U.S. population. In order to determine potential sources, traditional food samples were collected from 2004 to 2009 and analyzed for PCBs, three chlorinated pesticides, and seven heavy metals (mercury, copper, zinc, arsenic, selenium, cadmium, and lead). Concentrations of PCB in rendered oils (193-421 ppb) and blubber (73-317 ppb) from all marine mammal samples were at levels that trigger advisories for severely restricted consumption, using U.S. Environmental Protection Agency (EPA) fish consumption advisories. Concentrations of pesticides were lower, but were still elevated. The highest PCB concentrations were found in polar bear (445 ppb) and the lowest in reindeer adipose tissue (2 ppb). Marine mammal and polar bear meat in general have PCB concentrations that were 1-5% of those in rendered oils or adipose tissue. PCB concentrations in organs were higher than meat. Concentrations of metals in oils and meats from all species were relatively low, but increased levels of mercury, cadmium, copper, and zinc were present in some liver and kidney samples. Mercury and arsenic were found in lipid-rich samples, indicating organometals. These results show that the source of the elevated concentrations of these contaminants in the Yupik population is primarily from consumption of marine mammal blubber and rendered oils.

TRADITIONAL FOODS AND PHYSICAL ACTIVITY PATTERNS AND ASSOCIATIONS WITH CULTURAL FACTORS IN A DIVERSE ALASKA NATIVE POPULATION.

Form of information: Article. Redwood, D. G., Ferucci, E. D., Schumacher, M. C., Johnson, J. S., Lanier, A. P., Helzer, L. J., . . . Slattery, M. L. (2008). Traditional foods and physical activity patterns and associations with cultural factors in a diverse Alaska native population. *International Journal of Circumpolar Health*, 67(4), 335-348.

Project description: Objectives. To determine the prevalence of traditional food and physical activity use and associations with cultural factors among 3,830 Alaska Native and American Indian (AN/AI) people enrolled in the Education and Research Towards Health (EARTH) Study in 3 regions of Alaska.

Study design. Cross-sectional analysis of baseline data from a cohort study. Methods. Participants (2,323 women and 1,507 men) completed a computer-assisted self-administered questionnaire that included information on diet, physical activity, life-style and cultural factors. Results. Over 9 % of participants reported eating at least 1 traditional food in the past year. The top 3 traditional foods reported were fish, moose and agutaq (a mixture of berries and fat). The percentage of people who consumed traditional foods varied by region and age but not by sex ($p < 0.01$). Almost 70% of participants engaged in at least one traditional harvesting physical activity. Picking berries or greens, cutting/smoking fish or meat and fishing were the most common activities. Participation in traditional physical activity was highest in south-west Alaska and was higher among men than women, but did not differ by age ($p < 0.01$). Both traditional food and physical activity were associated with greater tribal self-identification, speaking a Native language at home, using traditional remedies and participating in or attending traditional events ($p < 0.05$).

Conclusions. The EARTH Study found relationships between traditional food use, physical activities, cultural activities and behaviours. Consumption of a variety of traditional foods and participation in traditional physical activities remain an important part of the contemporary Alaska Native life-style. Efforts to promote and sustain these foods and activities in AN/AI populations may lead to improved health outcomes.

DEVELOPING A VALIDATED ALASKA NATIVE FOOD FREQUENCY QUESTIONNAIRE FOR WESTERN ALASKA, 2002-2006

Form of information: Article. Johnson, J. S., Nobmann, E. D., Asay, E., & Lanier, A. P. (2009). Developing a validated Alaska native food frequency questionnaire for western Alaska, 2002-2006. *International Journal of Circumpolar Health*, 68(2), 99-108.

Project description: Objectives. The purpose of this study was to develop a dietary instrument (food frequency questionnaire [FFQ]) that measured total dietary intake over 1 year among Alaska Native people in 2 regions. Ways of assessing diet are needed in order to accurately evaluate how the diets of Alaska Natives relate to their health. Study design. Seasonal 24-hour (24-h) diet recalls were collected for developing an FFQ that described the average dietary foods and nutrients consumed. Alaska Native people living in 12 small communities in 2 regions of the state were eligible to participate. Methods. Each participant was to provide 4 24-h diet recalls, 1 per season. Recalls were used to develop an FFQ using regression techniques. The FFQ was administered to 58 of the 333 original participants. Responses to the FFQ were compared to the averages of their 24-h recalls using the Spearman Correlation Coefficient.

Results. Energy-adjusted correlations ranged from 0.15 for protein to 0.49 for monounsaturated fatty acids. Fifteen of 26 nutrients examined were significantly correlated (total carbohydrates, sucrose,

fructose, total fat, fatty acids [monounsaturated, polyunsaturated, omega 3, EPA, DHA], folate, vitamins A, C, D, potassium and selenium). Conclusions. The FFQ can be used to evaluate intakes of Alaska Natives in western Alaska for the correlated nutrients.

CHRONIC DISEASE

PROGRAMS

CAMP

(CHRONIC CARE ACTIVE MANAGEMENT & PREVENTION) BY THE NORTON SOUND HEALTH CORPORATION (NSHC)

Form of information: website : <http://www.nortonsoundhealth.org/diabetes.html>

Project description: The intent of this program is to empower communities to develop culturally sensitive programs promoting healthy lifestyles to prevent chronic illness and to personally empower individuals to take ownership of their healthcare through family and community based support to improve the quality of life for people with chronic illnesses. Services offered include diabetes case management, diabetes prevention, and health promotion. Staff includes nurse case manager, registered dietitians, director, data coordinator, and secretary. Not only is diabetes management available for support and direction, CAMP staff also provide programs and activities for prevention purposes including individual screening and counseling, community presentations, physical fitness activities, mini grants for villages, tobacco cessation and more.

Qualitative information: page 16 in the 06/07 annual report lists accomplishments, including how much money was spent in prevention and prevention demonstration projects.

Other: Norton Sound Health Corporation site map:

<http://www.nortonsoundhealth.org/sitemap.html>

Includes information about NSHC, Hospital Services, Community Health Services, and Service Areas.

Annual report on site lists 2006/07 <http://www.nortonsoundhealth.org/docs/06AnnRepo.pdf>

STUDIES

A GENETIC AND EPIDEMIOLOGIC STUDY OF CARDIOVASCULAR DISEASE

Form of information: Howard, B. V., Devereux, R. B., Cole, S. A., Davidson, M., Dyke, B., Ebbesson, S. O., Robbins, D. C. (2005). *International Journal of Circumpolar Health*, 64(3), 206-221.

Project description: This article is a report of the design and methods of the Genetics of Coronary Artery Disease in Alaska Natives (GOCADAN) Study. This longitudinal, population-based study was initiated to investigate the genetic determinants of cardiovascular disease and its risk factors. Between October 2000 and April 2004, this family study enrolled 1,214 Eskimos from several coastal villages in the Norton

Sound region of Western Alaska. Examinations included a physical, laboratory determinations, and measures of subclinical disease. This study will generate a genome-wide scan for loci influencing cardiovascular disease-related traits. Relations between subclinical atherosclerosis and markers of inflammation will be examined using historic and newly drawn samples. The study will provide data on CVD prevalence, risk factors and the relative contribution of genetic and environmental determinants in Alaska Native peoples. Data from this study will contribute to the delivery of health-care and prevention of CVD in Alaska Eskimos and other populations.

CARDIOVASCULAR DISEASE AND RISK FACTORS IN THREE ALASKAN ESKIMO POPULATIONS: THE ALASKA-SIBERIA PROJECT.

Form of information: Article. Ebbesson, S. O., Adler, A. I., Risica, P. M., Ebbesson, L. O., Yeh, J. L., Go, O. T., . . . Robbins, D. C. (2005). Cardiovascular disease and risk factors in three Alaskan Eskimo populations: The Alaska-Siberia project. *International Journal of Circumpolar Health*, 64(4), 365-386.

Project description: OBJECTIVES: To determine the prevalence of CVD and to identify and characterize associated risk factors in three distinct Eskimo populations. STUDY DESIGN: Cross-sectional. METHODS: A slightly modified Strong Heart Study protocol was followed to examine 454 participants, aged 25-91, from four villages. RESULTS: Overall, 6% of the participants under 55 years of age and 26% of those > or = 55 years of age showed evidence of CHD by ECG, or in patient records. The prevalence of "definite coronary heart disease" (CHD) in women with glucose intolerance (GI) was 21.0%, compared to 2.4% in those with normal glucose tolerance (NGT). Men had comparable values of 26.7% and 6.3%. In addition, comparable values for "possible CHD" were 29.7% vs 6.0% for women and 21.4% vs 8.0% for men. GI was associated with relatively higher prevalences of CHD in women than in men (prevalence ratio = 8.5 vs 4.3). CHD was significantly related to age, glucose intolerance and insulin. Hypertension and obesity were significantly associated with CHD only in some ethnic groups. The prevalence of current smokers was 56%. CONCLUSIONS: Recent changes in lifestyle and diet of Alaskan Eskimos, leading to obesity, hypertension, insulin resistance and DM, contribute to an increased risk for cardiovascular disease.

CARDIOVASCULAR DISEASE PREVALENCE AND ITS RELATION TO RISK FACTORS IN ALASKA ESKIMOS

Form of information: Article. Howard, B. V., Comuzzie, A., Devereux, R. B., Ebbesson, S. O., Fabsitz, R. R., Howard, W. J., . . . Wenger, C. R. (2010). Cardiovascular disease prevalence and its relation to risk factors in Alaska Eskimos. *Nutrition, Metabolism, and Cardiovascular Diseases : NMCD*, 20(5), 350-358.

Project description: BACKGROUND AND AIMS: Although Eskimos were thought to be protected from cardiovascular disease (CVD), state health data show a large proportion of deaths from CVD, despite traditional lifestyles and high omega-3 fatty acid intake. This article explores CVD prevalence and its relation to risk factors in Alaska Eskimos. METHODS AND RESULTS: A population-based cohort of 499 Alaska Eskimos > age 45 from the Norton Sound region was examined in 2000-2004 for CVD and associated risk factors as part of the Genetics of Coronary Artery Disease in Alaska Natives study. CVD and atherosclerosis were evaluated and adjudicated using standardized methods. Average age was 58 years; diabetes prevalence was low and high-density lipoprotein cholesterol (HDL-C) concentrations

were high, but a large proportion smoked and had high pathogen burden. CVD was higher in men (12.6%) than in women (5.3%) (prevalence ratio 2.4, CI 1.3-4.4). Rates of stroke (6.1% in men, 1.8% in women) were similar to those for coronary heart disease (CHD) (6.1% men, 2.5% women). MI prevalence was low in both genders (1.9% and 0.7%). CVD was higher in men and in those >60 years. Hypertension, diabetes, high LDL-C, high apoB, and low HDL-C were all strong correlates (<.002) and albuminuria and CRP were also correlated with CVD ($p<.05$) after adjustment for age and gender. Carotid atherosclerosis was correlated with CVD ($p=.0079$) independent of other risk factors. CONCLUSION: These data show high CHD and stroke prevalence in Alaska Eskimos, despite low average LDL-C and high HDL-C. Hypertension and high LDL-C were independent correlates; identifying these risk factors early and treating to target is recommended.

CARDIOVASCULAR DISEASE RISK FACTOR SCREENING AMONG ALASKA NATIVE WOMEN: THE TRADITIONS OF THE HEART PROJECT

Form of information: Article. Hiratsuka, V. Y., Loo, R., Will, J. C., Oberrecht, R., & Poindexter, P. (2007). Cardiovascular disease risk factor screening among Alaska native women: The traditions of the heart project. *International Journal of Circumpolar Health*, 66 Suppl 1, 39-44.

Project description: OBJECTIVES: To describe tobacco use, obesity and overweight, high blood pressure, high blood cholesterol and impaired glucose tolerance in Alaska Native and American Indian women living in the Anchorage area. STUDY DESIGN: Cross-sectional evaluation of women enrolled in the Traditions of the Heart program. METHODS: Traditions of the Heart was a randomized controlled trial of an intervention to reduce risk factors for cardiovascular disease. Starting in October 2000, Southcentral Foundation provided a 12-week group lifestyle intervention to eligible Alaska Native and American Indian women aged 40 to 64 residing in the Anchorage area. The study included assessment of biochemical and behavioral risk factors for cardiovascular disease.

RESULTS: Of the 1334 women who enrolled between October 2000 and July 2005, 33.5% were current smokers, 78.8% were overweight or obese, 10.9% were hypertensive, 21.4% had elevated total cholesterol, and 5.6% had fasting glucose concentrations ≥ 126 mg/dL.

CONCLUSIONS: The women in this study had many risk factors for cardiovascular disease. Interventions are needed to reduce these risk factors among Alaska Native women.

CARDIOVASCULAR DISEASE PREVALENCE

Form of information: Article. Howard, B. V., Comuzzie, A., Devereux, R. B., Ebbesson, S. O., Fabsitz, R. R., Howard, W. J., . . . Wenger, C. R. (2010). *Nutrition, Metabolism, and Cardiovascular Diseases : NMCD*, 20(5), 350-358.

Project description: Although Eskimos were thought to be protected from cardiovascular disease(CVD), state health data show a large proportion of deaths from CVD, despite traditional lifestyles and high omega-3 fatty acid intake. This article explores CVD prevalence and its relation to risk factors in Alaska Eskimos. METHODS AND RESULTS: A population-based cohort of 499 Alaska Eskimos > age 45 from the Norton Sound region was examined in 2000-2004 for CVD and associated risk factors as part of the Genetics of Coronary Artery Disease in Alaska Natives study. CVD and atherosclerosis were evaluated and adjudicated using standardized methods. Average age was 58 years; diabetes prevalence was low and high-density lipoprotein cholesterol (HDL-C) concentrations were high, but a large proportion smoked and had high pathogen burden. CVD was higher in men (12.6%) than in women (5.3%)

(prevalence ratio 2.4, CI 1.3-4.4). Rates of stroke (6.1% in men, 1.8% in women) were similar to those for coronary heart disease (CHD) (6.1% men, 2.5% women). MI prevalence was low in both genders (1.9% and 0.7%). CVD was higher in men and in those >60 years. Hypertension, diabetes, high LDL-C, high apoB, and low HDL-C were all strong correlates (<.002) and albuminuria and CRP were also correlated with CVD (p<.05) after adjustment for age and gender. Carotid atherosclerosis was correlated with CVD (p=.0079) independent of other risk factors.

CONCLUSION: These data show high CHD and stroke prevalence in Alaska Eskimos, despite low average LDL-C and high HDL-C. Hypertension and high LDL-C were independent correlates; identifying these risk factors early and treating to target is recommended.

CARDIOVASCULAR DISEASE RISK FACTOR SCREENING AMONG ALASKA NATIVE WOMEN

Form of information: Article. Hiratsuka, V. Y., Loo, R., Will, J. C., Oberrecht, R., & Poindexter, P. (2007). [Int J Circumpolar Health](#). 2007; 66 Suppl 1:39-44

Project description: To describe tobacco use, obesity and overweight, high blood pressure, high blood cholesterol and impaired glucose tolerance in Alaska Native and American Indian women living in the Anchorage area. **STUDY DESIGN:** Cross-sectional evaluation of women enrolled in the Traditions of the Heart program. **METHODS:** Traditions of the Heart was a randomized controlled trial of an intervention to reduce risk factors for cardiovascular disease. Starting in October 2000, South central Foundation provided a 12-week group lifestyle intervention to eligible Alaska Native and American Indian women aged 40 to 64 residing in the Anchorage area. The study included assessment of biochemical and behavioral risk factors for cardiovascular disease.

RESULTS: Of the 1334 women who enrolled between October 2000 and July 2005, 33.5% were current smokers, 78.8% were overweight or obese, 10.9% were hypertensive, 21.4% had elevated total cholesterol, and 5.6% had fasting glucose concentrations > or = 126 mg/dL.

CONCLUSIONS: The women in this study had many risk factors for cardiovascular disease. Interventions are needed to reduce these risk factors among Alaska Native women.

BUILDING A COMMUNITY-BASED PARTICIPATORY RESEARCH CENTER TO INVESTIGATE OBESITY AND DIABETES IN ALASKA NATIVES

Form of information: Article. Boyer, B.B., Mohatt, G.V. Lardon, C., Plaetke, R., Luick, B.R., Hutchison, S.H., ...Bersamin, A. (2005). *International Journal of Circumpolar Health*, 64 (3), 281-290.

Project description: The Center for Alaska Native Health Research (CANHR) is a community-based participatory research project aimed at understanding current risk factors for obesity, diabetes, and cardiovascular disease in Alaska Natives living in Southwest Alaska. We utilize a multidisciplinary approach that includes assessment of genetic, nutritional and behavioral risk factors and their interrelationships with one another in the overall development of disease. The design of the CANHR project involved community participation in the development, implementation and interpretation of research results. We have developed a participatory research program that is designed to be culturally appropriate, relevant to community needs and interests, and respectful to our participants. This

manuscript describes the organizational development of our CANHR study and the procedures employed in its progression to date.

COMMUNITY-BASED PARTICIPATORY RESEARCH IN A LARGE COHORT STUDY OF CHRONIC DISEASES AMONG ALASKA NATIVE ADULTS.

Form of information: Redwood, D., Lanier, A., Kemberling, M., Klejka, J., Sylvester, I., & Lundgren, K. (2010). [Prog Community Health Partnersh.](#) 2010 Winter;4(4):325-30

Project description: In 2001, the National Cancer Institute (NCI) funded a project to develop methods to recruit American Indian and Alaska Native (AI/AN) adults for a prospective cohort study of chronic disease risk and protective factors. We describe how the use of community-based participatory research (CBPR) principles led to more effective study design and implementation in a study in Alaska. CBPR elements included collaboration between researchers and tribes at all stages of the project, capacity building through training AI/AN staff in research methods, and knowledge dissemination through presentations, newsletters, and individual and community health feedback based on results of the study. Between March 2004 and August 2006, 3,821 AI/ AN adults from 26 Alaskan communities enrolled in the study. Retention in the study is high, with over 88% of participants successfully completing a 2-year follow-up questionnaire. CBPR methods have facilitated effective development of study methods, recruitment and retention. Efforts are on-going to continue work with this unique AI/AN research participant community.

