

ABSTRACTS
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ORAL PRESENTATIONS

1. 10-year all-cause mortality among Greenlanders with frequent chronic Hepatitis B infection

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Introduction: Studies in Greenland suggest low burden of disease due to hepatitis B virus (HBV) infection. We performed a cross-sectional study in Greenland in 1998 and now add a 10-year register-based follow-up on all-cause mortality with focus on HBV and sequelae.

Methods: 535 participants filled in a questionnaire on life style factors. Blood samples were tested for liver function and Hepatitis B-serology and -virology. We performed a physical examination. We collected information from all available electronical medical records, biopsies, blood samples and radiological descriptions to date in Greenland. Mortality was analysed using non-parametric, semi-parametric and parametric survival models.

Results: Participation rate was 95% in the cross-sectional study. Prevalence of chronic HBV infection was 20%. HBV infection status was not specified in the available electronical medical data on the 181 who had died. Crude overall median survival was 70.7 years (69.20-72.04) (95% CI), 67.9 for infected (65.11-69.84) and 71.7 for non-infected (69.80-73.40). Risk Ratio of 1.7 (1.33-2.17). Adjusted Cox analysis showed an elevated hazard ratio of 1.5 (1.04-2.26) on infection status. Adjusted parametric model showed a predicted median survival of 70.0 years (69.14-70.68), 63.3 for infected (62.96-64.18) and 71.4 (70.54-72.09) for non-infected. A predicted median survival time difference of 7.8 years (6.88-8.74).

Conclusions: Our 10-year register-based follow-up did not show HBV related illness or deaths. Still, the adjusted analysis suggested a 10% shortened lifespan in HBV infected participants and a distinctly increased risk of death. Hence, HBV infection in Greenland Inuit may not be the benign disease previously suggested.

2. 25(OH)D levels in trained versus sedentary university students at 64° north

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Purpose: 25-hydroxyvitamin D (25[OH]D) deficiency is associated with compromised bone mineralization, fatigue, suppressed immune function and unsatisfactory skeletal muscle recovery. We investigated the risk of 25(OH)D insufficiency or deficiency in endurance athletes compared to sedentary non-athletes living at 64° north.

Methods: University student-athletes (TS) and sedentary students (SS) volunteered to participate in this study. TS engaged in regular exercise while SS exercised no more than 20 minutes/week. Metabolic Equivalent of Task (MET) scores for participants were determined. Vitamin D intake was assessed using the National Cancer Institute's 24-hour food recall (ASA24). Fasting plasma 25(OH)D levels were quantified via enzyme-linked immunosorbent assay.

Results: TS reported higher activity levels than SS as assessed with MET-minutes/week and ranking of physical activity levels ($p < 0.05$). The reported mean daily intake of vitamin D was higher in TS compared to SS ($p < 0.05$) while 25(OH)D plasma levels were lower in TS than in SS ($p < 0.05$). In total, 43.8% of the TS were either insufficient (31.3%) or deficient (12.5%) in 25(OH)D, while none of the SS were insufficient and 13.3% were deficient.

Conclusion: TS are at increased risk of 25(OH)D insufficiency or deficiency compared to their sedentary counterparts residing at the same latitude, despite higher vitamin D intake.

3. A Community-Designed Intervention for a Randomized Controlled Trial Addressing Childhood Hearing Loss in Rural Alaska

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Introduction: Clinical research to inform healthcare decisions requires guidance from stakeholders. Healthcare in rural Alaska is a unique system challenged by geographical and cultural barriers. Community input throughout the research process is essential to ensure successful implementation and adoption of findings.

Methods: A cluster randomized trial (NCT033095) is underway in northwest Alaska evaluating the use of telemedicine and mobile (mHealth) screening tools to improve the hearing screening and referral process in school-aged children. See companion abstract for details. Stakeholder and community involvement have been fundamental to this Patient-Centered Outcomes Research Institute-funded study from conceptualization. A stakeholder team that includes patient, parent, educator, health care provider, and community perspectives were instrumental in developing the research question and study design. Focus groups and community events informed protocol refinement prior to start of the trial and will held again at the end to share findings and involve stakeholders and community members in implementation.

Results: Eight focus groups and community events were held across the region, as well as 3 virtual events that provided all communities an opportunity to participate. Input was obtained from diverse groups ranging from elder community members to parents, children, local health providers, and teachers. Examples of input included the importance of hearing for subsistence living and the impact of hearing loss on vocation, as well as study-specific input such as acceptable methods for implementing research in the region and preferred communication regarding results.

Conclusions: This rural Alaska study serves as a model of community and stakeholder engagement in research.

4. A Knowledge Mobilization Model for First Nations Mental Wellness Strategies: Building on Local Knowledge and Networks

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Introduction: In Canada, the legacy of colonization is directly linked to current issues of mental health, substance use, and violence for many Indigenous people. In efforts to address health disparities between Indigenous people and the general population of non-Indigenous people, a study has been funded to build on local community data and strengths-based approaches to develop and implement community mental wellness strategies in five First Nation communities in Ontario.

Methods: Using mixed methods and participatory action research approaches, our program of research engages the community at large and includes consumers/patients, families and informal caregivers, service providers, community leaders, and Elders. This study involves community advisory circles, community surveys, interviews, community forums, participatory action methods such as Photovoice, service or program implementation, and knowledge translation and exchange initiatives throughout the study, all driven by First Nation community stakeholders.

Results: This presentation will focus on the rationale and process of conducting a large study with multiple First Nations communities. We will also share and discuss how the research approach is co-developing relevant and comprehensive mental wellness strategies that build on existing community supports and resilience factors.

Conclusion: In addition to implementing community-identified mental wellness strategies, two key objectives for this study are to 1) produce strengths-based guidelines and models for improving mental health, substance use, and violence issues for people in First Nation communities, and 2) disseminate shareable tools, resources, and lessons learned with other Indigenous mental wellness stakeholders in Canada and globally.

5. A Narrative Review of Mindfulness-Meditation Programs for Aboriginal Youth: Program Implementation to Improve Anxiety/Stress and Emotional Wellbeing in a High Risk Population

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Introduction: Poor mental health among teens (age 12-18) is identified as a significant health crisis on Norway House Indigenous Reserve, manifesting in suicide/self-harm, depression/anxiety, and resulting in profound longterm health consequences. Mindfulness-meditation is an evidenced based approach in addressing these sequelae. The medical team has been asked to implement this within a high school setting.

Aim: An evidence based approach to implementing a sustainable, effective and culturally safe, mindfulness meditation program serving the adolescent population.

Methods: A literature search used PubMed/MEDLINE/EMBASE, Scopus, ProQuest, EBSCOhost, psychINFO, Child Development and Adolescent Studies, Psychiatry Online, Google Scholar and references from 1990 onwards. Combinations of key search terms: MBSR/MBCT/mindfulness/meditation, programs/courses/curriculum in schools, youth/adolescent/teens, indigenous/First Nations/aboriginal, stress/anxiety/depression/emotional regulation. Article choice: titles were scanned for relevance, abstracts of relevant titled articles were examined and entire articles were examined once chosen from relevant abstracts.

Results: Four relevant themes emerged:

- 1) Identification of barriers in establishing mindfulness
- 2) Ensuring cultural safety
- 2) Choice in type of and length of mindfulness-meditation programs
- 3) Evaluation components: timeline, outcomes, stakeholders

Conclusion: Despite a significant scarcity in mindfulness programs among indigenous youth and in best evidence based mindfulness programs and evaluations for the adolescent population, a mindfulness program will be implemented based on relevant literature and evidence.

7. A program to establish sustainable, certified foot and nail care for the indigent homeless in urban Alaska

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First author's affiliation: School of Nursing, University of Alaska, Anchorage, Anchorage, United States

Introduction: The needs of Alaskan indigent homeless people for foot and nail care are unique and are exacerbated by the northern climate. They are historically ill-met by conventional social and health services. In line with other health disparities, this population is disproportionately Alaska Native. Frostbite, trauma, wounds related to lower extremity neuropathic disease from uncontrolled diabetes and alcoholism, and poor hygiene are primary issues.

Methods: Two grants and donations fund the program. Licensed and certified providers mentor medical, first responder, nurse practitioner, and nursing students who themselves are pursuing licensure and certification. These volunteer professionals and pre-professionals provide free of charge foot and nail care to the Anchorage homeless community. Recipients receive foot washing, nail trimming, basic wound care and referral if necessary. Clean dry socks and shoes are offered, and education on self-care is conducted. This takes place at a local Anchorage church during the bi-weekly free lunches that are offered there.

Results: As of January 2018, 85 homeless persons had received foot and nail care that they would not have otherwise had access to. The interventions varied from minor to immediate transport to an Emergency Room.

Conclusions: This program is providing critical services to a population that would not otherwise receive them and is building a cadre of volunteer-minded, certified, and culturally-competent professionals. It is currently self-sustaining and able to be replicated. It is considered an Academic Interprofessional Service-Learning opportunity and provides care to a vulnerable population of Alaska.

8. A project to create a new interdisciplinary platform with focus on occupational health in the high north

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First author's affiliation: Occupational Health in the North, Department of Community Medicine, UiT The Arctic University of Norway, Tromsø, Norway

Introduction: Working in the high north presents a number of challenges and demands for relevant knowledge on work and health. We aimed to develop an interdisciplinary platform of expertise in occupational health to promote public health, wellbeing, productivity and innovation in the high north.

Methods: The project is collaboration between UiT The Arctic University of Norway and the University Hospital of North Norway. The project group works closely with stakeholders on relevant present and emerging problems in the high north work force. The focus is also on the emerging health-promoting aspect of work. The interdisciplinary network was extended to a platform bridging academia, clinics and workplaces, to carry out occupational health research and education with a public health approach.

Results: Initiated in 2016, the network has expanded with relevant partners, and the first PhD student has started analyzing data from the Tromsø population study on occupational health.

Conclusion: The project will establish a solid interdisciplinary network necessary in order to keep track of the constant evolution of occupational health, enhancing knowledge of specific working conditions and workplace exposures. The emerging health-promoting aspect of work can provide new insight and recommendations. Development of innovative and preventive measures, as well as plans for their implementation, will provide new and user-oriented knowledge and innovation, contributing to bring sick-leave numbers down and thus benefitting workers and society.

10. A Public Health Perspective on Motor Vehicle Collisions in Yukon Territory, Canada

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Motor vehicle collisions (MVCs) make up a considerable portion of unintentional injury and death in Canada. Collision data has shown rates of injury and death from motor vehicle collisions are magnified in northern and remote regions, such as Yukon, when compared with the Canadian national average (Transport Canada, 2015). The objective of this project was to understand major contributing factors leading to injuries and fatalities, mechanisms of injuries and collisions, characteristics of those injured, and hospital and healthcare utilization. Sources of data including the Canadian Community Health Survey (CCHS), National Ambulatory Care Reporting System (NACRS), Discharge Abstract Database (DAD) and Coroner's Data were used to conduct descriptive analysis and identify trends to inform recommendations for road safety improvements in Yukon Territory. The lack of seatbelt use and aggressive driving, in the form of speeding, were most commonly cited among fatally injured drivers. Driver inexperience/distraction and impaired driving, of both alcohol and drugs, were contributing factors in some fatal collisions. Motorcyclists made up a large proportion of hospital visits as well as fatalities. The data suggested that males obtained more severe injuries and also represented the majority of fatalities. The majority of injuries were to the head and neck, and 15% of patients returned more than once to emergency departments as a result of their injuries. Future continuity of this project includes the linkage of the national collision database (NCDB), as well as the inclusion of off-road collision for analysis.

11. Adaptation mechanisms of workers of extractive industries in the shift work organization in the Far North and the Arctic

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First author's affiliation: Department of psychology, High school of psychology, pedagogy and physical culture, Arkhangelsk, Russia

Introduction: Extractive industries are located in remote areas of the Far North and the Arctic, which is why the shift work method is used there. Workers of extractive industries are exposed to extreme climatogeographic factors and also they live in group isolation conditions. So the physiological, psychological and socio-psychological adaptation is actual. Although there is a large number of works in medicine and psychology devoted to these issues of human adaptation to harsh conditions and shift work, the systematization and classification of the mechanisms of psychological, socio-psychological adaptation of workers in extractive industries is insufficient. Objective is to study features of mechanisms of psychological and socio-psychological adaptation of workers of oil and gas production facilities in the Far North and the Arctic.

Methods and techniques of diagnostics mechanisms of psychological adaptation are study of documents; monitoring of work processes; questionnaires; psycho-physiological and psychological testing.

Results: We identified differences in self-regulation, regulatory processes, psychological protections and mechanisms of socio-psychological adaptation among workers in the extractive industry of various professional groups. We identified risk groups among workers in the extractive industry.

Conclusion: Identified features should be taken into account at the stage of professional selection of personnel to develop recommendations and activities for the adaptation of workers. For specialists at risk groups, it is necessary to develop psychological support programs that are aimed at developing effective ways of self-regulation, on the development of such mechanisms as independence, evaluation of results.

12. Addressing Challenges to Cancer Control in the North: Culturally Relevant Online Education with Alaska's Community Health Workers

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Introduction: Cancer is one of the leading causes of death in the circumpolar north, and harsh weather patterns, limited funding, and geographic expanse, are challenges to cancer prevention and control. In response, a research team at the Alaska Native Tribal Health Consortium developed culturally-respectful online education to support cancer control in rural Alaska.

Methods: Ten culturally relevant, interactive, online education modules were created on topics including Men's Health, Colorectal Cancer, Tobacco, and Grief and Loss. Module development, implementation, and evaluation were guided by Empowerment Theory and Community Based Participatory Action Research. Evaluation is ongoing, and as of November 2017, about 1,110 evaluation surveys had been completed by 175 unique learners.

Results: Almost all learners (98%) felt the modules were respectful of their culture, and 98% planned to talk to their patients more often about cancer as a result of the modules. Most learners (93%) planned to reduce their own cancer risk as a result of the modules. At 6-months after completing all ten modules, 93% of learners had taken steps to reduce their own cancer risk as a result of the experience, including by increasing physical activity, getting cancer screenings, and cutting down on tobacco.

Conclusions: This project overcomes barriers to providing timely, medically-accurate, cancer by utilizing technology to bridge the distances in rural Alaska. This work has supported increased provider capacity and health behavior change and could serve as a model for online education that supports cancer control capacity in other regions in the circumpolar north.

13. Addressing Childhood Hearing Loss Disparities in the Far North: Lessons from an Ongoing Community Randomized Trial in Northwest Alaska

Emmett, SD. Robler, SK. Wang, NY. Labrique, A. Gallo, JJ. Hofstetter, P.

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Introduction: Circumpolar populations experience a disproportionate burden of childhood hearing loss. The public health impact is tremendous, from speech and language delays and decreased school performance in childhood to restricted employment opportunities in adulthood. Alaska has a statewide telemedicine network that has been utilized to address barriers to care for over 15 years but has never been applied to school hearing screening.

Methods: A cluster randomized trial (NCT03309553) is underway in the Norton Sound region of northwest Alaska to test use of mobile (mHealth) screening tools and telemedicine to improve school-based hearing screening and referral. All children (K-12) from 15 communities attending school in the Bering Strait School District are eligible for the trial, which was developed with community input. Participating children undergo the current school screen, new mHealth screen, and a full audiometric evaluation to assess screening test validity. Communities are randomized to receive the current primary care referral pathway or telemedicine referral. The primary outcome is days to ICD10 ear/hearing diagnosis from screening date. Secondary outcomes include sensitivity and specificity of current and mHealth screening protocols, hearing loss prevalence, hearing-related quality of life, and school performance. Intention-to-treat analysis will be used. The study is funded by the Patient-Centered Outcomes Research Institute and has been approved by the Institutional Review Boards of Alaska Area, Norton Sound, and Duke University.

Conclusions: Digital innovations under evaluation in this Alaska RCT are applicable to other far north regions and hold potential to reduce childhood hearing loss disparities in remote and rural environments.

14. Addressing Substance Use Issues in Nunavut: An Interdisciplinary Perspective

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First author's affiliation: Health, Government of Nunavut, Iqaluit, Canada

Background: Harms associated with substance use are of concern in Nunavut. Currently, Nunavut does not have an intensive addiction treatment facility, nor are there options for day treatment programs or sufficient aftercare for those returning from out-of-territory treatment. While efforts to address system gaps are emergent, there is a need to examine resourceful approaches to address substance use issues that draw on existing community strengths. The objective of this program presentation is to describe government, community-based practitioner and physician perspectives on promising approaches for addressing problematic substance use in Nunavut.

Method: A standardized addictions training program for frontline service providers and Inuit community based workers was developed to meet the unique needs of Nunavut service delivery. Training focused on trauma-informed and culturally appropriate approaches to addressing cannabis and alcohol issues. Pre- and post- evaluation measures assessing program objectives were analyzed. Additionally, data from existing sources (e.g., Canadian Community Health Survey, healthcare utilization) will be presented to provide an overview of substance use patterns among Inuit in Nunavut.

Results: Data indicate that problematic alcohol and cannabis use account for the greatest proportion of issues in the Territory. Program implementation and evaluation data collection is ongoing, however, preliminary results (N=14) indicate positive outcomes from training delivery. Specifically, service providers and workers reported the program was relevant to their needs, and that they had greater confidence and comfort in addressing substance use issues.

Conclusion: Developing and implementing approaches for problematic substance use benefits from collaboration across government, community based workers and health professionals.

16. Alaska Native and American Indian patient, provider, and community leader perspectives on precision medicine

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First author's affiliation: Research Department, Southcentral Foundation, Anchorage, United States

Introduction: Within the Alaska Native community, past research demonstrated a clear interest in genetic research in areas of known disparities where potential health benefits were clear as long as adequate protections against individual and group harm were in place. Southcentral Foundation (SCF) based in Anchorage, Alaska, has made decisions to participate in a wide range of genomic research.

Methods: Individual interviews were conducted to explore perspectives on precision medicine (PM) in the SCF primary care setting in an effort to better understand the range of views on PM and tribal health priorities of this population and the health care system providers and leaders within the tribally managed health system.

Results: Preliminary results show most participants felt PM was appropriate for the SCF healthcare system. Participants emphasized gains in diagnostic efficiency, early identification of risk for preventable disease, and the advancement of locally relevant biomedical research as key benefits of PM. Support for PM was qualified by concerns

related to privacy risks associated with data-sharing, the potential for loss of control over health information, overpromising on PM, and managing patient expectations related to PM. Participants noted that implementation of PM should be preceded by health education activities that involve clinical staff in diverse roles and that leverage a range of communication tools.

Conclusion: Although participants expressed enthusiasm towards the possibilities associated with the incorporation of PM in the delivery of healthcare, an emphasis was placed on the need to develop clear messaging and educational activities prior to engaging in system-wide PM efforts.

17. Alaska Native Collaborative Hub for Research on Resilience

Wexler, L. Johnson, RM. Rasmus, S. Allen, J. Black, J.

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The Alaska Native Collaborative Hub for Research on Resilience (ANCHRR) is a new initiative aimed at strengthening existing research partnerships, developing new partnerships, and thereby broadening the potential impacts from suicide prevention research efforts throughout the entire state of Alaska, as well as throughout the Arctic more generally. ANCHRR includes a 3-region research project that will highlight what Alaska Native rural communities are doing to support young people and promote their wellbeing, rather than an exclusive focus on risks and problems. A Research Steering Committee (RSC) made up of Alaska Native leaders, service providers, and researchers guides the study, and will assist in integrating results into a tool—Charting Community Resilience in Alaska (CCR-AK). The CCR-AK tool will aid communities in strategically increasing their community-level strengths to improve youth wellbeing and to reduce youth suicide. The presentation will describe development of both a statewide and 3-region collaborative, and illustrates how the research protocol and foci were shaped by our diverse partners, including Alaska Native community members, researchers and National Institutes of Mental Health staff. The presentation will conclude with 'lessons learned' about conducting responsive and respectful research across communities, regions and the state of Alaska.

18. An Alaska Native (AN) tribally designed One Health approach to environmental monitoring of Arctic change in rural Alaska

Berner, JE.

First author's affiliation: Division of Community Health, Alaska Native Tribal Health Consortium, Anchorage, Alaska, United States

Introduction: Northern Alaska's average temperature has warmed 2.7 Celsius since 1974. Accompanying changes include increasing ocean temperature, permafrost thawing, infrastructure damage, tree line movement northward, and northward movement of southern species importing new zoonotic pathogens to northern Wildlife. Oceanic and atmospheric transport of anthropogenic and heavy metal contaminants may also have been increased.

Harmful algal bloom (HAB) toxins have been found in the Arctic.marine waters and wildlife.

Methods: AN village residents are skilled environmental observers and are the first observers of significant changes, which can represent emerging threats to human and wildlife health. Human medicine has used dried blood spots on filter paper (FP) for testing newborn infants for diseases for decades. Wildlife managers more recently have used dried blood-soaked FP samples to test for antibodies to zoonotic pathogens. Starting in 1998, The AN Tribal health care system has developed village-based human and wildlife biomonitoring to detect both risks and benefits of traditional

diet. Samples collected by AN residents are sent to academic and government laboratories. The program has further developed FP technology to assess exposure to zoonotic pathogens, metals, feeding ecology, and nutrient data.

Results: Human and wildlife pathogen, POPs, metals, nutrient and HAB exposure and distribution will be presented.

Conclusions: Results inform hunting, food preparation and adaptation risk-reduction strategies needed to sustain harvest and consumption of traditional diet and the associated health and cultural benefits.

22. An integrated knowledge explanation of factors leading to elevated rates of child and youth suicide behaviour in some Indigenous communities – and implications for suicide prevention strategies

Hicks, J.

First author's affiliation: Dep't of Community Health and Epidemiology, College of Medicine, University of Saskatchewan, Saskatoon, Canada

Introduction: This paper will review the 'integrated knowledge explanation' (after Goldney 2003) which has informed the Nunavut Suicide Prevention Strategy, the National Inuit Suicide Prevention Strategy and the Saskatchewan First Nations Suicide Prevention Strategy.

Methods: Review of the literature which informed the design of these three suicide prevention strategies, and analysis of how key risk and protective factors were addressed in the strategies.

Results: Priority must be placed on addressing the ways in which colonialism is mediated into elevated rates of child and youth suicide behaviour (by addressing the intergenerational transmission of unresolved historical trauma, reducing rates of early childhood adversity, and improving living conditions) in many Indigenous communities, in addition to strengthening the continuum of culturally-appropriate, trauma-informed addictions treatment and mental health care services. As Crawford and Hicks 2018 noted, "The growing attention being paid to the link between early childhood adversity and later suicide is urgent and overdue. Suicide prevention approaches that focus all of their efforts on adolescence and adulthood may be too late in development to ameliorate risk and build resilience."

Conclusions: Three recent suicide prevention strategies developed by Indigenous organizations in Canada have somewhat different areas of focus than do suicide prevention strategies for the general, non-Indigenous population. The three strategies seek to address upstream risk factors by promoting optimal early childhood development and reducing socioeconomic and early life disadvantage. This approach has the strong support of Indigenous leaders at the national, regional and community level.

25. Arctic health research at Umeå University – a bibliometric content analysis

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Introduction: According to a bibliometric analysis supported by the Swedish Research Council less than 5 percent of all Arctic publications 2008-2010 had a clinical medical perspective (1). A bibliometric analysis supported by the University of the Arctic (UArctic) shows a growing interest in Arctic health research and a proportional contribution of at least 13 percent 2011-2015 (2). The aim with this presentation is to provide an overview of Arctic health research at Umeå University, Sweden.

Methods: Arctic research have been systematically indexed for the period 2010-2017 in collaboration between Arcum, the Arctic Research Centre at Umeå University, and the University library. Based on these indexed publications a content analysis was performed by a quantitative keyword search in titles, abstracts and registered keywords.

Results: Of totally 1892 indexed Arctic publications, 32 percent (n=608) were related to health, of which 88.5 percent were peer-reviewed journal papers (n=538). Among the journal papers, health research related to occupation (n=198), food (n=114), infection (n=77), and climate (n=61) dominated in numbers. Among uncommunicable diseases cardiovascular disease (n=76), cancer (n=53), and diabetes (n=40) were the most common issues to be targeted. Gender (n=179) and indigenous issues (n=59) were another important factor in common for many of these publications.

Conclusion: At Umeå University Arctic health research is strongly related to living conditions (occupation, food, climate), and infectious diseases. Cardiovascular morbidity is the main public health concern and gender and indigeneity are horizontal criteria of significant importance.

27. Are health inequalities rooted in the past? Income inequalities in metabolic syndrome decomposed by childhood conditions in northern Sweden

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First author's affiliation: Epidemiology and Global Health, Norrland's Observatory for Equity in Health and Health Care, Umeå, Sweden

Introduction: Early life is thought of as a foundation for health inequalities in adulthood. However, research directly examining the contribution of childhood circumstances to the integrated phenomenon of adult social inequalities in health is absent. The present study aimed to examine whether, and to what degree, social conditions during childhood explain income inequalities in metabolic syndrome in mid-adulthood.

Methods: The sample (N= 12 481) comprised all 40- and 50-year-old participants in the Va" sterbotten Intervention Program in Northern Sweden 2008, 2009 and 2010. Measures from health examinations were used to operationalize metabolic syndrome, which was linked to register data including socioeconomic conditions at age 40–50 years, as well as childhood conditions at participant age 10–12 years. Income inequality in metabolic syndrome in middle age was estimated by the concentration index and decomposed by childhood and current socioeconomic conditions.

Results: Childhood conditions jointly explained 7% (men) to 10% (women) of health inequalities in middle age. Subsequent addition of current income and educational level in mid-adulthood made a dominant contribution to the inequalities. In women, the addition slightly attenuated the contribution of childhood conditions, but with paternal income and education still contributing, while in men the addition removed all explanation attributable to childhood conditions.

Conclusions: Despite that the influence of early life conditions to adult health inequalities was considerably smaller than that of concurrent conditions, the study suggests that early interventions against social inequalities potentially could reduce health inequalities in the adult population for decades to come.

28. Are Inuit newborns homozygous for the CPT1A P479L variant at increased risk for early neonatal hypoglycemia?

Hildes Ripstein, E. Collins, S. Thompson, JR. Barker, K. Arbour, L. Greenberg, C.

First author's affiliation: Dept of Pediatrics and Child Health, Winnipeg Regional Health Authority, Winnipeg, Canada

Introduction: The CPT1A P479L variant, a possible risk factor for hypoglycemia, is overrepresented in Indigenous populations in the Arctic and coastal British Columbia. We reviewed blood glucose (BG) levels to determine if full term Inuit infants with heterozygous or homozygous genotypes are at risk for early neonatal hypoglycemia.

Methods: Charts were reviewed of 522 Inuit infants born from 2010 to 2013, residing in Kivalliq Nunavut. BG levels in the first 12 hours of life were abstracted with additional variables (maternal DM, infant weight, gestation; feeding type and clinical course). Genotypes were subsequently linked. We used standard neonatal BG thresholds as per the Canadian Paediatric Society (<2.0 at 2hrs or <2.6mmol/L within 12hrs).

Results: Of the 522 charts, 254 were excluded (missing data n=99, neonatal risk factors for hypoglycaemia n=155). Of the remaining 268, mean BG was 2.64±0.08mmol/L; 25.8%(±0.5%) had low BG within 12hrs of life. There was no significant difference in cases of hypoglycaemia between CPT1A genotypes 9%(n=11) wildtype, 23%(n=65) heterozygotes, and 28%(n=192) homozygotes (FET=0.389) or between BG and genotype (2-wayANOVA F=0.05, p=0.954). Notably, ~20% of infants tested at 0-2hrs (n=135) had a BG level <2.0mmol/L (as a whole and within each genotype).

Conclusions: There was no significant difference in cases of hypoglycaemia between genotypes of the P479L allele. However, 26% of Inuit term newborns without typical neonatal risk factors were documented with at least one episode of hypoglycemia. Further study into whether a heterozygote or homozygote P479L genotype influences the risk, and whether there are long term effects are indicated.

33. Birth weight and glucose metabolism in adulthood among Greenlandic Inuit

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First author's affiliation: Clinical Epidemiology, Steno Diabetes Center Copenhagen, Gentofte, Denmark

Introduction: Low birth weight has been associated with impaired glucose tolerance and type 2 diabetes later in life in different populations around the world. We aimed to examine the association between birth weight and markers of glucose metabolism in adulthood in Greenlandic Inuit.

Methods: We examined 1,279 participants aged 18-56 years from two population-based studies in Greenland (B99 and The Inuit Health in Transition Study) with available information on birth weight. An oral glucose tolerance test (OGTT) and anthropometric measures were performed on all participants. Associations of birth weight with fasting and 2-h plasma glucose, homeostatic model assessment of hepatic insulin resistance (HOMA-IR), peripheral insulin sensitivity index (ISI_{0,120}) and type 2 diabetes were analysed using linear or logistic regressions. The analyses were adjusted for age, sex, place of birth, family history of diabetes, genetic admixture, TBC1D4 allele status and additionally adult BMI.

Results: The median birthweight was 3,350 g and the prevalence of type 2 diabetes was 3.3 %. In analyses adjusted for BMI, an increase in birth weight of 1 kg was associated with a change in fasting plasma glucose of -0.1 mmol/L (CI95%: -0.1, 0.0), 2-h plasma glucose of -0.2 mmol/L (CI95%: -0.3, 0.0), HOMA-IR of -5.5% (CI95%: -10.4, -0.3), ISI_{0,120} of 7.1% (CI95%: 1.9, 12.5), while no significant association were found with type 2 diabetes (OR: 0.63, CI95%: 0.33,1.18). Adjustment for BMI generally strengthened the associations.

Conclusions: Lower birth weight was associated with higher hepatic insulin resistance and reduced peripheral insulin sensitivity in adulthood among Greenlandic Inuit.

35. Breast cancer risk in Greenland: Associations with diet, environmental exposure, and genetics.

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Introduction: Breast cancer incidence rate is relatively low in Greenland compared to the Nordic countries, but the annual increase is considerably higher. Differences between ethnic groups and geographical regions may be explained by differences in diet, environmental exposures and genetic background.

Methods: Breast cancer cases (n=97) and controls (n=94) were recruited in Greenland (2000-2003 and 2011-2014). We investigated the association between breast cancer risk and dietary habits, serum levels of persistent organic pollutants (POPs) and the impact of serum POP mixtures on receptor activities, and genetic variations in CYP17A1, CYP19A1, CYP1A1, CYP1B1, and COMT.

Results: High intake of fruit and vegetables (more than five times a day) reduced the breast cancer risk significantly. Intake of traditional Greenlandic food was not associated with breast cancer risk. We found a significant increased breast cancer risk with high levels of POPs including polychlorinated biphenyls (PCBs), perfluoroalkyl acids (PFAAs), and organochlorine pesticides (OCPs). Moreover, the actual mixture of serum lipophilic POPs induced xenoandrogenic and dioxin-like activity was associated with breast cancer risk. The CYP17A1 polymorphism -34T>C modified the effect of PFAA exposure on breast cancer risk, and non-significant tendencies were seen for the other evaluated polymorphism on the breast cancer association with PCBs, OCPs, and PFAAs.

Conclusions: Diet, environmental exposures, and genetic factors were associated with breast cancer risk in Greenlandic Inuit women. The strength of association varied for the different exposures, but they may all contribute to the breast cancer risk in Greenlandic Inuit women.

We thank all manuscript co-authors for their contributions.

37. Building a Nunavut Based Trichinella Detection Program

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Background: In 2012, the Board of Directors of Nunavut Tunngavik Inc. (NTI), the holder of the Nunavut Agreement, passed a resolution calling for a permanent testing program for Trichinella. NTI partnered with the Nunavut Research Institute (NRI) to build capacity to test for Trichinella in Walrus at a NRI laboratory facility in Iqaluit, Nunavut. A Pilot testing program was launched in 2017.

Material and Methods: Five analysts trained in the Double Separatory Digest Method with instructors from the Canadian Food Inspection Agency. Testing for Trichinella in Walrus began in during the 2017 summer harvest, with Polar Bear added later. Sixteen Walrus and four Polar Bear were tested for the Trichinella genus *T. Nativa*. Since 2017, one Walrus and one Polar Bear tested positive for Trichinella.

Results: An evaluation of the Pilot is being completed, to inform planning a permanent Nunavut-based testing program. NTI's Advisory functions, whom report to the Board of Directors, are being asked to provide direction on the future. Planning is complex, given the involvement of multiple stakeholders, both government and non-government. NTI is driving a high level public health centred discourse, that impacts the health and well being of Nunavut Inuit.

Discussion: Stakeholder analysis is a policy tool NTI utilized over the course of the Pilot and continues to utilize post pilot, towards the establishment of a permanent, Nunavut based detection program. Understanding the needs and interests of a variety of policy actors, in a public health policy context is a necessity. Article 32 and Article 5 of the Nunavut Agreement positions NTI as a partner in Nunavut's future, to lead the way in addressing a gap in Public Health Policy in Nunavut.

41. Capturing the process – Photovoice as an evaluation method for students participation in the Healers of Tomorrow Gathering

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In 2008, the Faculty of Medicine at Memorial University began a project supported by the Atlantic Policy Congress of First Nation Chiefs' Secretariat entitled Making Memorial's Faculty of Medicine a Better Place for Aboriginal Students. Since 2010 the initiative, now identified as the Aboriginal Health Initiative (AHI), is funded entirely by the Faculty of Medicine. One of the key areas of work for the initiative are services and programs designed to recruit more Aboriginal students into the Faculty of Medicine. One such program is the Healers of Tomorrow Gathering. This biennial gathering brings together Indigenous students throughout Newfoundland and Labrador (NL) from grade 9- to first year university. It provides an opportunity to explore a cross-section of college and university health careers including integration of Aboriginal cultures and medicines. The second offering of this gathering occurred in August 2017 and included participation from Nunavut in addition to NL. To assess the impact of the camp various evaluation methods were employed including surveys, photovoice and sharing circle discussions. Using photography, participants are able to raise their own questions, direct discussions, and share their experiences and opinions (Wang & Pies, 2004). While originally designed as a research methodology, photovoice uses have been widespread and have included application as an evaluation tool (Behrendt & Machtmes, 2016). This presentation will share students' experiences and evaluation of the gathering through their images and words.

References:

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42. Cesarean section rates in Alaska: What's going on in the 49th State?

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First author's affiliation: OBGYN, Alaska Native Medical Center, Anchorage, United States

Introduction: The cesarean delivery (CD) rate in the United States continues to rise to 32.0 in 2015. Alaska, known locally as the 49th State or the Last Frontier has a very small population spread over a very large land mass with tough terrain, making care for obstetric patient specifically challenging. The purpose of this study was to look at the CD rate for Alaska and identify opportunities.

Methods: The Alaska vital statistics 2016 annual report was analyzed for CD rate and race for the years 2007 to 2016. Key informant interviews were conducted to understand changes in the rate and differences between races.

Results: Total CD rates ranged from a high of 24.0 to a low of 21.0. American Indians and Alaska Natives (AI/AN) had consistently lower rates (11.3-14.1) which were about half the rate for Whites (23.3-27.0) and even more so for Blacks (25.1-34.8). This difference cannot be fully explained by the first trimester care coverage (71.1% for AI/AN and 78.6 for White) or adequate number of prenatal care visits (47.0 for AI/AN versus 59.9 for Whites). Interviews with key informants suggested that the higher birth rate of AI/AN versus Whites (93/1000 vs 70/1000 females) may be of influence, however, since AI/AN get care at the Alaskan Native Medical Center, also practice patterns and guidelines as well as call schedules of OBGYN's may play an important factor in this difference.

Conclusion: CD rates in Alaska are below the United State national average but show great variation by race.

44. Checkup Project: a social marketing campaign using social media to influence the norm around screening for sexually transmitted and blood borne infections in Inuit youth

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Introduction: In response to rising STBBI rates in the region, the Nunavik Regional Board of Health and Social Services (NRBHSS) launched the CheckUp Project, a communication campaign aiming to normalize testing, using social marketing.

Methods: The project comprised professionally made media including videos, memes, GIFs, and quotations that were developed in collaboration local celebrities and opinion-leaders. The media were shared on social media in an effort to positively influence attitude, social norms and the impression of control over STBBI-checking behaviour of youths aged 15-to-35. We assessed the effectiveness of the media utilizing mixed-method techniques including quantitative analysis of Facebook usage statistics, in-depth qualitative interviews with Inuit youth (N=50), and analysis of laboratory data.

Results: One year after launch the page had reached 1400 subscribers. The main video was played over 3,000 times. Of the 50 interviewees, 58% were aware of the campaign, 94% of youth had a positive attitude towards STBBI screening and 80% evaluated that the norm in their community favoured screening. Messages addressing confidentiality, featuring local opinion-leaders, de-dramatizing and empowering youth were preferred by respondents. In the first 9 months of the campaign screening rates in the region increased by 35%, with a significant increase among men and youth. The ratio of positive tests increased by 28%.

Conclusion: Communication campaigns using social marketing through social media is an effective way to reach out to Inuit youth and may have contributed to the increase in the use of screening services in Nunavik.

46. Childhood sexual abuse: consequences and holistic intervention

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Introduction: Childhood Sexual Abuse (CSA) can have serious and far-reaching consequences for the health and well-being of both men and women. The aim of the research is to increase the knowledge and deepen the understanding of the consequences of CSA, in order to increase healthcare professionals' competence in giving trauma focused service and to develop a holistic therapy for CSA survivors.

Methods: A phenomenological research approach was used to increase the knowledge and deepen the understanding. In the studies, seven men with a history of CSA were interviewed twice each man. The experience of the seven men and seven women were compared. Seven interviews were conducted with one Icelandic woman with a long trauma history after CSA and women who participated in the Wellness-Program, a holistic program for female CSA survivors, were interviewed. All together 64 interviews.

Results: The main results of the studies were that the consequences of CSA, for both men and women, were serious for their health and well-being. They felt they had not received adequate support and understanding from healthcare professionals, but participation in the Wellness-Program seemed to improve the health and well-being of those attending.

Conclusions: CSA can have serious and far-reaching consequences for the health and well-being and the suffering can be deep. It is important for healthcare professionals to know and recognize the symptoms regarding the consequences of CSA to be better able to provide support. It is important to continue to develop a holistic program for CSA survivors.

47. Childhood violence and mental health among indigenous Sami and non-Sami populations in Norway

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First author's affiliation: Centre for Sami Research, UiT-the arctic university of Norway, Tromsø, Norway

Introduction: The main objectives of this study were to investigate the association between childhood violence and psychological distress and post-traumatic stress symptoms (PTS) among Sami and non-Sami adults, and to explore a possible mediating effect of childhood violence on any ethnic differences in mental health.

Methods: This study is part of the second survey of the Population-based Study on Health and Living Conditions in Regions with Sami and Norwegian Populations - The SAMINOR 2 Questionnaire Survey - which included 2116 Sami (19.6 %) and 8674 non-Sami (80.4 %) participants.

Results: A positive association between childhood violence and psychological distress and PTS in adulthood was found regardless of ethnicity. The prevalence of psychological distress was significantly higher in the Sami than in the non-Sami group: 15.8 % vs. 13.0 % for women, and 11.4 % vs. 8.0 % for men. Likewise, PTS showed a higher prevalence in the Sami group, both for women (16.2 % vs. 12.4 %) and for men (12.2 % vs. 9.1 %). For women, childhood violence may have mediated some of the ethnic differences in psychological distress. A similar pattern was found for men, and for PTS for both genders.

48. Children in Greenland: Disease patterns and contacts to the health care system

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Background: Previous studies of Greenlandic children's disease pattern and contacts to the health care system have focused on the primary health care sector.

Objective: We aimed to identify the disease pattern and use of health care facilities for children aged 0-10 years in two Greenlandic pregnancy and birth cohorts.

Methods and design: In a retrospective descriptive follow-up we reviewed medical records of children aged 6-10 years in 2012 with residence in Nuuk or Ilulissat (n=311). Data on diseases and health care system contacts were extracted. Primary health care contacts were reviewed for a random sample of 1:6.

Results: The total number of contacts to the health care system was 12.471, equaling 4.6 contacts per child per year. The annual incidence rate of hospital admissions was 1:10 children (total n=266, 1220 days, 4.6 days/admission); outpatient contacts 2:10 children; primary care 3.6 per child. For hospitalizations the highest annual contact rates for diseases were acute respiratory diseases, 13.9:1000. For outpatient contacts it was otitis media, 5.1:1000. For the primary care it was conjunctivitis or nasopharyngitis, 410:1000 children. Complete adherence to the child vaccination program was seen in 40 percent, while five percent did not receive any vaccinations.

Conclusions: In this first study of its kind, the health care contact pattern in Greenlandic children showed a relatively high hospitalization rate and duration per admission, and a low primary health care contact rate. The overall contact rate and disease pattern resembled those in Denmark. Adherence to the vaccination program was low.

49. Chitin-based Biomaterials: New Prospects for Healthy Arctic Indoor Environments and for Reducing Micro-plastics Pollution

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First author's affiliation: Department of Health Sciences, University of Alaska Anchorage, Anchorage, United States

Introduction: Plastic thermal insulation is ubiquitous in housing and infrastructure across the North. Plastics production involves toxic waste streams and large energy inputs and they are not subject to decomposition in the environment. Many Arctic communities lack services to recycle or dispose of used plastics, including insulation. Left in the landfill plastics break down and pollute aquatic and terrestrial ecosystems. They also transport other organic pollutants and heavy metals and easily enter the trophic chains and bio-accumulate in fish and wildlife. Plastics have been shown to leach out toxins that enter indoor environments presenting a well-documented concern. Biomaterials based on chitin produced by some non-pathogenic fungi provides fast-growing, safe, inert biomaterial alternative to plastics. Chitin-based materials offer several advantages over plastics, including freedom from petroleum products, non-toxicity, low energy inputs, fast renewability, carbon capture, and bio-degradability.

Methods: We report our findings from testing cytotoxicity and thermal properties of 49 samples of experimental chitin-based biomaterial for thermal insulation in Arctic housing. Effect-based cytotoxicity screening (MTT-cell culture assay) was used for cytotoxicity testing. Transient Line Heat Source method was used to measure thermal conductivity.

Results: Toxicology data obtained provide no indication for occurrence of cytotoxic compounds or metabolites. Thermal conductivity fell within 0.05-0.09 W/(m . K) with mean of 0.067 W/(m . K), with standard deviation of 0.007

Conclusions: Chitin-based biomaterial's thermal conductivity meets or exceeds the like characteristic of the plastic thermal insulation used for thermal insulation in Alaska while exhibiting no cytotoxicity. Mycelium-based biomaterial has a strong potential for future applications as a safe, environmentally friendly and carbon-neutral alternative to plastics and merits future research.

51. Circle of Care: A holistic approach to caring for First Nations peoples and communities.

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Introduction: The Circle of Care approach is a service delivery planning process that is embedded in Cree indigenous values and culture. Rooted in the Medicine Wheel teachings, it takes a deeply holistic approach in ensuring that services provided to community members are meaningful and meetings specific needs. Service providers plan together and cluster around Individuals and families to provide relevant health and social supports.

Methods: This participatory, action oriented and community-based approach emanates directly from and aligns with First Nations medicine wheel teachings of holism and balance. The teachings have been passed on and applied for generations among various indigenous peoples.

Results: The model as a service planning tool, provides children, youth, Elders, families and their communities with collaboratively coordinated health and social services/supports. Services pool and muster strengths to target needs and attain desired outcomes for clients. It is implemented in six steps including 1. An intake process, 2. Transfer of family to primary worker, 3. Comprehensive Circle of Care assessment, 4. Development of a Circle of Care plan, 5. Facilitating a Circle of Care Meeting, 6. Service coordination and follow-ups. The process is enhanced using a life wheel assessment tool which is used as necessary and assists in determining specific areas of most crucial needs in an individual or family's being.

Conclusion: This approach promotes shared responsibility, shared decision making, shared services goals and shared accountability towards strengthening individuals and families in all aspects of their being physical, mental, emotional, and spiritual.

52. Circumpolar and south: Rethinking how we frame research with circumpolar nations

Lavoie, J. Clark, W.

First author's affiliation: Community Health Sciences, University of Manitoba, Winnipeg, Canada

Every year, thousands of Inuit from Nunavut travel to Manitoba, Alberta, Ontario and Quebec to access healthcare and other services. At any given time, approximately 25,000 Inuit live in southern Canada, some for short periods, others permanently, to access services not available in the north.

Inuit travelling to or living in southern locales maintain their northern relationships and connections to circumpolar communities, issues and their homeland. Inuit living in the southern Canadian locations for short or long periods remain culturally circumpolar peoples.

Still, the government of Manitoba recognizes an obligation to provide culturally appropriate services to First Nations and Metis, but not to Inuit. This is the case despite Inuit being significant users of Manitoba health services.

The purpose of this study is to determine the extent to which Inuit living in Nunavut (the Kivalliq region) and Manitoba use Manitoba health, education and social services, and identify trends. This data will be completed with discussions to generate recommendations on how to improve Inuit's access to responsive services.

53. Climate change impact on the epidemiology of infectious diseases in the Arctic. Linking landscape effects of climate change to the geographic spread of zoonotic infectious diseases.

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First author's affiliation: Department of Infectious diseases, Umeå University, Umeå, Sweden

Introduction: Climate change is considered to have a significant impact on the epidemiology of Arctic infectious diseases. With arctic societies being generally dependent on husbandry animals, emerging zoonotic diseases adds to the effects of human exposure. A holistic OneHealth study-approach with interdisciplinary collaboration across ecology, veterinary and human medicine, earth sciences, and mathematical statistics is applied to address the drivers of potentially spreading infectious diseases.

Methods: National authorities of infectious diseases control have been engaged in the acquirement of diseases data covering Denmark/Greenland, Iceland, Norway, Sweden, Finland and Russia through the past 30-year climate reference period, regarding incidences of anthrax, borreliosis, brucellosis, cryptosporidiosis, leptospirosis, hantavirus infection, Q-fever, tick born encephalitis, and tularaemia. These data were supplemented with satellite-sensed climate data covering the same reference period of time. In order to infer correlations between the geographic spread of infectious diseases and climate characteristics, a geographic information system was parametrise data into methods of formal spatial statistics.

Results: Preliminary studies performed on Swedish data indicate strong climate sensitivity regarding some diseases. This conforms well with empirical observations, where climate sensitivity indicates a potential of diseases migrating with climate change, regulated by the ecological characteristics of vector and reservoir organisms that carry diseases pathogens through the landscape.

Discussion: By determining statistical relations across the geographic spread of climate and diseases, future diseases scenarios may be predicted as a function of the IPCC climate scenarios. Such diseases projections constitute invaluable decision support in the process of strengthening climate resilience of Arctic societies and cultures.

54. Climate Change in Alaska: Social Workers Attitudes, Beliefs, and Experiences

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Introduction: Strategies for mitigating and adapting to climate change in the Arctic must be comprehensive and multidisciplinary, and social workers must be prepared to engage in such efforts. This study surveyed social workers in Alaska to explore their attitudes about climate change and their perceptions of the effects of climate change on their clients.

Methods: Identified through convenience and snowball sampling, a sample of 171 social workers in Alaska completed a web-based survey. Participants lived in urban communities (78.2%), rural communities on the road system (12.4%), and rural communities off the road system (9.45%). The survey included demographic questions and measured attitudes about climate change, perceptions of the effects of climate change on clients, and perceptions of the role of social work in addressing climate change.

Results: Although 72.6% of the sample strongly agreed that climate change is happening, 7.7% strongly disagreed. Most (73.2%) were worried or very worried about climate change, but 5.4% were not worried. Over half (52.2%) believed that climate change is having dangerous impacts on their clients or constituents now. Over half (53.7%) reported that their clients or constituents are somewhat worried or very worried about climate change.

Conclusions: Social workers are concerned about climate change in Alaska, and they report that their clients are currently being harmed by climate change. Yet some social workers disagree that climate change is happening. Social

workers must be educated about climate change and how to assess and respond to the effects of climate change on clients and constituents.

55. Clinical outcomes in patients with gastroduodenal diseases in Yakutia with cagA-positive and cagA-negative strains of Helicobacter pylori

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First author's affiliation: Department of Molecular Genetics, Yakut Science Centre of Complex Medical Problems, Yakutsk, Russia

Helicobacter pylori (Hp) is a gram-negative, spiral bacterium that colonizes gastric mucosa of human. Clinical outcome after infection was related to environmental conditions, immunological factors of host and virulence of microorganisms [Suerbaum et al., 2002]. Hp isolates with cagA«+» strains are associated with a higher rate of damage and inflammation of stomach, compared to the cagA«-» strains [Wu et al., 2003; Hatakeyama et al., 2005]. Clinical outcomes of gastroduodenal diseases depending on virulence and pathogenicity factors of Hp is unexplored in Yakut population living in Eastern Siberia (Russia). Our aim was to study association of cagA gene presence with erosive gastritis (EG) and chronic gastritis (CG) in Yakuts. We studied Hp DNA samples extracted from biopsies of 172 patients with EG (n=81) and CG (n=91). 106 were adolescents (mean age 14.09 ± 2.4 years) and 66 were adults (mean age 41.22±11.84 years). In the group of patients with diagnose EG cagA"-" strains was detected in 67/81 patients (83.1%) and cagA"-" strains was detected in 14/81 patients (16.9%) (p<0.001). Similar data obtained in CG group of patients: cagA"-" – 51/91 patients (56.9%), cagA"-" – 40/91 patients (43.1%) (p<0.001). The high percentage of cagA«+» strains may indicate an increased risk development of gastric erosions as well as pre-ulcerous condition. Presence of cagA gene is a predictive marker of EG in our patients. The study was supported by the Project of the Ministry of Education and Science of the Russian Federation (#6.1766.2017), by the Project of the NEFU, by the FASO project (BRK 0556-2017-0003).

56. Cold-related cardiorespiratory symptoms predict higher morbidity and mortality

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Introduction: Symptoms perceived in cold weather reflect physiological responses to body cooling which in turn may worsen the course of a pre-existing disease or precipitate disease events in ostensibly healthy individuals. However, associations between cold-related symptoms and their health effects have remained unknown. We examined whether cold-related cardiac and respiratory symptoms perceived in cold predict morbidity and mortality.

Methods: Cold related symptoms were inquired in four national surveys in Finland (1997, 2002, 2007, 2012) including altogether 17 040 respondents. A record linkage was made to national hospital discharge and cause-of-death registers. The participants were followed until the first hospital admission due to a cardiovascular or respiratory disease event or death, or until the end of 2015. The individual follow-up times ranged from 0-18 years (mean 11 years). Hospital admissions and deaths were regressed on cold-related symptoms using Cox proportional hazards model to produce hazard ratios (HR) and their 95% confidence intervals (CI).

Results: Cold-related cardiac [HR 1.76 (95% CI 1.44-2.15)] and combined cardiac and respiratory symptoms [1.50 (1.29-1.73)] were associated with hospitalization due to cardiovascular causes. The respective HRs for admissions due to respiratory causes were elevated for cold-related respiratory [1.22 (1.07-1.40)], cardiac [1.24 (0.88-1.75)] and

cardiorespiratory [1.82 (1.50-2.22)] symptoms. Cold-related cardiorespiratory symptoms were associated with deaths from all natural [1.38 (1.11-1.72)], cardiovascular [1.77 (1.28-2.44)] and respiratory [2.19 (0.95-5.06)] causes.

Conclusions: Cold weather-related symptoms predict a higher occurrence of hospital admissions and mortality. The information may prove useful in planning measures to reduce cold-related adverse health effects.

57. Collaboration with Manitoba First Nations communities, sharing our experience of working together on the Rights path.