COMMUNITY EDUCATION PREDICTS PAEDIATRIC LOWER-RESPIRATORY INFECTION RISK BETTER THAN MATERNAL EDUCATION.

Form of information: Article. Gessner, B. D., Chimonas, M. -. R., & Grady, S. C. (2010). *Journal of Epidemiology and Community Health*, 64(2), 130-135.

Project description: Few studies have evaluated the contribution of community and parental education levels in determining paediatric outcomes, including lower respiratory infection (LRI), the leading global cause of child mortality. **Methods:** The authors evaluated the association between community and maternal educational attainment and LRI risk among Medicaid-enrolled children age <2 years in Alaska, which has one of the highest LRI incidences ever reported. An individual-level database was created by linking Medicaid data to birth certificate files. A community-level database was created by calculating community LRI incidence rates and linking these values to Department of Labor census variables. Multilevel modelling was used to evaluate the independent effects of maternal and community education levels on LRI risk.

Results: Statewide outpatient and inpatient LRI incidences were high at 42 and 6 per 100 child-years. When controlling for potential individual and community level confounding variables, a child's risk of outpatient and inpatient LRI was independently predicted in a dose-response manner by the child's mother's educational attainment and the educational attainment of other adults in the child's community. The latter variable had a stronger association and higher community education levels substantially mitigated the risk of poor maternal education.

Conclusions LRI risk among Alaskan children is affected by the formal education levels of the child's mother and other adults in their community. The mechanisms by which community education might influence LRI risk remain unknown and may include access to medical knowledge or acceptance of scientific versus traditional beliefs.

BUILDING A COMMUNITY-BASED PARTICIPATORY RESEARCH CENTER TO INVESTIGATE OBESITY AND DIABETES IN ALASKA NATIVES.

Form of information: Boyer, B. B., Mohatt, G. V., Lardon, C., Plaetke, R., Luick, B. R., Hutchison, S. H., . . . Bersamin, A. (2005). *International Journal of Circumpolar Health*, 64(3), 281-290.

Project description: The Center for Alaska Native Health Research (CANHR) is a community-based participatory research project aimed at understanding current risk factors for obesity, diabetes, and cardiovascular disease in Alaska Natives living in Southwest Alaska. We utilize a multidisciplinary approach that includes assessment of genetic, nutritional and behavioral risk factors and their interrelationships with one another in the overall development of disease. The design of the CANHR project involved community participation in the development, implementation and interpretation of research results. We have developed a participatory research program that is designed to be culturally appropriate, relevant to community needs and interests, and respectful to our participants. This manuscript describes the organizational development of our CANHR study and the procedures employed in its progression to date.

A SUCCESSFUL DIABETES PREVENTION STUDY IN ESKIMOS: THE ALASKA SIBERIA PROJECT.

Form of information: Article. Ebbesson, S. O., Ebbesson, L. O., Swenson, M., Kennish, J. M., & Robbins, D. C. (2005). . *International Journal of Circumpolar Health.*, 64(4), 409-424.

Project description: To test the efficacy of a simple intervention method to reduce risk factors for type 2 diabetes (DM) and cardiovascular disease (CVD) in Alaskan Eskimos.

STUDY DESIGN: The study consisted of 1) a comprehensive screening for risk factors of 454 individuals in 4 villages, 2) a 4-year intervention and 3) a repetition of the screening in year 5 to test the efficacy of the intervention. **METHODS:** Personal counseling (1hr/year) stressed the consumption of more traditional foods high in omega-3 fatty acids and less of certain specific store-bought foods high in palmitic acid, which was identified as being associated with glucose intolerance.

RESULTS: The intervention resulted in significant reductions in plasma concentrations of total cholesterol ($p = 0.0001$), LDL cholesterol ($p = 0.0001$), fasting glucose ($p = 0.0001$), diastolic blood pressure ($p = 0.0007$) and improved glucose tolerance ($p = 0.0006$). This occurred without loss of body weight. Sixty percent of the participants had improved glucose tolerance; only one of the 44 originally identified with impaired glucose tolerance (IGT) developed DM during the study.

CONCLUSIONS: Dramatic improvements of risk factors for DM and CVD were achieved in the intervention by primarily stressing the need for changes in the consumption of specific fats. The results suggest that fat consumption is an important risk factor for DM.

DIABETES COMPLICATIONS AND MORTALITY AMONG ALASKA NATIVES: 8 YEARS OF OBSERVATION.

Form of information: Schraer, C. D., Adler, A. I., Mayer, A. M., Halderson, K. R., & Trimble, B. A. (1997). *Diabetes Care*, 20(3), 314-321.

Project description: To determine the prevalence and incidence of diabetes in Alaska Natives and the

incidence of cerebrovascular accidents (stroke), myocardial infarction (MI), end-stage renal disease (ESRD), lower-extremity amputations (LEA), and mortality over a 6- to 8-year period. RESEARCH DESIGN AND METHODS - The data derive from a registry of diagnosed diabetes (World Health Organization [WHO] criteria) of the Alaska Area Native Health Service (AANHS), from medical records, and from the Alaska Bureau of Vital Statistics.

RESULTS - From 1986 to 1993, the prevalence of diabetes in Alaska Natives increased by 22% from 15.7 to 19.2 per 1,000 people. Of these cases, nearly all were diagnosed with type II diabetes. During the same period, 614 new cases were diagnosed. The incidence was 1.5 per 1,000 Alaska Natives per year. The incidence of confirmed M1 was 8.0 per 1,000 person-years of diabetes. Aleuts had the highest rate, followed by Indians and Eskimos. The incidence of confirmed stroke was 10.6 per 1,000 person-years of diabetes. Eskimos had a significantly higher rate than Indians ($P = 0.002$), and women had a higher rate than men. The incidence of LEA was 5.0 per 1,000 person-years of diabetes. The incidence rate dropped significantly after instituting a foot care program. The incidence for ESRD was 3.3 per 1,000 and also showed a decline with time. The all-cause mortality rate of 43.2 per 1,000 person-years of diabetes was nearly equal between men and women. Among Alaska Natives with diabetes, cardiovascular disease (CVD) was the most common cause of death, followed by cancer and diabetes, per se. CONCLUSIONS - We conclude that diabetes is increasing in Alaska Natives, who are experiencing both the microvascular and macrovascular complications of diabetes. The incidence of LEA and ESRD show some evidence of a decrease after intervention efforts.

RELATION BETWEEN THE LEVEL OF AMERICAN INDIAN AND ALASKA NATIVE DIABETES EDUCATION PROGRAM SERVICES AND QUALITY-OF-CARE INDICATORS.

Form of information: Article. Roubideaux, Y., Noonan, C., Goldberg, J. H., Valdez, S. L., Brown, T. L., Manson, S. M., & Acton, K. (2008). [Am J Public Health](#). 2008 Nov;98(11):2079-84. Epub 2008 May 29

Project description: We examined the relation between the level of diabetes education program services in the Indian Health Service (IHS) and indicators of the quality of diabetes care to determine if more-comprehensive diabetes services were associated with better quality of diabetes care.

Methods. In this cross-sectional study, we used the IHS Integrated Diabetes Education Recognition Program to rank program services into 1 of 3 levels of comprehensiveness, ranging from lowest (developmental) to highest (integrated). We compared quality-of-care indicators among programs of differing levels with the 2001 IHS Diabetes Care and Outcomes Audit. Quality indicators included patients having recommended yearly examinations, education, and laboratory tests and achieving recommended levels of intermediate outcomes of care.

Results. Most of the 86 participating programs were classified at or below the developmental level; only 9 programs (11%) were ranked at higher levels. After adjusting for patient characteristics, program factors, and correlation of patients within programs, we associated programs that were more comprehensive with higher completion rates of yearly lipid and hemoglobin A1C tests ($P < .05$).

Conclusions. System-wide improvements in diabetes education are associated with better diabetes care. The results can help inform the development of diabetes education programs.

DIABETES AND IMPAIRED GLUCOSE TOLERANCE.

Form of information: Article. Ebbesson, S. O. K., Schraer, C. D., Risica, P. M., Adler, A. I., Ebbesson, L., Mayer, A. M., . . . Robbins, D. C. (1998). *Diabetes Care*, 21(4), 563-569.

Project description: The objectives of this study were to determine the prevalence of diabetes and impaired glucose tolerance (IGT) in three Alaskan Eskimo populations, using standardized diagnostic criteria, and to evaluate family history and obesity as risk factors.

RESEARCH DESIGN AND METHODS - This cross-sectional study involved men and women ≤ 25 years of age from three Eskimo ethnic groups (Siberian Yupik, Central Yupik, and Inupiat) residing in northwestern Alaska. Glucose tolerance status was defined by World Health Organization criteria and was based on a 75-g oral glucose tolerance test. Data on age, family history of diabetes, and degree of Eskimo ancestry were obtained from a personal interview. Obesity was assessed using BMI.

RESULTS - A total of 454 of 899 (50.5%) eligible participants were examined for diabetic status (239 Siberian Yupik, 106 Central Yupik, and 109 Inupiat participants). The prevalence of diabetes was more than twice as high among the Siberian Yupik (9.6%) as among the Central Yupik (2.8%) and Inupiat participants (3.7%). Diabetes was more prevalent in women than men (8.8 vs. 4.2%). IGT was found in an additional 11.7% of the women and 4.7% of the men. The combined prevalence of diabetes and IGT in the population ≤ 55 years of age was 30.4% (diabetes 12.0%, IGT 18.4%). Of the people identified with diabetes, 47% had not been previously diagnosed. Age-specific prevalences were similar to those found in U.S. whites in the National Health and Nutrition Examination Survey II. After adjustment for age, family history of diabetes was associated with diabetes in study participants with an odds ratio of 4.4, while obesity was associated with diabetes with an odds ratio of 2.6.

CONCLUSIONS - These prevalences of diabetes are the highest yet reported among Eskimo populations. Obesity and family history of diabetes are associated with increased odds of developing diabetes. These data underscore the need to further examine risk factors and to design effective interventions.

DIABETES PREVALENCE, INCIDENCE, COMPLICATIONS AND MORTALITY AMONG ALASKA NATIVE PEOPLE 1985-2006.

Form of information: Article. Narayanan, M. L., Schraer, C. D., Bulkow, L. R., Koller, K. R., Asay, E., Mayer, A. M., & Raymer, T. W. (2010). *International Journal of Circumpolar Health*, 69(3), 236-252.

Project description: To examine trends in diabetes prevalence, incidence, complications and mortality between 1985 and 2006 among Alaska Native people. **STUDY DESIGN:** We used data from the population-based Alaska Native Diabetes Registry, which includes all people who receive care in the Alaska Tribal Health System.

METHODS: We compared the periods of 1986-1990 and 2002-2006 for diabetes-related amputations, renal replacement and mortality using Poisson regression. Complications and mortality data were examined for trends using Poisson regression. Survival analyses for those diagnosed since 31 December 1985 were performed using the Cox proportional hazard model. **RESULTS:** Age-adjusted diabetes prevalence increased from 17.3 in 1985 to 47.6/1,000 in 2006. The number of Alaska Native people living in Alaska with diabetes increased from 610 in 1985 to 3,386 in 2006. Diabetes incidence rates have also increased. Comparing age-adjusted rates for the 5-year periods 1986-1990 and 2002-2006, amputations decreased from 5.3 to 2.6/1,000, renal replacement decreased from 3.3 to 1.2/1,000 and mortality decreased from 41.7 to 33.2/1,000. Yearly analyses showed a downward trend for amputations, renal replacement and mortality rates. Survival analyses showed a significantly higher hazard ratio for any amputations, major amputations and renal replacement for the earlier time period compared to the most recent time period.

CONCLUSIONS: An increase in risk factors, awareness, funding and case-finding may be contributing to the increase in prevalence and incidence of diagnosed diabetes. While diabetes prevalence and

incidence are increasing among Alaska Native people, our results suggest that even in remote, rural areas, complications and mortality can be reduced.

DIABETES PREVENTION

Form of information: Gohdes, D., Schraer, C., & Rith-Najarian, S. (1996) *Diabetes Research and Clinical Practice*, 34(SUPPL.), S95-S100.

Project description: American Indians and Alaska Natives have experienced rapidly increasing rates of non-insulin-dependent diabetes (NIDDM). To address this epidemic Indian Health Service (IHS) and tribal communities have developed primary, secondary and tertiary intervention strategies. The scientific basis for secondary and tertiary prevention supports well-defined care practices, and the surveillance of the implementation of these practices and their impact on metabolic and hypertension control is now standard. Community interventions for the primary prevention of diabetes are underway and reflect the priorities of individual communities.

THE ALASKA NATIVE DIABETES PROGRAM

Form of information: Schraer, C. D., Mayer, A. M., Vogt, A. M., Naylor, J., Brown, T. L., Hastie, J., & Moore, J. (2001). [Int J Circumpolar Health](#). 2001 Nov;60(4):487-94.

Project description: To provide optimum health care to indigenous people with diabetes, to prevent diabetes, and to monitor the epidemiology of diabetes and selected complications. The purposes of this paper are to describe the program and to present data that highlights the major problems and successes. **STUDY DESIGN:** Descriptive epidemiology report of diabetes and population service program based on yearly chart review data. **METHODS:** Almost half of Alaska Natives with diabetes have no direct access to physicians or hospitals. Health care delivery is now managed by the tribes themselves. Program emphases include maintenance of a population-based registry, formal training for village health aides, physical activity programs, patient education, primary prevention activities and adherence to standards of care to prevent complications. A centralized registry is maintained to assure that epidemiological data is available and patients are not lost to follow-up. Each year a random sample of charts at each major facility is audited against nationally standardized care guidelines. **RESULTS:** The prevalence of diabetes among Alaska Natives increased 80% over the 13 years from 1985 to 1998 (15.7/1000 to 28.3/1000, age adjusted to U.S. 1980 population). For the years 1986-1998 the incidence rates of lower extremity amputation and end stage renal disease were 6.1/1000 and 2.0/1000 respectively. The level of care provided to Alaska Native patients is comparable to that provided to the general diabetic patient population seen in Alaskan urban clinics.

CONCLUSIONS: In spite of logistic challenges, care provided to Alaska Native people with diabetes compares favorably to that provided in other settings. Incidence rates of lower extremity amputation and end stage renal disease also remain comparable to or lower than those in other U.S. populations. Many aspects of our system could be extended to other chronic disease programs serving isolated indigenous populations. Primary prevention of diabetes remains a major challenge as life styles change.

REDUCTION OF AMPUTATION RATES AMONG ALASKA NATIVES WITH DIABETES FOLLOWING THE DEVELOPMENT OF A HIGH-RISK FOOT PROGRAM.

Form of information: Article. Schraer, C. D., Weaver, D., Naylor, J. L., Provost, E., & Mayer, A. M. (2004) *International Journal of Circumpolar Health*, 63 Suppl 2, 114-119.

Project description: The prevalence of diabetes is increasing rapidly among Alaska's Indian, Eskimo and Aleut populations. Approximately half the Native people with diabetes have no road access to hospitals or physicians, presenting a challenge in the attempt to prevent lower extremity amputation as a complication. In late 1998 funding became available for diabetes prevention and treatment among Native Americans. The tribal health corporations in Alaska decided to use a portion of this funding to implement a high-risk foot program to decrease the amputation rate. PROGRAM DESIGN: The program initially involved a surgical podiatrist who provided training to local staff and performed preventive and reconstructive surgery on several patients with impending amputations. The program then provided training for a physical therapist to become a certified pedorthist. This individual established the long-term maintenance phase of the program by conducting diabetic foot clinics routinely at the Alaska Native Medical Center, a referral center in Anchorage. He also travels to other regions of the state to provide training for village and hospital-based health care providers and to conduct field clinics. A system was established in a common database management program to track the patients' foot conditions. Patient education is emphasized. RESULTS: The overall amputation incidence among all Alaska Native patients with diabetes decreased from 7.6/1,000 in the pre-program period (1996 to 1998) to 2.7/1,000 in the post-program period (1999-2001) ($p < .001$). The rate among Aleuts, who previously had the highest amputation incidence, decreased from 17.4/1,000 to 3.1/1,000 over the same time periods ($p < .001$). Among people who had had diabetes at least 10 years, the overall amputation incidence decreased from 16.4/1,000 to 6.8/1,000 ($p = .021$); among Aleuts the rate fell from 24.5/1,000 to 2.6/1,000 ($p = .01$).

CONCLUSIONS: Though longer follow-up is needed, these data suggest that even in populations living in isolated regions, diabetic amputations can be prevented by a coordinated system to identify high-risk feet and provide preventive treatment and education in the context of a comprehensive diabetes management program in an integrated health system.

DIETARY INTAKE OF ALASKA NATIVE PEOPLE IN TWO REGIONS AND IMPLICATIONS FOR HEALTH

Form of information: Article. Johnson, J. S., Nobmann, E. D., Asay, E., & Lanier, A. P. (2009) *International Journal for Circumpolar Health* Apr;68(2):109-22.

Project description: To calculate the energy and nutrient intake in 2 regions of Alaska and to describe the implications for development of chronic disease among Alaska Native people (AN). Study design. Cross-sectional observation; 10 villages and 2 hub communities in rural Alaska; 333 participants ages 13 to 88 years old. Methods. Trained interviewers collected 24-hour diet recalls during 4 seasons. Results. In both regions, AN reported a combination of traditional Native foods and store bought foods; most of the energy comes from store-bought foods; a high proportion of nutrients come from Native foods, especially protein, iron and omega-3 fatty acids. Mean intakes of omega-3 fatty acids, from fish and sea mammals, are over twenty times greater than those of the general U.S. population. Mean intakes of protein, iron, selenium, vitamin A, vitamin C (men) and folate (men) met recommended levels; intakes of calcium and fiber were below recommended levels; carbohydrate and saturated fat (% energy) were above.

Conclusions. Traditional foods continue to contribute a significant amount of nutrients to the diet in rural Alaska. Excess simple sugars may be contributing to the rise in obesity and diabetes. Low intakes of calcium, dietary fiber, fruits and vegetables may contribute to the increased incidence of cancers of the

digestive system. Emphasis on the positive aspects of Native foods and increased consumption of fruits, vegetables and calcium-rich foods are warranted.

DIETARY INTAKES VARY WITH AGE AMONG ESKIMO ADULTS

Form of information: Article. Nobmann, E. D., Ponce, R., Mattil, C., Devereux, R., Dyke, B., Ebbesson, S. O. E., . . . Howard, B. V. (2005) [J Nutr](#). 2005 Apr;135(4):856-62.

Project description: Dietary factors influence the development of cardiovascular disease (CVD). The diet of Alaskan Eskimos differs from that of other populations. We surveyed Eskimo adults in Northwest Alaska to document their usual dietary intakes, differences based on gender and age, and sources of selected nutrients, and to generate appropriate dietary advice to reduce CVD. Interviewers surveyed 850 men and women 17-92 y old, using a quantitative food-frequency instrument.

We observed many significant (χ^2 analysis $P < 0.05$) differences in nutrient intakes among 3 age-groups. Energy intake from carbohydrate was negatively related to participant age-group ($P < 0.01$). Energy intake from all fats ($P < 0.001$) and polyunsaturated fat ($P < 0.01$) was positively related to age-group among both men and women in contrast to other studies in which age differences were either not observed or decreased with age. Native foods were major sources of monounsaturated and polyunsaturated fats, including 56% of (n-3) fatty acids primarily from seal oil and salmon. However, Native foods contributed significantly less to the diets of young adults than to those of elders, especially among women. Store-bought foods were the main sources of energy, carbohydrate, fat, saturated fat, and fiber for all adults.

Based on their nutrient density and potential to inhibit CVD, continued consumption of traditional foods is recommended. Variations in intake by age may portend changing eating patterns that will influence CVD as participants age. These data will contribute to understanding dietary risk factors for cardiovascular disease in this population.

DIETARY INTAKES VARY WITH AGE AMONG ESKIMO ADULTS OF NORTHWEST ALASKA IN THE GOCADAN STUDY, 2000-2003.

Form of information: Article. Nobmann, E. D., Ponce, R., Mattil, C., Devereux, R., Dyke, B., Ebbesson, S. O. E., . . . Howard, B. V. (2005). Dietary intakes vary with age among eskimo adults of northwest Alaska in the GOCADAN study, 2000-2003. *Journal of Nutrition*, 135(4), 856-862.

Project description: Dietary factors influence the development of cardiovascular disease (CVD). The diet of Alaskan Eskimos differs from that of other populations. We surveyed Eskimo adults in Northwest Alaska to document their usual dietary intakes, differences based on gender and age, and sources of selected nutrients, and to generate appropriate dietary advice to reduce CVD. Interviewers surveyed 850 men and women 17-92 y old, using a quantitative food-frequency instrument. We observed many significant (χ^2 analysis $P < 0.05$) differences in nutrient intakes among 3 age-groups. Energy intake from carbohydrate was negatively related to participant age-group ($P < 0.01$). Energy intake from all fats ($P < 0.001$) and polyunsaturated fat ($P < 0.01$) was positively related to age-group among both men and women in contrast to other studies in which age differences were either not observed or decreased with age. Native foods were major sources of monounsaturated and polyunsaturated fats, including 56% of (n-3) fatty acids primarily from seal oil and salmon. However, Native foods contributed significantly less to the diets of young adults than to those of elders, especially among women. Store-bought foods were the main sources of energy, carbohydrate, fat, saturated fat, and fiber for all adults. Based on their nutrient density and potential to inhibit CVD, continued consumption of traditional foods is

recommended. Variations in intake by age may portend changing eating patterns that will influence CVD as participants age. These data will contribute to understanding dietary risk factors for cardiovascular disease in this population.

DIETARY PATTERNS ARE LINKED TO CARDIOVASCULAR RISK FACTORS BUT NOT TO INFLAMMATORY MARKERS IN ALASKA ESKIMOS

Form of information: Article. Eilat-Adar, S., Mete, M., Nobmann, E. D., Xu, J., Fabsitz, R. R., Ebbesson, S. O. E., & Howard, B. V. (2009). Dietary patterns are linked to cardiovascular risk factors but not to inflammatory markers in Alaska eskimos. *Journal of Nutrition, 139*(12), 2322-2328.

Project description: Despite the tradition of a diet high in fish oils and abundant physical activity, coronary artery disease is increasing among Alaska Eskimos. Explanations for this observation include lifestyle changes. In this cross-sectional analysis, we evaluated dietary patterns of Alaska Eskimos and investigated the relations between these dietary patterns and known cardiovascular risk factors, including inflammatory markers. We used a principal component analysis with data from FFQ collected in 2000-2004 to determine dietary patterns of Alaska Eskimos. Four dietary patterns were identified: a traditional pattern, plus 3 patterns based on purchased food, one of which reflected healthy food choices. The traditional dietary pattern was associated with lower triglycerides ($P < 0.001$) and blood pressure ($P = 0.04$) and slightly higher LDL cholesterol (LDL-C) ($P = 0.05$). Whereas the healthy purchased diet was associated with a trend toward lower LDL-C ($P = 0.09$), the beverages and sweets diet was positively associated with LDL-C ($P = 0.02$). Diet pattern was not associated with inflammatory markers or pathogen burden.

Our data show that the traditional diet is related to a better profile of cardiovascular disease risk factors and should be encouraged. Programs are needed to encourage the availability of healthy food choices for those not able to obtain traditional foods.

HEART DISEASE PREVENTION FOR ALASKA NATIVE WOMEN

Form of information: Article. Witmer, J. M., Hensel, M. R., Holck, P. S., Ammerman, A. S., & Will, J. C. (2004) *Journal of Women's Health, 13*(5), 569-578.

Project description: Although historically Alaska Native women have had a relatively low incidence of cardiovascular disease (CVD), this pattern has changed dramatically in recent years. Alaska Native leaders have identified decreasing cardiovascular risk as an intervention priority.

Methods: From October 2000 to April 2001, Southcentral Foundation, an Alaska Native-owned and managed health corporation in Anchorage, conducted a pilot randomized controlled trial of a heart disease prevention program tailored for Alaska Native women. The aim was to assess feasibility and cultural acceptability and to develop enrollment procedures. Of 76 women who enrolled, 44 were randomized to the intervention group. Thirty-seven of 44 attended at least two intervention sessions, 23 completed pre-questionnaires and post-questionnaires, and 27 returned for 12-month follow-up screening. Thirty of 32 control group participants returned for 12-month follow-up screening. The intervention included 12 weekly sessions on lifestyle change and goal setting. At baseline and 12 months, participants' height, weight, resting blood pressure, fasting lipid levels, and blood glucose were measured. At sessions 1 and 12, participants completed assessments regarding diet, physical activity, tobacco use, and psychosocial status.

Results: At 12 weeks, significant improvements were noted in moderate walking and physical activity self-efficacy. Also observed was substantial movement from the contemplation and preparation stages to the action stage regarding physical activity and heart-healthy eating.

Conclusions: Although the small sample size precludes drawing conclusions about the intervention's effect, participants reported lifestyle and psychosocial changes. The pilot study resulted in protocol changes that improved the design and implementation of a subsequent large-scale study

HYPERTENSION AND DIABETES AMONG SIBERIAN YUPIK ESKIMOS OF ST. LAWRENCE ISLAND, ALASKA

Form of information: Article. Schraer, C. D., Ebbesson, S. O., Boyko, E., Nobmann, E., Adler, A., & Cohen, J. (1996). [Public Health Rep.](#) 1996;111 Suppl 2:51-2.

Project description: CHANGING DIETS AND LIFESTYLES contribute to an increase in the prevalence of cardiovascular disease and diabetes in Alaska Natives. To examine the problem in detail, we have begun a systematic screening of various ethnic groups by carrying out a pilot study of Siberian Yupik Eskimos ages 39 and over. Mean LDL and HDL levels were 157 mg/dl and 63 mg/dl. Mean fasting insulin was 7.0 microunits/ml; and mean BMI, 27.1. Fasting insulin level was significantly related to both diastolic blood pressure and fasting triglyceride levels, but not to systolic blood pressure, total cholesterol, LDL cholesterol, or HDL cholesterol levels. Of the 66 people screened, 27% had evidence of hypertension.

INDIAN HEALTH DIABETES BEST PRACTICES/ INDIAN HEALTH SERVICE, DIVISION ON DIABETES TREATMENT AND PREVENTION

Form of information: website

<http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=toolsBestPractices>

Project description: The Indian Health Diabetes Best Practices are consensus-based approaches, developed by Indian health system professionals, that anyone in clinical and community settings can use to implement or improve diabetes treatment and prevention. These Indian Health Diabetes Best Practices:

- Cover 20 topics in diabetes treatment and prevention, including adult weight management, breastfeeding, cardiovascular disease, chronic kidney disease, nutrition and physical activity, diabetes in youth and a new Best Practice for 2011, Diabetes Prevention.
- Are based on findings from the latest scientific research, outcomes studies and successful experiences of diabetes programs.
- Provide IHS, Tribal, and Urban Indian health care programs with relevant, evidence-based information on caring for American Indians and **Alaska Natives** with diabetes or at risk of developing diabetes.
- Can help diabetes care teams assess what works and what does not work.

Other: Indian Health Diabetes Best Practices Resources

[2011 Indian Health Diabetes Best Practices](#) – View and download the 2011 Revised Best Practice documents. <http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=toolsBPList>

THE ALASKA-SIBERIA MEDICAL PROGRAM: 24 YEARS IN RETROSPECT

Form of information: Article Mala, T. A. (2007). The Alaska-Siberia medical program: 24 years in retrospect. *Alaska Medicine*, 49(2), 46-48.

Project description: OBJECTIVES: The purpose of this paper is to give the reader some idea of life in Siberia and Alaska during the creation of our first medical exchanges during the most difficult of political times. STUDY DESIGN: Various projects were designed using National Institutes of Health (NIH) criteria for our medical exchange.

METHODS: As we took these first steps between the Siberian Branch of the Academy of Medical Sciences of the USSR and the Institute for Circumpolar Health Studies at the University of Alaska Anchorage, USA, the general areas of our first studies were: (1) Circadian Rhythm and Work-Related Injuries in the North; (2) Alcohol and its Abuse with Treatment Methodologies; (3) Public Health Administration and Design in the Far East and Alaska; (4) Cystic Echinococcosis in the Arctic and Sub-Arctic; (5) Viral Hepatitis in the Arctic; (6) Cardiology; (7) Nutrition; and (8) Diabetes Prevention.

RESULTS: A film made by the University of Alaska which was shown on PBS' "Breaking the Ice: The Alaska-Siberia Medical Research Program"; various papers and books published on both sides; and a major contribution made to world peace through the medical workers on both sides of the Bering Sea.

CONCLUSION: This major effort for peace showed the world how the peoples of Siberia and Alaska could come together and work for world peace through joint collaborations. Native people were reunited after years of separation, new avenues were created in anthropology, biology and medicine, and, subsequently, the border was again opened between our peoples.

OSCAR – ONLINE SEARCH, CONSULTATION, AND REPORTING (OSCAR) SYSTEM – INDIAN HEALTH SERVICE

Form of information: website. <http://www.ihs.gov/oscar/index.cfm?module=home>

Project description: The Indian Health Service (IHS) is creating an inventory of Best (i.e., Evidence-Based) Practice, Promising Practice, Local Effort (BP/PP/LE), Resources, and Policies occurring among American Indian/Alaska Native (AI/AN) communities, schools, work sites, health centers/clinics, and hospitals.

The purpose of this inventory is to:

- Assist our AI/AN communities with getting the information and health services they need;
- Form an IHS database of Best Practices, Promising Practices, Local Efforts, Resources, and Policies that can be easily accessed on the IHS website;
- Improve informed consultation with Tribal and Urban programs by facilitating transparency in IHS and IHS supported activities; and,
- Highlight the great work that occurs in the field.

PREVALENCE AND CORRELATES OF SUBCLINICAL ATHEROSCLEROSIS IN ALASKA ESKIMOS: THE GOCADAN STUDY.

Form of information: Article. Cutchins, A., Roman, M. J., Devereux, R. B., Ebbesson, S. O. E., Umans, J. G., Zhu, J. *Stroke*, 39(11), 3079-3082.

Project description: The recent increase in clinical cardiovascular disease in Alaska Eskimos suggests that changes in traditional lifestyle may have adverse public health consequences. This study examines the prevalence of subclinical vascular disease and its relation to risk factors in Alaska Eskimos.

METHODS-Participants in the population-based Genetics of Coronary Artery Disease in Alaska Natives (GOCADAN) Study underwent evaluation of cardiovascular disease risk factors and carotid ultrasound. Outcome variables were carotid intimal-medial thickness and presence and extent of atherosclerosis. **RESULTS-**In multivariate analyses, intimal-medial thickness and presence and extent of atherosclerosis were all associated with traditional cardiovascular disease risk factors but not dietary intake of omega-3 fatty acids. Rates of carotid atherosclerosis were higher than those reported in 2 large population-based US studies.

CONCLUSIONS-Alaska Eskimos have similar traditional risk factors for carotid atherosclerosis as other ethnic and racial populations but have higher prevalences of atherosclerosis, possibly attributable to higher rates of smoking.

TUBERCULOSIS CONTACT INVESTIGATIONS

Form of information: Article. Funk, E. A. (2003). *International Journal of Tuberculosis and Lung Disease*, 7(12 SUPPL. 3), S349-S352.

Project description: Alaska Natives suffered extraordinary rates of disease and death from tuberculosis (TB) during the first half of the 20th century. Although the epidemic was largely controlled in the 1960s, rates of TB among Alaska Natives remain higher than for other Alaskans, and village outbreaks of TB continue to pose major threats. In 2000, a contact investigation around a case patient with infectious TB involved eight villages in south-western Alaska and found 26 additional persons with TB disease and 48 people with newly positive TB skin tests.

Rural Alaska brings unique challenges to TB contact investigations not seen elsewhere in the United States because many villages are accessible only by small aircraft or boat. To conduct an investigation, a public health nurse must fly into the village, bring food and water, and sleep at the village clinic or school. In spite of these obstacles, over the past 4 years contact investigations have been initiated for all TB cases with acid-fast bacilli smear-positive sputum, and the proportion of adequately examined contacts has increased from 51% to 75%. The Alaska TB Program plans to improve contact investigations through ongoing reports to regional public health centers and through a state wide training workshop.

THE HEALTH OF ELDERS: A COMPARISON OF COMMUNITIES ACROSS THE BERING STRAIT

Form of information: Article. Callaway, D. (2004). The health of elders: A comparison of communities across the bering strait. *International Journal of Circumpolar Health, Suppl 1*, 31-37.

Project description: **OBJECTIVE:** Compare the self-reported health status of a cohort of 58+ individuals in sixteen communities on either side of the Bering Strait. **STUDY DESIGN:** Multi-method including

formal surveys and ethnographic research. METHODS: Approximately 1,146 survey questionnaires were completed. A sample of 747 of these interviews were used for this analysis, of which 88 were 58+ years of age and 659 were adults 18-57. RESULT: On all self reported measures of general health, chronic illness and depression, Russian elders reported higher rates of poor health than did their American congeners. However, the segment of the sample in most distress was Russian adults 18-57. Not one of these 361 individuals reported their health as "very good", while nearly a third reported poor health and chronic illness. In addition, about 2/3rds (compared to half the Russian elderly) reported a constellation of symptoms related to depression. Psychologically (using these measures) the most resilient cohort were Alaskan elders. One result of this research that is of tremendous concern is the fact that over two thirds of the STN males, both Alaskan and Russian, under the age of 58 smoke. This is an extraordinary proportion and is easily double the rate for individuals of similar age within the U.S. CONCLUSIONS: For Alaskan elderly, no other segment in the U.S. faces the level of difficulty in access to health services even though these services are incomparable by Russian standards. In addition, the extremely high levels of behavioral risk from smoking and other factors indicate substantial difficulties and increasing demand for health services in the near future. In comparison Russian elderly populations face almost unimaginable difficulties.

TYPE 1 DIABETES-RELATED AUTOANTIBODIES ARE RARE IN ALASKA NATIVE POPULATIONS

Form of Information: Mohatt, J., Gilliam, L. K., Bekris, L., Ebbesson, S., & Lernmark, A. (2002). Type 1 diabetes-related autoantibodies are rare in Alaska native populations. *International Journal of Circumpolar Health*, 61(1), 21-31.

Project description: OBJECTIVES: When clinical data were initially gathered from the Alaskan Eskimos in the 1950's, diabetes mellitus was noted to be quite rare. The prevalence of diabetes has increased significantly since that time, with rates of 10% reported recently in some Alaska native populations. Our goal was to understand the pathogenesis of diabetes among these groups, with the hypothesis that Alaskan Eskimos were predominantly affected by type 2 diabetes, not by latent autoimmune diabetes in adults (LADA). STUDY DESIGN: Population based case control study METHODS: We tested sera from subjects in two Eskimo villages for the presence of type 1 diabetes-related autoantibodies against glutamic acid decarboxylase (GAD65Ab) and tyrosine phosphatase-like islet antigen-2 (IA-2Ab).