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First author's affiliation: Research Centre, Nanaadawewigamig, The First Nation Health and Social Secretariat of Manitoba, Winnipeg, Canada

Introduction: Innovation in Community-based Primary Health Care (CBPHC) Supporting Transformation in the Health of First Nation and rural/remote communities in Manitoba, Canada – (iPHIT) is a 5-year research partnership between the University of Manitoba, Nanaandawewigamig and 8 First Nations (FN) which aimed to understand FN perceptions & experiences with PHC; and use this knowledge to improve the scope and delivery of CBPHC services.

Methods: The FN ethical principles framed our work: 1) free prior and informed consent; 2) ownership, control access and possession of data (OCAP™); 3) FN ethics and 4) benefit to First Nations. We will review the process of engaging multiple FN partners throughout the research project from planning to dissemination of results. This involved the creation of joint FN and university co-led research teams; FN oversight, coordination and data management; maintaining ongoing communication; community support and formation of Local Advisory Committees; hiring and building skills locally (Local Research Assistants) and FN directed interpretation and implementation of innovative projects.

Results: Key elements and methods of successful collaboration include: 1) investing time and resources into developing respectful research relationships; 2) strong FN leadership and governance; 3) clearly defined roles and responsibilities; 4) meaningful participation of FNs; 5) multiple opportunities for community engagement; and 6) ongoing, consistent, multiple forms of communication.

Conclusion: We will describe the essential elements of meaningful partnerships and collaborative research. These elements are integral to creating and maintaining the integrity of the research as well as developing and implementing research that is useful and valued by FN's.

58. Colorectal cancer in Greenland (1987-2017)

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First author's affiliation: Pathology, Rigshospitalet, Copenhagen, Denmark

Introduction: Colorectal cancer (CRC) is one of the most frequent types of cancers and cancer related deaths in the world. The aim of this study was to describe the epidemiology and mutational pattern of CRC in Greenland.

Methods: All patients with confirmed histological CRC from Greenland diagnosed in the period 1987 - 2017 were identified by search in the national pathology registry and Greenland patient registry. Clinical data were registered. Furthermore, KRAS, BRAF and NRAS hotspot mutations were investigated in 93 tumors on formalin fixed, paraffin embedded (FFPE) samples of the parental tumors by Ion Torrent™ next-generation sequencing.

Results: A total number of 721 patients were identified. The number of newly diagnosed cases varied from 4 in 1992 to 50 in 2014 with a median of 23 cases yearly. A significant increase in the number of CRC was found during the time period. Three hundred and seventy (51%) patients were males and 351 (49%) females. Six hundred and sixty (91%) patients were born in Greenland. Out of 93 tumors investigated 22 tumors (24%) were KRAS-mutated and 71 were normal. Twelve tumors (13%) were mutated for BRAF and 87 were normal. Four tumors (5%) were NRAS-mutated and 87 tumors were normal.

Conclusions: The results of the present study show that an increasing number of patients were diagnosed with CRC in Greenland and the frequency of KRAS mutation is lower than reported in other populations. The future investigations would shed light to whether the increase in the number of patients was due to a more efficient clinical care or that has been an actual increase in incidence of the disease.

59. Communities of practice in the Northwest Territories. A model for patient engagement in health system transformation.

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First author's affiliation: School of Public Health, ICHR, Institute for Circumpolar Health Research, Yellowknife, Canada

Introduction: Health care in Canada's North faces considerable challenges in the delivery of health services that meet the needs of northern residents. Despite per capita expenditures that are among the highest in the world, health outcomes continue to lag behind the rest of Canada, and health inequities continue to persist. While improving the health of northerners requires addressing underlying social determinants, transforming the health care system holds promise in the short and medium term. A key component of system transformation includes process for patient engagement Methods: A community of practice model was used to guide the formation of community based patient groups in the Northwest Territories, Canada Results: Community of practice groups were developed. Initial themes were identified in the areas of indigenous values, life transitions, mental wellness, and chronic conditions. Conclusion: The presentation will highlight the approach for community engagement, key themes identified by patient groups, and key activities within the community of practice groups.

60. Community Intervention to Prevent Repeated Suicide Attempts

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Many studies in different cultures have found that simple, non-professional follow-up after a suicide attempt can prevent repeated attempts. The SUPRE-MISS program, tested by the World Health Organization (WHO) in eight general hospitals in five low- and middle-income countries, involved regular follow-up contacts over 18 months, and found that the participants were less likely to die by suicide than control groups that did not receive the follow-up.

This presentation presents a project in Nunavut focusing on people who have been seen in a medical facility for a suicide attempt. In Nunavut, like elsewhere, people who attempt suicide are at greater risk of repeated attempts, and of dying by suicide. Principal Investigator Brian Mishara (Université du Québec à Montréal) and Co-Investigators Allison Crawford (Centre for Addiction and Mental Health) and Jack Hicks (University of Saskatchewan) will see if a similar program can be adapted and successfully implemented in Nunavut, and if it has the same beneficial effects. The project has been funded by the Canadian Institutes of Health Research (CIHR).

As part of the Global Alliance for Chronic Diseases (GACD) initiative, a parallel project will be conducted in China's Ningxia Hui Autonomous Region. Data between the participants in the two programs will not be compared.

This presentation will present the evidence base used to support the Nunavut project proposal, and will describe the project's methodology.

61. Community Response to Wildfire Smoke in Old Crow, Yukon

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Introduction: Increasing wildfire risk and events in neighboring jurisdictions incited the Office of the CMOH to develop guidelines for managing a community response to wildfire smoke based on recent evidence and products in other jurisdictions.

Methods: Yukon had just developed guidelines for community responses to wildfires when wildfire smoke threatening a community provided an opportunity to put new guidelines into action.

Results: In the summer of 2017 3 fires were burning in close proximity to the community of Old Crow combined with high seasonal temperatures. Old Crow is the only community in Yukon that is not accessible by road. When the smoke was heavy enough to be rated a moderate risk for sensitive groups, evacuation contingencies for susceptible populations were prepared. Based on the guidelines the decision to evacuate was avoided in favor of a cooling/clean air shelter. Emergency Health and Social Services personnel deployed to Old Crow and worked with the community to establish the shelter. Public health measures, including the issuing of an heat and smoke advisory, the use of HEPA filters, avoidance of exertion, and staying indoors when possible were observed. The shelter, education materials and emergency response personnel were well received and increased local community capacity to manage future events.

Conclusions: Wildfire smoke events in northern Yukon enabled the enactment of newly developed public health response guidelines, allowing community members to stay in place and improve their own capacity to deal with wildfire smoke incidents. Expensive and disruptive evacuations were spared.

62. Community wide screening for active and latent (LTBI) tuberculosis (TB) in Qikiqtarjuaq, Nunavut, Canada in 2018

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Introduction: Qikiqtarjuaq is a remote, northern, community, population 602. In 2017, Qikiqtarjuaq experienced a Tuberculosis outbreak, with approximately 70% of cases under the age of 18. In addition, 9% of the population was started on new LTBI treatment. Initial contact investigations encompassed about half of the community; 40% of these contacts had multiple exposures to active cases (requiring additional screening). Due to a number of factors, including high volume of work placed on local health staff, and community members experiencing screening fatigue, the Government of Nunavut initiated a community wide TB screening program in February 2018 to identify and treat all TB cases in Qikiqtarjuaq.

Methods: A team of professionals, from across Canada, were mobilized to staff the clinic which operated separately from the local health centre. The clinic ran from February 5 to March 16, 2018. Advertising, appointment cards, and

incentives were used to encourage community members to attend. Screening consisted of: a symptom inquiry, TST, chest x-ray, sputum collection (3), and physical exam as appropriate.

Results: To date, 96% of eligible community residents attended their initial TB screening appointment. Twelve cases of active TB were diagnosed during the community screening, 111 people had prescriptions written for LTBI treatment (95 prescriptions for 3HP and 16 for INH).

Conclusions: There was a high rate of participation at the screening clinic. In addition, 11 of 13 active cases were diagnosed early in the infectious stage as they were smear and GeneXpert negative which decreased transmission of TB in the community.

64. Congenital Anomalies in Nunavut 2010-2014: What has changed over the last 25 years?

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First author's affiliation: Biology, University of Victoria, Victoria, Canada

Introduction: Congenital anomalies (CA) contribute to childhood mortality and morbidity in all parts of the world. Socioeconomic, genetic, and environmental factors influence rates. Nunavut has CA rates twice that of Canada, largely driven by a high birth prevalence of congenital heart defects(CHD). We sought to determine if CA rates and types have changed over a 25-year time span, across three chart reviews.

Methods: CA were ascertained by chart review of 2249 live births from January 1, 2010 to January 1, 2014 to mothers residing in Nunavut and compared to previous chart reviews of 2567 Inuit births from 1989 to 1994 and 2019 births from 2000 to 2005. CA were coded as per the ICD-10 system.

Results: The rate of CA between 2010-2014 was 64.0/1,000 live births, with 144 unique CA in 118 infants, a 32% decrease in CA compared to the 1989-1994 cohort rates of 93.1/1,000 [OR:0.64, 95%CI:0.51-0.80, $p<0.0001$]. The greatest reductions were in CNS ($p=0.04$), musculoskeletal ($p=0.0002$), and digestive systems ($p=0.01$). There was no significant difference in the overall rate compared to the 2000-2005 review; however, CA of CNS and MSK systems continued to decrease [$p<0.05$ and 0.03 respectively]. Notably, there was a non-significant upwards trend in the CHD rate continuing to affect $>3\%$ of all infants (predominantly septal defects).

Conclusion: CHD are a major contributor to CA in Nunavut, which has not changed in 25 years. However, positive strides are being made in other categories. This highlights the importance of congenital anomaly surveillance within all regions of Canada.

66. Control of the functional state of the cardiovascular system of patients with arterial hypertension in the Arctic zone during their health (Nordic) walking with poles

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Introduction: Health (Nordic) walking with poles can be successfully used in the Far North conditions both as non-specific therapy and for prevention of arterial hypertension.

Methods: 10 women-patients with arterial hypertension aged from 58 to 10 regularly doing Nordic walking exercises have been monitored. The monitoring was carried out for 6 months and included a questionnaire survey, arterial

pressure control, electrocardiogram, cardiorythmography on hardware and software system “Omega-Sport” and sphygmomanometer measurements using the Angioscan-01P device.

Results: After the exercises, every patient felt an emotional uplift. After 6 months, the patients increased their endurance, the distance covered, and speed. Three patients demonstrated positive ECG changes. All patients showed positive lipid pattern changes. The cardiac rhythm regulation study showed positive dynamics in the form of shift of the cardiac rhythm regulation circuit toward the parasympathetic section of the autonomic nervous system. Implementation of the Angioscan-01P device for remote control of the state of the patients' cardiovascular system enabled to transmit data through electronic communication channels to a doctor for analysis of adequacy of the completed physical exercise given a patient's functional state. After the exercise, the pulse-wave type changed: the cardiac output increased while the peripheral vascular resistance decreased. Inadequate exercise caused an increase in the rigidity of vessels.

Findings: regular health (Nordic) walking exercises help mitigate some essential hypertension risk factors. Remote analysis of sphygmomanometer data can be used to choose a physical load level adequate for a patient's functional state.

68. Creating a Social Media Strategy for the Alaska Food Policy Council

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An active social media presence is all but required for nonprofits in today's world. Yet this demand brings plenty of challenges for cash and time strapped organizations. The purpose of this project was to create a social media strategy for the Alaska Food Policy Council (AFPC), a nonprofit operating across Alaska with the vision to create “a healthy, secure food system that feeds all Alaskans.” First, an extensive literature review was conducted to determine current best practices for social media use by nonprofits and public health organizations. Next, stakeholder opinions were gathered through a survey of current listserv subscribers and Facebook followers, and through interviews with the AFPC Communications Committee. Finally, an analysis of the AFPC's past social media content was conducted to help to evaluate the successes and failures of the social media accounts thus far. The next phase of the project involved activities designed to support the future success of the social media accounts. To support the creation of original content, photos were collected and a theme calendar was generated to provide tools for the social media administrator to use when crafting future content. In the final step, 12 months of social media content was created along with a set of guidelines and recommendations to ease the burden on the organization's social media administrator. Primary recommendations include; following an established plan for communications, maintaining a consistent message and voice, strive to present diverse perspectives, reserve time each day to engage with followers, and eliminate social media accounts that cannot be actively maintained.

69. Creating an Innovative Pathway for a Culturally Relevant Health Workforce: Lessons Learned from Knowledge Keepers Forum

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Introduction: Universities are well positioned to provide leadership in developing a local health professional workforce in northern communities, yet on-site opportunities for post-secondary education have been a significant challenge, due to geographical barriers, reluctance to change methods and delivery of teaching and a lack of available resources. For many northern students the reality of attending university requires them to leave their communities and for those who do, attrition rates remain high. Distributed learning, using advanced technologies offers possibilities that can be tailored for programs, faculty, and individual students. Given the low numbers of health professionals in rural and remote northern communities, collaboration is essential for effective service delivery. This creates excellent opportunities for interprofessional education of health professionals.

Methods: The first of three knowledge exchange activities began with the Knowledge Keepers Forum held in Nuuk, Greenland. Participants included health educators from Norway, Canada and Greenland and representatives from health care organizations in remote community settings, leaders of health region – urban and rural, Ministry level policy- makers long term care facilities, and patient advocates.

Results: Key areas explored were: Global Synergies for Innovation in Health; Culture, Context and Social Determinants, and Technology: Connecting Circumpolar Countries for Care. Foundational information obtained for a pathway reflected a shared interest in taking education to the students rather than leaving communities.

Conclusions: Although foundations were evident, more work is needed to create a plan for distributed learning and interprofessional education. Suggestions included the opportunity to experience a rural and remote community with more traditional stories and experiences. Local knowledge is not necessarily traditional knowledge. Linking education to culture and existing best practices would strengthen a pathway. Additionally beginning with a focus on distributed interprofessional continuing education of existing health professionals would aid success.

70. Critical care in remote communities through telehealth

Jong, M.

First author's affiliation: Family Medicine, Memorial University, Happy Valley-Goose Bay, Canada

Introduction: Morbidity and mortality increase the further we live away from an urban center. In remote and northern communities access to medical services are limited.

Method: The presentation describes how telehealth can be used for critical illnesses in remote communities.

Results: Through telehealth we have been able to lead resuscitation remotely, perform point of care ultrasound, allow for patients to receive appropriate critical care and stay in their remote community.

Conclusion: Implementation of telehealth improves care for critical illness and saves lives in northern remote communities.

71. Cultural Based Health Interventions: Indigenous Doulas for First Nations Women Who Travel for Birth

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Medical evacuation or confinement has been a practice across Canada for expectant Indigenous women in rural and remote communities. Women typically leave their communities at 36-38 weeks gestation and are placed in hotels or hostels while they wait to deliver their baby. Up until recently, First Nations women were often going unaccompanied or with little support for escorts. The displacement of women during this critical time in their pregnancy has shown to

have tremendous psychosocial impacts on mother, child, family and community by removing this important journey away from cultural traditions, land and family. This presentation will focus on the development of Indigenous doula or birth companions in Manitoba with a specific focus on First Nations women who travel for birth. Wijiidiwag Ikwewag (Manitoba Indigenous Doula Initiative - MIDI) is a group led by Indigenous women focusing on supporting the sacred bonds of, family and culture to the birth of a new baby who are training women in the city and in First Nations communities to become birth helpers. The birth helpers are trained to provide emotional, physical and spiritual support to expectant mothers but do not provide clinical skills for prenatal women, during the delivery and postpartum. Each First Nation established a community advisory circle which guided the implementation of the project in their community. The research methods included training local research data collectors which interviewed the mothers at three times throughout their pregnancies using both established prenatal measures and qualitative questions. The project demonstrated that the support of cultural based birth helpers results in improved birth experiences for First Nations women who travel for birth.

73. Cultural construction of Dementia among Alaska Natives and providers and implications for arctic communities

Lewis, J.

First author's affiliation: College of Health, WWAMI School of Medical Education, University of Alaska Anchorage, Anchorage, United States

Introduction: The proportion of the Indigenous population aged 65+ is projected to increase between 2015 and 2045, from 7-12%, and health care providers across the Arctic are ill-prepared to meet the demand of Alzheimer's Disease and related disorders (ADRD). There is an increasing urgency to better understand Indigenous views of ADRD to establish health care services and supports.

Methods: Guided by Kleinman's explanatory model of illness, a qualitative, research design was utilized to gather data on experiences with ADRD. 21 interviews with Alaska Native caregivers and 12 interviews with health care providers in rural and urban communities were completed. Using Nvivo qualitative software, thematic analysis was used to obtain cultural perspectives on ADRD. This study was approved by the University and regional and local tribal review boards.

Results: Many Alaska Natives view ADRD as a natural part of the aging process, resulting in not always seeking medical care. Caregivers challenges included family denial, exhaustion and isolation, and family distancing themselves due to fear and limited understanding of ADRD. Caregiving benefits included spending time with older adult, learning family history, and sharing experiences with other caregivers. Healthcare provider challenges included rigidity of the healthcare system, no research on Alaska Natives, limited health literacy, limited community resources, and no knowledge of Alaska Native views of ADRD.

Conclusions: Understanding the cultural underpinnings of ADRD provides insight into how health care providers can integrate cultural beliefs into treatment to improve the processes of care that may mitigate the impact of ADRD on individuals and families in communities across the Arctic. Culturally-responsive education and training about ADRD is crucial to connecting Indigenous families and individuals with ADRD to care and culturally responsive educational materials that can assist them in aging more comfortably and provide supports in remote communities with limited supports and services.

75. Current health status of children living in Yakutia

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Introduction: Overall morbidity of children living in Russia's Far North, being approximately 2 times higher than the average in Russia, remains a matter of concern for the government.

Methods: Health status of children living in Yakutia was analyzed using descriptive statistics of core indicators obtained from the official reports of hospitals and outpatient clinics

Results: In 2016 the number of children, living in Yakutia reached 258,200 which was 27% of its total population. The birth rate in 2016 was 16, mortality rate – 8.4 and natural population growth – 7.6 per 1,000 population. Infant mortality rate, being in years 2000 – 2016 higher than Russia's average has decreased at the same time by 2.5 times (6.8 deaths/1,000 live births in 2016). Infant morbidity rate was 1988.2‰, morbidity rate of children under 14 years – 2774.4‰ and morbidity among adolescents – 2390.8‰. Cumulative disease incidence in children aged under 14 years was 2338,3, in adolescents - 1522,1 per 1,000 children. These indices were higher than Russia's average and they at least doubled since 2000. In 2016 the prevalence of substance abuse in adolescents was 24.3 per 100,000 population compared with 39.6 in 2015 and 71.2 in 2014.

Conclusions: In 2016 infant morbidity in Yakutia has reached a historical low which is mostly the result of an improved access to safe deliveries in Arctic regions. Cumulative disease incidence and morbidity rate both turn out to be variable in different regions with a tendency to increase.

76. Cytokine profile in aboriginals in Sakha Republic (Yakutia) with juvenile idiopathic arthritis.

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Introduction: juvenile idiopathic arthritis (JIA) is not uncommon disease among aboriginals in Sakha Republic (Yakutia) - SR(Y), which can be related to high spreading of HLA B27 antigen. Aboriginals in SR(Y) have higher prevalence of enthesitis-related category of JIA and juvenile ankylosing spondylitis, increased family history of rheumatic diseases, especially arthritis and have higher requirement in biologic medicine (anti-cytokine antibodies) for arthritis control compare to Caucasians. The aim of our study was to evaluate cytokine profile in aboriginals in SR(Y) and compare to Caucasians have been living in the same area.

Methods: in continuous study were included 108 JIA patients before age 18 consisted of 96 SR(Y) aboriginals and 12 Caucasians with JIA whom have been living in SR(Y). All patients have an active disease course. In children HLA B 27 and interleukin-1 β , interleukin-6, interleukin-10, interleukin-4, tumor necrosis factor- α , γ -interferon levels were detected.

Results: The prevalence of HLA B27 antigen was 50% in RS(Y) aboriginals. We have found differences in cytokines levels between aboriginals and Caucasians: inerleukin-10: 3.75 \pm 1.7 and 3.24 \pm 0.9 pg/ml ($p=0.038$), inerleukin-1 β : 2.9 \pm 8.4 and 2.0 \pm 0.9 pg/ml ($p=0.000001$), tumor necrosis factor- α : 6.3 \pm 9.1 and 4.9 \pm 2.2 pg/ml ($p=0.00001$), γ -interferon: 22.7 \pm 11.4 and 20.1 \pm 3.5 pg/ml ($p=0.007$). No differences were observed in inerleukin-4 and inerleukin-6 levels between groups. Inerleukin-6 positively correlated with ESR ($r=0.72$, $p<0.05$). There was not found correlation between cytokines level and presence of HLA B27 antigen.

Conclusions: the prevalence of pro-inflammatory cytokines were observed in aboriginals in SR(Y) compare to Caucasians. Further investigations required to validate these data in clinical practice.

77. Dental caries and weight among children in Nuuk, Greenland, at school entry

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Introduction: The objective of this study was to explore the possible association between weight class and prevalence of caries among children born 2005-2007, living in Nuuk, Greenland, at time of school entry. The study is a cross-sectional register study based on data from electronic medical records (EMR) and oral health data from public health and dental care facilities.

Methods: Data from routine examinations of children at time of primary school entry, including height and weight, were obtained from the EMRs. Dental charts recording oral health and caries were collected from public dental healthcare service. The prevalence of caries was calculated as the proportion of included children with dft score (decayed and/or filled non-permanent teeth) ≥ 1 .

Results: 55% (373/681) had relevant data recorded in EMRs and dental charts, and could be included in the study. The prevalence of dental caries was 57.1% (213/373). The prevalence of caries increased with higher weight class, but no statistically significant trend was observed ($p=0.063$).

Conclusions: Increasing prevalence of caries with increasing weight class was observed in this study. A linear trend could not be confirmed statistically. The high prevalence of caries and overweight indicate the need for continued focus on preventative initiatives and monitoring. A combined strategy targeting both caries and overweight may be considered.

79. Determinants of an integrated public health approach: The implementation process of Greenland's second public health program

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Greenland struggles with a high prevalence of smoking, alcohol and drug abuse. Combined with dietary changes, these factors drive most death and disability in Greenland. In response to the increasing need for preventive initiatives, the comprehensive public health program Inuuneritta was implemented in 2007. Evidence-based evaluations of comprehensive public health programs represent a major knowledge gap. Furthermore, most research describing integrated policy approaches are set within organisational, not governmental, settings. This paper aims to augment the empirical evidence on the implementation of integrated health promotion programs within a governmental setting. In this study, the constraining and facilitating determinants of the implementation processes within and across levels and sectors were examined. Qualitative methods with a transdisciplinary approach were applied. Enabling determinants influencing the implementation process related to: 1) adopters' high motivation, 2) Inuuneritta's topic areas being compatible with adopters' perceptions of health issues in Greenland, 3) an operation-based schedule assisted work efforts, 4) health consultants had relevant educational backgrounds, 5) community health workers (CHWs) made use of the local knowledge available to them, 6) existing local prevention committees supported CHWs, 7) initiation of the central prevention committee. In contrast, constraining determinants included: 1) ambiguous aims, 2) CHWs lacking tools and guidance, 3) CHWs' low education level, 4) high turnovers, 5) separated budgets and work environment, 6) inconsistent central prevention committee. Inuuneritta II has provided a substantial framework for an

integrated health policy approach. However, its integrated approach does not harmonise with the government's inflexible organisational structure resulting in insufficient implementation.

80. Developing a Cultural Safety Intervention for Clinician: Evaluation of a Pilot Study in the Northwest Territories

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Over the last several years, the Government of the Northwest Territories Department of Health and Social Services (DHSS) has taken active steps towards addressing the sharp disparities in population health outcomes experienced by Indigenous people in the Northwest Territories (NWT). Piloting cultural safety training for clinicians was one of these activities. Cultural safety aims to address the root causes of Indigenous health inequities by educating service providers about the historical contexts of Indigenous peoples' lives including racism and discrimination that manifest in health and social service systems. Given the challenging nature of the content and need to produce high quality training, the DHSS sought to understand how clinicians in the NWT responded to a cultural safety pilot training in terms of design, content, and delivery. This inquiry was explored as a thesis requirement for an Master's program between 2014 – 2018. Qualitative interviews were conducted with clinicians from across the NWT who participated in one pilot training program. Some important findings include: (1) content about racism and examining personal biases is less threatening under specific design and delivery methods; (2) feeling respected is connected to other participants in the room and the ability to engage in meaningful dialogue; (3) participants were particularly interested in the sessions delivered by NWT Indigenous speakers and information about their cultures and traditional healing practices. These findings are timely as the DHSS has committed to developing cultural safety training for NWT health and social services staff within the next four years.

81. Developing a Personalized Youth Alcohol Assessment Tool

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First author's affiliation: College of Nursing, University of Saskatchewan, Saskatoon, Canada

Introduction: Most underage youth report consuming alcohol, and many have misperceptions about how much alcohol they and their peers consume. Few students correctly identified how much beer/wine/hard liquor was equal to one standard drink. Evidence-based tools for youth to evaluate their own level of alcohol consumption and provide feedback to them on the risks involved are non-existent.

Methods: Using a community based approach and consisting of 2 phases: first a panel of expert reviewers provided feedback on the questions chosen, for a youth personalized tool with a follow-up review by a group of youth advisors; and second, the tool was piloted with a sample of youth.

Results: The outcomes of the pilot test (N=70); and focus group results from a subsample from the youth from the pilot test will be presented.

Conclusions: The outcomes and process used in the development of the psychometrically-sound measures to be incorporated into a youth alcohol consumption self-assessment tool has been highly successful in reaching its overarching outcomes: (1) assisting in student understanding of how much alcohol is in a standard drink; and (2) in providing students with a means to assess how much alcohol they consume and the effects of their alcohol consumption. The process and outcomes of the tool development will be presented.