RESULTS: Among subjects from one Inupiat village (#1) and one SiberianYup'ik village (#2), there were 21 subjects with diabetes mellitus (DM), 17 with impaired glucose tolerance (IGT), and 226 healthy controls with normal glucose tolerance (NGT). In village 1, GAD65 antibodies were not present in either diabetic subjects or those with IGT. One of the healthy controls (1%; 1/97) was positive for GAD65Ab. Similarly, no subjects from this village with DM or IGT had positive IA-2Ab titers, and one healthy control (1%; 1/97) was positive for IA-2Ab. In village 2, no DM subject was GAD65Ab positive. One (10%; 1/10) of the IGT subjects and two (1.6%;2/129) of the healthy controls were positive for GAD65Ab. In this village, two of the DM subjects (12%;2/17), one of the IGT subjects (10%; 1/10), and one of the healthy controls (0.8%;1/129) were IA-2Ab positive. No individual was positive for both GAD65Ab and IA-2Ab.

CONCLUSION: Alaskan Inupiat and Siberian Yup'ik Eskimos appear to be predominantly affected by type 2 diabetes, not LADA.

GREENLAND

MENTAL HEALTH

PROGRAMS

ATTAVIK 146 – A NATIONAL HELPLINE

Form of information: report. Conference proceedings. Hope and Resiliency, Nuuk 2009

Project description: Bodil Kleist presented Attavik 146, which is a free, confidential telephone counseling service in Greenland. The helpline opened August 2007 and was established as a result of one of the recommendations from Proposal for a National Strategy for suicide prevention in Greenland from 2004. The purpose of Attavik is to offer countrywide, anonymous and free counseling primarily to persons at risk of committing suicide or people in other kinds of personal crisis, which threatens the mental quality of life of that person. Furthermore the helpline is for relatives who have lost a family member by suicide, relatives to people at risk of committing suicide, and persons who are affected by suicides among their nearest relatives or friends.

IMMINUT SUICIDE PREVENTION PROGRAM

Form of information: report. Arctic Suicide Prevention Workshop, March 2003, p19.

Project description: Imminut Suicide Prevention Program which consists of suicide prevention materials for schools. In 1994 the Landsting noted that there was no material to deal with suicide. Three years later a contract was signed with the publisher. The materials were developed in 2001 and as of 2002 there are courses for teachers, social workers and others working with children and adolescents. Program materials include a booklet that contains a guide for instructors, sample assignments and misc statistics and poems that address themes of life, positive words and coping skills. This is accompanied by a pocket book for children and adolescents that summarizes warning signs, how to help those with suicidal thoughts, pro-life sayings, resources to help and internet links. There is also a video with five short stories and debating topics including incest, rejection and loneliness, social problems, outcasts and unhappy love.

SCHOOL COUNSELORS IN ILULISSAT

Form of information: report. Conference proceedings, Hope and Resiliency, Nuuk 2009

Project description: In Ilulissat municipality, the number of suicides has dropped dramatically in recent years after the municipality has put several initiatives in progress. Especially the establishing of a school counselor position situated at the school has been successful where youth can drop by and discuss their problems.

After two years with 6 and 8 suicides in Ilulissat in 2002 and 2003 the municipality employed Astrid Olsen as a school counselor and since then, the number of suicides decreased dramatically. The objective of school counseling is to reach out to pupils with personal problems and their parents. The counselors are engaged in several initiatives for youth. They cooperate with teachers, health coordinators, the police, psychologists, the health care system, the department of social services, the youth club, the emergency team, pupils living at dormitories, parents, the employees, school principals and the priest.

In 2008 106 pupils received counseling, and many of them received counseling multiple times. The subjects for the counseling of the pupils ranged from drug and alcohol abuse, domestic and school problems, problems related due to parents divorce, sexual assaults, suicidal issues to loneliness, bullying, pregnancy and more. Some of the reoccurring issues over the years in the work with the children have been an increased search of help from individuals thinking of suicide and victims of sexual abuse. Also drug abuse has increased along with problems due to parents divorce and problems at home and in schools are becoming more visible.

SUICIDE PREVENTION IN THE NORTHERN MUNICIPALITY OF GREENLAND

Form of information: Report. Conference proceedings, Hope and Resiliency conference Nuuk, 2009

Project description: The northern region of Greenland is the World's largest municipality with a population of 17,637 in 8 towns and 31 villages. Nine health coordinators and one regional manager of health and prevention work with health promotion in the northern region. The coordinators task is to organize and coordinate initiatives and projects covering different health issues including suicide prevention and they work closely together with youth. They work in collaboration with health institutions, social Institutions, the church, schools and youth clubs.

One initiative in the Northern municipality was a youth club debate on suicide prevention. On this occasion the youth shared their feelings and thoughts of suicide.

Another initiative was to mark the World Suicide Prevention day September 10th. On this day people met and talked about suicide and how we can improve suicide prevention. The recommendations were given to the local politicians. An important task for the health coordinators is to interact with all generations in the community to ensure local partnership and involvement in promoting health and wellness.

STUDIES

ALCOHOL AND OTHER DRUG USE AMONG STUDENTS IN GREENLAND--A COMPARISON BETWEEN SOME 1999 AND 2003 ESPAD DATA

Form of information: Poppel, B., & Andersen, T. (2004). . *International Journal of Circumpolar Health*, 63 Suppl 2, 410-413.

Project description: OBJECTIVES: Smoking and drinking habits among young people are of great concern in Greenland. The Home Rule government has through the Department of Prevention (PAARISA) carried out several campaigns to highlight the risks of smoking and drinking alcohol. To monitor the changes in these habits Greenland has participated in the European Survey Project on Alcohol and Drugs (ESPAD) in 1999 and 2003. The objective of this article is to make some preliminary comparisons between the 1999 and 2003 survey results on smoking and drinking alcohol. STUDY DESIGN/METHODS: The survey population in both the 1999 and 2003 surveys are all students in the 9th, 10th and 11th grade (persons between 14 and 16 years old). Hence the surveys include students born in 1982-84 and 1986-88, respectively. The ESPAD questionnaire focuses on alcohol and other drug use, but it also includes questions on lifestyle, relations to family and friends and the students' perception of their living

conditions. Only answers from respondents born in 1983-84 and 1987-88 and only questions on smoking and drinking habits are analysed in this article. RESULTS/CONCLUSION: Smoking and alcohol drinking among students aged 14-16 years has been decreasing from 1999 to 2003 measured by use during the last 30 days. The same trends cannot be found in students' use of marijuana/hashish and sniffing different substances.

COMMON MENTAL DISORDERS AMONG PATIENTS IN PRIMARY HEALTH CARE IN GREENLAND.

Form of information: Lyngé, I., Munk-Jørgensen, P., Pedersen, A. L., Mulvad, G., & Bjerregaard, P. (2004). *International Journal of Circumpolar Health*, 63 Suppl 2, 377-383.

Project description: INTRODUCTION: There are many indications that mental health in Greenland is endangered and needs more attention. STUDY DESIGN: A two-stage study of the prevalence of common mental disorders among a sample of primary health care patients. METHODS: 376 randomly selected patients from general consultations in two Greenlandic towns were screened with 12 questions from the General Health Questionnaire. From these patients, a sample of 100 patients, including more high- than low-scorers, was interviewed using the SCAN (Schedules for Clinical Assessment in Neuropsychiatry) Present Examination psychiatric interview. RESULTS: Estimated prevalence for the total study population of at least one psychiatric diagnosis was 49.3% (95% CI 39.7-59.0%). Most diagnoses were in the group of anxieties, somatoform disorders and depressive disorders. Many patients had more than one diagnosis. Lack of education and poor proficiency in Danish, as well as growing up in a family with severe alcohol problems, were high risk factors for a psychiatric diagnosis. Patients and physicians seemingly agreed on focusing on physical disorders at the consultation, and only a minority of mental disorders was recognised and treated as such by the physicians. CONCLUSION: Mental disorders are prevalent but not sufficiently recognised and treated among patients in primary health care in Greenland. Their association with social and economic conditions calls for attention from the health services as well as from social and educational institutions.

MENTAL DISORDERS AND CONDITIONS OF LIFE IN CHILDHOOD IN GREENLANDERS.

Form of information: Article. Lyngé, I. (1995). Mental disorders and conditions of life in childhood in greenlanders. *Arctic Medical Research*, 54 Suppl 1, 60-67.

Project description: A cohort of Greenlandic psychiatric patients, domiciled in Greenland and admitted for the first time to a psychiatric institution in 1980-84, has been analyzed and followed until 1991. In this part of the study their conditions in childhood were analyzed in relation to diagnoses. Failing care, disharmony and possible violence in the early home were associated with great risk of later personality disorders, whereas they were not associated with a neurotic development. No direct association was found with the structure of the early home, whether or not spending the whole childhood with both or one of the biological parents. It was the quality of the home(s) that mattered. For other diagnoses there was no clear association between conditions in childhood and occurrence of the diagnosis. But there was an astonishingly high prevalence of poor conditions in childhood in the total study population, especially among those younger than 35 years at first admission.

MENTAL DISORDERS IN THE GREENLANDIC POPULATION

Form of information: Article. Lynge, I., Mortensen, P. B., & Munk-Jørgensen, P. (1999). Mental disorders in the Greenlandic population. *International Journal of Circumpolar Health*, 58(3), 188-197.

Project description: In a register study of all psychiatric first hospitalizations (1974-93) of persons born and resident in Greenland rates for all admissions as well as for the separate diagnostic groups, hierarchically organized, were compared with corresponding figures for the population in Denmark. Relative mortality rates for the psychiatric patients compared with the general population were computed for the Greenlandic and Danish populations respectively. No significant differences in the total pattern of hospitalization was found, but Greenlandic men 15-24 years old and Greenlandic women 25-34 years old had significantly higher and older age groups lower first admission rates than Danish men and women, respectively. The rates for affective psychoses were low especially among men in Greenland, whereas the rates for schizophrenia among men were comparatively high. The relative mortality risk compared to the general population was much higher among Danish than Greenlandic psychiatric patients, especially regarding suicide. A probable explanation for that is that the suicide rate in the Greenlandic general population is very high.

MODERNIZATION AND MENTAL HEALTH: SUICIDE AMONG THE INUIT IN GREENLAND

Form of information: Article. Markus J. Leineweber, Sectie Cultuur & Godsdienstpsychologie Katholieke Universiteit Nijmegen, Begeleiders: dr. P.P.L.A. Voestermans en dr. J.C. Baerveldt Nijmegen, 10-03-2000

Project description: This report is written for those working in the field of suicide prevention and suicide research in Greenland, and all who share a general interest in the people of Greenland. The aim of this report is to shed some light on the 'incomprehensible' high numbers of suicide in Greenland since the mid 1970's and to point out directions for future research.

SCHIZOPHRENIA IN GREENLAND: A FOLLOW-UP STUDY

Form of information: Article. Lynge, I., & Jacobsen, J. (1995). *Acta Psychiatrica Scandinavica*, 91(6), 414-422.

Project description: A total of 289 Greenlanders admitted for the first time to a mental hospital from 1980 to 1983, were followed for 7 years. Thirty-seven patients, 24 men and 13 women, were diagnosed with schizophrenia at least once during the follow-up period. The annual first admission rate per 100,000 was 41 for men and 23 for women. The schizophrenics were compared with a group of non-schizophrenics at the same age admitted in the same period. The main results were young age at first admittance, high male-female ratio and poor clinical and social outcome. The results were compared with WHO's cross-cultural studies. Young age and a high male-female ratio are in accordance with the developing countries, whereas poor outcome is in accordance with the industrialized countries.

CULTURAL CHANGE AND MENTAL HEALTH IN GREENLAND, THE ASSOCIATION OF CHILDHOOD CONDITIONS, LANGUAGE, AND URBANIZATION WITH MENTAL HEALTH AND SUICIDAL THOUGHTS AMONG THE INUIT OF GREENLAND.

Form of information: Bjerregaard, P., & Curtis, T. (2002). *Social Science and Medicine*, 54(1), 33-48

Project description: In Greenland, the rapid sociocultural change of the last 50 years has been paralleled by an epidemiological transition characterized by a reduction in infectious diseases, an increase in cancer and cardiovascular diseases, and an increased prevalence of mental health problems. During 1993-94 and 1997-98, two health interview surveys were conducted among Inuit in Greenland and Inuit migrants in Denmark. The response rates were 71 and 55%. Information on mental health was obtained from 1388 and 1769 adults. As indicators of mental health, the prevalence of potential psychiatric cases according to the General Health Questionnaire (GHQ-12) and the prevalence of suicidal thoughts were studied in relation to childhood residence and father's occupation, current residence, and language. The statistical methods included logistic regression and graphical independence models. The results indicated a U-shaped association in Greenland of GHQ-cases with age and a high prevalence of suicidal thoughts among young people; a low prevalence of GHQ-cases among those who were bilingual or spoke only Danish; and a high prevalence of suicidal thoughts among migrants who grew up in Denmark and among residents of the capital of Greenland. In Greenland, women were more often GHQ-cases and had suicidal thoughts more often than men. The association between language and GHQ-cases is presumed to operate through socioeconomic factors. It is necessary to modify the common notion that rapid societal development is in itself a cause of poor mental health: as a result of successful integration into the modern Greenlandic society, some population groups have better mental health compared to other groups.

SUICIDE IN A SOCIETY IN TRANSITION

Form of information: Article. Leineweber, M., Bjerregaard, P., Baerveldt, C., & Voestermans, P. (2001). Suicide in a society in transition. *International Journal of Circumpolar Health*, 60(2), 280-287.

Project description: In Greenland, the rapid socio-cultural change of the last 50 years has been paralleled by an increasing number of suicides. The suicide rates in Greenland are now among the highest in the world. Especially among men aged 15-24 suicide rates are dramatically high. In the present study, information on the psycho-social background of suicides is provided based on a review of death certificates and police reports for the period 1993-95. Dysfunctional social networks seem to play a predominant role among suicides. Being disconnected from community and family ties seems to increase the vulnerability of young people in Greenland. In addition, temporal trends of suicide rates are described for the different regions of Greenland. The findings are discussed in relation to the societal and cultural transition of the society.

SUICIDE - A CHALLENGE IN MODERN GREENLAND

Form of information: Bjerregaard, P., & Lynge, I. (2006). *Archives of Suicide Research*, 10(2), 209-220.

Project description: The incidence of youth suicides has increased dramatically among the Inuit in Greenland since the modernization started in the 1950s. Suicides currently peak at age 15-24 Men: 400-500, Women: 100-150 per 100,000 person-years. The methods are drastic: shooting or hanging. An early peak was seen in the capital, a later peak in the rest of West Greenland, and high and increasing rates in remote East Greenland. Suicidal thoughts occur more often in young people who grew up in homes with a poor emotional environment, alcohol problems and violence. There is a definite correlation with several aspects of the modernization process but it is hard to pinpoint causal relationships. It is rather the "modernization package" that should be regarded as risk factors for suicides

A STUDY OF SEASONALITY IN SUICIDES IN WEST GREENLAND

Form of information: Article. Björkstén, K. S., Bjerregaard, P., & Kripke, D. F. (2005). Suicides in the midnight sun - A study of seasonality in suicides in west greenland. *Psychiatry Research*, 133(2-3), 205-213.

Project description: Greenland is the most extreme of human habitats in regard to annual changes in natural light. From being very low, the rate of suicides in Greenland has increased during the past few decades to be among the highest in the world. Several studies have shown seasonality in suicides with spring or summer peaks, but this has not been previously shown in Greenland. Official data from 1968 to 1995 from West Greenland were pooled. A significant seasonality in the 833 suicides was found using Rayleigh's test, a peak in June and a trough in the winter. Suicides increased during the period, and reached high rates in most age groups, up to 577 per 100,000 person-years in men aged 15-24 years in 1990, and up to 147 per 100,000 person-years in women aged 15-24 years in 1995. Violent methods of suicide were used by 93%. Depression has been reported uncommonly. High alcohol intake and extended periods of light in the summer may contribute to impulsive-aggressive summer suicides.

ACCENTUATION OF SUICIDES BUT NOT HOMICIDES WITH RISING LATITUDES OF GREENLAND IN THE SUNNY MONTHS

Form of information: Article. Björkstén, K. S., Kripke, D. F., & Bjerregaard, P. (2009). Accentuation of suicides but not homicides with rising latitudes of Greenland in the sunny months. *BMC Psychiatry*, 9

Project description: Background: Seasonal variation in suicides has been shown in many countries. We assessed the seasonality and the variation with latitude in suicides and homicides, and the impact of alcohol on the seasonality in suicides. Methods: Official computerized registers on causes of death in all Greenland during 1968-2002 were used. Sales data on beer from one of the major food store chains for July 2005-June 2006 were examined. Seasonal variation was assessed by Rayleigh's test for circular distributions. Results: There were a total of 1351 suicides and 308 homicides. The suicides rate varied from 4.2/100 000 person-years in 1971 to 128.4/100 000 person-years in 1987. The homicide rate varied from 2.1/100000 person-years in 1969-1970 to 34.8/100 000 person-years in 1988. Out of the 1351 suicides, 80.5% were committed by men and 19.5% by women. Median age was 25 years (n = 1351; Range 11-84 years). Violent methods of suicide were used in 95% of all cases (n = 1286). Out of the 308 homicide victims, 61% were men and 39% were women, and 13% were killed in multiple homicide events. There was a significant seasonal variation with peaks in June and troughs in the winter in all suicide cases (n = 1351, r = 0.07; Z = 7.58, p < 0.001), in violent suicides (n = 1286; r = 0.07; Z = 6.97; p < 0,001), in suicides in men (n = 1087; r = 0.07; Z = 5.39; p < 0.002) and in women (n = 264; r = 0.10; Z = 2.36; p < 0.05), but not in homicides nor in consumption of beer. There was a bi-phasic seasonal variation in suicide victims where an alcohol-related condition was included in the death certificate. Suicides were more concentrated in the summer months north of the Arctic Circle (n = 577, r = 0.09, Z = 4.45, p < 0.01) than south of it (n = 769, r = 0.07, Z = 3.76, p < 0.002) and most concentrated in North Greenland (n = 33; r = 0.35; Z = 4.11; p < 0.01), where 48% of suicides occurred during the period of constant light. When including astronomical twilight in the constant light period 82% occurred during this time. Conclusion: There was a concentration of suicides but not homicides in the summer months in all Greenland. The concentration was most pronounced at high latitudes.