82. Development of the Municipality of Anchorage climate adaptation plan using a student-driven, action learning approach

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Introduction: Anchorage is home to almost half of Alaska's residents. It is the primary transportation, communication, shipping, and economic hub of the state. The effects of climate change are apparent through unpredictable freeze-thaw cycles that degrade roads and communication networks, wildfires and insect infestations that threaten forests and homes, and an aging sea port, vulnerable to extreme weather, that serves as primary importation route for goods.

Methods: We will discuss the progression of the municipality climate adaptation plan and the role of the University of Alaska-Anchorage in this community-campus initiative. Specifically, we will describe student-driven contributions including creating a municipality greenhouse gas inventory, identifying potential health impacts of climate change, drafting a mitigation and adaptation plan, creating a process for community engagement, and developing a Climate Solutions Competition to spur student innovation to meet mitigation and adaptation goals.

Results: To date, students and faculty from six units on campus have participated in the development of this initiative. We achieved our objectives through student internships, the integration of project activities into environmental planning classes, and capstone projects. We will outline the findings of the adaptation plan and the design of Climate Solutions Competition.

Conclusion: Our community-campus approach has been an effective way to support climate adaptation in the city while also supporting student and faculty success. Additionally, the Climate Solutions Competition will serve as a catalyst for student experiential learning to help Anchorage mitigate contributions to climate change and build a resilient economy, protect existing infrastructure, and prepare for extreme weather.

83. Diabetes prevalence and incidence among Alaska Native People 2002-2005 vs 2012-2015

Narayanan, M. Schraer, C. Koller, K. Thompson, J.

First author's affiliation: Diabetes, Alaska Native Tribal Health Consortium, Anchorage, United States

Introduction: The Alaska Native Diabetes Program has maintained a diabetes registry since 1985. During this period the registry has formed the basis for tracking the prevalence and incidence of diabetes and the incidence of several complications. During this period there have been changes to the electronic health record systems. Since 1998 there has been federal funding of the Special Diabetes Program for Indians (SDPI) which has supported primary prevention, optimal clinical care, and accurate data maintenance. Several previous publications have documented a steady rise in the age-adjusted prevalence and incidence of diabetes in all regions and tribal groups in Alaska.

Methods: We recently looked at prevalence and incidence data for two relatively recent time periods, one before the major changes in records systems (2002-2005) and one after (2012-2015), but both during the period of time in which SDPI funding has been in effect.

Results: The overall age-adjusted diabetes prevalence has continued to increase from 49.5/1000 in 2012 to 55.8/1000 in 2015. However, the overall incidence appears to have stabilized at about 3/1000. Among people ages 65 and over, the incidence appears to be lower in the latter period than in the former.

Conclusions: The age-specific data may suggest that increased survival among people with diabetes could be contributing to the increase in prevalence. However, we need further analyses over longer periods of time. We are encouraged by the fact that the Alaska Native Tribal Health System continues to support such efforts over time.

84. Differences in socioeconomic characteristics and health status between Inuit living in and outside Inuit Nunangat

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Introduction: At the 2016 Canadian Census, 17,695 (27%) of Inuit lived outside Inuit Nunangat. While health status and social disparities in Inuit Nunangat have received attention of public agencies and population health researchers, less is known about Inuit living in the South. This paper examines and compares socioeconomic characteristics and health status of Inuit living in and outside Inuit Nunangat.

Methods: Data from the 2012 Aboriginal People Survey (APS) is analyzed. Participants self-identified as Inuit. Socioeconomic characteristics considered include: educational attainment, work status, income, housing conditions. Participants reported their self-rated general and mental health, health-related behaviors, and health care use. Data were analyzed using weighted descriptive statistics.

Results: Having completed high school and higher income were significantly more prevalent among Southern Inuit. The prevalence of household overcrowding and repairs needed were significantly lower among Southern Inuit, but residential mobility was higher. With regards to health status, Southern Inuit reported better general and mental health, lower smoking, but higher frequency of alcohol consumption. Whereas unmet health care need did not vary between groups, consulting a health professional was more common among Southern Inuit.

Conclusions: Southern Inuit enjoyed, overall, more favorable socioeconomic conditions and health status than Inuit living in Inuit Nunangat. Yet the health and social needs of the unstably housed or marginalized Southern Inuit living are not captured by this survey. More work is needed to produce a more comprehensive social and health profile of Southern Inuit in order to develop culturally appropriate programs and policies in southern urban centers.

85. Dioxin-like POPs induced aryl hydrocarbon receptor transactivity in the Greenlandic pregnant women and relation to fetal growth indices

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Human exposure to lipophilic persistent organic pollutants (POPs) is ubiquitous. The individual exposure to a complex POPs mixture being life-long beginning during critical developmental windows. Exposure to POPs elicits a number of species- and tissue-specific toxic responses, many of which involve the aryl hydrocarbon receptor (AhR). The aim of this study is i) to measure the serum actual level of dioxin-like activity of 575 Greenlandic pregnant women collected during 2010-2015; ii) assess the association of maternal serum dioxin-like activity and fetal growth indices.

The lipophilic serum POPs fraction was extracted by Solid Phase Extraction (SPE) and clean up on Supelco multi-layer silica column and florisil column. The integrated dioxin-like activity in the serum lipophilic POP fraction was

determined as AhR transactivity using the AhR reporter gene bioassay and expressed as pg TCDD equivalent (TEQ) per gram serum lipid [AhR-TEQ (pg/g lipid)]. Fetal growth indices including birth weight, birth length, head circumference and gestational age were obtained from the clinical record. The levels of AhR transactivity was compared with different characteristics and lifestyles using one-way ANOVA. Multivariable linear regression model was used to assess the possible association of AhR transactivity to the maternal serum levels of POPs and fetal growth indices.

The preliminary results showed that AhR transactivity positively correlated to dioxin-like PCB such as PCB 118 and PCB 156, suggesting dioxin-like PCB contribute to the measured serum AhR transactivity. A negative correlation between dioxin-like activity and birth weight and birth length was observed.

87. Early prevention in Greenland: MANU 0-2 years, a parent education program

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First author's affiliation: MANU, Board of Health and Prevention, Nuuk, Greenland

MANU is a parents educational program for all parents and addresses the mother as well as the father. The program's concept builds on the theories of mentalization, attachment theory, children's health and development and emotional regulation. MANU focuses on strengthening the skills of parents with positive parenting, also those who grew up in a more unstable home and who have not learned what a well-functioning family looks like. Therefore, parents in MANU are for example invited to reflect on how they would like to ensure that their own child will have a better upbringing and how they can do that. There are concrete pedagogical materials and the teachers has an adult education concept they follow. The participants are reflecting over their own childhood and they discuss with their partner and the other parents. The background is that Greenland's population survey from 2014 reported that 66% of the adult population grew up in a home characterized by alcohol or violence, or having been exposed to sexual assault.

90. Emerging issues with Echinococcus in Canada – a One Health approach.

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Introduction: Echinococcus cestodes are zoonotic parasites that are maintained in wildlife in Canada and spill over into dogs and people. Echinococcus canadensis usually cycles between wolves and moose, and E. multilocularis between foxes and rodents.

Methods: We have been conducting One Health-type surveillance for Echinococcus in wildlife, dogs, and people in Canada.

Results: Coyotes are important hosts for both species of Echinococcus present in Canada, and coyotes are far more likely to be present in peri-urban areas than wolves or fox in most of Canada. Dogs in shelters in Canada were shedding eggs of E. canadensis, suggesting a risk for human exposure through environmental contamination; however, pet ownership was not linked to increased risk of Echinococcus exposure in our human serosurveillance studies. Echinococcus multilocularis was long thought to be established separately in Arctic and prairie regions of Canada, and endemically acquired cases in people were virtually non-existent. However, recent detection of this parasite in wolves in sub-Arctic and boreal regions now suggests that this parasite is well established in most of northwestern Canada. We also report new cases of endemically acquired alveolar echinococcosis in dogs in Canada, and European-type strains of E. multilocularis, which may have more zoonotic potential.

Conclusions: Our results, and recent cases of alveolar echinococcosis in people in Canada, suggest that *Echinococcus* spp. are currently emerging (undergoing geographic and host expansion). Data on the prevalence, distribution, genetics, and transmission of *Echinococcus* is needed for predicting and detecting changes in risk for animal and human health.

91. Empowering Inuit Communities to eliminate TB in Nunavut: Piloting a Community-based Initiative

Kiddell-Monroe, R. Devine, C. Saranchuk, P. Nash, M.

First author's affiliation: Directors Office, See Change Initiative, Montreal, Canada

Introduction: The rate of TB among Inuit is almost 300 times the rate of the Canadian-born, non-Indigenous population. Using our experience in community-based healthcare for infectious diseases in resource-limited settings worldwide, See Change Initiative (SCI), a Canadian non-governmental organization, aims to work with and support Inuit communities to overcome the barriers they face in resolving their local TB epidemics.

Methods: In May 2018, SCI interviewed over 100 people in Qikiqtarjuaq and Clyde River, including Inuit elders and youth, to better understand the TB response and to discuss alternative ways of addressing TB appropriate to the communities. Focus group and informal meetings were held with: Mayors and Hamlet Councils, Elders, youth, women, community organisations and health workers (e.g., nurses, TB DOT workers, TB assistants).

Results: In discussions with community members and local health workers, as well as Government of Nunavut staff, they expressed interest in our proposal to consider task sharing as a community-led approach to tackling TB. Task sharing allows a local public health team to make use of the unique local knowledge of Community Health Workers (CHWs). SCI aims to develop an Inuit-specific CHW training program in partnership with a local Inuit organization. Combining conventional Southern practices and Inuit knowledge, trainings will be modular, hands-on and held locally in Nunavut. Ongoing mentorship and education post-training will be supported with telemedicine infrastructure.

Conclusion: Adequately trained and supported CHWs have great potential to reduce TB incidence and prevent future TB outbreaks in a culturally relevant way that is aligned with the priorities of the community.

92. Enforcing the Right to a Healthy (Indoor) Environment in Nunatsiavut, Canada

Kohut, R. Riva, M. Baumgartner, J.

First author's affiliation: Institute for Health and Social Policy, McGill University, Montreal, Canada

Introduction: The newly formed self-government of Nunatsiavut experiences unique environmental health and housing challenges. This paper examines how institutional capacity can be strengthened to confront these challenges, while also enforcing the right to a healthy environment and adequate housing in the region.

Methods: Content analysis was conducted on the 2012 Nunatsiavut Regional Housing Needs Assessment, 2014 SakKijānginnatuk Nunalik Initiative, and on various domestic and international human rights instruments, environmental health standards and institutional frameworks. These documents were analyzed from a legal and policy perspective.

Results: Nunatsiavut presents unique indoor environmental health and housing challenges, including a preference for wood burning appliances, mould prevalence, overcrowding, need for repairs, and inadequate heating. This research found six ways to confront these challenges, while also enforcing the right to a healthy environment and adequate

housing: (1) clarifying indoor air quality guidelines and standards; (2) building home inspection capacity through tele-inspection; (3) better delineating environmental health and housing jurisdictions; (4) fostering awareness of the landlord’s obligation to accommodate tenant’s environmental sensitivities; (5) adhering to green-building practices; and lastly, (6) creating more robust environmental health monitoring capacity.

Conclusions: Nunatsiavut’s legal and policy landscape suggests that the self-government is well situated to not only recognize, but also enforce, the right to a healthy environment and adequate housing. This paper outlines six opportunities to confront the pressing environmental health and housing challenges, while also simultaneously enforcing the right to a healthy environment and adequate housing in the region.

93. Engaging faculty from rural Alaska: Strengthening diversity in the Alaska LEND Program

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First author’s affiliation: Department of Health Sciences, University of Alaska Anchorage, Anchorage, Alaska, United States

Introduction: The Alaska LEND (Leadership Education in Neurodevelopmental and related Disabilities) Program aims to improve the health of children with disabilities and their families by preparing fellows from nine disciplines to assume interdisciplinary leadership roles throughout Alaska. The Program is distance delivered and engages fellows from communities across Alaska.

Methods: A Program priority is for fellows to recognize and respect the unique cultural perspectives of families. While cultural and linguistic diversity is woven throughout the curriculum, the recruitment of faculty and fellows from underrepresented groups is essential. To address the challenge of broadening the Program diversity, a faculty member of Alaskan Native heritage and residing in a rural community was recruited to engage in all aspects of the Program.

Results: The faculty member championed the following activities: infusing the rural and cultural context into interdisciplinary discussions with fellows and faculty; leading the inclusion of cultural issues with faculty during curriculum planning; ensuring the integration of cultural and linguistic competence into weekly seminars; and developing and supporting strategies to improve recruitment and retention of cultural diverse faculty members and fellows.

Conclusion: To sustain the momentum of current efforts and to cultivate robust partnerships with diverse communities, the LEND Program will continue to focus on cultural and linguistic diversity in an Alaskan context. Celebrating the successes of the faculty member’s efforts at all levels of the Program and sharing our progress with community partners will strengthen diversity in the future healthcare workforce serving Alaskan families.

95. Enhancing collaboration with Inuit community members in health and social services to reduce health inequities in Nunavik

Fraser, S. Plourde-Léveillé, L. Gagnon, D.

First author’s affiliation: Psychoeducation, University of Montreal, Montréal, Canada

Introduction: According to the WHO (2018), integrating community workers in health and social services has the potential to reduce health inequities in access to care while improving the cultural sensitivity of interventions. The literature in this field of research is abundant in global health. However, very little is known about the specific realities of working with indigenous workers within North American structures of services.

Method: Fraser and colleagues (2016) conducted qualitative interviews to explore collaboration in child health care, social care and wellbeing services in Nunavik. Inuit and non-Inuit, workers from different institutions and professions, as well as families were interviewed (N=60). Excerpts referring to collaboration with Inuit community members working or volunteering in health and social services were extracted. A thematic analysis was conducted to explore the roles taken by or given to Inuit workers, the challenges and the experienced benefits of such collaboration.

Results: Although many jobs were described, the roles were very limited. Lack of training, absenteeism and confidentiality issues were the most frequently mentioned challenges. Many benefits were highlighted including better relationships with families, better communication with the patient and better understanding of patients' realities. Structural and contextual barriers were identified as limiting the roles and possibilities for Inuit within the current structure of health and social services.

Conclusion: Even though collaboration can be challenging, the experienced benefits are important. Our research brings to light many factors that have the potential to enhance this collaboration to eventually improve the accessibility and the cultural sensitivity of care.

96. Enhancing cultural sensitivity in health care services in Nunavik by developing pedagogical tools for interveners working in health and social services

Plourde-Léveillé, L. Fraser, S.

First author's affiliation: Psychology, Université du Québec à Montréal (UQAM), Montréal, Canada

Introduction: Many authors discuss the importance of culturally sensitive training for non-indigenous workers in indigenous communities to improve services. However, little is known about the factors that foster the appropriation of training tools. In Nunavik, health and social service workers have consistently expressed the lack of material representing their reality.

Method: A participatory approach was used for this study. The Nunavik Regional Board of Health and Social Service (NRBHSS) selected themes for pilot tools: Working with interpreters and Self-determination and Empowerment based on results from a qualitative study conducted in the region. The tools were developed with the material from the study coupled with scientific literature and fieldwork experience. Andragogy inspired reflective exercises were developed. The tools were reviewed by 15 professionals from the field, Inuit and non-Inuit, and their comments were transcribed. Thematic analyses were conducted.

Results: The tools were considered very relevant and respectful of their reality. It responded to a need for more contextual information to refer to. The clinical examples helped to understand the reality of Inuit colleagues and patients. Community names and verbatim quotes made them feel like the tools were tailor-made which fostered trust towards the content.

Conclusion: The NRBHSS will present the tools as a complement to the pre-departure training. This innovative solution has the potential to improve health and social services in Northern regions by enhancing the cultural sensitivity in health care.

97. Enhancing suicide surveillance in Labrador, Canada: A case study in community-based population health research

Pollock, NJ.

First author's affiliation: Labrador Institute, Memorial University, Happy Valley-Goose Bay, Canada

Introduction: Although suicide is an urgent public health priority in northern Canada, health systems face challenges in measuring the full extent of the problem. For example, it is difficult to identify Indigenous people in routinely collected health information, and there is a lack of data on suicide attempts. Together, these limitations make it difficult for governments to track progress in suicide prevention. The aim of this project was to develop capacity for suicide surveillance in Labrador, a circumpolar region in eastern Canada.

Methods: The primary objective of this project was to assess the feasibility of using administrative and clinical data for population health monitoring in suicide prevention. Our research team partnered with Indigenous governments and the regional health authority in Labrador to conduct a series of retrospective, population-based studies to describe the incidence of suicide, self-harm, and suicidal ideation. Data sources included vital statistics, medical examiner records, and clinical charts.

Results: The results showed substantial regional and community-level variation in incidence rates of suicide mortality, hospitalization for self injury, and emergency department visits for self-harm and suicidal ideation. Compared to the general population, suicide rates were between 14 and 20 times higher in Indigenous communities. Men had higher mortality rates than women; women had higher rates of non-fatal self-harm than men.

Conclusions: Indigenous communities in Labrador experience a substantial health burden from suicide and self-harm compared to non-Indigenous populations. Tracking suicide and non-fatal outcomes such as suicide attempts and suicidal ideation is feasible with existing datasets.

98. Enhancing well being for Indigenous young men and boys through land-based program

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First author's affiliation: Family Medicine, Memorial University, Happy Valley, Canada

In northern Canada, suicide is a leading cause of death in many Indigenous communities. Indigenous males, especially youth, are disproportionately impacted, with suicide rates from 3 to 11 times higher than their non-Indigenous peers.

We have created a multi-sector partnership to develop, deliver and evaluate a series of land-based mental health programs which combine Indigenous cultural knowledge with therapeutic and health promoting interventions in a wilderness setting in three Canadian territories and one province.

Our programs have improved the mental health of Indigenous males by targeting factors that promote mental health and protect against suicide risk including cultural identity, personal agency, the ability to cope with stress, social support, connection to positive role models, and a sense of community belonging.

This presentation includes contextualizing the issue and showing a 10 minute film 'The boys of Nunavut'.

99. Environmental metals in subsistence species of coastal Chukotka, Russian Arctic.

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First author's affiliation: Arctic environmental health, Northwest Public Health Research Center, St-Petersburg, Russia

Introduction: in April 2016 the collection of local foods and interview of indigenous people in coastal Chukotka was carried out. The purpose of this study was to evaluate the traditional diet of native people, to assess the levels of 20 metals in local subsistence species and to establish the recommended intake criteria.

Methods: community-based dietary survey of self reported food frequencies of 112 local residents, collection and chemical analysis of 85 pooled and single food samples.

Results: Pb was low in all foods, incl. land mammal meat (up to 2.3 mg/kg ww). Hg was low in all foods, incl. fish and marine mammal meat (up to 0.12 mg/kg). As levels in fish and marine mammals blubber were up to 3-4 mg/kg. Wild plants accumulate high levels of Mn (up to 190 mg/kg), Ba (up to 3.3 mg/kg) and Sr (up to 20 mg/kg). Seafoods are powerful accumulators of As, Cr, Al, Ba, Sr. Seaweeds have high levels of As (14 mg/kg), Sr (310 mg/kg) and Ba (up to 5.3 mg/kg). Ascidiars are contaminated by Cr (up to 1 mg/kg), Sr (up to 12 mg/kg) and Al (up to 560 mg/kg). Mussels accumulate Cd (up to 3 mg/kg), As (up to 2 mg/kg), Al (up to 140 mg/kg), Cr (up to 0.4 mg/kg) and Ba (up to 7.3 mg/kg ww).

Conclusions: various subsistence species of coastal Chukotka which are consumed regularly by local people are contaminated by different metals at diverse extents. Daily recommended intakes for some foods have been established.

100. Epidemiology of invasive bacterial diseases among children under 2 years of age in northern Canada, 2011 to 2015

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First author's affiliation: Public Health Agency of Canada, Centre for Immunization and Respiratory Infectious Diseases, Ottawa, Canada

Introduction: Although the incidence rates of invasive Haemophilus influenzae (Hi), invasive pneumococcal disease (IPD), and invasive meningococcal disease (IMD) have decreased since routine childhood vaccinations, rates are still much higher among <2 year olds in northern Canada. The objective of the study is to describe the epidemiology of these diseases among this age group in northern Canada.

Methods: IMD, Hi, and IPD data for northern Canada were obtained from the International Circumpolar Surveillance network and analysed. IMD, Hi type b (Hib), and IPD data for the rest of Canada were obtained from the Canadian Notifiable Disease Surveillance System; population estimates were obtained from Statistics Canada.

Results: The average annual incidence rates of Hi, IPD, and IMD were 179.2/100,000 (n=47), 141.1/100,000 (n=37), and 26.8/100,000 (n=7), respectively. Incidence rates for IPD and IMD were 8.4 and 9.3 times higher than the rest of Canada. For Hib, the incidence rate was 19.0/100,000 (n=5), 32.9 times higher than the rest of Canada. Eighty percent of Hib cases (n=4) did not have up-to-date vaccination. Fifteen percent (n=5) of the 33 serotyped IPD cases had serotypes covered by the PCV13 vaccine; 60% (n=3) did not have up-to-date vaccination. Among the 7 IMD cases, 57% (n=4) were serogroup W and 43% (n=3) were B.

Conclusions: The incidence rates of Hi, IPD, and IMD among <2 years olds are much higher in northern Canada than the rest of Canada. Continued surveillance is needed to monitor the diseases, inform vaccination programs, and identify populations at highest risk in northern Canada.

101. Equitable health services for the young? A decomposition of income-related inequalities in young adults' utilization of health care in Northern Sweden

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First author's affiliation: Epidemiology and Global Health, Norrland's Observatory for Equity in Health and Health Care, Umeå, Sweden

Introduction: Despite the goal of the Swedish health system to offer health care according to the principle of horizontal equity, little is known about the equality in access to health care use among young people. To explore this issue, the present study aimed i) to assess horizontal inequity in health care utilization among young people in Northern Sweden; and ii) to explore the contribution of different factors to explain the observed inequalities.

Methods: Participants (N = 3016 youths aged 16–25 years) came from the “Health on Equal terms” survey conducted in 2014 in the four northernmost counties in Sweden. Concentration indices (C) and horizontal inequity indices (HI) were calculated to measure inequalities in the utilization of general practitioners (GP) and youth clinics, and subsequently decomposed.

Results: Even after taking health care needs into consideration, the utilization of youth clinics remained significantly pro-rich (HI = 0.099); and consistently pro-poor for the GP visits (HI = -0.058). The decomposition analyses suggest that socioeconomic inequalities explain a considerable portion of the pro-rich utilization of youth clinics services and that need factors and socioeconomic conditions accounted for the pro-poor concentration of GP visits.

Conclusions: The distribution of GP visits among young people in Northern Sweden slightly favoured the low-income group, and thus seems to meet the premises of horizontal equity. In contrast, the findings suggest substantial pro-rich horizontal inequity in the utilization of youth clinics among young women, which are largely rooted in socioeconomic inequalities.

103. Evaluating knowledge translation processes and outcomes in Indigenous health research

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Effective Knowledge Translation (KT) is critical to implementing program and policy changes that require shared understandings of knowledge systems, assumptions, and practices. KT is about sharing research knowledge that is both relevant and valued. Since mainstream KT approaches and activities do not necessarily resonate with Indigenous ways of knowing and doing, we conducted a systematic review of evaluated KT in Indigenous health research to identify wise and promising Indigenous KT practices in Canada and abroad.

Methods: A systematic review was guided by Indigenous health researchers, engaged Indigenous Elders, and used an Indigenous research critical appraisal tool. The search included published literature from indexed and non-indexed databases globally and grey literature from Indigenous health research funders (government and Indigenous organizations) within Canada only. Included documents had to meet the following criteria: 1) focused on primarily Indigenous people; 2) linked to Indigenous health and well-being; 3) document KT goals, activities, and rationale; 4) evaluated the KT activities or outcomes; and 5) scored six or more in their critical appraisal.

Results: Findings from this review reveal wise KT approaches and practices as well as methods used to evaluate KT in Indigenous contexts. The presentation will highlight how 1) effective Indigenous KT is conceptually and operationally different from mainstream KT and 2) Indigenous KT has been evaluated.

Conclusion: While authors increasingly report on KT activities in Indigenous research contexts, few KT initiatives are evaluated. Evaluation of the process and outcomes of Indigenous KT remains underdeveloped.

105. Evaluation of a printed health education magazine for use by Alaska native families Nuta'aq Unguwaq

Stiller, TL.

First author's affiliation: Health Sciences/Community Development, University of Alaska Anchorage/RurAL CAP, Anchorage, United States

Introduction: The purpose of this project was to evaluate the health education magazine (HEM), Nuta'aq Unguwaq: Pregnancy and Early Child Health, to determine if it is culturally appropriate for Alaska Natives, medically accurate, and relevant to Alaska Native families.

Methods: The project surveyed 30 Alaska Native patients and 30 health care providers from Southcentral Foundation Primary Care Center in Anchorage, Alaska. The evaluation project utilized a convergent parallel mixed method design to integrate main findings and enable comparison to learn if the project provided an accurate representation of the perspectives of the participants; and if it would be recommended to Alaska Native families. Data analyzed was both quantitative and qualitative.

Results: Overall, 93% of patients reported no difficulty understanding the information. Ninety-six percent of patients said they would share the HEM with friends and family. Three main themes emerged from patient data: knowledge behavior gap; healthy lifestyle; health consequences. There were thirty health care providers surveyed in which, 100% said they would recommend this HEM to their patients. There were five main themes identified from the health care provider data: healthy lifestyle; healthy nutrition; health consequences; healthy life choices; knowledge behavior gap.

Conclusions: The evaluation project showed that the HEM, Nuta'aq Unguwaq: Pregnancy and Early Child Health is an appropriate health education tool for Alaska Native families.

108. Exploring Aajiiqatigiingniq as an Inuit-specific therapeutic approach to community justice in support of a Wellness Court in Nunavut, Canada

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First author's affiliation: Faculty of Rehabilitation Medicine, University of Alberta, Edmonton, Canada

Introduction: This research explores the potential for using culturally appropriate systems to more effectively address wellness and justice related issues. Definitions of wellness, addiction, mental illness and rehabilitation are currently embedded in Western systems of health and justice. Since colonization, Inuit cultural systems of care, wellbeing and rehabilitation have been compromised. Western systems often fail to consider Inuit perspectives that emphasize reconciliation of an individual to the community. This research which defines health and wellbeing within an Inuit context aligns with the collective Canadian process of reconciliation with Indigenous communities.

Aajiiqatigiingniq, an age-old cultural system, may offer new possibilities for community wellness and justice within Nunavut. It is a system embedded in a holistic worldview that addresses the individual, family, community within a

complex spectrum of wellbeing and the supports required to establish health and harmony. In our exploration of this Inuit Qaujimajatuqangit guiding principle, we assess the potential for aajiiqatigiingniq to provide Inuit-defined therapeutic support to a Wellness Court.

Methods: The study involves focus groups and individual interviews with Elders to assess the agility of the concept of aajiiqatigiingniq as a foundational construct for a wellness framework. A consensus group process then engages knowledge holders across the community to develop wellness indicators.

Results: This collaborative project develops a culturally embedded wellness indicator framework that enables the community to assess its capacity to provide Inuit-defined consensus driven therapeutic support to a prospective Wellness Court. We use video creation to document and reflect our discussions and ideas back to the community.

109. Facing health inequalities in Northern Sweden: experiences from starting up Norrland's Observatory for Equity in Health and Health Care

San Sebastian, M. Mosquera, P. Gustafsson, PE.

First author's affiliation: Epidemiology and Global Health, Norrland's Observatory for Equity in Health and Health Care, Umeå, Sweden

Socioeconomic inequalities in health are one of the main current challenges in public health, globally, nationally and regionally. To face this challenge, policy-makers should be able to identify the magnitude of the health inequalities as well as their determinants. Moreover, while certain efforts towards equity are best implemented at national or supranational levels, public health and social policy is also governed and implemented in more regional and local contexts with their unique preconditions for inequalities and equity in health. Contextualized evidence about health inequalities at different levels of society is therefore needed. To support both national and regional policy-actors, in 2014 the Norrland's Observatory for Equity in Health and Health Care (NOEHHC) was created by a group of inequality researchers at Umeå University in northern Sweden. The aims of NOEHHC are to i) monitor socioeconomic inequalities in health and health care; ii) conduct pertinent research on different aspects of socioeconomic inequalities in health and health care; and iii) provide relevant information regarding those inequalities to policy-makers in the northern region of Sweden. NOEHHC is thus an example of a regional academic initiative seeking to provide evidence relevant for researchers and policy-actors alike, to further equity in health and health care. Results of this experience in terms of research outcomes for each one of the aims will be presented and future challenges discussed.

111. First Peoples' Postsecondary Storytelling Exchange: Intersecting College and Community Circles

Fast, F. Nicole, I. Smith, M. Phillis, M. Briscoe, S.

First author's affiliation: Applied Human Sciences, Concordia University, Montreal, Canada

This Indigenous qualitative inquiry project has aimed to gather narratives from Indigenous postsecondary students and their families to advance a new conversation about postsecondary education for First Peoples in Quebec. Canada's Truth and Reconciliation Commission identified closing the education gap between Indigenous peoples and non-Indigenous Canadians as a high priority. This project responds directly to the Commission's Calls to Action regarding Indigenous education and reconciliation, specifically what is needed to bridge the growing young Indigenous population's aspirations and potential with evolving labour market needs.

This project has adopted a participatory action approach and uses Indigenous research methodologies with the goal of building capacity among postsecondary students and decolonizing postsecondary institutions. Storytelling exchanges from individuals, families and Talking/Sharing Circles have provided a space for Indigenous youth to share their postsecondary school experiences. We widened the sample to incorporate gathering perspectives on education, both formal and informal, to include those who had not completed postsecondary school.

There are four Community Advisory Boards (CABs) overseeing the research, including an Inuit CAB for Nunavik students. We will present findings from talking circles and individual interviews with Inuit participants. Major themes: feeling unprepared for postsecondary education; hardships around leaving one's community to study; persistence of colonialism in education; critical need for connectedness once in Montreal for education; and need for culturally responsive postsecondary curricula.

Study results can inform the creation of effective and more responsive programs and services for Indigenous students at the postsecondary level, and ultimately improving Indigenous student access to college and university.

112. Food basket analyses – a novel approach to promotion of a healthy diet in Greenland

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First author's affiliation: Center for Folkesundhed i Grønland, Statens Institut for Folkesundhed, Syddansk Universitet, København K, Denmark

Introduction: Food prices are high in Greenland compared with Western Europe and high cost is often cited as one of the barriers towards eating a healthy diet. The purpose of the study was to analyse food basket prices in relation to social variables and dietary preferences.

Methods: Data was collected by interviews which included a 45 item Food Frequency Questionnaire with portion sizes. Prices were collected from three grocery stores and for locally harvested food in four communities. Weekly expenses for a family were calculated. Data (n=1600) was collected during 2017-2018 in 7 towns and 5 villages.

Results: The calculated cost of food varied significantly according to social position, family structure, life style, dietary patterns and perceived food insecurity.

Conclusion: Food basket analysis is a valuable tool for dietary planning at the local and national levels and can help to target preventive measures.

113. Food for thought: Understanding transitions in Greenland fish monitoring practices

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Introduction: Fishing plays an important role in Greenland food security providing both a source of income and food. Pressures from outside forces, such as climate change, overfishing, and contaminants, make it necessary for this industry to adapt to changing evidence. Therefore, understanding how new evidence is incorporated into the fishing industry is vital to ensuring that the entire system can adapt in a sustainable manner to the pressures upon it.

Methods: Qualitative interviews were conducted on 13 individuals from policy making, research, and industry related to the fishing industry to understand the evidence used by the fishing industry, actorss respondes to new evidence, and the reception of evidence. Eight people were interviewed in person in Nuuk, three over skype, and one in person in Copenhagen.

Results: Stakeholders interviewed represent opposing priorities. Meanwhile, transparent communication is important to the adherence of sustainable fishing techniques. Social media was found to be a controversial yet important tool to spread information. The term indigenous knowledge was described as user or local knowledge as it represents a diverse array of practices that may be a source of ideas for future scientific if a systematized approach is taken.

Discussion: Understanding actors' response to evidence gives rise to practice is important to understand the sustainability of the fishing system. The fishing industry should continue its economic contribution while minimizing the consumption of potentially harmful chemicals. To achieve this, transparent fishing practices and different communication techniques such as focus groups and a systematized way of testing and incorporating local practices into science could be useful. By incorporating these ideas, the fishing industry can be a source of healthy, sustainable food ensuring the wellbeing of Greenlanders.

114. Forum Theatre for Indigenous Youth Suicide Prevention

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First author's affiliation: Faculty of Health Sciences, University of the Fraser Valley, Chilliwack, B.C., Canada

Introduction: Tragically, suicide accounts for over a third of all deaths among Indigenous youth in Canada and is currently considered a major health crisis. High rates of youth suicide are understood to be reflective of the impacts of cultural disruptions linked to colonial forces. Forum Theatre was investigated as a primary suicide prevention strategy with Indigenous youth in Canadian First Nations and Métis communities. A form of Theatre of the Oppressed, Forum Theatre involves communities in identifying issues of concern, analyzing current conditions and causes of a situation, and collectively exploring solutions for change. It is distinguished by the interactive participation of the audience, who function as 'spectactors' in exploring alternative outcomes to the play.

Methods: Forum Theatre was introduced to five Indigenous communities representing a range of identities, geographies and governance systems. Activities to date include community meetings to gauge interest, training sessions for community members to actively participate in implementation, and pilot studies with youth.

Results: Experiences from these initial implementation activities will be presented, from the viewpoint of both the university researchers and community participants.

Conclusions Forum Theatre represents a unique form of intervention that appears to be particularly well-suited for involving Indigenous youth in a critical exploration of the risk factors and systems that shape youth suicide, and working with community members to develop concrete strategies for suicide reduction and prevention. It also offers a culturally responsive means to explore youth suicide through community contexts and use intergenerational knowledge and cultural practices to effect change.

119. Gambling among Greenlandic youth

Niclasen, B. Udesen, S. Lenskjold, T. Schnohr, C.

First author's affiliation: Allorfik, Government of Greenland, Nuuk, Denmark

Introduction: Gambling is highly prevalent in Greenlandic with a number of known risk factors and consequences of gambling behaviours among adults. The development in e.g. internet gambling have proved a challenge in determining the prevalence in gambling among youth, which leaves the area unknown to the research community. The purpose of the present study was to develop items targeting youth, with the behaviours relevant to 2017. Items on gambling were tested qualitatively and included in the questionnaire for HBSC Greenland 2018.

Methods: HBSC Greenland is a self-reported cross-national survey among 11-17-year olds, collecting data every 4th year. In 2018, the study collected data for the 7th time, including items on gambling for the first time.

Results: Items were developed in collaboration with researchers with previous experience on collecting data among adults, and the developed items were tested using psychometric methods of high standards to adapt to Greenlandic conditions. Data presented at ICCH on prevalence and risk factors for gambling will be collected in April 2018.

Conclusions: Data is to be collected, but expected to report gambling behaviour among 2.000-2.500 adolescents.

120. Gender and life satisfaction: A mixed methods study among Greenlandic adolescents aged 13-15

Frid, KEF.

First author's affiliation: National Institute of public Health, University of Southern Denmark, Copenhagen, Denmark

Introduction: Gender difference in life satisfaction among adolescents in Greenland has received little research attention. The aim of this study was to investigate gender difference in life satisfaction among Greenlandic adolescents aged 13-15 with a mixed methods approach.

Methods: This study used a convergent mixed methods design, where qualitative and quantitative data are collected and analyzed separately. The adapted Cantril Ladder of Life Satisfaction was used in both qualitative and quantitative data. Qualitative data was collected in 2017 and 14 adolescents from Ilulissat and Nuuk were recruited to participate in semistructured interviews. A thematic analysis to generate themes was performed. The Greenlandic Health Behaviour in School-aged Children (HBSC) provided quantitative data from 2010 and 2014. A multilevel logistic regression analysis to investigate the association between gender and low level of life satisfaction was conducted.

Results: From the thematic analysis emerged the theme social relation and social activities, both girl's and boy's indicated that social relations were an important factor for their life satisfaction. Secondly a theme the future emerged only among girls, and the theme indicated that future concerns may have an influence on Greenlandic girl's life satisfaction. The results from the multilevel logistic regression analysis showed a significant association between gender and low level of life satisfaction. Girl's had a higher odds ratio for low level of life satisfaction compared to boy's.

Conclusion: The findings indicate gender difference in life satisfaction among Greenlandic adolescents.

124. Gonorrhoea in Greenland – trends and challenges in a Historical Perspective

Berntsen, S. Mulvad, G. Pedersen, ML.

First author's affiliation: Queen Ingrid Health Care Centre, Queen Ingrid Health Care Centre, Nuuk, Denmark

Introduction: The incidence of gonorrhoea in Greenland has begun to increase again over the last years and gonorrhoea bacteria have repeatedly developed resistance to a wide range of antimicrobials. Currently cephalosporin is the preferred treatment in Greenland. Different preventive initiatives have been attempted to decrease the incidence of gonorrhoea. However, a truly effective approach to prevent and control the spread of gonorrhoea and other STIs in Greenland remains unknown.

Methods: Our most recent studies on gonorrhoea in Greenland were combined to give an overview of the current state including a historical perspective and an update on the antibiotic susceptibility patterns.

Results: From the 1940s the incidence of gonorrhoea in Greenland increased steadily with a steep incline around 1970. There have been two significant declines– one in the late 1970s and one in the late 1980s. All isolates (swaps) collected from male patients with positive nucleic acid Amplification tests (urine samples) in Nuuk from 2015-2018 were cephalosporin susceptible. However, the number of isolates was scarce.

Conclusion: The incidence of gonorrhoea in Greenland remains high with a gradually increasing trend. Local health personnel ought to be in charge of STI diagnosis, treatment, tracing and information. They should be educated in venereology and given the necessary time and resources for their work. Furthermore, more focus should be put on the cultural, familial and social context of sexual health and STI prevention in Greenland.

Continued sampling of patients for culture before treatment is encouraged for surveillance of antimicrobial resistance patterns for gonorrhoea in Greenland.

125. Gonorrhoea in Greenland: Geographic differences in diagnostic activity and incidence of gonorrhoea in 2015

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Background: For decades the spread of sexually transmitted infections (STIs) have been a health concern in Greenland, especially within the age group of 15-34 year-olds. Since the 1990's gonorrhoea has been increasing and is now affecting a high number of the population and posing a burden to the society. Currently there is no overview concerning the potential differences in regional incidence and management of STIs including prevention, screening procedures, diagnostic approaches and treatments in Greenland.

Objective: To investigate the age, gender and region specific diagnostic activity and incidence of gonorrhoea in Greenland in 2015.

Design: The study design was an observational cross sectional register study with inclusion of patients tested for gonorrhoea in 2015. Patients above 15 years of age were included. Data was obtained from the laboratory system used at The Central Laboratory at Queen Ingrid's Hospital in Nuuk.

Results: In 2015, a total of 17,911 tests for gonorrhoea were performed on both men and women. Women accounted for 68% of the tests, while men accounted for 32%. The positivity rate was 7,878 pr. 100,000 of which 56% were women and 44% were men. The regional distribution showed a disparity of the testing rate and the rate of positive gonorrhoea tests with the highest incidence of gonorrhoea in Ilulissat and Qaqortoq and the lowest incidence in Nuuk and Tasilaq.

Conclusion: We have documented a high diagnostic activity and high incidence of gonorrhoea in Greenland in 2015 among both women and men. We found significant regional differences in both diagnostic activity and gonorrhoea incidence.

126. Growing Hope: Youth gardening in Black Tickle a photovoice project

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Throughout Canada Indigenous communities continuously experience issues with food security; this is enhanced in Northern, remote and Inuit communities (Lardeau, Healey & Ford, 2011). While it is important to be mindful of inequalities it is even more critical to acknowledge and build on strengths. Resilience has repeatedly been showcased by Indigenous communities and youth despite long colonial histories and inequalities. Black Tickle, Labrador is a recognized Southern-Inuit remote community within the NunatuKavut Community Council (NCC); despite its small size (population of 140) it remains a vibrant and resilient community. Presently there is a garden that is being grown by youth in the community at St. Peter's all grade school. School gardening programs have been shown to improve health outcomes for students as well as engagement, learning, confidence and teamwork (Block et al., 2012). Growing Hope explores the youth's experiences participating in and contributing to the school garden utilizing photovoice methodology. Photovoice is regarded as a participatory research method that enables people to "identify, represent and enhance their community" through photography (Wang & Burris, 1997). It concludes with a feast to share findings with the community and to celebrate the youth's work. Our presentation provides an overview of the project development, preliminary findings and future directions.

127. Growth charts from birth to 17 years for Native, Yakut and European children-inhabitants of Yakutia

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Introduction: The pediatric growth charts are a series of percentile curves that illustrate the distribution of body measurements, used to determine if the growth of a child is adequate. It was shown earlier that on Yamal and in Yakutia the growth patterns for Native, Yakut and European children are significantly different, which makes sense to use the appropriate charts [Lyaskovik et al., 2004; Chasnyk et al., 2009-2013].

Methods: The data used to construct the charts for Native, Yakut and European children aged from birth to 17 years (birth – 3 years, n = 172521; 3 – 17 years, n = 106272) come from the annual health examination surveys performed in 2000 – 2016. Statistical procedures were applied to generate smoothed curves and centile charts (3rd, 5th, 10th, 25th, 50th, 75th, 90th, 95th, 97th) and tables were developed.

Results: The whole set of 48 percentile charts and 30 tables includes charts for length/stature, weight, body mass index for age and weight-for-stature for boys and girls separately, divided into 3 subsets – for Natives, Yakuts and other ethnic groups (mostly Europeans). Also 8 charts and 2 tables for systolic and diastolic blood pressure-for-age, the pressure boundary values for stature and charts of the 90th and 95th percentile pressure for-the-90th-percentile-of-weight for boys and girls aged from 3 years (all ethnic groups together) are presented.

Conclusions: The charts are adopted by the Ministry of Healthcare of Yakutia for use by health professionals as a tool for evaluating the growth of children in clinical and research settings.

128. Growth of children in Greenland exceeds the World Health Organization growth charts

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First author's affiliation: Hans Christian Andersen Children's Hospital, Odense University Hospital, Odense, Denmark

Aim: Previous studies have found high rates of stunted linear growth in Greenlandic children. We measured growth patterns in Greenland and compared them with international growth charts.

Methods: The study cohort comprised 279 healthy children aged 6-10 years in 2012. They participated in two pregnancy and birth cohorts in Greenland and longitudinal growth data since birth was extracted from their medical records. Growth reference ranges were estimated with the Lambda-Mu-Sigma (LMS) method and compared with growth charts from Denmark and the World Health Organization (WHO).

Results: The children's mean length, weight and head circumference were significantly larger compared to the WHO growth charts ($p < 0.001$). We found that 21-28% of the children aged 0-1 years exceeded the WHO growth chart for length by more than two standard deviations. For weight and head circumference 9-16% of the children aged 0-10 years and 9-11% of the children from 0-2 years exceeded the WHO charts by more than two standard deviations. The Danish references were exceeded to a lesser degree.

Conclusion: This study showed that growth of Greenlandic children up to 10 years was no longer stunted. Major determining factors suggested are genetic admixture, maternal overweight, changes in nutrition and improved health.

129. HALDI – the initiation of a survey on health and living conditions in the Swedish parts of Sápmi

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Knowledge about Sami health in Sweden is fractioned and out-dated. The main reason for this is a lack of reliable data on ethnicity as well as an adequate toolkit to capture health and lifestyle factors of cultural relevance.

The SAMINOR study, designed and run by the Sami health research department at the Arctic university of Norway, which combines a locally designed lifestyle questionnaire and clinical data, has introduced a system of self-reported ethnicity, with a set of pre-defined claims describing Sami language skills in person and in the parental and grand-parental generation as well as self-perceived Sami ethnicity. So far, this has resulted in more than 30 scientific papers where Sami and Non-Sami residents in the area have been compared from many different health aspects.

The research project HALDI (Health and Living Conditions in Sápmi, Sweden) aims to bridge the knowledge gap on Sami health in Sweden in close collaboration with the SAMINOR study (UIT), the Sami Parliament in Sweden, and health care authorities. In expansion, this would give Sweden and the Swedish parts of Sápmi increased possibilities of evidence based decisions related to health issues of Sami and non-Sami inhabitants in a similar way as in the Norwegian parts of Sápmi.

A focus-group study will be initiated during spring 2018, with the aim to discuss the SAMINOR protocol from a local Sami perspective. The aim with this presentation is to report the current state of activities within the HALDI project.

130. Healthy Native Youth Web Portal: Disseminating evidence-based sexual health programs for Indigenous youth

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First author's affiliation: American Society for Circumpolar Health, Anchorage, United States

Introduction: A challenge exists for health educators to identify engaging, culturally-relevant sexual health curricula for Indigenous and tribal populations in North America, and the Circumpolar Region.

Method: Healthy Native Youth (HNY) is a new web portal designed to provide a 'one-stop-shop' for tribal health advocates to access age-appropriate curricula. HNY allows users to determine 'best-fit' by filtering and comparing curricula on age, delivery setting, duration, cost, and evidence of effectiveness. It includes all implementation materials for facilitator training, lesson planning, marketing and recruitment, evaluation, and background information on program design publications and reports on impact.

Results: Since its launch in August 2016, the portal (www.HealthyNativeYouth.org) has demonstrated broad reach both in the U.S. and internationally with over 14K homepage views and over 3K curricula page views accessed from in 48 U.S. states and 41 countries. Visits average over 3 minutes compared to the industry average of 1.3 minutes and the bounce rate (percentage of single page visits) averages 47.7% compared to an industry average of 62.3%. The average number of pages visited per session is 30% greater than the industry average (2.78 vs. 2.14 pages). Online feedback from HNY users (n=10) rated HNY as engaging across varied implementation settings within the U.S.

Conclusion: HNY has demonstrated potential for disseminating evidence-based culturally acceptable sexual health programs. The activity of the site indicates the need to include more culturally diverse curricula addressing a variety of health topics. However, more data are needed to further evaluate the site's dissemination efforts.

131. Health of Yakutia Indigenous Peoples in the modern world

Romanova, A. Egorova, A. Stepanov, K.
First author's affiliation: Director, Yakut Science Center of Complex Medical Problems, Yakutsk, Russia

Introduction: Yakutia is the largest region of the Russian Federation. More than 40% of its territory lies above the Arctic Circle. Yakutia is the coldest inhabited region on the globe. The purpose of this study was to investigate the health status of Yakutia indigenous peoples.

Methods: The social-hygienic, medical-demographic, genetic, immunological, morphological, statistical and other studies were carried out.

Results: The indigenous people of Yakutia make 50% (45% of Yakuts and 5% of Indigenous small-numbered peoples (ISNP) presented by Evens, Evenks, Dolgans and Yukaghirs). The main part of the Yakutia non-natives are represented by Russians (41%). The development of atherosclerosis in the Yakutia natives begins on 10 years later than in the non-natives. In the structure of mortality for period of 2005-2011 external causes were at the first place, at the second – cardiovascular diseases and at the third place – malignant tumors. Ethnic differences were characterized by the fact that the non-natives died from the cardiovascular diseases, including the acute myocardial infarction, and malignant tumors, more often than the natives. In the non-natives the mortality from alcoholic cardiomyopathy and casual poisoning and alcohol addiction was higher. Mortality from the external causes was higher among ISNP than among the Yakuts and the non-natives. In the Yakuts in comparison with ISNP the mortality from cardiovascular diseases and cerebrovascular accidents was higher.

Conclusions: Effects of climatic, environmental, social and other factors in the North have led to the reduction of the human adaptive reserves, the development of pathological processes and the emergence of chronic disease.

132. Health systems stewardship in circumpolar regions

Chatwood, S.

First author's affiliation: School of Public Health, ICHR, University of Alberta, Yellowknife, Canada

Introduction: How health systems situate or optimize performance in the Arctic context has not been studied previously. This presentation explores how health systems respond with a stewardship framework that aspires to adopt ethical and multi-sector approaches to health. Methods: To broaden the lens, we developed new methods that recognize both indigenous knowledge and western science. We captured indigenous and national perspectives, and we enveloped notions of common values (humanity, cultural responsiveness, teaching, nourishment, community voice, kinship, respect, holism and empowerment) that provide a basis for health system comparisons in Arctic nations. Results: Policies and strategies within circumpolar nations that respond to shared context and challenges were identified. In particular, we used a case study approach to highlight how circumpolar health systems organize and respond through health system stewardship functions to the shared circumpolar challenges. Conclusion: The presentation will focus on findings from the US, Canada, Norway and Finland.

134. Hearing impairment among Greenlandic youth - HBSC Greenland 2018

Schnohr, C. Rasmussen, KE. Jensen, RG. Niclasen, B.

First author's affiliation: Department of Public Health, University of Copenhagen, København Ø, Denmark

Introduction: Both clinical and qualitative studies have shown that hearing impairment and hearing disability are widespread chronic conditions among Greenlandic children and adolescents. The prevalence and consequences are however less known, so the purpose of the study was to develop items for self-reported questionnaires and collect data on hearing disability.

Methods: HBSC Greenland is a self-reported cross-national survey among 11-17-year olds, collecting data every 4th year. In 2018, the study collected data for the 7th time, including items on hearing impairment for the first time.

Results: Items were developed in collaboration with researchers with clinical experience, and the items were tested using psychometric methods of high standards to adapt to Greenlandic conditions. Data presented at ICCH on prevalence and risk factors for hearing impairment will be collected in April 2018.

Conclusions: Data is to be collected, but expected to report hearing impairment among 2.000-2.500 adolescents.

135. Heart disease among Greenlandic children and young adults: A nationwide cohort study

Tindborg, M. Michelsen, SW. Andersson, M. Juul, K. Geisler, UW. Wohlfahrt, J. Soborg, B. Koch, A.

First author's affiliation: Department of Epidemiology Research, Statens Serum Institut, Copenhagen, Denmark

Introduction: The incidence of heart disease among Greenlandic children and young adults remains unknown.

We aim to describe incidence of and determinants for heart disease among children and young adults living in Greenland as compared with the general Danish population

Methods: A register-based cohort study including all individuals living in Greenland and Denmark from birth to age 40 years from 1989-2014. A personal identifier assigned at birth allowed for follow-up through national registers. Information on hospitalization due to heart disease was obtained from national in-patient registers using ICD codes.

Results: Risk of any heart disease (adjusted hazard ratio [aHR] 0.54; 95% confidence interval [CI] 0.48-0.60), and congenital heart disease [CHD] (adjusted HR 0.71; 95% CI 0.55-0.93), were lower in Greenland as compared with Denmark. During the study period, we observed a 3-fold increase in heart disease, most notable for CHD, in Denmark as compared with a relatively steady incidence rate in Greenland. Risk of CHD was lower among male in both Greenland (adjusted HR 0.78; 95%CI 0.64-0.96) and Denmark (adjusted HR 0.77; 95%CI 0.75-0.79). Thus being female was associated with an increased risk of CHD. Mortality among individuals diagnosed with heart disease was twice as high in Greenland (crude mortality rate 787.8/100.000 pyrs) as compared with Denmark (crude mortality rate 365.5/100.00 pyrs).

Conclusion: Incidence of any heart disease and CHD was lower among children and young adults in Greenland as compared with Denmark. Mortality among individuals diagnosed with heart disease was higher in Greenland as compared with Denmark.

136. Hepatitis C Infection in Pregnant American Indian and Alaska Native Women; 2003-2015

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First author's affiliation: Arctic Investigations Program, Centers for Disease Control and Prevention, Anchorage, United States

Background: Recent reports have found a rise in Hepatitis C (HCV) infection in women of reproductive age in the United States, with greater increases in specific subpopulations. Surveillance data suggests one group that is at increased risk of HCV infection is the American Indian and Alaska Native population (AI/AN).