SERVICE DELIVERY

PROGRAMS

TELEMEDICINE

Form of information: Article. Arctic Health Problems and Environmental Challenges in Greenland.

Gert Mulvad MD, Henning Sloth Petersen MD, PhD, Jørn Olsen MD, PhD. Section 3.2

Project description: To strengthen the connections between remote units to the main hospital and to specialists outside Greenland, the implementation of telemedicine is now of growing importance.

Telemedicine is the use of information technology for electronic transmission of information, pictures, sound and other health-related data that is needed to make appropriate diagnosis and treatment plans. Based on the experience already obtained with telemedicine in Greenland, there are good reasons to implement telemedicine on a larger scale. It is important that the results are registered and analyzed currently throughout the period in order to ensure that the experience gained will support the continued use of telemedicine in Greenland and also be published to the benefit of others. Video-consultations can be established and X-ray photos and electro- cardiograms can also be transmitted. sonography of heart, dermatology and psychiatry are other areas. A common record system will also help provide updated information about each patient.

HEALTH CARE AND HEALTH CARE DELIVERY IN GREENLAND

Form of information: Article. *Birgit Niclasen , Gert Mulvad. International Journal of Circumpolar Health 69:5 2010*

Project description: Objectives. To describe the health care system and health care delivery in Greenland. Study design and method. This was a literature study that included literature and articles searched in PubMed published from 1989 to 2009 about health care in Greenland.

Results. The health care system is a publicly financed governmental responsibility. Its major challenges are limited economic resources, Greenland's demographic structure, rapid epidemiological changes, increased public demand for specialized treatment, difficulty in recruiting professionals and the economic burden imposed by around-the-clock maintenance of specialized staff in sparsely populated areas. To meet these challenges, a public health program focusing on health promotion and prevention, educational initiatives to improve recruitment and a system reorientation moving towards larger health care regions is proposed to be gradually implemented from 2010. One fundamental component of this plan is tying the system together with a telemedicine system and in the future also with a joint electronic patient file system. The importance of better surveillance and monitoring of health has been recognized, while securing best clinical practice and implementing better steering instruments on resource allocation and quality are areas needing focus in the future.

Conclusion. Many of the challenges for the Greenlandic health care system are being addressed with promising strategies, but only the future will show whether they are successful.

MEDICAL STAFF RECRUITMENT

Form of information: conference proceedings. **Health and wellbeing. Best Practice.** Gert Mulvad MD
Side event, Circumpolar Inuit Health. ICC General Assembly 2010 Nuuk

Project description: Recruiting Medical staff in the Arctic has been a problem in all areas. But Education of doctors and nurses have in Greenland been a part of the solution: Specialist Education for Family Health Specialist is so good in Greenland that we can recruit Doctors as needed from Denmark, with a 5 years education contact. We have created a specialist education in Arctic Medicine for Doctors. And a Diploma Education in Arctic Medicine for Nurses. The Nurses school in Nuuk is also of great importance for the recruiting of health personnel.

O4O

O4O - OLDER PEOPLE FOR OLDER PEOPLE

Form of information: Circumpolar Inuit Health Summit report, and at <http://www.o4os.eu/about-o4o.asp>

Project description: O4O was an EU Northern Periphery Programme in which workers from partner regions across the north of Europe help communities to meet the service and support needs of their older citizens. In Greenland, O4O worked with the communities of Nuuk, Tasiilaq, Paamiut and Ittoqqortoormiit and the four settlements of Arsuk, Kuumiut, Kulusuk, and Qeqertarsuatsiaat. Communities conducted a survey of older people to find out about their current participation in activities, perceptions of well-being, what they would like to do to help each other, their willingness to volunteer and what they expected of service provision. Following the survey, community meetings and interviews were held. The outcomes will help the municipality consider how to provide services and support the development of voluntary services.

STUDIES

None found during research period.

FOOD SECURITY

PROGRAMS

FOOD BASED DIETARY GUIDELINES IN GREENLAND

Form of information: Report. International Journal of Circumpolar Health. Circumpolar Health Supplements (8) 2011. Page 19

Project description: The FBDGs of Greenland were launched in 2005, with a colourful pamphlet that outlines the 10 dietary recommendations. The FBDGs can be viewed at www.peqqik.gl or

www.paarisa.gl together with a scientific evaluation of the impact of environmental pollution on the recommendations for traditional food intake (5). A promotion campaign followed the publication of the 10 FBDGs and the campaign has recently been evaluated. All materials are in Danish or Greenlandic. Additionally, it should be mentioned that the campaign included various illustrative tools other than the use of the Internet, e.g., a CD-Rom (which can be ordered from Paarisaa) and a board game meant as a teaching tool in schools to disseminate the awareness of the 10 FBDGs among students.

CONTAMINANT INTAKE WEBSITE

Website to Calculate Contaminant Intake from (Traditional) food items

Form of information:

<http://www2.dmu.dk/ArcticEnvironment/Contaminants/Environtox/MainPage.aspx>

Project description: This website from the National Environmental Research Institute in Denmark provides information on contaminants in the traditional diet in Greenland, gives nutritional advice, and includes an online calculator which enables people to calculate their intake of contaminants through the diet.

STUDIES

DIETARY TRANSITION AND CONTAMINANTS IN THE ARCTIC: EMPHASIS ON GREENLAND

Form of information: Journal. International Journal of Circumpolar Health. Circumpolar Health Supplements (2)2008. [http://www.ijch.fi/CHS/CHS_2008\(2\).pdf](http://www.ijch.fi/CHS/CHS_2008(2).pdf)

Project description: Discusses historical diet of Greenland and changing dietary habits, and present dietary situation as of 2006.

FOOD SECURITY IN WESTERN GREENLAND

Form of information: Presentation. Christina Goldhar, James Ford, Ulloriaq Grønvold, Lea Berang-Ford Arctic Change 12/12/08, Québec City

Project description: This document provides information about what food security means, a study in this directions, methodology and results obtained in the course of studying the problem.

Qeqertarsuaq study

o 61 surveys and interviews conducted in March-April 2008 to establish a baseline assessment of food security for the community

o 14 further semi-structured interviews in Aug 2008 exploring food system vulnerability in greater detail

INUIT DIETARY PATTERNS IN MODERN GREENLAND

Form of information: Bjerregaard, P., & Jeppesen, C. (2010). *International Journal of Circumpolar Health*, 69(1), 13-24.

Project description: Objectives: The purpose of the study was to apply two different approaches of dietary pattern definition to data from Greenland and to analyse the contemporary dietary patterns of the Inuit in Greenland in relation to urbanization and socio-economic positions. Study design: Cross-sectional population survey.

Methods: A total of 2,247 Inuit aged 18+ from 15 towns and villages in West Greenland (25% of all communities) were interviewed about their diet as part of a general health survey. A 67-item Food Frequency Questionnaire (FFQ) with portion sizes was used as the survey instrument. The analyses were based on 2,026 individuals who reported realistic daily energy intakes. Dietary patterns were determined by two different methods: a factor-cum-cluster analysis, and a normative approach based on adherence to dietary recommendations.

Results: The 2 approaches resulted in 6 respective and 5 partly overlapping dietary patterns. The distribution of patterns varied significantly according to age, gender, urbanization and socio-economic position. A healthy diet was most often reported by women aged 35+, who lived in towns and who belonged to the upper social stratum; an unhealthy diet was reported by young men and women irrespective of urbanization or social position; and a traditional diet was reported increasingly with age, among village residents and by hunters/fishermen and their families.

Conclusions: The two methodological approaches gave comparable results. The normative approach can be extended to other data sets and its results are directly applicable to dietary intervention, while the data-driven approach can identify novel patterns but is tied to the actual data set.

PREVALENCE OF FOOD INSECURITY IN A GREENLANDIC COMMUNITY AND THE IMPORTANCE OF SOCIAL, ECONOMIC AND ENVIRONMENTAL STRESSORS

Form of information: Article. Goldhar, C., Ford, J. D., & Berrang-Ford, L. (2010). Prevalence of food insecurity in a Greenlandic community and the importance of social, economic and environmental stressors. *International Journal of Circumpolar Health*, 69(3), 285-303.

Project description:

OBJECTIVES: Characterize and examine the prevalence of food insecurity in Qeqertarsuaq, Greenland, and identify stressors affecting the food system. STUDY DESIGN: A mixed-methods study using quantitative food security surveys and semi-structured interviews. METHODS: Food security surveys (n=61) were conducted with a random sample of 6% of Qeqertarsuaq's population. Semi-structured interviews (n=75) allowed participants to describe in their own words their experience of food insecurity and permitted in-depth examination of determinants. Key informant interviews were used to provide context to local perspectives.

RESULTS: Prevalence of food insecurity (8%) is low. However, interviews reveal a more nuanced picture, with women, adults aged 55+, and non-hunters reporting constrained access to Greenlandic foods. Barriers restricting traditional food access include changing sea ice conditions, reduced availability of some species, high costs of hunting and purchasing food, tightening food sharing networks, and hunting and fishing regulations. CONCLUSIONS: While the Qeqertarsuaq food system is relatively secure, the research highlights susceptibility to social, economic and environmental stressors which may become more prevalent in the future.

TRADITIONAL AND MODERN GREENLANDIC FOOD - DIETARY COMPOSITION, NUTRIENTS AND CONTAMINANTS.

Form of information: Deutch, B., Dyerberg, J., Pedersen, H. S., Aschlund, E., & Hansen, J. C. (2007). *Science of the Total Environment*, 384(1-3), 106-119.

Project description: High levels of n-3 fatty acids and other nutrients in traditional Inuit food appear to provide some protection against the typical diseases of affluent industrialized societies: cardiovascular diseases and type 2 diabetes. An increased intake of imported food among Inuit will probably increase their frequency of these diseases. However, since the 1970s it has become evident that the marine-based Inuit diet also contains high levels of potentially toxic lipophilic organic pollutants and heavy metals. Since these two food related opposing health effects appear to be inseparable, the phenomenon has been known as "The Arctic Dilemma". However, both the fatty acid composition and the contaminant levels vary in Greenlandic food items. Thus in principle it is possible to compose a diet where the benefits and risks are better balanced. Our objectives of this study were to compare traditional and modern meals in Greenland concerning the dietary composition, nutrients, and health indicators among the consumers. Study design: The present study was a cross-sectional dietary survey as part of the Arctic Monitoring and Assessment, Human Health Programme (AMAP). These results were compared with older dietary surveys in Greenland. Methods: Dietary components, fatty acids, and nutrients in 90 local meals collected by duplicate portion method in Uummannaq town, north Greenland 2004 and in Narsaq, south Greenland 2006, were compared with 177 duplicate meals sampled in the village of Igdlorsuit, Uummannaq, district, 1976 and also compared with other dietary studies in Greenland 1953-1987. Anthropometric measures (weight, height, and body mass index, BMI) and blood lipids were measured as health indicators among the participants. Results: Between the traditional foods sampled or analysed 30-50 years ago and the modern food from 2004 to 2006, significant differences were found in the dietary composition. The percentage of local food had decreased, to a present average of about 20% and with it the dietary content of n-3 fatty acids. Also, the intakes of many vitamins and minerals had decreased, and were below Nordic Nutrient Recommendations in 2004 and 2006. Vitamin A, B1, (B2), B12, iron, iodine, phosphorus, and selenium contents were correlated with n-3 content, whereas vitamin C, folate, and calcium contents were not and the same time very low. In the traditional food, especially from the villages, the intakes of vitamin A, vitamin D, and iron were extremely high and borderline toxic. The levels of contaminants such as organochlorins and heavy metals were also strongly correlated with the relative content of local food in the diet. The best balance between potentially beneficial and harmful substances was found for 20-30% local food, corresponding to a daily intake of 3-5 g of n-3 fatty acids. Body weight, height, body mass index (BMI), cholesterol, and S-triglycerides had increased significantly between 1976 and 2004. Conclusion: The dietary changes to a more western fare were found to be negative resulting in less adequate nutrient coverage but at the same time lower contaminant load. Thus, we recommend not to increase the consumption of local products beyond the present level but rather to improve the quality of the imported food.

TRENDS IN THE DIETARY PATTERNS AND PREVALENCE OF OBESITY AMONG GREENLANDIC SCHOOL CHILDREN

Form of information: Article. Schnohr, C., Pedersen, J. M., Alcón, M. C., Curtis, T., & Bjerregaard, P. (2004). Trends in the dietary patterns and prevalence of obesity among greenlandic school children. *International Journal of Circumpolar Health*, 63 Suppl 2, 261-264.

Project description: OBJECTIVE: The aim of the study was to examine the trends in the dietary patterns of selected food items and in the prevalence of self-perceived obesity in a population of Greenlandic schoolchildren. STUDY DESIGN: The study is based on three school surveys among Greenlandic schoolchildren, class 6 to 11 in public schools, and contributing to the Health Behaviour in School-aged Children (HBSC) Study. Data are collected through self-completed questionnaires administered in the classroom. Three surveys have been carried out in Greenland in 1994, 1998 and 2002 with the participation of 2,999, 3,057 and 2,010 pupils, respectively. RESULTS: The intake of vegetables has increased significantly since 1994, and the intake of fruits, sweets and soft drink has decreased significantly at a 5% level. An unchanged high proportion of schoolchildren report to be on a diet or consider themselves obese. CONCLUSION: Most of the observed trends are positive, with regard to intake of vegetables and sweets and consumption of soft drinks. The fact that a high proportion of schoolchildren consider themselves to be obese must be assumed to have a negative impact on the psychological well-being of this population. The results of the survey can reveal changes which have occurred over time for the specified population. This knowledge can be used in public health work and planning.

CHRONIC DISEASE

PROGRAMS

FLY-IN MEDICAL SERVICES

Form of information: conference proceedings- **Health and wellbeing. Best Practice.** Gert Mulvad MDSide event, *Circumpolar Inuit Health. ICC General Assembly 2010 Nuuk*

Project description: Flying Specialists coming from the Central hospital in Nuuk visiting all the towns. Treatments close to home with a much better cost and health Effectiveness, and in the same time education of local health staff.

IMPROVEMENT OF DIABETES CARE IN A SMALL BUT GEOGRAPHICALLY WIDELY SPREAD POPULATION IN GREENLAND AND EFFECTS OF A NATIONAL DIABETES CARE PROGRAMME.

Form of information: Article. Center of Primary Health Care in Nuuk, Nuuk, Greenland. Pedersen ML, Jacobsen JL. *Diabet Med*. 2011 Nov;28(11):1425-32. doi: 10.1111/j.1464-5491.2011.03337.x.

Project description: To estimate the prevalence of diagnosed Type 2 diabetes mellitus in Greenland and to evaluate the quality of the diabetes care before and after implementation of a new diabetes programme.

METHODS: In this observational and cross-sectional study, data from the medical records were collected in Greenland in 2008 and 2010. Information about age, gender, most recently measured HbA(1c) , blood pressure and serum cholesterol and from the examination of eyes, feet and urine was obtained. The prevalence was estimated using the whole adult population in Greenland as background population. The quality of the diabetes care was monitored by six process, three biological and three treatment indicators. A diabetes concept based on national guidelines, systematized recording in an electronic medical record and feedback to the clinics were used to improve diabetes care.

RESULTS: Four hundred and sixty-five patients were included in the 2008 sample and 691 in the 2010 sample. The total prevalence increased from 2.3 (95% CI 2.1-2.5) % in 2008 to 2.7 (95%CI 2.5-3.0) among Greenlanders aged 40 years old or above, corresponding to an increase of 19% (P = 0.006). All process indicators improved significantly between the two observations.

CONCLUSIONS: Along with an increasing prevalence of diagnosed Type 2 diabetes, all six process quality indicators increased. It is strongly recommended that focus on the quality of diabetes care in Greenland should be maintained in order to benefit from the programme in the longer term.

MAY IS HEALTHY MONTH

Form of information: Greenland Circumpolar Inuit Health Steering Committee Member, Health and wellbeing. Best Practice. Gert Mulvad MD *Side event, Circumpolar Inuit Health. ICC General Assembly 2010 Nuuk*

Project description: In May 145 free events and more than 16.000 participants in Nuuk gather to celebrate. Various sports organizers include skiing, running and swimming clubs, the Diabetes group, Primary Health care, the Municipality and other Private companies. Some of the Events include wheelchair races, staircase running, culture walking, Inuit games, running, swimming, cycling etc. The vision is that a healthy and active lifestyle will characterize the entire population of Greenland all year round - not just in May.

STUDIES

REGIONAL VARIATION IN CARDIOVASCULAR RISK FACTORS AND ISCHEMIC HEART DISEASE MORTALITY IN GREENLAND.

Form of information: Bjerregaard, P., Mulvad, G., & Pedersen, H. S. (1998). *International Journal of Circumpolar Health*, 57 Suppl 1, 302-305.

Project description: In a random sample of 264 indigenous Greenlanders, behavioral and biochemical risk factors for cardiovascular disease were compared between the capital, Nuuk, and the rest of the country ("the Coast") while the whole sample was compared with Denmark. In Nuuk consumption of marine food averaged 23 meals per month, compared with 38 on the Coast. N6/N3 ratio was higher in Nuuk but HDL concentrations were similar. There were fewer current smokers in Nuuk, but the prevalence of hypertension and mortality from ischemic heart disease (IHD) were similar. IHD mortality is lower in Greenland than in Denmark (352 and 434 per 100,000). This is in agreement with the dietary

differences, and with the low N6/N3 ratio and the high HDL concentration in Greenland, but opposed to a high proportion of smokers and a high prevalence of hypertension in Greenland compared with Denmark. IHD mortality is apparently decreasing in Greenland concurrently with a Westernization of the lifestyle. This paradox may be due to the fact that societal changes are recent, and the situation may change in the future.