Methods: Using the National Center for Health Statistics (NCHS) birth certificate and the Indian Health Services, Tribal, and Urban Indian (IHS) databases, we evaluated the number of reported cases of HCV infection in pregnant women between 2003 and 2015. In the IHS dataset, pregnant women were identified by the presence of two pregnancy related ICD codes within an eight-month span and women with two ICD codes for HCV infection were considered HCV infected. The NCHS database reported HCV status and AI/AN women were identified using their self-reported race.

Results: Based on the NCHS database, the number and percentage of mothers who were known to have HCV infection increased between 2011 and 2015 in both the AI/AN population (194 [0.57%] to 298 [1.19%], $p < 0.001$) and the non-native population (6,706 [0.21%] to 11,660 [0.36%], $p < 0.001$). The IHS database confirmed these results, with an increase from 86 (0.38%) to 214 (0.92%) between 2003 and 2014 ($p < 0.001$).

Conclusions: This study demonstrates a significant increase in the proportion of pregnant women in the US infected with HCV between 2003 and 2015. This increase was greater in AI/AN women than non-native women. These data highlight the need for HCV screening and prevention programs in pregnant AI/AN women.

137. Honoring Indigenous Stories to Protect our Youth - Family, community, and self healing through storytelling

Lewis, JP.

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Alaska Native Elders have experienced hardships, from boarding schools to periods of drug and alcohol dependence and as they grew older their responsibilities and expectations shifted to a concern for others (i.e., children, grandchildren, community). Indigenous Elders have a strong belief that reconnecting with their cultural practices and values can assist them in reclaiming their values, beliefs, and skills.

A qualitative, research design was utilized to gather data on experiences of successful aging in three different studies conducted across the State of Alaska. 71 interviews with Alaska Native Elders in rural and urban communities were completed. Using Nvivo qualitative software, thematic analysis was used to obtain cultural perspectives on successful aging. These studies were approved by the University and numerous tribal review boards. Thematic analysis was used to identify, analyze, and report patterns in the data.

Successful aging is never achieved, nor is it a checklist, but rather lessons and stories acquired over a timeline of experiences, including hardships, that are passed on to younger people. Being generative enabled them to fill the role of a respected Elder, gave them a sense of purpose, and opportunities to health their family and community, as well as heal themselves through sharing their stories, termed "indigenous cultural generativity."

Developing a successful aging model for Alaska Natives, and focusing on generativity and intergenerational activities, serves as the foundation for future work exploring this developmental stage as a cultural protective factor and improving the health and wellbeing of AN Elders experiencing various stressors (alcohol use disorders, depression, diabetes, dementia, and so on). The results suggest being engaged in meaningful cultural activities with family and community are important for AN Elders and their understanding of how they age successfully.

138. How standard is standard? Examining the standard scores of the CELF-P2 in Northern Populations of the Beaufort Delta

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Introduction: One of the many challenges of providing Speech-Language Pathology services to Northern populations is the lack of culturally appropriate normative language data for assessment tools. Current standardized assessments have no normative data for this population, therefore causing clinicians to question the validity of their data versus regional dialectal differences. In 2011, 4 communities across the Beaufort Delta were assessed using standard Speech Language Pathology measures. The purpose of the study was to determine how the average student performs on the standardized assessment measures. There is documented need for greater understanding of regional dialects, supporting the early language development of Inuit and Northern Indigenous peoples, thus decreasing the mismatch between mainstream services and the needs of the community (Ball and Lewis, 2004).

Methods: Kindergarten classes in 4 communities across the Beaufort Delta were administered the Clinical Evaluation of Language Fundamentals - Preschool 2nd edition (CELF-P2). Additional factors considered include: language spoken at home and cultural identity/ethnicity.

Results: Standard scores were consistently lower than expected based on the available normative data.

Conclusion: Normative data based on assessments normed on the general North American population should not be applied for assessment and treatment of speech and language concerns in the Inuvialuit and Gwich'in populations of

the Beaufort Delta region of NWT. This may impact other northern indigenous and Inuit populations for the purposes of speech and language assessment. Further understanding of regional dialects should be considered.

139. How to estimate the intake of “fish oils” in general population health surveys

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First author's affiliation: National Institute of Public Health, University of Southern Greenland, Copenhagen K, Denmark

Introduction: Marine food has been heralded a key factor in cardiovascular health in particular because of its high contents of n-3 fatty acids (EPA and DHA), the so-called fish oils. Although the evidence for a strong preventive relationship with cardiovascular disease is dwindling the study of traditionally harvested food in Greenland is still important in the context of daily life, traditional culture and health.

Methods: Dietary information was collected from Inuit in Greenland who during 2005-2010 participated in a general population health survey (N=3102). Variables included fatty acids in red blood cell membranes (RBC), a 67 item Food Frequency Questionnaire (FFQ) with portion sizes, stable isotopes of carbon and nitrogen in toenails, and whole blood mercury. For 883 participants who had valid values for all variables, bivariate correlations between indicators of food consumption and n-3 fatty acids in RBC as the outcome variable (proportion of EPA+DHA; n-6/n-3 ratio) were calculated.

Results: r² varied between 0.08 for calculated intake of EPA+DHA and 0.58 for nitrogen in toe nails.

Conclusion: The biomarkers were significantly better correlated with RBC n-3 fatty acids than reported food frequencies. Including portion sizes and food quality did not increase the performance of the FFQ. FFQ on the other hand has many additional advantages.

141. Hypertension incidence: gender features in population with vital exhaustion. MONICA- psychosocial epidemiological study

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Objectives: To determine the gender differences in influence of vital of exhaustion (VE) on risk of arterial hypertension (AH) incidence in the general population of 25-64 years in Russia / Siberia.

Methods: Under the third screening of the WHO epidemiological program "MONICA-psychosocial" random representative sample including both genders aged 25-64 years old was surveyed in Novosibirsk in 1994 (men: n = 657, Mean age 44,3 ± 0,4 years, response — 82,1 %; women: n = 689, Mean age 45,4 ± 0,4 years, response — 72,5 %). VE was estimated at baseline. Over the 16-year period 229 cases of AH in women and 46 in men were identified.

Results: Prevalence of VE was as follows: in men - 66.8% (14.6% - high level), 75.7% was in women (44.4% - high level). Over the first 5 years the risk of AH in subjects with VE was higher in men HR=3.2 than women HR= 1.9 (p for all <0.05). The risk of AH in men was 1.6 and 1.4-fold higher over 10 years and 16 years of follow-up, respectively. It has been shown an increasing risk of AH in divorced men HR = 3.3 (p <0.05), and in older age group HR = 5.7. As for women AH risk was higher in individuals with lower education HR = 1.8 in those with VE.

Conclusion: Gender differences in VE are characterized by the fact it affects men of older age groups. In contrast risk of AH is higher in women of active working age.

142. Ikajurniq: An Inuit Cascade of Care Framework for Sexually Transmitted and Blood Borne Infections

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First author's affiliation: Pauktuutit Inuit Women of Canada, Pauktuutit Inuit Women of Canada, Ottawa, Canada

Introduction: Inuit in Canada are experiencing high rates of sexually transmitted and blood-borne infections (STBBIs). While there is limited Inuit-specific statistical information, we know that chlamydia, gonorrhea and syphilis rates in Inuit regions are high. A central approach to reducing STBBIs among Inuit communities is the development of effective methods to increase the number of Inuit being tested, diagnosed and treated before they spread infection to others.

Methods: At its inaugural meeting in November 2017, the National Inuit Sexual Health Network, made up of sexual health experts and community representatives, developed an Inuit-specific STBBI Cascade of Care framework called Ikajurniq – meaning “the act of helping”.

Results: Ikajurniq builds on best practices in prevention and treatment of STBBIs in Canada, while recognizing both the particular challenges and the known enablers in reaching, testing and treating Inuit with STBBIs in northern communities.

Conclusions: Inuit experience high rates of STBBIs and face particular challenges in completing the testing and treatment journey. The enablers described in Ikajurniq can greatly increase the number of Inuit who successfully navigate the STBBI cascade of care.

144. Implementation of School Clinics as a way to Address Gaps in Health Provision among the Pediatric ADHD Population of a Northern Manitoba First Nations Reserve

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First author's affiliation: General Physician, University of Manitoba -Norway House Cree Nation Reserve, Winnipeg, Canada

Introduction: Hospital clinic staff and administrative staff from the two schools located on Norway House Cree Nation reserve, identified numerous gaps in healthcare provision of the pediatric ADHD population:

- 1) Legal guardians identified multiple barriers in accessing healthcare regularly
- 2) A lack of consistent communication permeated the physical-teacher relationship
- 3) Ineffective use of time among individual resource teachers providing care existed

This culminated in lack of treatment as well as inappropriate wholistic treatment, non-adherence, poor school performance and subsequent school and home life dysfunction. An ADHD program was designed at each school where the same physician provided care at regular intervals, having direct contact with school staff and parents simultaneously.

Methods: Objectively, the rate of attendance was documented. A five minute anonymous written questionnaire using both the Likert scale and open ended questions requiring written responses was disseminated among all stakeholders at both schools.

Results: The attendance rates were documented. Generally, more time efficient, consistent care was provided with easier accessibility for all stakeholders. On-going barriers were identified, and recommendations focused on improving efficiency within the current care model and addressing the need for non-pharmacological ways to improve care.

Conclusion: School ADHD clinics are a demonstrated better alternative in addressing healthcare gaps of the ADHD population compared to the previous in hospital clinic model and new suggestions will be implemented.

145. Improved survival of head and neck cancer patients in Greenland

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First author's affiliation: Department of Otolaryngology and Maxillofacial Surgery, Zealand University Hospital, Holte, Denmark

Introduction: It has previously been shown that head and neck cancer patients in Greenland have significant delays in the diagnosis and treatment as well as poor survival rates. Several initiatives have been made to ensure faster diagnosis and better survival. In order to investigate the impact of these initiatives, we performed a new analysis of all head and neck cancer patients in Greenland diagnosed in the period 2005-2012 in order to describe treatment delay, diagnostic delay and prognosis compared with the period 1994-2003.

Methods: This is a retrospective study including all inhabitants in Greenland diagnosed with head and neck cancer between 1, June 2005 and 31, December 2012. Data was retrieved from medical records and national databases. Incidence, treatment delay, diagnostic delay and overall survival were compared with the period 1994-2003 using univariate and multivariate analysis.

Results: We found that diagnostic delay, treatment delay and overall delay was lower in this study period compared to the period 1994-2004 although only diagnostic delay was significant in univariate testing ($p = 0.048$). In multivariate analysis, we found that patients with head and neck cancer between 2005-2012 had a significant lower risk of death from all reasons compared with the period 1994-2003.

Conclusions: Patients with head and neck cancer in Greenland between 2005-2012 were diagnosed earlier and had a better overall survival compared to the period 1994-2003. Although survival has improved in Greenland, it is still not on par with Denmark and The United States.

146. Improving access to specialists in remote communities: a cross-sectional study and cost analysis of the use of eConsult in Nunavut, Canada

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Introduction: Residents of remote communities face inequities in access to specialists, excessive wait times, and poorly coordinated care. The Champlain BASETM (Building Access to Specialists through eConsultation) service facilitates asynchronous communication between primary care providers (PCP) and specialists. The service was extended to several PCPs in Nunavut in 2014. Objective: To (1) describe the use of eConsult services in Nunavut, and (2) conduct a costing evaluation.

Methods: A cross-sectional study and cost analysis of all eConsult cases submitted between August 2014 and April 2016.

Results: PCPs from Nunavut submitted 165 eConsult cases. The most popular specialties were dermatology (16%), cardiology (8%), endocrinology (7%), otolaryngology (7%), and obstetrics/ gynaecology (7%). Specialists provided a response in a median of 0.9 days (IQR=0.3-3.0, range=0.01-15.02). In 35% of cases, PCPs were able to avoid the face-to-face specialist visits they had originally planned for their patients. Total savings associated with eConsult in Nunavut are estimated at \$180,552.73 or \$1,100.93 per eConsult.

Conclusions: The eConsult service provided patients in Nunavut's remote communities with prompt access to specialist advice. The service's chief advantage in Canada's northern communities is its ability to offer electronic access to a breadth of specialties far greater than could be supported locally. Our findings suggest that a territory-wide adoption of eConsult would generate enormous savings.

147. Improving Indigenous Population Health Outcomes in the Northwest Territories by Promoting Patient-oriented Research with an Indigenous Lens

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First author's affiliation: Tlicho Research and Training Institute, Tlicho Government, Behchoko, Canada

Fifty percent of the Northwest Territories' (NWT) population is Indigenous, with demonstrably poorer health outcomes than non-Indigenous residents. The Canadian Institutes of Health Research funds a national network of organizations supporting patient-oriented research, known as Strategic Patient Oriented Research (SPOR) SUPPORT Units. Hotìì ts'eeda is the NWT's Unit, targeting improvement of Indigenous health outcomes by supporting health research rooted in Indigenous methodologies and research priorities. It is the only Unit focusing on Indigenous peoples' health.

Methods: The NWT Unit's unique approach includes:

- It defines "patients" not as individuals, but as the Indigenous community;
- Its Governing Council includes Indigenous governments, and the Government of the NWT's Department of Health and Social Services;
- It is embedded within the Tlicho Government, an Indigenous self-government; and,
- Its activities emphasize Indigenous knowledge and cultural competency.

Results: After a year of operations, Hotìì ts'eeda is already realizing the potential to enhance relevance of health research to Indigenous community priorities, sharing results with NWT practitioners and residents and ensuring the NWT incorporates findings into evidence-based policy. Meaningful partnerships have been formed; collaboration and co-creation among public and Indigenous governments and academics ensures that work honors both Indigenous and non-Indigenous world views.

Conclusions: Addressing Indigenous health disparities requires innovation. The NWT is uniquely positioned to drive change and add value at every phase of research: influencing research decisions with Indigenous priorities, ensuring effective knowledge translation, and building capacity for Indigenous research. Hotìì ts'eeda is a promising model for collaborative and inclusive Indigenous-focused health research.

149. Increased number of daily cigarettes smoked during pregnancy decreased odds of preeclampsia: A Murmansk County Birth Registry study

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Introduction: Previous studies have reported an inverse association between maternal smoking and preeclampsia. However, the evidence of dose-response relationship between the numbers of cigarettes smoked per day during pregnancy and the risk of preeclampsia is limited. So, we studied a possible association between the numbers of cigarettes smoked daily during pregnancy and the development of this affliction.

Methods: A registry-based study was conducted using data from the Murmansk County Birth Registry. It included women without pre-existing hypertension, who delivered a singleton infant during 2006-2011 and had attended the first antenatal visit before 12 week of gestation (N = 36,374). The associations were assessed using logistic regression analysis.

Results: Non-smokers both before and during pregnancy had a greater risk of preeclampsia compared to smokers. A dose-response relationship was evident between the number of cigarettes smoked per day during pregnancy and the risk of preeclampsia (ptrend < 0.001). Pregnant women who smoked 1-5, 6-10 or >11 cigarettes per day during pregnancy had decreased odds of having preeclampsia compared to nonsmokers (crude OR1-5cig. of 0.72 with 95% CI: 0.58-0.90; for OR6-10cig. of 0.68 with 95% CI: 0.54-0.85; and for OR> 11cig. of 0.46 with 95% CI: 0.28-0.74, respectively). Adjustment for potential confounders did not change the association.

Conclusions: Our study demonstrates that maternal smoking was inversely associated with preeclampsia. Moreover, increased number of daily smoked cigarettes during pregnancy decreased odds of preeclampsia.

150. Indigenizing Mental Health Laws in Canada's North

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Introduction: For many years, scholars have called for the inclusion of Indigenous legal traditions into Canada's laws. Many of Canada's current laws negatively affect the health and mental health of Indigenous peoples, including Mental Health Laws (MHLs), which are rooted in colonial law. None of Canada's MHLs incorporate Indigenous legal traditions, even in the circumpolar north where Indigenous peoples predominate the population. Furthermore, they are not designed to account for the remote nature of geography, and often scarce availability of resources.

Methods: Applying an Indigenous lens to MHLs, and using resources published by the World Health Organization (WHO) for developing human rights oriented mental health laws, an analysis was conducted on how MHLs can be modified to include Indigenous legal traditions. This analysis is also rooted in principles of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

Results: This analysis of MHLs, with a focus on Canada's three northern territories, identifies their strengths and weaknesses. Most importantly, opportunities for improvement are highlighted. For example, disclosing suicide attempts to family members (despite potentially breaching confidentiality) may ultimately save lives, and many consider it in keeping with Inuit Qaujimagatuqangit.

Conclusions: Incorporating Indigenous legal traditions into mental health laws (MHLs) can improve the mental health of all Canadians, including Indigenous Peoples. Furthermore, it echos many of the calls to action of the Truth and Reconciliation Commission of Canada final report, as a path to inclusiveness, access to justice and ultimately reconciliation.

151. Indigenous Access McGill, McGill University – Engaging Indigenous students in Social Work Education

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Introduction: Indigeneity and education are intersecting social determinants of health; in Indigenous communities across Canada, educational success remains out of reach for disproportionately large numbers of youth. Education has a fundamental influence on multiple factors that shape health, including occupation and occupational status, wages, personal and household income and wealth, promotion of healthy behaviors, and increasing options and awareness of options for addressing poor health and stress. To date, there are only three Inuit social workers who hold a BSW degree (two of whom graduated from our program) across the 14 communities of Nunavik.

Methods: In January 2007, the School of Social Work developed Indigenous Access McGill (IAM), based on consultations in Inuit and Mohawk communities, to increase recruitment and retention of Indigenous students. The program has three main foci: (a) one-on-one support for students (recruitment/admissions, academic, and personal); (b) capacity building in Indigenous communities through the development of an alumni group which includes social work professionals from Mohawk, Inuit, Ojibwe, Metis, Mi'gmaq, Wendat, and Cree communities and through offering professional development opportunities; and (c) curriculum development to integrate Indigenous ways of knowing, being and doing into social work curricula.

Results: A review of (a) challenges of recruiting and graduating Inuit Bachelor of Social Work students able to practice protected acts in their home communities; (b) creation of Indigenous Access McGill in 2007 by the School of Social Work to address this issue; and (c) current IAM initiatives to engage Inuit communities in Canada.

Conclusion: Barriers require institutional countermeasures.

152. Indigenous Peoples Perspective in Education. Nurse Education in Norway without knowledge about indigenous peoples? (Oral and poster presentation)

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Introduction: The objective of this study is to explore indigenous peoples' perspectives in the education of nurses in Norway.

Methodes: Twenty-five out of 26 nursing education institutions in Norway have been included in the study. Each school curriculum has been analyzed with an aim to map out how it reflects Sami culture, health issues, and approaches towards illness.

Results: Most school curriculums have learning outcomes on general cultural issues. No schools have learning outcomes on Sami culture and language knowledge. Only one school has an description specific Sami culture issues. Eight out of eighteen schools have literature on Sami cultural issues, and five of these schools are outside of the Sami core areas.

Conclusions: There is a lack of focus on indigenous peoples' perspectives in the nursing school curriculums in Norway. We recommend that the Sami perspective is emphasized and included in the development of a new framework plan.

Eriksen, Liss Trine; Bongo, Berit Andersdatter; Mehus, Grete. Urfolksperspektiv i utdanning. Sykepleierutdanninger i Norge uten urfolkskunnskap? Nordisk sygeplejeforskning 2017; Volum 7 (3). ISSN 1892-2678.s 239 - 249.s doi: 10.18261/issn.1892-2686-2017-03-06.

153. Individual, housing and community factors associated with healthy aging in Inuit communities in Canada

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Context: The Inuit population is younger than non-aboriginal population in Canada, but demographic tendencies point to a quick aging process. Aging people face increased health challenges: physical limitations, chronic health conditions, etc. But several individual and living environment factors can support people's health and help them age healthier. The objective of this study is to identify individual factors and living conditions associated with better health for people aged 45 and older.

Methods: 563 Inuit aged ≥ 45 years participated in the 2006 Aboriginal People Survey. A holistic indicator of health including physical, mental health, social support, health habits and the ability to speak Inuktitut was created using latent class analyses. We identified three groups of participants with 1) good 2) intermediate and 3) poor health. We realized multinomial regression models adjusted for age, sex and socioeconomic status to examine the associations between this indicator and several factors.

Results: In adjusted models, feeling safe when walking in the community, being satisfied with your life in the community, with your house and doing traditional activities was associated with average and good health. Participating to social activities was associated with good health only.

Relevance: This project aimed to identify factors associated with healthy aging in Inuit communities. A better knowledge of living conditions promoting health is relevant to help people age well. Knowledge produced by this project will inform the formulation of adapted policies on housing and community conditions supporting healthy aging in Inuit Nunangat.

154. Innu eishkupenanu – Planning collaborative research on Innu minuinniui (wellbeing): a case study in Indigenous community-based participatory research (CBPR)

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Introduction: The Innu live in two remote and isolated First Nation (FN) communities in Canada's North. Both communities form the Innu Nation of Labrador. Innu experience significant health inequities compared to non-Indigenous populations in Canada. Thus it is imperative that research to action models are developed to improve Innu health. This presentation will share the process of jointly planning a research study and key lessons learned.

Methods: We formed a collaborative team of Innu stakeholders and researchers with the aim of co-creating and translating knowledge to improve Innu health applying a strength-based approach that considers Innu understanding of 'minuinniui' (wellbeing).

Results: Jointly planning the study was an iterative and active process, where mutual learning and sensitivity to community context brought about strategies for community-based participatory research (CBPR). Some of these strategies included approaching team members individually for input away from larger groups, and incorporating Innu leaders in the advisory group to facilitate results uptake. We propose a model of study co-planning where community stakeholders and researchers collaborate in the research process from conceptualization, planning, conduct, to knowledge translation. The process highlights principles of self-determination, mutual learning and community empowerment.

Conclusions: The process of engagement between FN partners and researchers to co-plan a study requires building space for mutual learning and sensitivity to context from the inception of the collaboration. Based on lessons learned, we propose a model of collaboration and offer insights that contribute to a body of literature on CBPR with FN and other Indigenous communities.

156. Interrelation of mental health and committing crimes against the sexual inviolability of minors in the Far North of the Russian Federation

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Public morals and the criminal law of the absolute majority of the countries of the world define "sexual violence against children" as a crime of a high degree. The experience of sexual assault is a serious threat to the health and psychological well-being of the individual and to society as a whole. This problem is also relevant for the Arctic regions. As one of the common types of criminal behavior in children and adolescents, crimes against sexual inviolability of minors have high latency, which in cases of domestic abuse, increased at times. A content analysis of 120 opinions psycho-psychiatric examinations carried out in respect of persons who have committed crimes against sexual inviolability of minors by experts of the "Arkhangelsk Regional Clinical Psychiatric Hospital" shows the influence of mental disorders on criminal behavior (more than 90% of subjects exhibit deviations psyche). Most mental abnormalities are alcohol dependence (57%), increased anxiety (42%), psychopathology brake type (23%), aggression (7%). Considering that only 5% of the subject revealed disorders of sexual preference (pedophilia), which are the reason for the compulsory measures of a medical nature, it can be concluded that in itself mental disorder still does not explain the person's behavior. Mental abnormalities impair volitional mechanisms arising sexual needs are not mediated by social taboos, which can lead to criminal sexual behavior, but by itself does not cause mental disorder inevitability of committing criminal sexual acts, having only an indirect value and is subject to social factors.

157. Inuit Childbirth in Canada: An Exploration of Place, Culture, and Health in Baffin Island, Nunavut

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Introduction: Inuit in Canada experience the highest infant mortality rate in the country and significantly higher rates of preterm births, stillbirths, and maternal health issues, as compared to non-Inuit. These differences result from a complex interaction of determinants, including smoking, food security, housing quality, and the availability and type of obstetrical care women receive. Baffin Island women often fly out of their communities for birth, and remain in southern hospitals for weeks (obstetric evacuation, OE). A qualitative study was conducted in Iqaluit, Nunavut to

characterize the connections between Inuit health, culture, and place, by hearing Inuit perspectives on (i) what childbirth was like historically, and presently, in communities; and (ii) how the healthcare system and obstetric policies in Canada may more fully reflect Inuit culture, knowledge, and conceptions of well-being.

Methods: Seven focus groups (conducted as two-day sewing groups), 24 semi-structured interviews, and 8 oral histories were conducted with pregnant Inuit women, community members, and Elders in Iqaluit.

Results: Based on the literature and preliminary data analysis, women report feeling isolated, lacking prenatal support, and receiving obstetrical care from a Western model incongruous with Indigenous teachings on well-being. Importantly, place-attachment – one’s psychological, emotional, and spiritual connection to the land – is central to Indigenous peoples’ well-being. As such, OE may have especially serious impacts on the well-being of Inuit mothers.

Conclusion: This study reveals intrinsic and integral connections between place, culture, and health in relation to Inuit experiences of OE, and proposes concrete recommendations for researchers, practitioners, and policy-makers to consider.

158. Inuit community perspectives and population health surveys: the example of the ‘Community Component’ of Qanuilirpitaa?, the 2017 Nunavik Health Survey

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Introduction: Understanding the salience of community conditions for health is necessary for health promotion efforts. Doing so requires new approaches and sources of data to describe community conditions in line with local knowledge, experience and meaning. We present a locally-informed framework conceptualizing community conditions relevant to Nunavimmiut’s health and well-being, as developed in the context of the ‘Community Component’ of Qanuilirpitaa?, the 2017 Nunavik Health Survey.

Methods: In 2016, workshops were conducted in two Nunavik communities to conceptualize community conditions important for health and well-being. With the concepts of inuqatigitsiarniq (the ties that bind people together) and pusiq (way of life or ‘core of things’, referring to both the strengths and values of the community), ten dimensions of community conditions emerged (e.g., family, community relationships). Data collection to characterized communities along the 10 dimensions took place in Fall 2017/Winter 2018, using three approaches: survey questionnaires; in-depth interviews with key informants; and mapping of local resources addressing the 10 dimensions.