CARDIOVASCULAR DISEASE AND ENVIRONMENTAL POLLUTANTS: THE ARCTIC ASPECT.

Form of information: Article. Bjerregaard, P. (1996). *Arctic Medical Research*, 55 Suppl 1, 25-31. Cardiovascular disease and environmental pollutants: The Arctic aspect.

Project description: Environmental pollution in the Arctic is due to long range transport from lower latitudes or to local industrial activities. Since the latter are not different from point source exposure in the rest of the world the paper focuses on the former aspect which is the main type of environmental pollution in the western Arctic. The environmental pollutants of major significance are heavy metals (mercury, cadmium, lead) and persistent organic pollutants (PCB's, pesticides) and the main exposure is through the traditional diet of sea mammals (mercury, cadmium, persistent organic pollutants) and through smoking (cadmium). There is rather strong evidence that lead is a (weak) risk factor for high blood pressure even at low levels of exposure. Apart from lead there is little evidence that the above mentioned pollutants are significantly related to cardiovascular diseases. Since the pollutants, however, are found in the traditional diet together with n-3 polyunsaturated fatty acids, monounsaturated fatty acids, and selenium which are believed to promote cardiovascular health there is an indirect link between the pollutants and cardiovascular disease. This becomes relevant when dietary guidelines are developed for arctic populations. Epidemiological evidence from Greenland relevant for this discussion is presented, i.e. i) findings from a countrywide interview survey on dietary habits which show that sea mammals are widely consumed and appreciated for health and other reasons and that there is virtually no fear of pollution, and ii) mortality results which do not support the hypothesis that the low rate of ischemic heart disease in Inuit is due to their traditional diet.

CARDIOVASCULAR RISK FACTORS IN INUIT OF GREENLAND

Form of information Bjerregaard, P., Mulvad, G., & Pedersen, H. S. (1997). Cardiovascular risk factors in inuit of greenland. *International Journal of Epidemiology*, 26(6), 1182-1190.

Project description: Background. Mortality from ischaemic heart disease (IHD) and prevalence of coronary arteriosclerosis are low in Inuit of Greenland (Greenlanders). Aetiological considerations have so far focused mostly on diet and blood lipids.

The present study is a comprehensive analysis of behavioural, clinical and serological cardiovascular risk factors for IHD in Greenlanders.

Methods. An interview survey from West Greenland (n = 1436) was supplemented with clinical measurements and blood sampling in selected towns and villages (n = 264). Results. The average consumption of marine mammals and fish was 28 meals per month. In Greenland 14% of males and 30% of females were physically inactive compared with 14% and 17% in the general population of Denmark; 79% were current smokers and 22% smoked 15+ cigarettes per day compared with 42% and 21% in Denmark. High density lipoprotein (HDL) concentration was 1.6 mmol/l in Greenland (1.1 in Denmark) and triglyceride concentration 1.0 mmol/l (1.5). Obesity, blood pressure and total cholesterol were

similar in Greenland and Denmark. There were significant differences between Greenlanders with a predominantly traditional childhood and those with a more westernized childhood with regard to diet, physical activity (in women) and blood lipids. Conclusions. In spite of an increased westernization of the Greenlanders' lifestyle and a high prevalence of several cardiovascular risk factors, mortality from IHD is still low. The change in risk factor patterns is, however, recent and an increased IHD mortality is still to be expected. Preventive measures should be initiated to reduce risk factors but they must take into consideration possible negative consequences of e.g. traditional outdoor activities and the consumption of marine mammals.

CHILDHOOD CONDITIONS AND EDUCATION AS DETERMINANTS OF ADULT HEIGHT AND OBESITY AMONG GREENLAND INUIT

Form of information: Article. Bjerregaard, P. (2010). Childhood conditions and education as determinants of adult height and obesity among Greenland Inuit. *American Journal of Human Biology*, 22(3), 360-366.

Project description: Height and obesity are risk factors for cardiovascular disease and other physical and mental health conditions. Their association with childhood socioeconomic position has been demonstrated in studies among European and a few third world populations. In a random sample of adult Greenland Inuit (N = 2302) we studied the association between childhood socioeconomic conditions and height as well as prevalence of obesity (BMI \geq 30) in a cross sectional design. In block recursive graphical independence models, height was associated with mother's place of birth, birth cohort, childhood residence, alcohol problems in childhood home, and education among both men and women. Obesity was associated with mother's place of birth (for men) and with alcohol problems (for women). In General Linear Models, men with an all rural background and no education beyond primary school measured on average 165.1 cm compared with 172.1 cm for men with an all urban background (P < 0.001); women measured 153.9 and 161.1 cm (P < 0.001). Rural-urban differences in prevalence of obesity were not statistically significant. The height differences were considerably larger than between educational groups in European countries and of the same order of magnitude as those reported between men from the 17th century and men from 400 BC in the European and Mediterranean region. The rural-urban gradient in height follows the socioeconomic gradient and may negatively affect cardiovascular risk among the rural Greenlanders, while their physically active lifestyle and high consumption of n-3 fatty acids may counteract this.

MICRO- AND MACROVASCULAR COMPLICATIONS AMONG GREENLANDERS AND DANES WITH TYPE 2 DIABETES MELLITUS IN NUUK, GREENLAND.

Form of information: Article. *Int J Circumpolar Health*. 2010 Apr;69(2):195-207. Epub 2010

Project description: OBJECTIVES: To estimate the prevalence of micro- and macrovascular complications and risk factors among Greenlanders and Danes with type 2 diabetes mellitus (T2DM) in Nuuk, Greenland.

STUDY DESIGN: Observational and cross-sectional study, based on a review of medical records and patient interviews. METHODS: Review of the electronic medical records and interviews obtained from T2DM patients connected to the Center of Primary Health Care in Nuuk. RESULTS: A total of 123 patients (81 Greenlanders and 42 Danes) with T2DM for a mean of 6 years were included. Fifty-seven percent of

the Greenlanders were diagnosed within the last 3 years. Ninety-one percent of the patients had BMI ≥ 25 kg/m², 42% had 1 or more first-degree relatives with diabetes, 43% were current smokers, 69% were categorized as leading a very physically active lifestyle and 60% described a healthy diet pattern. Sixty-eight percent of all the patients suffered from at least 1 complication - 51% neuropathy, 14% retinopathy, 10% macrovascular complication and 43% microalbuminuria. The number of complications was significantly correlated to the duration of diabetes ($p=0.008$) and low physical activity ($p=0.037$). Retinopathy was correlated to Danish ethnicity ($p=0.020$). CONCLUSION: The majority of the Greenlandic patients (57%) were diagnosed within the last 3 years, which may indicate either the beginning of an epidemic or an increased awareness of T2DM, or both. The high prevalence of microvascular complications and risk factors such as smoking and microalbuminuria are a matter of concern. Efforts to reduce smoking and increase physical activity could be considered as prime targets for initiatives.

CONTRIBUTION OF POPULATION SURVEYS TO THE STUDY OF CARDIOVASCULAR DISEASE AND DIABETES IN GREENLAND.

Form of information: Article. Bjerregaard, P. (2003). Contribution of population surveys to the study of cardiovascular disease and diabetes in Greenland. *International Journal of Circumpolar Health*, 62(4), 331-342.

Project description: Two population surveys with focus on cardiovascular disease and diabetes were carried out among the Greenland Inuit in 1993-94 and 1999-2001. The number of participants was 264 (1993-94 study) and 2056 (1999-2001 survey) Inuit living in Denmark, towns in Greenland, and villages. Compared with the general population of Denmark, the Inuit had a high consumption of marine food, but regional and demographic variation was marked. Smoking prevalence was high, being approximately 70% among adults in 1999-2001. Blood pressure was lower than in Denmark and the serum lipid profile was healthier (high HDL cholesterol and low triglyceride). The risk factor pattern is consistent with neither an increased, nor a decreased cardiovascular risk profile. Longitudinal studies are needed to determine the incidence of cardiovascular diseases and diabetes, and to establish causal links between traditional risk factors and disease in this non-European population.

BOTH HIGH AND LOW SERUM VITAMIN D CONCENTRATIONS ARE ASSOCIATED WITH TUBERCULOSIS: A CASE-CONTROL STUDY IN GREENLAND

Form of information: Article. Nielsen, N. O., Skifte, T., Andersson, M., Wohlfahrt, J., Sborg, B., Koch, A., . . . Ladefoged, K. (2010). Both high and low serum vitamin D concentrations are associated with tuberculosis: A case-control study in Greenland. *British Journal of Nutrition*, 104(10), 1487-1491.

Project description: Vitamin D deficiency has been associated with increased risk of tuberculosis (TB). Changes from a traditional to a Westernised diet among Greenlanders have resulted in reduced serum vitamin D, leading to considerations of whether preventive vitamin D supplementation should be introduced. The association between vitamin D status and TB was examined to assess the feasibility of vitamin D supplementation in Greenland. This was examined in a case-control study involving seventy-two matched pairs of TB patients (cases) and controls aged 8-74 years. Cases were diagnosed with TB during 2004-6 based on clinical findings in combination with either (1) positive Mycobacterium tuberculosis culture, (2) characteristic X-ray abnormalities together with a positive tuberculin skin test or a positive interferon- release assay or (3) characteristic histology. Controls were individually matched on age (± 5 years), sex and district. Serum 25-hydroxyvitamin D (25(OH)D) concentrations were measured

and OR of TB were the outcome. Compared with individuals with 25(OH)D concentrations between 75 and 140nmol/l, individuals with concentrations 140nmol/l (OR 65; 95% CI 19, 222) had higher risks of active TB (P=0003; adjustment for alcohol and ethnicity). Supplementing individuals with low vitamin D to normalise serum 25(OH)D concentrations was estimated to result in a 29% reduction in the number of TB cases. The study indicated that vitamin D supplementation may be beneficial to individuals with insufficient vitamin D concentrations but may increase the risk of TB among individuals with normal or high concentrations.

HIGH PREVALENCE OF MARKERS OF CORONARY HEART DISEASE AMONG GREENLAND INUIT

Form of information: Marit Eika Jørgensen, Peter Bjerregaard, Jens Jørgen Kjærgaard, Knut Borch-Johnsen [Atherosclerosis](#). 2008 Feb;196(2):772-8. Epub 2007 Feb 15.

Project description:

It is a common notion that coronary heart disease (CHD) is rare among the Inuit, possibly due to a high intake of omega-3-fatty acids. The scientific evidence for this is weak and to some extent based on uncertain mortality statistic. The aim of this study was to assess the prevalence of markers of CHD among Greenland Inuit, and to study associations between markers of CHD and behavioral and biological variables. We studied prevalence of angina pectoris (AP), self-reported myocardial infarction (MI), and ECG defined MI and ischaemia in a population survey among 1316 Inuit living in Greenland. Blood tests were supplemented by structured interviews, anthropometry, and measurements of blood pressure, and the participants received an oral glucose tolerance test.

Results: The prevalence of symptomatic CHD (AP, self-reported MI) was 7.3% among men and 6.9% among women, and 12.2% and 13.4% of men and women had ischaemic ECG changes. The overall prevalence of CHD (AP+self-reported MI+ECG defined MI) was 10.8% in men and 10.2% in women. The highest prevalence was observed in the least westernized areas in Greenland. Physical inactivity, low education, dyslipidemia, hypertension and diabetes were associated with CHD.

Conclusion: The prevalence of markers of CHD was not different from that in Western populations. The Inuit is a population undergoing rapid social and health transitions, with the emergence of cardiovascular risk factors, and there is a need for critical rethinking of cardiovascular epidemiology in this population.

INCREASING OVERWEIGHT IN GREENLAND: SOCIAL, DEMOGRAPHIC, DIETARY AND OTHER LIFE-STYLE FACTORS.

Form of information: Deutch, B., Pedersen, H. S., & Hansen, J. C. (2005). *International Journal of Circumpolar Health*, 64(1), 86-98.

Project description: OBJECTIVES: In several Arctic countries, weight gain is very evident among the local populations and the percentages of overweight and obese persons are increasing rapidly. Since the development of overweight among the Arctic populations seems to coincide with the westernization of their diet and other life-style factors, it is tempting to hypothesize that the transition to carbohydrate- and fat-rich western food causes the weight gain. The high relative content of (n-3) fatty acids in

traditional foods presumably provides some protection against cardiovascular diseases, type 2 diabetes and various other diseases of affluent industrialized societies. In the present study, we have investigated the recent weight gain in Greenland and have tried to relate it to social factors, present dietary habits and other life-styles. **STUDY DESIGN:** The cross-sectional study, which was part of the Arctic Monitoring and Assess Programme, included 410 men and women (18-49 years) from 5 districts in Greenland. It was based upon questionnaires including a dietary survey, anthropometric measurements and blood lipid analyses. **RESULTS:** Obesity (Body Mass Index (BMI) > 30 kg/m², corresponding to about 19% of the participants) increased with age, was most prevalent among higher household economic levels, and correlated with neither local, nor imported food intake.

CONCLUSION: Overweight was not found to be correlated with either western, or traditional food composition. Obesity had adverse effects on several health indicators, serum triglyceride, HDL and the cardiovascular risk index, (Chol-HDL)/HDL and TG/HDL, counteracting the positive effects of (n-3) fatty acids and should be considered as a serious health risk for the Greenlandic population.

MANAGEMENT OF TYPE 2 DIABETES MELLITUS IN GREENLAND, 2008: EXAMINING THE QUALITY AND ORGANIZATION OF DIABETES CARE.

Form of information: Article. [Int J Circumpolar Health](#). 2009 Apr;68(2):123-32. [Pedersen ML](#).

Project description: **OBJECTIVES:** To analyse the management of type 2 diabetes mellitus (T2DM) in Greenland in 2008. **Study design.** Observational and cross-sectional study, including a review of medical records and databases.

METHODS: Data on adult (> 19 years old) T2DM patients were collected from each primary health care centre in Greenland. Information was collected about age, gender, HbA1c, blood pressure, blood lipids, and from eye, feet and urine examinations from 15 of the 17 health care districts in Greenland, which represent 90% of the whole adult population of Greenland. Three clinics were excluded because of too few patients (only 7). The management of T2DM patients is described and is based on 6 processes and 3 biological indicators. **RESULTS:** The 12 clinics together performed quite well looking at the monitoring of HbA1c (79%), blood pressure (69%) and blood lipids (83%). However, the screening rates were low within 2 years for microalbuminuria (47%), eye (50%) and foot examinations (29%). Great variation in the management of the treatment was observed among the clinics. No clinic achieved all the standards suggested in this paper. Screening for diabetic retinopathy seemed to be implemented, but the records were not fully updated, whereas screening for microalbuminuria and foot examinations clearly were not routine in most clinics.

CONCLUSIONS: The management of type 2 diabetes mellitus is a major task for the health care system in Greenland. It is recommended that the implementation of a national strategy based on national guidelines, local diabetes registers and feedback to the clinics get underway as soon as possible.

ONGOING TUBERCULOSIS TRANSMISSION TO CHILDREN IN GREENLAND

Form of information: Article. Soborg, B., Koch, A., Thomsen, V. Ø., Ladefoged, K., Andersson, M., Wohlfahrt, J., . . . Andersen, A. B. (2010). Ongoing tuberculosis transmission to children in Greenland. *European Respiratory Journal*, 36(4), 878-884.

Project description: Inuit in the Arctic are experiencing an increase in tuberculosis cases, reaching levels in Greenland comparable to high-incidence countries. This prompted us to study the level of tuberculosis transmission to Greenlandic children. Specifically, we estimated the current prevalence of Mycobacterium tuberculosis infection (MTI) and the underlying annual risk of MTI. 2,231 Greenlandic school children aged 5-17 yrs (~25% of the Greenlandic population in the relevant age group) were

tested for MTI using the tuberculin skin test and the QuantiFERON®-TB Gold in-tube test. Subjects with dual-positive results were considered infected and subjects with dual-negative results uninfected. The children with discordant test results were classified as probably having MTI and analysed separately. 8.1% of the children had dual-positive test results. The annual risk of MTI was estimated as 0.80% (95% CI 0.67-0.92%) giving a cumulative risk at the 18th birthday of 13.4%. The annual risk of MTI varied substantially by ethnicity (0.87% in Inuit children, 0.02% in non-Inuit children; $p < 0.001$) and by location (0.13% on the west coast, 1.68% on the south coast; $p < 0.001$). M. tuberculosis transmission occurs at a very high level in Inuit children with pronounced geographic differences emphasising the need for immediate public health interventions.

PREDICTIONS OF TYPE 2 DIABETES AND COMPLICATIONS IN GREENLAND IN 2014

Form of information: Martinsen, N., Jørgensen, M. E., Bjerregaard, P., Krasnik, A., Carstensen, B., & Borch-Johnsen, K. *International Journal of Circumpolar Health.*, 65(3), 243-252.

Project description: OBJECTIVES: The objective of this study was to predict the prevalence of type 2 diabetes and the associated burden to the health care system in Greenland posed by diabetic complications by 2014. The predictions were based on changes in demographic variables and obesity. STUDY DESIGN: Projection model based on two cross-sectional population surveys from 1993 and 1999. METHODS: The development in BMI was described and projected to 2014 under two assumptions: 1) distribution of BMI is constant from 1999, and 2) the trend in BMI found in the surveys will continue until 2014. The prevalence of type 2 diabetes was predicted under these assumptions and based on the observed association between BMI and type 2 diabetes. The prevalence of complications was estimated using the 2nd assumption, as was the prevalence of hypertension, dyslipidemia, Ischemic Heart Disease (IHD) and stroke in the non-diabetic population in 2014.

RESULTS: The prevalence of type 2 diabetes was not predicted to increase by 2014 under the 1st assumption. It was predicted to increase from 11% to 23% for women, but not for men under the 2nd assumption. Approximately half of the cases of cardiovascular disease and cardiovascular risk factors predicted by 2014 were attributable to diabetes. CONCLUSIONS: The prevalence of type 2 diabetes was predicted to increase in Greenland, and the number of complications was predicted to double from 1999 to 2014. Both prophylactic and treatment initiatives are needed to deal with the extra burden posed by type 2 diabetes to the Greenlandic health care system in 2014.