Results: More than 1300 Nunavimmiut responded to the survey. In-depth interviews were conducted with 65 community members. Over 350 local resources related to one of the ten community dimensions were inventoried, characterized, and geo-located.

Discussion: The ultimate outcome of the Community Component is to identify ways that local factors contributing to community health can be recognized and enhanced, and areas where new programming and policy can be directed. The analysis and synthesis of the multiple sources of data will support community mobilization efforts championed by the region and the communities.

159. Inuit Qaujimagatuqangit and community-based participatory research: The alignment of Inuit and academic ways of knowing and doing in health research

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Introduction: The research processes that take place with Inuit communities are as important as the findings these studies reveal. There is a growing body of literature that highlights community-based participatory research (CBPR) as a successful research process for collaboration between Universities and Indigenous communities. However, missing from the literature are studies examining the alignment of CBPR with Indigenous ways of knowing.

Methods: This research project employed a case study approach to examine a CBPR project in Canada that aimed to adapt, pilot and utilize the Community Readiness Model (CRM) with Inuit communities to improve community readiness for HIV prevention interventions. This case study examined the alignment of the principles of Inuit Qaujimagatuqangit (Inuit ways of knowing) and CBPR. Two Eyed Seeing provided the conceptual framework for this case study and data was collected from CRM project documents, interviews with CRM project team members, and the researcher's reflective journal entries. Data was analyzed through thematic and template analysis.

Results: The results of this study provide an in-depth understanding of how Western (Academic) and Inuit ways of knowing interact within a CBPR study.

Conclusion: Examining CBPR and IQ as Western and Inuit ways of knowing that can be drawn on together in research is a step toward ensuring two ways of knowing can be upheld within research in equitable, culturally affirming ways. The findings from this study have utility across disciplines and build on a growing body of literature that takes a critical examination at research processes with Inuit communities.

160. Inunnguiniq Parenting Program: A made-in-Nunavut program based on Inuit knowledge

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First author's affiliation: Inunnguiniq, Qaujigiartiit Health Research Centre, Iqaluit, Canada

Inuit have an intentional process for childrearing called Inunnguiniq or "making a capable human being". Experiential learning from a young age helps build their skills, knowledge and capacity on the land and relationships with other people. The cultural expectation is that every child is able/enabled/capable to live a good life, contributing to working for the common good, helping others and making improvements for those to come. It describes culturally situated ethical and social/behavioural expectations, specific competencies and skill sets, and an adherence to a well-defined set of values, beliefs and principles which are foundational to the Inuit life view.

This philosophy is the foundation of a parenting program developed, piloted, and implemented by the Qaujigiartiit Health Research Centre in Iqaluit, Nunavut, Canada. In this presentation, we will tell the story of Inunnguiniq and the Inunnguiniq Parenting Program's development, reception, and expansion across Nunavut.

161. Inuusinni Aqqusaaqtara: An Inuit Cancer Project

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First author's affiliation: Pauktuutit Inuit Women of Canada, Pauktuutit Inuit Women of Canada, Ottawa, Canada

Introduction: Cancer is a leading cause of death among Inuit populations. Compared to the general population of Canada, Inuit have a higher incidence of lung, liver, oesophageal, nasopharyngeal, and salivary cancer. Pauktuutit Inuit Women of Canada is developing culturally appropriate cancer awareness tools and a toolkit to support community health representatives, health care providers and Inuit cancer patients.

Methodology: Pauktuutit Inuit Women of Canada and the Canadian Cancer Society are working in collaboration to develop meaningful ways to support better health, reduce cancer incidence, and increase prevention and early detection in the Inuit population. Inuusinni Aqqusaaqtara - My Journey – is a suite of cancer resources developed for Inuit patients, caregivers, and health care professionals with the aim of helping increase patient's health literacy and understanding of the disease, their diagnosis and treatment.

Results: The goal is to increase knowledge about cancer, to improve communication between Inuit cancer patients and non-Inuit health care providers, helps to dispel fear of cancer, enhance support services, promote mental wellness for newly diagnosed Inuit cancer patients, and improve overall quality of life of Inuit communities.

Conclusions: Pauktuutit's cancer resources are working to build cancer literacy, increase screening rates, encourage lifestyle changes to reduce cancer incidence and develop platforms for support at every stage of the cancer journey for cancer patients, caregivers and health practitioners. They will have a lasting impact on Inuit today and for generations to come.

162. Inuvialuit Data Platform Project

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Introduction: The Inuvialuit Regional Corporation (IRC), headquartered in Inuvik, NT, represents approximately 3000 Inuvialuit living in 6 communities in Canada's Western Arctic. Inuvialuit experience demonstrably poorer health outcomes than their non-Indigenous counterparts. Compounding this problem, effective development and evaluation of Inuvialuit Health and Wellness initiatives are hindered by insufficient Inuvialuit-specific health data.

Methods: IRC has developed strategic partnerships to resolve on-going health disparities. One such partnership is with the Hotii ts'eeda, a health research organization connecting health researchers and Indigenous communities. Together, the IRC and Hotii ts'eeda are creating a health data platform, in part through an innovative Inuvialuit Health Indicators Project that gathers and analyzes Inuvialuit-specific health indicators data for the purpose of supporting evidence-based health program planning.

Anticipated Results: 1) Improved decision-making for Inuvialuit health interventions; 2) Increased evidence-based priority setting for Inuvialuit health programs; 3) Improved planning, execution and effectiveness of Inuvialuit health research; and, 4) More effective inter-governmental cooperation.

Conclusion: The Inuvialuit Health Indicators Project addresses a significant gap in evidence essential for understanding and ultimately improving Inuvialuit health. The outcomes of the Inuvialuit Health Indicators Project will be a model for other Indigenous Governments seeking to enhance their health and wellness initiatives and improve the health of their members.

163. Keeping Our Traditions for the Mental Wellbeing of Our Youth: “What do we do at the fish camps when there’s no fish?”

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First author’s affiliation: Research, Arctic Institute of Community-based Research, Yukon, Canada, Whitehorse, Yukon Territory, Canada

Introduction: Fish camps along the Yukon and Pelly Rivers are a major source of food and way of life for Selkirk First Nation. Declining returns of salmon however puts the very existence of the fish camp tradition in jeopardy. Fish camps are at the heart of transferring traditional knowledge between Elders and youth; healing past traumas and promoting youth mental wellbeing; advancing food security; and encouraging an age-old responsibility to take care of the land. These concerns prompted the research question, “What will we do at the fish camps when there’s no fish?”

Methods: Guided by a local advisory committee, a fish camp survey, community meetings, winter fish camp and photovoice produced rich data, analyzed using NVIVO. The community Elders counselled that the research should result in action-oriented materials.

Results: Key strategies for keeping the fish camp traditions alive and ways to mitigate adverse impacts on salmon populations. The creation of a fish camp guidebook is one example of knowledge translation to promote youth mental wellness through land activities. The resilience and depth of knowledge of the Northern Tutchone people is a valuable asset in the face of changing environments.

Conclusion: The voice of Northern Tutchone in addressing declining salmon and climate change to the Yukon and Pelly River waterways is integral to overall global strategies to mitigate the impacts of climate changes upon human health. While youth face an uncertain future, this research has reaffirmed the importance of traditional knowledge and on the land activities.

164. Lack of trust in health and social professionals among reindeer-herding Sami

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First author’s affiliation: Public health and clinical medicine, Epidemiology and Global Health, The centre for rural medicine, Storuman, Sweden

Introduction: The aim of the study was to investigate the reasons for lack of trust by health and social professionals towards the reindeer-herding Sami people in northern Sweden.

Methods: In-depth interviews were conducted with nine Sami from Sweden’s largest community of reindeer-herding families. Modified snowball sampling was used to recruit subjects. The interviews covered health, illness, Sami medicine and healthcare seeking as well as issues around recognising the need for and obtaining social services. The interviews were analysed using thematic analysis.

Results: Three subthemes - operating at micro, meso and macro levels – emerged. This first concerns distrust. Distrust are associated with ignorance and questioning of the Sápmi, which is the cultural region inhabited by the Sami people. Distrust is culturally generated at a macro level but creating trust requires self-reflection and individual actions at a micro level. The second subtheme is understood at a meso level. This stresses that health care organisations need to become more like a snowmobile store and welcome customers independently of the services that are needed. The third subtheme has implications for population health at the macro level, and is related to conflicts between Sami people and other groups in society.

Conclusions: In order to improve trust and the use of healthcare and social services among Sami people, change is needed at micro, meso and macro levels. The reindeer-herding Sami people, the health care and social services organisations and the Swedish government all share responsibility for bringing about and improvements.

Keywords: indigenous people, Sami, reindeer-herding, lack of trust, experiences

165. Learning from Mothers and Grandmothers about Breastfeeding in the Northwest Territories Canada

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Introductions: Traditional practices of mothering are important to the identities of Indigenous women, families and their communities. Infant feeding is central to mothering. Traditional knowledge shared by Indigenous Elders is deeply respected in Canada's north and is alive in stories shared by grandmothers and great-grandmothers. Unfortunately, women's acquisition of breastfeeding knowledge and cultural practices were interrupted by the impact of colonization, patriarchy, residential schooling and subsequent loss of knowledge transmission between Elders and youth. The purpose of this presentation is to share findings about infant feeding practices in the Northwest Territories from mothers and grandmothers.

Methods: Sharing circles (n=5) occurred in 4 regions of the Northwest Territories with grandmothers (n=49) and semi-structured interviews were conducted with new mothers (n=24) in the fall of 2017.

Results: Traditional knowledge was gathered from grandmothers under three themes: mothering with resilience and resourcefulness, surviving hardships and rekindling past practices. Infant feeding practices were illuminated from new mothers and a video was created with key messages from grandmothers and mothers.

Conclusions: Community grandmothers are well positioned to be role models in supporting women in feeding their babies and addressing current mothering issues that occur in their communities. They wish to reclaim their roles and share their wisdom, support and advice to new mothers. Their words hold powerful messages for new mothers.

167. Levels of Contaminants in Human Populations in the Canadian Arctic

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First author's affiliation: Environmental Health Science and Research Bureau, Health Canada, Ottawa, Canada

Introduction: Levels of environmental contaminants, which are transported to the Arctic via air/water currents, have been shown to be elevated in northern populations, primarily Inuit. The Northern Contaminants Program (NCP) has recently completed a human health assessment report, which provides a summary of current knowledge regarding contaminants and human health in northern Canada.

Methods: Data from NCP funded studies were compiled to summarize levels of contaminants among Inuit children, pregnant mothers, women of childbearing age, and adult men and women. Data was also used to identify time trends and provide regional descriptive comparisons.

Results: This assessment found that concentrations of many contaminants remain elevated in some regions of northern Canada. This is primarily due to dietary exposure to contaminants from the consumption of certain traditional foods such as marine mammals. Inuit populations living in Nunavut and Nunavik, where traditional foods are typically eaten more frequently or in larger amounts, had higher levels of contaminants. Time trend data show declining levels of organochlorines and metals (such as mercury and lead), by up to 80% and 60% respectively, in pregnant Inuit women from Nunavik (1992-2013). Despite this, levels for several organochlorines, mercury and lead, remain elevated compared to the Canadian general population.

Conclusion: Strong time trend data are available for Nunavik; however more information is needed in other regions. New chemical groups have emerged in the Arctic; however human exposure data is still limited. Additional conclusions, knowledge gaps and recommendations for future northern studies are detailed in the NCP human health assessment.

171. Mapping Safer and Shorter Routes to Clinics and Camps for Nenets Reindeer Herders

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Introduction: Nenets reindeer herders migrate annually between summer and winter reindeer pastures. Our previous research demonstrated a strong relationship between the deteriorating permafrost, appearance of new open water on multi-generational migration routes, and the herders' capacity to guide and protect herds while attending to their own health needs.

Methods: We characterize impact of climate change on mobility and geographical access to village health clinics, cultural, and natural resources by analyzing high-resolution water surface data. We quantify inter-annual changes in distance between camps, health clinics, pastures, and sacred sites for more precise estimation of route duration and difficulty. We propose a prototype smartphone mapping interface for tuning this data into maps for informed decision-making in the field.

Results: Open water extent fluctuated significantly inter-annually and increased from 620 to over 800 km². We documented that since 1979 at least five established camps on Kanin were flooded and abandoned. Regression estimated that mean temperature anomalies during the fall transmigration in September–December have been rising by 1.4 degrees/decade since ($p < 0.001$). The rate of change was estimated at $+0.1351^{\circ}\text{C}/\text{year}$, $\text{SE}=0.0328$, 95%CI ($+0.0694, +0.2007$).

Conclusions: Later arrival of freezing temperatures in the autumn, followed by the earlier spring thaws and more open water creates barriers to transmigration and reduces access to health clinics and other resources vital to herders. When traversing this waterlogged terrain recent transmigrations take longer and leave less time for herders to access care at village clinics. This project addresses the need to protect subsistence lifestyles by providing tools for decision support to enable herders to better navigate their changing landscape.

172. Marginalized Greenlanders in Denmark and the impact of current initiatives

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First author's affiliation: Department of Health Sciences, Associate Director Centre for Rural and Northern Health Research, Lakehead University, Thunder Bay, Canada

Background: While most Greenlanders in Denmark are doing well, a minority group (6-10%) live under marginalized and socially isolated circumstances most (about 1/3) in the larger cities of Aarhus, Odense, Aalborg, Esbjerg and Copenhagen. Nation-wide initiatives (projects) to help improve the living conditions of this minority group were launched in 2013 and four follow-up initiatives (transition and peer support; Strategy for marginalized Greenlanders; the Inclusion initiative; securing of unique supports for marginalized Greenlanders) commenced in 2017, spreading beyond the five initial cities. Currently little is known about the outcome of the follow-up initiatives and about how marginalized Greenlanders living outside the five initial major cities are faring.

Methods: Through document review and qualitative interviews with project leaders and frontline workers we give an overview of the current situation for marginalized Greenlanders in Denmark and a point in time status of the four initiatives underway.

Findings: Similar to other persons living under marginalized circumstances in Denmark, marginalized Greenlanders are heterogeneous, have differentiated needs and respond to initiatives in diverse ways. In order to be able to support individuals in the best way possible trusting relationships must be developed and the small changes for the better in the social circumstances and general living conditions of an individual are time intensive but also perceived to be successes.

Conclusion: In order to support marginalized Greenlanders as best as possible and with the goal of positive integration in the local milieu, individualized approaches with continued frontline worker contact and longer term initiatives are necessary.

175. Medical-geographical analysis of distribution of natural focal diseases in Yamalo-Nenets Autonomous Okrug (West Siberia) accounting for climate change

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Introduction: Natural focal diseases are a serious danger to human health including in the Arctic. The climatic factor is deemed one of the main determinants for their spread. The purpose of this study is to analyze the situation on natural focal diseases in YNAO and to develop recommendations for improve the technical characteristics and monitoring capabilities of SMEAR-type stations (Station for Measuring Ecosystem-Atmosphere Relations) (www.atm.helsinki.fi/globalsmear/) for obtain new knowledge about the natural focal diseases and the possibilities of early diagnostics of epidemiological hazards.

Methods: The statistical data on the natural focal diseases morbidity for a twenty-year period (1997-2016) and meteorological data were used. A number of new methodological solutions have been proposed, in particular, a cartographic methodology for transforming statistical data for the transition from administrative units to natural geographic mapping units.

Results: The series of maps were created as a result of this research. Maps shown the morbidity level of natural-focal diseases in the region, the dynamics of morbidity and links between diseases distribution and climatic conditions on territory. In addition, the first recommendations on using the SMEAR stations for forecasting the epidemiological situation in the region were developed.

Conclusions: PEEX (Pan-Eurasian Experiment international program) (www.atm.helsinki.fi/peex/index.php) is aimed at development of a new environmental monitoring system (based on the network of SMEAR-type stations), covering quantitative characteristics of both abiotic (traditionally measured) and biotic factors, characterizing the state of the ecosystem as a whole. Potentially, this system can allow for monitoring of especially dangerous diseases at a principally new level.

176. Mental Health Resilience in Nunavut, Canada: Stressors and Practices for Maintaining Wellness in Three Inuit Communities

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Introduction: In 2013, a record 45 suicides occurred in Nunavut, Canada, mostly among young Inuit men. While many studies have focused on mental illness and suicidality in this Arctic territory, wellness practices utilized during times of stress to sustain mental wellbeing remain poorly understood. We aimed to explore the practices used by Nunavummiut in three communities to stay mentally resilient through difficult experiences.

Methods: A semi-structured interview guide and demographic and mental health questionnaire were deployed in August and September 2015 with 55 participants (23 in Iqaluit, 18 in Rankin Inlet, and 14 in Pond Inlet). Interviews were transcribed and translated from Inuktitut as necessary. A constant comparison approach was applied in generating a coding scheme and final code structure to identify emergent themes.

Results: Stressors threatening participants' mental wellness include the negative role of alcohol in the home or community, financial and food insecurity, a lack of recreational or community activities, and personal trauma ("hearing music that you don't like" with "headphones that you can't take off"). Common mental wellness practices include turning to family or friends for psychosocial comfort, engagement with one's faith or cultural traditions, going out on the land ("better than therapy"), and self-soothing or emotion-focused coping ("feeling it through").

Conclusions: Our findings reveal opportunities for sustainable, cost-effective interventions that support and strengthen positive mental health behaviors already practiced by many Nunavummiut. Continued partnership with communities is vital for maximizing the potential impact of strategies for preventing poor mental health and suicide in Nunavut.

177. Mental health services in the Northwest Territories: A scoping review

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Introduction: The colonial history of the Indigenous Peoples in Canada has negatively impacted mental health and wellness in the Northwest Territories (NWT). Mental health services can be challenging to provide because of remote populations and limited resources addressing these unique mental health needs. It is important that communities have access to services in a culturally relevant way in achieving mental and community wellness. The objective of this research is to identify mental health services on national, territorial, regional and community levels. These services will then be organized using the First Nations' Mental Wellness Continuum Model (FNMWCM) to further understand the landscape of these services.

Methods: A scoping review of grey literature was conducted to collect data on mental health and wellness services in the NWT.

Results: Data was collected and extracted; 68 mental health services were included in this review, from 41 different sources. Results were summarized and described by jurisdiction, where it was offered and location on the Continuum of Essential Services from the FNMWCM.

Discussion: This approach is useful for mapping mental health services for communities in the NWT. It highlights existing mental health services and gaps. Common themes and strengths emerged through the mapping of the mental health services, such: culture, social determinants of health, collaboration with partners and northern, rural and remote considerations. This data can identify gaps in services based on the FNMWCM, and guide communities and health authorities in planning, implementing and coordinating a full range of optimized mental health services in the NWT.

178. Mine, yours or ours? Income inequality and mental health in Northern Sweden

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Background: The relationship between income and population health has received considerable attention in the last decades. Three main explanations of the relationship have been identified: the absolute, the contextual, and the relative income effects hypotheses. The evidence about their relevance, particularly in egalitarian societies like the Scandinavian one, is however inconsistent. The present study aimed to test the three hypotheses in relation to psychological distress in northern Sweden.

Methods: Data come from the 2014 cross-sectional survey "Health on equal terms", from the four northern-most counties in Sweden, and included people 25-84 years (n=21,004). Psychological distress was measured by the General Health Questionnaire-12 and information on income came from population registers. Absolute income was operationalized by individual disposable income, contextual income as the municipal-level Gini coefficient and relative income by the Yitzaki index.

Results: First, a strong individual income gradient in mental ill health was observed, with the very poor more likely to report poor health (PR=1.56; 95% CI=1.19, 2.04) compared to the highest income quintile. Second, municipalities in the quintiles 2-4 of the Gini coefficient had a better mental health than those municipalities in the extremes of the distribution. Third, a clear statistically significant association of relative deprivation and ill mental health was also found (PR=1.37 95% CI=1.06, 1.76).

Conclusion: This study suggests a strong, moderate and lack of support for the absolute, relative and contextual income effect hypotheses, respectively. Interventions targeting a reduction in the individual income gap are probably necessary in order to reduce psychosocial distress differences in this population of northern Sweden.

179. Mobilizing action on violence prevention in Eeyou Istchee: Learning from Elders, engaging youth, and creating supportive social environments for health throughout the life course

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Introduction: The World Health Organization categorizes violence as collective (e.g. colonization, systemic racism), interpersonal (e.g. intimate partner violence, child neglect) or self-directed (e.g. suicide), and often these are inter-related. Preventing violence is an important public health and social challenge worldwide. We describe the approach taken by the Public Health Department in Eeyou Istchee to start a dialogue on violence prevention and foster a social movement to promote wider change.

Methods: A multi-modal approach was used to better understand local challenges, identify intersectoral partners and existing strategies, and co-create culturally adapted interventions for promoting healthy and safe communities.

Results: Many local partners deal with various aspects of violence prevention including people working in law enforcement, justice, youth protection, women's health, education, mental health and suicide prevention. At an annual Youth Assembly, "youth champions" expressed the need for more couples counselling, parenting classes, traditional healing, Elder mentorship, as well as communication and life skills programs. Elders spoke about the importance of role modelling and leading by example as a way of transmitting Cree Family Values such as respect,

sharing and caring for family. Elders traditionally played an important role in early identification and resolution of potential conflicts.

Conclusions: Violence prevention requires broad mobilization of multiple intersectoral partners to develop a shared language and understanding of the root causes of violence (e.g. intergenerational trauma from residential schools, etc.) and constructive approaches to preventing violence (e.g. shift from lateral violence to lateral kindness), and thereby create supportive environments for health across the life course.

181. Monitoring of treatment of patients with diabetes mellitus in remote regions of the Arctic zone of the Russian Federation using electronic mobile app

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Introduction: Nenets Autonomous Okrug (NAO) is the most sparsely populated region of the Russian Federation. Diabetes mellitus (DM) was diagnosed in 2.93% of the population. The actual problem is the providing of specialized medical care for people with diabetes living in remote villages of the NAO.

Methods: We evaluated usability, efficiency in control of DM and the possibility of remote communication "doctor-patient" using the electronic application "Diabetes Diary" by patients with DM. It's data transfer via remote coded access to a doctor. The study was participated by 6 young adults and 3 teenagers with diabetes.

Results: Patients with DM were studied to use mobile applications in treatment. They kept diaries of self-control in a smartphone: entered the amount of carbohydrate, the quantity of the made insulin, blood glucose levels, duration of physical activity, the weight. All participants noted the ease of use of applications in everyday life, recording the results of self monitoring of blood glucose, less likely to forget to fill in the diary. It became easier to identify trends of glycemia, to analyze the causes of hypo- and hyperglycemia. Adolescents indicated that they began to use the app and in the company of friends. The transfer of the diary data by the patient to physician via the password-protected Internet connection, most relevant to the use of the residents of remote settlements of the NAO. The transmitted information is displayed in graphs, which you can use to assess the dynamics of glycemia, insulin dose, etc. Using the app even for several days contributed to the improvement of diabetes control in patients.

Conclusions: It shows the convenience and efficiency of mobile application "Diabetes Diary" to improve monitoring of disease through remote access without direct contact with the doctor in the conditions of inaccessibility of the settlements of the Arctic territories of Russia.

183. "Moving Circumpolar Health Forward" in indigenous communities, with maternal and infant health leading the way

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Introduction: Indigenous maternal and infant health is the core of community health. Because of recent historical trends of health disparities, however, programs have developed with a focus of getting women to healthcare facilities—frequently far away from their home communities, isolating them and placing them at a disadvantage with

lack of family and community support. With birth situated outside these indigenous communities, it is understandable that disparities in prenatal care continue to widen.

Methods: This study aims to spark interest in Alaska Native communities to support efforts that “close the gap,” as suggested among Australian and Canadian First Nations communities. By looking to the communities themselves for involvement in a more translational and holistic fashion than present, momentum in areas like maternal tobacco cessation and prenatal alcohol consumption can be addressed more effectively.

Results: Indigenous community participants will devise tactics to achieve active involvement in everything from Alaska Native-based youth programs (like Native Youth Olympics, Basketball, and other sports programs) to access to sex education and support of local clinics providing STD and pregnancy testing and counseling by mentors of healthy relationships in their area.

Conclusions: Only when projects with central aims to reduce prevalence of preventable conditions like FASD, STDs, or high suicide rates in indigenous communities take a more community-based, holistic approach, will these programs move forward toward healthier communities. Success in these tough, seemingly persistent areas is more likely where the tactics for facing these dilemmas rise from within the communities, paving the way for positive change.

184. Moving to a new house in Nunavik and Nunavut: assessing the associations between changes in housing conditions and improvement in mental health

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Introduction: In 2014-2015, investments in social housing permitted the construction of more than 400 new social housing units in Nunavut and Nunavik. The objective of this study is to identify changes in housing conditions with the potential to improve mental health among Inuit adults.

Methods: In collaboration with Inuit organizations, a pre-post study was conducted, without control group, to which 102 Inuit adults participated. People ranked at the top of the waitlist for social housing were recruited by local housing officers. Indicators were measured 1-6 months before moving, and 15-18 after: crowding (number of people per room), housing quality (number of problems with the house), sense of home (score), and psychological distress (Kessler 6-item score). Associations between changes in all indicators, adjusting for individuals' covariates, were estimated using multilevel linear regression models.

Results: Decrease in crowding was not directly linked to improvement in psychological distress, but was significantly associated with increase in sense of home ($p=0.015$), which in turn was associated with decrease in psychological distress ($p=0.009$). Improvements in housing quality was significantly associated with both increase in sense of home ($p=0.015$), and decrease in psychological distress ($p=0.003$).

Conclusions: Our results suggest that improvements in crowding and housing quality have the potential to improve mental health among Inuit adults living in Nunavut and Nunavik, although for crowding the effect seems to transit through increases in 'sense of home'. Partner organizations intent to use these results to inform housing and public health strategies.

185. Moving to a new house in the Arctic: Significant improvements in housing conditions and in psychosocial and physical health outcomes

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Introduction: In 2014-2015, over 400 social housing units were constructed in Nunavik and Nunavut. This presentation describes changes in housing conditions and psychosocial and physical health outcomes of participants before and after moving to a new house.