PREVALENCE OF GESTATIONAL DIABETES MELLITUS AMONG WOMEN BORN IN GREENLAND: MEASURING THE EFFECTIVENESS OF THE CURRENT SCREENING PROCEDURE

Form of information: Article. *Int J Circumpolar Health*. 2010 Sep;69(4):352-60. Epub 2010 Aug 17. Prevalence of gestational diabetes mellitus among women born in Greenland: measuring the effectiveness of the current screening procedure. Pedersen ML, Jacobsen JL, Jørgensen ME.

Project description: To estimate the prevalence of gestational diabetes mellitus (GDM) among Greenlanders and to evaluate the quality of the current screening procedure for gestational diabetes. STUDY DESIGN: Observational retrospective study of consecutive birth-log data and medical records on pregnant women who had given birth in Nuuk during 2008. METHODS: Information about

maternal weight, weight gain in pregnancy, height, blood pressure, result of oral glucose tolerance test, family history of diabetes, smoking and alcohol habits, ethnicity, delivery and birth weight and length was collected for women who had given birth in Nuuk, Greenland, during 2008. RESULTS: A total of 233 women born in Greenland who had given birth to a singleton in Nuuk 2008 were included in the study. Of those, 37% were defined as having a high risk for GDM and thus met the screening criteria for GDM used in Greenland. However, only 54% of those women were screened. The prevalence of gestational diabetes was calculated to be 4.3% among high-risk Greenlandic pregnant women (2/46) (95% CI 0-10.0%). CONCLUSIONS: Despite a suboptimal screening rate, the prevalence of GDM among Greenlanders seems to be relatively low and Greenlanders may thus be less prone to develop GDM. However, diabetes mellitus is a relatively new disease in Greenland, and glucose intolerance in pregnancy is more likely to affect the next generation. The screening rate is suboptimal, and it is recommended that the screening procedure be optimized in order to find and treat all women with GDM. The number of screened women compared to the number of births occurring annually could be used as an indicator of screening efficacy. Diabetes prevention initiatives should be given high priority to avoid high rates of GDM in the future, as increasing prevalence of the disease is now seen worldwide, regardless of race.

RESPIRATORY TRACT INFECTIONS IN GREENLANDIC CHILDREN: A PROSPECTIVE COHORT STUDY

Form of information: Article. Koch, A., Mølbak, K., Homøe, P., Bretlau, P., & Melbye, M. (1998). Respiratory tract infections in greenlandic children: A prospective cohort study. *International Journal of Circumpolar Health*, 57 Suppl 1, 252-254.

Project description: Respiratory tract infections in children, measured in terms of both morbidity and mortality, represent a major health problem in Greenland. In particular, otitis media is highly prevalent, and is characterized by early onset and a high degree of chronicity. There is, however, little knowledge about the epidemiology of respiratory tract infections in Greenland. In the spring of 1996, a prospective study of such infections in infants and children was initiated in Sisimiut, West Greenland. The main objectives of the study are to describe the epidemiology of respiratory tract infections in children under four years of age, to estimate the impact of these diseases on short- and long-term morbidity, and to identify risk factors for transmission and clinical severity. An open cohort of children in Sisimiut will be formed, including all resident children below three years of age at the beginning of the study, as well as all children born in the following two-year period: in total approximately 600 children. During two years, these children will be followed closely, including registration of episodes of respiratory tract infections. Furthermore, growth will be measured and microbiological samples obtained.

RESPIRATORY TRACT INFECTIONS IN GREENLAND

Form of information: Article. Gahm-Hansen, B., Aaen-Larsen, B., Mosgaard, L., Damsgaard, J., & Munck, A. (2004). *Int J Circumpolar Health*. 2004;63 Suppl 2:209-13.

Project description: To elucidate and improve quality of diagnosis and treatment of respiratory tract infections in Greenland. STUDY DESIGN: All district medical officers and nursing staff in the Greenlandic coastal health services were invited to participate in the study. Twenty-five district medical officers and

the nursing staff from nine districts completed the project and registered in a 3-week period 1,163 contacts involving respiratory tract infections.

METHODS: Self-registration according to the Audit Project Odense (APO) method on a simple APO registration chart. All contacts involving respiratory tract infections were registered with regard to sex, type of contact, contact form, infection focus, diagnosis and treatment, origin of infection, antibiotic treatment, choice of antibiotics and possible sick-leave.

RESULTS: Of the 1,163 registered contacts lung infections represented 26%, throat infections 22% and otitis media 16%. Paraclinical tests were performed in 32% of the cases, 47% of the cases were treated with antibiotics, in 2/3 of the cases with penicillin V. The use of paraclinical tests was somewhat lower and the use of antibiotics was higher than in Denmark.

CONCLUSION: The study showed that it is possible to carry out an APO audit in Greenland, and that there was a moderate difference in the diagnosis and treatment between Greenland and Denmark. An increased use of paraclinical tests may result in quality improvement.

RISK FACTORS FOR ACUTE RESPIRATORY TRACT INFECTIONS IN YOUNG GREENLANDIC CHILDREN

Form of information: Article. Koch, A., Mølbak, K., Homøe, P., Sørensen, P., Hjuler, T., Olesen, M. E., . . . Melbye, M. (2003). Risk factors for acute respiratory tract infections in young greenlandic children. *American Journal of Epidemiology*, 158(4), 374-384.

Project description: Acute respiratory infections cause considerable morbidity among Inuit children, but there is very little information on the risk factors for these infections in this population. To identify such factors, the authors performed a prospective community-based study of acute respiratory infections in an open cohort of 288 children aged 0-2 years in the town of Sisimiut, Greenland. Between July 1996 and August 1998, children were monitored weekly, and episodes of upper and lower respiratory tract infections were registered. Risk factor analyses were carried out using a multivariate Poisson regression model adjusted for age. Risk factors for upper respiratory tract infections included attending a child-care center (relative risk = 1.7 compared with home care) and sharing a bedroom with adults (relative risk = 2.5 for one adult and 3.1 for two adults). Risk factors for lower respiratory tract infections included being a boy (relative risk = 1.5), attending a child-care center (relative risk = 3.3), exposure to passive smoking (relative risk = 2.1), and sharing a bedroom with children aged 0-5 years (relative risk = 2.0 for two other children). Breastfeeding tended to be protective for lower respiratory tract infections. The population-attributable risk of lower respiratory tract infections associated with passive smoking and child-care centers was 47% and 48%, respectively. The incidence of acute respiratory infections among Inuit children may be reduced substantially through public health measures. Copyright © 2003 by the Johns Hopkins Bloomberg School of Public Health All rights reserved.

RISK FACTORS FOR TUBERCULOSIS IN GREENLAND: CASE-CONTROL STUDY.

Form of information: Ladefoged, K., Rendal, T., Skifte, T., Andersson, M., Sjøborg, B., & Koch, A. *International Journal of Tuberculosis and Lung Disease*, 15(1), 44-49. (2011).

Project description: SETTING AND OBJECTIVE: Despite several efforts aiming at disease control, the incidence of tuberculosis (TB) remains high in Greenland, averaging 131 per 100 000 population during the period 1998-2007. The purpose of the present study was to disclose risk factors for TB. **METHODS:** A

case-control study was performed among 146 patients diagnosed with TB in the period 2004-2006. For each patient, four healthy age- and sex-matched control persons living in the same district were included. All participants completed a questionnaire regarding socio-demographic and lifestyle factors. Risk factor analyses were carried out using logistic regression models.

RESULTS: Factors associated with TB were Inuit ethnicity, living in a small settlement, unemployment, no access to tap water, no bathroom or flushing toilet, underweight, smoking, frequent intake of alcohol and immunosuppressive treatment. The multivariate model showed that Inuit ethnicity (OR 15.3), living in a settlement (OR 5.1), being unemployed (OR 4.1) and frequent alcohol use (OR 3.1) were independent determinants of risk. Unemployment was associated with the highest population-attributable risk (29%). **CONCLUSION:** Risk factors associated with living in a settlement should be further explored and an investigation of genetic susceptibility is warranted.

TUBERCULOSIS IN GREENLAND--CURRENT SITUATION AND FUTURE CHALLENGES.

Form of information: Thomsen, V. O., Lillebaek, T., & Stenz, F. (2004). . *International Journal of Circumpolar Health*, 63 Suppl 2, 225-229

Project description: **OBJECTIVE:** To describe the tuberculosis (TB) epidemiology in Greenland in 1998-2002 and to identify possible obstacles for reducing the TB incidence. **STUDY DESIGN/METHODS:** TB notification data were collected from the annual reports of the Chief Medical Officer, and culture verification data were collected from the International Reference Laboratory of Mycobacteriology at Statens Serum Institut, Denmark. **RESULTS:** The TB incidence in Greenland reached a peak of 185/100,000 in 2001. In 1999-2001, the majority of cases were related to an outbreak in the Southern districts. In 1998-2002, 0.5% drug-resistance was found among patients living in Greenland in contrast to 13.1% drug-resistance found previously among Inuit patients in Denmark. In 1998-2001, microscopy positive cases made up 65% of all culture confirmed cases and DNA subtyping demonstrated the emergence of *Mycobacterium tuberculosis* strains that were previously infrequently found. **CONCLUSION:** It is important to eliminate factors that fuel the epidemic and to improve general living conditions in Greenland. Treatment seems effective as limited drug-resistance is detected. TB reduction will therefore depend on early detection of active disease and thorough contact tracing. Greenland will face a pool of persons latently infected some of whom will progress to active disease. Sufficient resources need to be allocated for TB control in the years to come.

PREVALENCE OF DIAGNOSED TYPE 2 DIABETES MELLITUS IN GREENLAND 2008: THE IMPACT OF ELECTRONIC DATABASE IMPLEMENTATION ON THE QUALITY OF DIABETES CARE.

Form of information: Article. [Pedersen ML](#). *Int J Circumpolar Health*. 2009 Feb;68(1):34-41

Project description: **OBJECTIVES:** To estimate the age specific prevalence of diagnosed type 2 diabetes mellitus (T2DM) in Greenland in 2008, and to evaluate the influence of electronic database access on the quality of the clinical management of the disease.

STUDY DESIGN: Observational and cross-sectional study, review of medical records and databases.

METHODS: Data on T2DM patients were collected from each rural district in Greenland.

RESULTS: The number of patients with T2DM, their age and gender were collected from 15 out of 17 districts and from the outpatient clinic of internal medicine in Nuuk. This sampling represents 90% of the population in Greenland. The prevalence among Greenlanders > or = 40 years old is 2.1%. The

prevalence increased with age. The quality in the management of T2DM based on process indicators is significantly higher in clinics with an electronic database than those without.

CONCLUSIONS: The prevalence of diagnosed type 2 diabetes mellitus in Greenland is low. When compared with previous population-based surveys, this suggests that the prevalence of undiagnosed diabetes is high, especially in the age group between 40 and 60. Consequently, the focus should be on identifying undiagnosed type 2 diabetes in this group. The quality in the management of type 2 diabetes mellitus seems to be improved by the use of an electronic database. Implementation of databases in all the clinics in Greenland is desirable.

TUBERCULOSIS IN GREENLAND--STILL A PROBLEM TO BEAR IN MIND: DEVELOPMENT AND STRATEGY.

Form of information: Skifte, T. B. (2004). *International Journal of Circumpolar Health*, 63 Suppl 2, 221-224.

Project description: **OBJECTIVES:** Tuberculosis is still a disease to be taken seriously in Greenland. After a ten-year period in oblivion, the incidence of tuberculosis has been shown to be rising during the nineties. A central tuberculosis-group was constituted in 1997 in order to monitor and control the situation. A centrally placed TB nurse was established to support and supervise local health authorities. **STUDY DESIGN:** Retrospective review of registered incidents of tuberculosis from all health districts from 1997 until 2002. Review of reports from the TB nurse. **METHODS:** Quality assessment of treatment and subsequent control was systematically conducted by the TB nurse.

RESULTS: Microepidemics were observed in various health districts. The TB nurse was a positive assistance in case finding, tracking sources of infection, identifying disease carriers, guidance and instruction of local health care workers. Knowledge of TB and continuity amongst health care workers along with a fragile manning situation are shown to be important determining factors in the effort to control TB. With a former high prevalence of TB hidden pools may still be likely to turn up.

CONCLUSION: Health care workers still need to focus on tuberculosis in order to diagnose individual incidents, to secure proper treatment according to guidelines, to track sources of infection, to identify disease carriers, and to prevent further spreading into the community. The interventions of the TB nurse are an efficient tool to control microepidemics at a local level in seeing that proper registration, treatment and specific prophylactic interventions are being carried out.

CHUKOTKA

MENTAL HEALTH

PROGRAMS

MARATHON LIFELONG HEALTH

Form of information: 3/17/2009 [HTTP://GLOBALSIB.COM/1490/](http://globalsib.com/1490/)

Project description: "Marathon for lifelong health" - an expedition with the same name was launched March 17, 2009 in Chukotka. From Anadyr, specialists of the Red Cross of Chukotka and health experts went on the long trip to the national district villages. The doctors will give advice to local residents and if necessary, provide medical and psychological help to people suffering from alcohol dependence.

The expedition consists of psychotherapist, psychiatrist Eugene Shalashov and Antonina Kergytval and other health experts.

Within a month the health expedition will visit three locations: Kanchalan, Ust-Belaya and Snegnoe. In Chukotka, in most towns have a restriction on alcohol sales, the press office of the district administration explains. Such measures have been taken at the request of residents. Expedition health - this is another step in the fight against alcoholism among the population. In 2009, the Red Cross of Chukotka won a grant from the "League of Nation's Health." It was organized by the founders of "Marathon lifelong health". It is assumed that this will become a long term project.

STUDIES

ETHNIC CHARACTERISTICS OF NATIVES PSYCHOPHYSIOLOGY NORTH AS A BASIS FOR SURVIVAL IN EXTREME CLIMATIC CONDITIONS

Form of information:

http://translate.googleusercontent.com/translate_c?hl=en&ie=UTF8&langpair=auto%7Cen&rurl=translate.google.com&tbb=1&u=http://hasnulin.pp.ru/node/52&usg=ALkJrhgYxEOXTiE8HXb8Z3IDb0juzET4iA , publication, Hasnulin Vyacheslav

Project description: It is shown that the indigenous people of the North were able to maintain health and vitality for a full new generation in extreme climate conditions. The most effective way was by choosing the way of life, through features of the language, rituals, diets, regimes of work and leisure, family and cultural traditions, the core industries, clothing, self-cleaning and preserving the heat of the body, as well as through a number of psychotherapeutic (ritual, shaman) means of animal and vegetable origin. Important are mobilizing reserves and the adaptive phenotype of the organism, the northern type of metabolism, the prevalence of right-brain function, adaptation of the national language to harmonize the internal state of a person with extreme geo-ecological conditions at high latitudes. It is concluded that it necessary to form a new community - a single circumpolar population - based on

socio-demographic synthesis and environmentally balanced with all the elements surrounding the biosphere of human life.

MENTAL HEALTH REFORM IN THE RUSSIAN FEDERATION: AN INTEGRATED APPROACH TO ACHIEVE SOCIAL INCLUSION AND RECOVERY

Form of information: Article. Jenkins, R., Lancashire, S., McDaid, D., Samyshkin, Y., Green, S., Watkins, J., Atun, R. (2007). Mental health reform in the Russian federation: An integrated approach to achieve social inclusion and recovery. *Bulletin of the World Health Organization*, 85(11), 858-866.

Project description: Objective: To facilitate mental health reform in one Russian oblast (region) using systematic approaches to policy design and implementation.

Methods: The authors undertook a three-year action-research programme across three pilot sites, comprising a multifaceted set of interventions combining situation appraisal to inform planning, sustained policy dialogue at federal and regional levels to catalyse change, introduction of multidisciplinary and intersectoral-working at all levels, skills-based training for professionals, and support for nongovernmental organizations (NGOs) to develop new care models.

Findings: Training programmes developed in this process have been adopted into routine curricula with measurable changes in staff skills. Approaches to care improved through multidisciplinary and multisectoral service delivery, with an increase in NGO activities, user involvement in care planning and delivery in all pilot sites. Hospital admissions at start and end of the study fell in two pilot sites, while the rate of readmissions in all three pilot sites by 2006 was below that for the region as a whole. Lessons learned have informed the development of regional and federal mental health policies.

Conclusion: A multifaceted and comprehensive programme can be effective in overcoming organizational barriers to the introduction of evidence-based multisectoral interventions in one Russian region. This can help facilitate significant and sustainable changes in policy and reduce institutionalization.

ANALYSIS OF SUICIDES IN CHUKOTKA FROM 2004 –2010

Form of information: report

Alexandr Ivanov: Panel session of the Duma of Chukotka Autonomous Okrug – Original report in Russian. The Russian report and English translation are available from ICC Canada.

Description:

Suicide, (killing yourself) is a purposeful deprivation of life itself, and, as a rule, voluntary (there are cases of forced suicide) and independent (in some cases with help from other people).

Russia has one of the highest numbers of suicides. In Russia, the suicide rate in 2008 was 29 cases per 100,000 inhabitants (a total of 35,000), in 2006, Russia voluntarily took the life of 42,855 people. According to the World Health Organization (WHO) 20 suicides per 100,000 people is considered to be the critical threshold.

The suicide rate is the factor by which we can judge some of the psychological state of a society.

Among the external causes of death in the Chukotka Autonomous Area, in the first place are suicides with 28% (91.7 per 100,000 people), the second is manslaughter with 15.3% (50.5 per 100,000 people), the third is random alcohol poisoning with 5% (16.3 per 100,000), the fourth are traffic accidents with 1.2% (4.1 per 100,000 people).

In the District of Chukotka Autonomous Area, mortality from suicide remains at a consistently high level and in the 2009 the figure was 91.7 per 100,000.

SERVICE DELIVERY

PROGRAMS

ANNUAL EXAMS FOR CHILDREN

Form of information: Circumpolar Inuit Health Summit report, available from ICC Canada

Project description: Since 2006, there are annual exams for children. Ultrasounds during pregnancy and prenatal check-ups are provided. Children are seen by a specialist every month during their first year.

MOBILE HEALTH UNITS

Form of information: Circumpolar Inuit Health Summit report, 2009. Available from ICC Canada

Project description: During the Soviet era, mobile health units travelled into remote communities and provided health services related to disease treatment and prevention. Diagnostic tools even included x-ray machines. Unfortunately, with the collapse of the Soviet Union, this practice was discontinued.

REGIONAL MEDICAL INFORMATION SYSTEM FOR CHUKOTKA

Form of information: Article online, <http://vostokmedia.com/n120588.html> , 10 November 2011

Project description: The district will create a regional medical information system.

The regional medical information system (MIS) will be created in Chukotka in 2012 as part of the modernization program of health Chukotka Autonomous Okrug for 2011-2012.

As the head of the main health Chukotka Eugene Podlesny, the IIA provides for a unified information network throughout the county in which the maintenance will be provided with electronic medical records, patient accounting services rendered, the automatic processing of statistical information, records of inventory, etc.

CATEGORY: FOOD SECURITY

PROGRAMS

SUPPLY OF VENISON IN CHUKOTKA

Form of information: Online article:

http://translate.google.com/translate?u=http%3A%2F%2Fadviz.ru%2Fphp%2Fview_news.php%3Fid%3DC04851E5-5EC0-1A4A-B0D0-3B42C5B23EAF&hl=en&langpair=auto|en&tbb=1&ie=windows-1251

Project description: In accordance with the agreements concluded between the Department of Agriculture policy, the management of the Chukotka Autonomous District and the reindeer enterprises,

it is planned to butcher around 26 thousand domestic reindeer and get about 944 tons of venison in 2011. This ensures high-quality meat for the district, and allows to partly giving up the expensive importation of beef and pork from outside of the region.

STUDIES

PTS REPORT

PERSISTENT TOXIC SUBSTANCES, FOOD SECURITY AND INDIGENOUS PEOPLES OF THE RUSSIAN NORTH

Form of information: AMAP report, available on-line:

<http://amap.no/documents/index.cfm?action=getfile&dirsub=/Persistent%20Toxic%20Substances,%20Food%20Security%20and%20Indigenous%20Peoples%20of%20the%20Russian%20North&FileName=Chapter1sv.pdf>

Project description: The project has been fulfilled mostly by Russian institutions and experts, with the organizational support from the relevant Russian federal governmental executive bodies and the local administrations of the regions of the Russian Federation. At the same time, active participation of a number of international experts in all stages of the project, from drafting the project proposal to the compilation of its conclusions and recommendations and development of the dissemination strategy, was important for its success. Close collaboration of the project team with the AMAP Human Health Expert Group was a necessary step for making its outcomes consistent with the circumpolar assessment work being made in all Arctic states under the auspices of AMAP. Wide participation of the Russian Association of the Indigenous Peoples of the North, Siberia and Far East (RAIPON) and its regional branches in the project should be specifically highlighted. For the first time, the indigenous experts acted in this project not as assistants, but as equal partners of the research teams. Efficient work of the indigenous peoples coordinators, both at the central level and in the regions, and their collaboration with the local administrations and human health authorities, was one of valuable lessons learned during the project implementation. Work among the indigenous communities, particularly at the stages of the dietary and lifestyle surveys and human sampling, would not be feasible without their everyday involvement.

REPRODUCTIVE HEALTH EFFECTS ASSOCIATED WITH CONTAMINANT EXPOSURE AMONG NATIVES OF THE RUSSIAN ARCTIC

Form of information: Reports, available online as indicated below.

Author: Alexey Dudarev (North-western Research Centre of Hygiene and Public Health)

Project description: In 2005-2006 the United Nations Environment Programme (UNEP), International POPs Elimination Network (IPEN) and others supported three projects in the Russian Far North. Two of them were mainly research projects focused on PCB and DDT impact on the reproduction system of indigenous peoples of the North. The third project was aimed at developing an action plan for reducing the exposure to POPs among natives of the Russian Arctic and is covered separately.

- Dudarev AA. (2006). Reproductive Health Effects Associated with Exposure to PCBs Among Natives of the Russian Arctic. Study of the Impacts of Some Congeners of Polychlorinated Biphenyls (PCBs) on the Reproductive Health of Indigenous Peoples of the Russian Arctic //

International POPs Elimination Project. Russian Federation, January 2006. – 26 p. Available online in English at:

http://www.ipen.org/ipepweb1/library/ipep_pdf_reports/13rus%20reproductive%20health%20effects%20in%20russian%20arctic.pdf

- Dudarev AA. (2006). DDT and DDE in the Russian Arctic and Reproductive Health of Indigenous Peoples // International POPs Elimination Project. Russian Federation, April 2006.–19p. Available online in English at:
http://www.ipen.org/ipepweb1/library/ipep_pdf_reports/35rus%20ddt%20in%20russian%20arctic.pdf

REDUCING THE EXPOSURE TO POPS AMONG NATIVES OF THE RUSSIAN ARCTIC

Form of information: Report, available online as indicated below. Author: Valeriy Chaschin (North-western Research Centre of Hygiene and Public Health)

Project description: In 2005-2006 the United Nations Environment Programme (UNEP), International POPs Elimination Network (IPEN) and others supported three projects in the Russian Far North. Two of them were mainly research projects focused on PCB and DDT impact on the reproduction system of indigenous peoples of the North, and are covered separately. The third project was aimed at developing an action plan for reducing the exposure to POPs among natives of the Russian Arctic.

- Chaschin V. (2006). Development of an Action Plan for Reducing the Exposure to POPs Among Natives of the Russian Arctic - Measures to Reduce Adverse Impacts of Persistent Toxic Substances on Health of Indigenous Peoples of the Russian Arctic // International POPs Elimination Project. Russian Federation, January 2006.–13p. Available online in English at:
http://www.ipen.org/ipepweb1/library/ipep_pdf_reports/14rus%20reducing%20pops%20in%20people%20of%20russian%20arctic.pdf

Qualitative information: Yes: Implementation of programs that incorporated the recommendations in several settlements with predominantly Indigenous populations in Chukotskiy and Nenetskiy autonomous districts resulted in substantially reduced environmental contamination by persistent toxic substances. Three years after the initial survey, in the course of the secondary survey of Indigenous residents, statistically significant reduction of blood levels of PCBs and DDT was observed in 82% of cases, (by 1.3-fold on the average). These survey data suggest reduction of adverse health impacts of these organochlorine substances.

AN ETHNOMYCOLOGICAL APPROACH TO LAND USE VALUES IN CHUKOTKA

Form of information: Sveta Yamin-Pasternak *Études/Inuit/Studies*, vol. 31, n° 1-2, 2007, p. 121-141. Available online:

<http://www.erudit.org/revue/etudinit/2007/v31/n1-2/019718ar.html?vue=resume>

Project description: An ethnomycological approach to land use values in Chukotka.

Once avoided on both sides of the Bering Strait, wild mushrooms are now considered to be delicious edibles in Chukotka. An important food source, mushroom-gathering is also a recreational activity that cultivates particular relationships between people and the land. In the past, prior to the influences of

the mushroom-loving Russian cuisine, the Yupiget of Chukotka regarded mushrooms as "devil ears," while the Chukchi people largely viewed them as reindeer food, unfit for human consumption. This article examines the transformation in Yupik and Chukchi ideas about mushrooms in the context of a broader ethnohistorical overview. Using the narratives shared by Yupik, Chukchi, and non-indigenous residents of Chukotka, it highlights the role of cultural identity in shaping landscape perceptions, demonstrating how during and after the Soviet period members of each group were finding their own distinct ways of relating to the ecological universe, transformed by new political processes and vast social changes.

IN 2010, IN CHUKOTKA FOOD INDUSTRY INCREASED OUTPUT

Form of information: Press article, February 2, 2011, <http://www.bakutoday.net/in-2010-in-chukotka-food-industry-increased-output-at-123.html>

Project description: In 2010, the Food Industry Department of the Chukotka Autonomous region increased production by 12.3%, compared with the year 2009. The press service of the Government of the Chukotka region told Baku. Today that the total amount of shipped goods from regional manufacture, as well as completed work and services in the industry totaled 455.6 million rubles.

Overall in 2010, the increased production was 32.7% for confectionery, 41.9% for non-alcoholic products, 2.8% for sausages, and 6.6% for whole-milk production.

The greatest growth in the year 2010 in the Chukotka Autonomous Okrug was demonstrated by the fishing industry. The total volume production of fish and processed fish products in 2010 was 47.7 th tons, an increase of 69.7% compared with the previous year.

The press service noted that last year, the district continued to expand the range of products of regional production. In Anadyr a canning shop was commissioned: in January stewed meat venison was launched, and pork in July. Based on manufacture of canned food in 2010, which represents 91.9th. cans, it is possible to reduce the import of stewed meat from beef and pork into the Chukotka Autonomous Okrug.

Currently, the food industry represents 84.7% of the manufacturing industries of the Chukotka Autonomous Okrug. It is represented by food Mills, enterprises of various organizational and legal forms and bakeries began to develop. It was stressed that the increase of the volume of products by own production and a decrease of expensive food importation is one of the priority tasks of the branch of the Government of the Chukotka Autonomous Okrug.

RATIONALE FOR WHALE HARVEST IN 2008-2012

RATIONALE FOR NEEDS OF ABORIGINAL PEOPLE OF RUSSIAN FEDERATION FOR GRAY AND BOWHEAD WHALE HARVEST IN 2008-2012.

Form of information: pdf document, available from the internet:

<http://iwcoffice.org/documents/commission/IWC59docs/59-ASW3rev.pdf>

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Project description: Diversity of food sources is important when a subsistence hunt relies on opportunism and a village must achieve an adequate level of food security. The difficult environment of

the extreme northeast of Russia determines very specific needs of the Native people. Food rich in protein and energy, like the meat and fat of marine mammals, is the basic food of the population. Scientists who specialize in nutrition testify that marine animals can provide a full compliment of amino acids and microelements necessary to support the life of a human being (Nobmann *et. al.*, 1994). Some scientists claim that the aboriginal people of Chukotka have adapted to a diet rich in marine mammal meat and blubber and their bodies cannot function properly without such foods (Zemsky and Bogoslovskaya, 1997b; Nobmann *et. al.*, 1994). Studies of nutrition of indigenous people reveal that absence of whale meat in food causes a number of serious diseases like atherosclerosis, diabetes, etc. (Kozlov, IWC 2002).

TRADITIONAL FOODS IN THE DIET OF CHUKOTKA NATIVES

Form of information: Berezovikova, I. P., & Mamleeva, F. R. (2001), *International Journal of Circumpolar Health*, 60(2), 138-142.

Project description: During several medical expeditions the recipes and technology of traditional foods of the indigenous population of Chukotka have been collected. Traditional foods are important sources of fat, protein and essential nutrients. The traditional diet of Chukotka natives consists of caribou meat, marine animals and fish, depending on the place of residence. All meat products or fish are eaten with local plants: roots, green leaves, berries or seaweed. Local foods are usually eaten raw frozen and dipped into seal oil or melted caribou fat. However, it has been shown that the traditional way of food preparation in the Far North does not meet modern sanitary and hygiene regulations. Based on data collected about the traditional diet of Chukotka native recipes and technology have been changed and approved by the Association of Indigenous Nationalities of Chukotka. Dietary recommendations for natives that are based on traditional eating patterns have been presented for consideration.

CHRONIC DISEASE

STUDIES

A COMPARISON OF THE DIETS OF SIBERIAN AND CHUKOTKA NATIVE ADULTS

Form of information: Nobmann, E. D., Mamleeva, F. Y., & Klachkova, E. V. (1994). *Arctic Medical Research*, 53(3), 123-129.

Project description: Diet plays an important role in the development of common diseases among Northern indigenous people, i.e. heart disease, cancer, diabetes and iron deficiency. Their unique diets may contribute to or protect from these diseases. The diets consumed by Siberian Chukotka Natives (Russia) and Alaska Natives (United States) during the 1980's are described. Traditional foods still play a major role, although the extent of their use varies. Alaska Natives' diets are more "western" than are those of Chukotka Natives. They consumed a greater proportion of kilocalories as carbohydrates and fat than Chukotka Natives. Coastal Chukotka Natives had lower average serum LDL-cholesterol and higher HDL-cholesterol levels than tundra Chukotka Natives, despite their high fat and kilocalorie intakes.

Dietary recommendations common to both groups are presented which encourage the use of traditional foods as the foundation of the diet supplemented with western type foods of appropriate quality and quantity.

ARTERIAL BLOOD PRESSURE LEVELS AND FREQUENCY OF ARTERIAL HYPERTENSION IN NATIVES OF CHUKOTKA

Form of information: Russian study, English abstract, available online:

<http://www.soramn.ru/Journal/2010/N3/p58-63.pdf>

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Project description: In previously published articles about health in the North it was reported that average levels of arterial blood pressure in natives of Chukotka were lower than in residents of Middle Russia and southern regions of the country. Native coastal population of Chukotka was investigated 3 times (1983, 1991, 2002) during the expeditions of scientists to Chukotka. The investigation was cross-sectional. Arterial blood pressure was measured twice, the results were standardized according to age and body mass index. Average indices of systolic arterial and pulse arterial pressure were 2 times lower in men than in women. With age, especially to 55–64 years of age, both men and women had a little higher indices than in their younger years. When comparing the results of the 1st (1983), 2d (1991) and 3d (2002) surveys it was marked that average indices of systolic arterial blood pressure and diastolic arterial blood pressure decreased in all the investigated groups. Per cent of patients with arterial hypertension ($\geq 140/90$) also decreased: from 46 to 5 % in men, from 41 to 13 % in women. We consider such a dynamics as the results of objective revealing and treatment of patients with arterial hypertension. Thus, in 1983 only some patients were treated with hypertension drugs, in 1991 about 4 % of patients were treated, and in 2002 – 10 % of patients were treated.

CARDIOVASCULAR RISK FACTORS IN THE ADOLESCENT POPULATION OF CHUKOTKA

Form of information: Denisova, D. V., Beresovikova, I. P., & Efendieva, J. B. (1998). *International Journal of Circumpolar Health*, 57 Suppl 1, 299-301.

Project description: Representative samples of adolescents of both sexes, aged 15-17, who were residents of coastal and tundra Chukotka settlements (325 subjects) have been examined. The survey was conducted according to methods based on WHO recommendations. The program included a questionnaire, two measurements of arterial blood pressure, anthropometry, and assessment of blood lipid levels. The prevalence of smoking in boys was 40%; in girls, 19%. High systolic BP occurred more often in newly arrived boys (25%). Hypercholesterolemia was minimal in Chukotka Natives (5%), as was hypertriglyceridemia. The prevalence of low HDL cholesterol was highest (48%) in Native boys. Lipid disorders in Chukotka Native children obviously result from an unbalanced diet. High levels of arterial blood pressure in non-Native adolescents of Chukotka are probably caused by stress on the adaptation system under severe conditions in the North.

CANCER IN RUSSIAN INUIT

Form of information: Journal article, available online: <http://www.ncbi.nlm.nih.gov/pubmed/8813070>

Nikitin YP, Boichenko NS, Astakhova TI, Dokuchaev AT, Shubnikov EV, Institute of Internal Medicine, Siberian Branch, Russian Academy of Medical Sciences, Novosibirsk.

Project description: Using the framework of the Native Cancer Registry, cancer morbidity among Russian Inuit can be obtained from 1960 onwards. Earlier data are available, but have not been verified. Unfortunately, the absence of accurate demographic data for the Native population of about 16 000 people, including the increase from 1 149 to 1 452 Inuit between 1970 and 1989 prevents comparison and analysis of morbidity and mortality data with the non-Inuit population. Nevertheless, the number of cancers has risen in the Native population of Chukotka during the last decade (1979-1988), with a predominance of oesophagus, lung and stomach cancer among the Inuit. In contrast, no cases were observed of the salivary gland, nasopharyngeal and cervical cancers common in other Inuit populations.

DIETARY FAT AND DISEASE PATTERNS IN CHUKOTKA NATIVE ADULTS

Form of information: Mamleeva, F. R., Efendieva, J. B., & Nikitin, Y. P. (1998) *International Journal of Circumpolar Health*, 57 Suppl 1, 325-328.

Project description: It is well documented that dietary patterns have been changing for northern indigenous peoples as they adapt to a contemporary lifestyle. Recent dietary research among Chukotka Native adults showed a higher intake of saturated fatty acids (15% of energy) and sugar, and lower content of polyunsaturated fatty acids (5%) compared with our previous studies. We showed a higher percentage of dietary fat from animal fats (31%) and meat products (28%) than from seafoods and fish, which provide only 11% of daily fat intake. Increasing use of marketed foods and decreasing consumption of traditional foods among Chukotka Native adults contribute to more frequent cases of overweight, diabetes mellitus, and cancer. Dietary recommendations with an emphasis on traditional eating patterns should be considered for promotion of a healthy diet in Chukotka inhabitants. Promoting local foods of high biological value and establishing educational nutrition programs are of great importance.

TUBERCULOSIS IS TWO-FOLD HIGHER IN INDIGENOUS PEOPLES

Form of information: Online article 29 Aug 2011:

http://khabarovskonline.com/public/korenye_narody_vdvoynye_podverzheny_tuberkulezu/

Project description: Health Minister Alexander Vitko of the Khabarovsk Territory reported on the overall health of the indigenous peoples of the region at the regional government meeting.

The structure of the incidence of disease in indigenous peoples has its own characteristics. Compared to the total population, incidence of diseases among the peoples of the north is dominated by nervous system diseases and mental disorders. TB in this environment is detected 2 times more likely compared to the general population.