Methods: The study was developed according to an integrated knowledge translation approach, in partnership with several Inuit organizations. Households ranked at the top of the waitlist for social housing were recruited by local housing officers, in 12 communities in Nunavik and Nunavut. Of the 179 Inuit adults who moved to a new house, 102 completed the study. Questionnaires were administered 1-6 months before moving, and 15-18 months after, to measure pre-post housing conditions and health outcomes.

Results: Participants (57% women, mean age 31) had been on the waitlist for 42 months on average at baseline. After moving, the proportion of participants living in overcrowded dwellings and in dwellings needing major repairs significantly decreased ($p < 0.001$). Sense of home, including factors such as perception of space, control, privacy, identity with the house, relationships, significantly improved ($p < 0.001$). Improvements were observed in asthma symptoms ($p = 0.004$), mental health ($p < 0.001$) stress in daily life ($p = 0.025$), and sense of mastery ($p = 0.002$), while food security and self-rated general health did not change. Finally, housing wealth decreased after moving ($p < 0.001$).

Conclusion: Results suggest that more housing can contribute to improving health and well-being in Nunavik and Nunavut. Integration of housing, social and health policies are potential avenues to maximize benefits of new housing construction and to avoid or mitigate unintended effects.

186. "My stomach recognizes this food": A One Health approach to increasing access to traditional food in Nunavut hospitals and community programs

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Introduction: Traditional food is an excellent source of nutrition and a preferred food for the majority of Nunavummiut; however accessing "country food" can be a challenge for the most nutritionally vulnerable. Barriers exist to offering country food in hospitals and community programs.

Methods: The Government of Nunavut Department of Health and the Nunavut Food Security Coalition undertook to increase access to traditional food in government funded programs and facilities. An extensive environmental scan and zoonotic disease literature review were undertaken. Key informant interviews ($n = 30$) and focus groups with regional hunter organizations, Inuit organizations, public health officials, and country food suppliers informed the creation of guidelines for acquiring, storing, preparing, and serving country food.

Results: Guidelines for offering traditional food in facilities and programs support purchasing of country food from experienced hunters, HTOs, and encourage offering traditional food in a familiar way, focusing on fish, seal, caribou, walrus, whale and muskox.

Conclusions: Guidelines for providing country food have supported pilot projects to increase access to traditional food in a hospital and a community- based setting. Country food has been introduced to hospital patients in Iqaluit 3 days per week, with a focus on fish and seal, in particular making seal broth available to breastfeeding women. A community pilot project introduced country food access to prenatal programs and local schools. Various resources have been developed to support country food provision for the most nutritionally vulnerable Nunavummiut.

188. National vision screening of Greenlandic schoolchildren. Preliminary results.

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Introduction: In Greenland, it would be of great importance if local healthcare professionals were able to find children who need to be seen by an ophthalmologist. According to the present screening method, children are referred when the visual acuity (VA) is less than 6/9,5. The goal of the present study is to suggest a better program.

Methods

All children in the first grade starting August 2017 were invited. The healthcare professionals received 2 days of training and all tests were provided as part of the project. The screening included measurement of VA for distance and near using the HVOT test, Lang II test for testing the stereoscopic vision and refraction by an autorefractor (PlusOptix).

Results: A total of 387 children have been included so far. Thirty-three children were known to ophthalmologists, 22 children wore glasses. Twenty-six children were referred for further examination, of these 10 would have passed the former screening. We found 9% with a binocular VA for distance 6/9,5. The autorefractor showed that 2% were myopic more than -1.0 Diopters (D), and 5% were hypermetropic above +2.0 D.

Conclusion: Reduced VA and strabismus has to be diagnosed as early as possible, and a useful, accessible screening method is necessary to detect these problems. This study has shown that it is possible to perform screening in schools and that healthcare professionals are able to detect children with possible visual problems. We expect to do a follow up examination by an ophthalmologist.

189. Naturally Curious: Engaging Inuit Youth to Talk About Sexually Transmitted and Blood Borne Infections

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Introduction: The goal is to increase the capacity and ability of parents, caregivers, frontline workers and others to communicate with Inuit youth about healthy sexual behavior with a view to significantly reducing prevalence of high-risk behaviours related to the spread of sexually transmitted and blood borne infections (STBBIs) across Inuit Nunangat.

Methods: A pre-campaign survey of adults, youth (age 18 to 30 years) and community champions was completed in eight communities across Inuit Nunangat. The surveys gathered preliminary data about STBBI and community-level awareness of how and where to be tested and to receive information. This data helped inform the development of a toolkit and strategy called Naturally Curious, as well as highlighting gaps in knowledge, misperceptions and barriers to talking to youth about sexual health.

Results: New resources and key messages were developed for delivery through mixed media and social media and pilot-tested in the communities. Post-campaign surveys and interviews with community champions tracked engagement and assessed community-level impact of the new resources.

Conclusions: Pauktuutit anticipates the outcomes to include the prevention of STBBIs by making Inuit adults and youth feel more comfortable talking about sex, to encourage youth to get tested if they are at risk of getting an STBBI, and to help prevent high risk behaviours that may increase the risk of STBBIs.

191. Neurologic diseases and mortality in children and adolescents with epilepsy in Greenland and Denmark - a register based study.

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First author's affiliation: Section for Greenland Research, Department of Epidemiology Research, Statens Serum Institut, Copenhagen, Denmark

Objective: The objective of this study was to investigate possible causes of a significantly higher incidence of epilepsy in children in Greenland compared with Denmark. Neurologic diseases (ND) were investigated as possible risk factors for epilepsy. The effect of both specific NDs and the number of NDs were evaluated. Furthermore, the mortality of children with epilepsy (CWE) in Greenland and Denmark was estimated.

Method: The study population consisted of all children aged 0-18 years in Greenland and Denmark in the period 1994-2014. This register-based cohort study identified and followed children through the Civil Registration System and national patient registers in Greenland and Denmark. Diagnose codes for epilepsy and NDs were selected in ICD8 and ICD10. Outcomes were incidence rates, hazard ratios (HR) and mortality rates (MR).

Results: All NDs were associated with a significantly higher risk of subsequent epilepsy compared with not having the specific ND within the same country. Furthermore, the risk of epilepsy increased for each added ND. When evaluating the effect of being a child in Greenland compared with Denmark in terms of later epilepsy, we found a significantly higher HR of the groups: other birth complications, infectious and inflammatory CNS diseases, and febrile seizures. CWE aged 0-18 years had a MR of 6.6% (95% CI: 3.9–10.9) in Greenland and 4.6% (95% CI: 3.9–5.4) in Denmark. This was 1.7 and 15.3 times higher than matches in Greenland and Denmark, respectively.

Conclusion: The morbidity of some NDs could partly explain a higher epilepsy incidence in Greenland.

192. Northern Indigenous Kehtehayak (elderly) Caregiving

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Northern Indigenous Caregivers need help in caregiving their Kehtehayak (elderly). That is the message of a small study recently done on the caregiving experiences of Indigenous family caregivers in north-eastern Saskatchewan, Canada. The Northern Aboriginal Caregivers project (2016-2017) and funded by CIHR, Strategy for Patient-Oriented Research, and the University of Saskatchewan, International Centre for Northern Governance and Development.

Guided by a community advisory committee, the project conducted a qualitative survey to explore caregiver ideas towards improving elderly-care at home, in hospitals and long-term care facilities.

The emergent results included health education (staff, families), addressing language, culture and jurisdictional barriers, increasing social and economic supports, and ensuring culturally safe environments for the elderly. Indigenous Elderly health services are not well addressed. For example, a 2011 Parliamentary report noted the need to build capacity for the delivery of adequate palliative care to Indigenous Nations as well as research and education that better understands the culture and resource challenges of remote and rural communities. For Kehtehayak, good health is a daily life struggle as they lose their independence and mobility because of chronic illnesses that come with aging, all of which are often exacerbated by family responsibilities and financial problems. Chronic health conditions, such as diabetes, respiratory and cardiovascular problems, and dementia, can force them into difficult situations with health care systems. This study can help inform research, and healthcare policy and services towards improving the

quality, accountability, and accessibility of health care and support services for the Indigenous Elderly and their families.

193. Northern Physicians as Researchers: Not a Remote Possibility

Heeley, T. Asghari, S. Doherty, S. Graham, W. Bethune, C.

First author's affiliation: Centre for Rural Health Studies, Memorial University of Newfoundland, St. John's, Canada

Introduction: The Canadian health system has been criticized for a disparity in care provided to Northern patients versus the rest of the country. Northern physicians are intimately aware of the unique healthcare problems in their communities and thus are well positioned to research solutions for them. While barriers like geographical and professional isolation can block Northern physicians from this pursuit, Memorial University's Faculty of Medicine (Newfoundland, Canada) has established an intensive research training program for remote physicians called 6for6 that helps participants move past their barriers and conduct solution-focused research in and for their communities.

Methods: 6for6 is a year-long research training retreat where six remote physicians attend six weekend sessions and receive dedicated, sustained research support, education, resources, mentorship and assistance. Seminar topics start with an introduction to research and include performing a literature search, mixed methods research, writing an original manuscript, and more. After completing an initial pilot in 2014, 6for6 is undergoing a comprehensive evaluation involving quantitative (pre-post surveys) and qualitative (interviews, focus groups) approaches to identify the strengths of the program and opportunities for improvement.

Results: 6for6 has supported 24 participants of which 9 were very Northern or remote and undertook projects ranging from a systematic review of post-partum hemorrhage in Inuit women to profiling aeromedical evacuations in Labrador. Participants report that 6for6 is rurally relevant, supportive and has improved their research skills. They have produced peer-reviewed articles and achieved grants.

Conclusions: 6for6 is catalyzing a culture of research in Northern Canada, empowering Northern physicians to develop Northern solutions for Northern problems.

194. Northern Plights: The Scope of Postpartum Hemorrhage in Circumpolar Inuit

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Introduction: Clinical experience from Qikiqtaaluk region of Nunavut suggests Inuit women have high rates of postpartum hemorrhage (PPH) but this important cause of maternal morbidity and mortality has drawn little attention. We performed a scoping review to outline existing knowledge, identify knowledge gaps, and inform further research on PPH in Inuit and other rural-dwelling Indigenous women (RDIW).

Methods: A librarian-guided, systematic search identified peer-reviewed articles and grey literature regarding PPH in RDIW that met all inclusion criteria: 1) indigenous women as the population; 2) rural and remote areas as the setting and; 3) PPH as the outcome. These articles were examined for PPH incidence, outcomes and risk factors. Two reviewers independently assessed the quality of evidence and extracted the data.

Results: Initially 177 peer-reviewed and 503 grey literature articles were identified; 11 remained after relevance-based elimination. Incidence was reported by 9 articles, maternal outcomes in 7, and risk factors in 5. PPH incidence was increased in all RDIW compared to non-indigenous women and was highest in Inuit populations (5.6%-56.5%). Transfusion rates in cases were similar (3.4%-32.1% for Inuit, 8.3%-34.4% for other RDIW). Besides indigenous ethnicity there was very little data on other potential risk factors for PPH.

Conclusions: This scoping review demonstrates an increased risk of PPH in Inuit women and RDIW at large. Further research is needed to address the considerable knowledge gaps in the understanding of PPH in Inuit women and RDIW.

197. Novel pathogenic variant in the POU3F4 gene associated with the X-linked deafness-2 (DFNX2) in Yakut family (Eastern Siberia, Russia)

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First author's affiliation: Department of Molecular Genetics, Yakut Science Centre of Complex Medical Problems, Yakutsk, Russia

Introduction: One of the common forms of X-linked deafness is X-linked deafness-2 (DFNX2) caused by pathogenic variants in gene POU3F4 (Xq21). However, data on the clinical characteristics and the outcomes of patients with different pathogenic POU3F4 variants causing DFNX2 are scarce for populations worldwide.

Materials and Methods: We conducted comprehensive clinical examination including computed tomography, audiological examination, magnetic resonance imaging, and stabilometric examination of four members of one Yakut family (two affected half-siblings and their non-affected parents) with DFNX2 associated with novel variant in the POU3F4 gene.

Results and Discussion: We report a novel hemizygous transition c.975G>A (p.Trp325*) in POU3F4 gene found in two deaf half-brothers from one Yakut family (Eastern Siberia, Russia) with identical inner ear abnormalities ("corkscrew" cochlea with an absence of modiolus) specific to DFNX2. Comprehensive clinical evaluation of available members of this family revealed both already known (mixed progressive hearing loss) and additional (enlargement of semicircular canals and postural disorders) clinical DFNX2 features in affected males with c.975G>A (p.Trp325*). Moreover, mild enlargement of semicircular canals, postural abnormalities and different types of hearing thresholds were found in female carrier of this POU3F4-variant.

Conclusion: The data from comprehensive clinical evaluation of four members of this family expand clinical information both for the DFNX2-affected males and for the female carriers of the pathogenic variants in the POU3F4 gene.

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198. Nursing Education’s Response to the Canadian Truth and Reconciliation Commission Calls to Action: Community Engagement and Reconciliation in one Canadian University College of Nursing

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First author’s affiliation: Assitant Vice Provost Health, University of Saskatchewan, Saskatoon, Canada

Introduction: Canada’s Truth and Reconciliation Commission released its Calls to Action in 2015. Several calls were directed at the health care system. Others were directed at nursing and medical education, to increase the number of Indigenous health-care providers and improve professional education about cultural competency, Aboriginal health, and traditional healing practices. Twenty five percent of the province of Saskatchewan’s Indigenous population live in the north, in small, widely dispersed communities. Eighty-five percent of the province’s northern population is Indigenous.

Methods: The College of Nursing, separately and as a part of the University of Saskatchewan has made Indigenous engagement and success one of its core objectives.

Results: The College has worked to eliminate the educational gap through creation of northern program delivery and articulation of a pathway to promote Indigenous student success. It has reviewed its programming with respect to integration of post-colonial understanding, Indigenous views of health and health practices. It has developed strong northern partnerships and has participated in establishing a global Northern Nursing Education Network. This work supports and is supported by efforts at the University level. The University has ensured strong senior Indigenous leadership, revised its Learning Charter to be inclusive of Indigenous ways of knowing, and developed partnership agreements with several Indigenous organizations. A satellite campus will serve as a gateway to northern University initiatives. A Northern Strategy will articulate the University’s commitment to northern communities.

Conclusions: Creation of a northern Indigenous health workforce requires vision, commitment, respect, and community engagement to effectively move toward reconciliation.

199. Nursing research in rural areas in Norway; a scoping review

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Introduction: In Norway, many areas can be classified as rural on climatic, geographic or demographic grounds. The rural context means that nurses and patients face

circumstances and situations that are different, or do not occur in urban areas. The aim of this study was to identify existing research literature to ascertain what is known about nursing in rural areas of Norway.

Methods: Scoping review, following Arksey and O`Malley`s methodological framework was used. A total of 111 articles were identified from searching five databases, twenty articles were included.

Results: This study gives an overview of rural descriptions and also provides a geographic presentation of areas categorized as rural in existing Norwegian nursing research. Only eight of the twenty articles described the rural context.

Conclusions: The lack of descriptions makes it difficult to compare and conclude on causal relationships in the field. Increased awareness and more research into challenges that confront patients and nurses in rural settings in Norway is needed.

200. Observations on dental health in Nunavut

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Method: The data was gathered by a practising dentist from April 2014 to December 2016 in the majority of the communities in Nunavut. During that period approximately 3,000 patients received treatment.

Findings: Patients in Nunavut had a very high prevalence of diseased, missing and filled teeth compared to communities further south. Many patients lived with constant dental pain. Compromised dentition also meant patients were less likely to be able to chew meat, which for these communities is a traditional source of protein. Poor dental health can therefore be an important contributing factor to a poor diet, which can lead to an overall decline in health and serious complications such as heart disease and diabetes.

Conclusion: As with many health-related issues, the causes of poor dental health are manifold, therefore addressing these issues is complex. It is difficult to organise the effective delivery of healthcare in the region, so a focus on education and prevention is likely to lead to the best results. This might be achieved by measures such as improved communication between healthcare and other professionals in the region and by raising awareness of the importance of dental hygiene in the community, particularly in schools.

202. Omega-3 fatty acids and risk of first cardiovascular event in Greenlandic Inuit: A prospective cohort study.

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Introduction: Incidences of cardiovascular diseases (CVD) are rising in Greenland concurrent with a westernization of diet. The objective was to assess the association between the concentration of eicosapentaenoic acid and docosahexaenoic acid in the erythrocyte membrane (omega-3 index) and CVD risk in Inuit.

Methods: This prospective cohort study used data from 'Inuit Health in Transition Greenland survey 2005-2010' with follow-up in national health registers. The main outcome was total CVD incidence among participants without previous CVD. The continuous effect of the omega-3 index was calculated as incidence rate ratios (IRR) using Poisson regression with age as time scale, adjusting for: 1. age, sex, European genetic admixture; 2. lifestyle risk factors; 3. dietary risk factors; 4. possible effect modifiers.

Results: Complete data on all variables was available for 2213 out of 3098 eligible participants. During a median follow-up of 6.6 years, 89 had their first CVD event (6.5 events/1000 person years).

No effect of the omega-3 index on CVD risk was seen, with IRR=0.98 in the first (95% CI: 0.93-1.04, p=0.47). Females had a significantly lower incidence rate than males (IRR=0.62, 95% CI: 0.40-0.94), and the rate was increasing with age (1.09, 95% CI: 1.07-1.10). Of the remaining variables, only fruit/vegetables had an effect, though harmful and barely significant.

Conclusions: There does not seem to be an effect of the omega-3 index on CVD risk in Inuit. The narrow confidence interval does not suggest a power problem, though confounding is possible. Longer follow-up and multiple imputations of missing information are needed.

203. Oncological treatment and outcome of colorectal cancer in Greenland

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Background: Oncological treatment of colorectal cancer (CRC) has been available in Greenland since 2004. Treatment is provided by the Queen Ingrid's Hospital (QIH), Nuuk, under supervision from the Department of Oncology at Rigshospitalet, Copenhagen, Denmark. We describe patient characteristics, oncological treatment and survival for the first eight years of CRC treatment.

Material and methods: Observational cohort study of all patients in Greenland diagnosed with histologically verified CRC from August 2004 to August 2012. Data were collected from clinical registries on August 2017. Analyses were stratified according to Union for International Cancer Control (UICC) stage, and compared with reported data from CRC patients in Denmark.

Results: 180 patients were included in the analysis. Median age at diagnosis was 65 years (range 23-92). Stage I, II, III, and IV comprised 15%, 34%, 23%, and 23%, respectively. Five % presented with unknown stage. A total of 51% received oncological treatment. 79 % of patients with stage III disease received adjuvant chemotherapy, 61% of patients with metastatic CRC received palliative chemotherapy. Five-year survival was 48 % and 53% for colon and rectum cancer respectively. Overall survival was higher in men than in women, although statistically insignificant; adjusted hazard ratio for death (women vs men) =1.46 (95% CI=0.97-2.19).

Conclusion: Stage distribution, provision of oncological treatment and 5-year survival were comparable to patients diagnosed and treated in Denmark.

205. Online teaching of nursing students from Greenland in scientific subjects, - experiences and reflections

Karas, N.

First author's affiliation: Nursing Education, Vejle, University College Lillebaelt, Vejle, Denmark

Introduction: Since 2015, Nursing students of Ilisimatusarfik University of Greenland have received a large part of lessons in scientific subjects online, taught by lecturers from UCL, Denmark. Learning outcome, experiences and didactic reflections on the online course will be presented.

Methods: Scientific subjects in the 1st. semester of the nursing degree program cover 14 ECTS. Some of these lessons were offered as classroom teaching in Nuuk, while the main part was carried out online. We monitored the learning outcome of these cohorts of students by comparing their grades to those of former cohorts. Added to this, we did repeated in-process evaluation with students and other stake holders as well as collecting non-systematic feedback from teachers and students in a log.

Results: With regard to learning outcome, exam results in scientific subjects at the end of semester 1 have improved. As for the in-process evaluation, the faculty reports, that students involved in online classes gain generic competences in the use of IT as well as demonstrating a higher degree of independence and initiative as students. Students, however, in their evaluations express a wish for more classroom teaching and more feedback on their performance.

Conclusions: Online teaching seems suitable for substituting fairly short and compact courses in scientific subjects. In order to maintain student motivation and to secure the necessary level and quality of feedback in online courses however, there is a need to develop and test innovative teaching and learning activities different from traditional classroom lessons and targeted online courses.

207. Our People, Our Health: Envisioning to Improve Primary Healthcare in Manitoba First Nation communities.

Kyoon-Achan, G. Avery Kinew, K. Phillips-Beck, W. Sinclair, S. Lavoie, J. Katz, A.
First author's affiliation: Family Medicine, University of Manitoba, Winnipeg, Canada

Introduction: Recognizing the right of self-determination of indigenous peoples is essential to improve the state of health of First Nations, Inuit and Metis peoples in Canada. Understanding communities' priorities and community-based health agendas is critical for primary healthcare transformation. One purpose of this study was to understand existing strengths in First Nations communities. We asked participants to envision optimal healthcare systems that would be innovative and transformative.

Methods: Qualitative study using community-based participatory approach to engage 8 First Nations communities. Questions were co-developed by university-based researchers, Nanaandawewiwgamig and community partners. 199 interviews were conducted by community-based local research assistants. Data was collaboratively analyzed through process involving community partners.

Results: Key themes likely to transform community-based primary healthcare include: primary prevention focused on health determinants affecting various communities (housing, water, employment, education), an integrated healthcare system providing access to both western and First Nation traditional healthcare, expanded services to meet specific needs as identified by communities, infrastructure improvement, continuity of care, investing in community-based human resources, investing in traditional health knowledge and land based activities, support for ongoing culturally based quality assessments and improvement, increased mental health services including appropriate addictions counseling. Specific roles were identified at four levels; individual, community, local leadership and government.

Conclusion: Optimal community-based primary healthcare would place people and community at the centre of care as leaders; strategies would be culturally respectful, responsive, geographically sensitive, and outcomes-oriented. This could be achieved by acknowledging and supporting local health priorities rather than imposing contextually irrelevant solutions.

208. Patient involvement in Greenland hospital care: a clinical research project

Seibæk, L. Hounsgard, L.
First author's affiliation: Greenland Center for Health Research, Ilisimatusarfik, University of Greenland, Nuuk, Greenland

Background: Healthcare is currently undergoing a paradigm shift towards a higher degree of patient centeredness. In Greenland, research has pointed out a need for patient involvement in treatment pathways. According to the European Commission, the concept of patient involvement refers "specifically to the rights and benefits of patients to have a central position in the healthcare process. The benefits are expected to be a better patient outcome due to improved interaction between the healthcare provider and the patient". However, the concept needs adjustment to Greenland's special conditions concerning geography, climate, population, and culture, to be further implemented.

Aim: To identify focus areas for patientinvolvement that is feasible in a Greenland context, by investigating:

- Patients' motivation, opportunities and action competences
- Health professional attitudes to and interaction with patients and relatives

Design: The project will take place in a partnership between Greenland Centre for Health Research and Department of Surgery at Queen Ingrid's Hospital in Nuuk. It consists in semi-structured research interviews with patients and relatives, focus group interviews with health professionals, and field observations in clinical practise. Patient participants will be strategically included to ensure characteristic variations in the population regarding diagnosis, age, gender, socio-demographics and geographical conditions. Likewise, health professionals will be included to ensure a multidisciplinary approach and intended variation in education, clinical experience, gender and nationality.

Time frame: 1.10.2018-30.9.2020

Perspectives: The results will form the basis to develop and implement patient involvement in Greenland health care and treatment pathways.

211. Perspectives from community members and health service providers on the quality of End-of-Life care for Nunavummiut: preliminary findings from the Nunavut End of Life Care Research Project

Horlick, S. Amagoalik, L. Cherba, M. Feltaous, E. Edmunds-Potvin, S. Elliott, S. Bellefontaine, K. Colepaugh, J. Cole, M. Woodgate, R. Healey, G. Galloway, T.

First author's affiliation: QHRC, Qaujigiartiit Health Research Centre, Iqaluit, Canada

Introduction: The purpose of this study is to improve the systems and supports available for Nunavut residents receiving end of life care.

Methods: In 2016-17 we interviewed 10 community members and 20 health service providers (community health care nurses, managers, etc.) across Nunavut's 3 regions. Transcripts were analyzed for thematic content and consistency across content domains.

Results: The presentation will focus on the key findings from the interviews, by highlighting similarities and differences in health services providers' and community members' perspectives. Interviews with community members revealed that, in the context of end-of-life care, patients and families value relationships with health care providers, and want their health care providers to have a connection with their community, which is consistent with Inuit relational epistemologies and values (Healey & Tagak, 2014). Health care providers spoke of the difficulties of fostering relationships given high staff turnover and lack of resources, and the strategies that they have developed to overcome some systemic issues.

Conclusions: Our findings highlight both the strengths of the current home and community care system and the challenges of providing consistent service across a wide geography.

214. Population genomics of circumpolar populations

Stepanov, V. Vagaitseva, K. Zarubin, A. Kharkov, V.

First author's affiliation: Research Institute for Medical Genetics, Tomsk National Medical Research Center, Tomsk, Russia

Introduction: Genetic structure of circumpolar populations was formed by neutral evolutionary factors such as genetic drift and isolation by distance, as well as by adaptation to cold climate mediated by the pressure of natural selection. The aim of this study was to describe the genomic variation in native populations from Siberia and North Asia in the context of worldwide genetic diversity, and to find patterns of genomic diversity, potentially adaptive for cold climate.

Methods: Whole genome sequencing was performed in population samples from 10 circumpolar populations representing Siberia and North-East Asia: Chukchi, Koryak, Nivkh, Udegey, Ket, Khanty, Yakut, Evenk, Tuva, Altay. Bioinformatic analysis was focused on the search for population-specific variants which are characterized by functional significance.

Results: Principal component analysis of common genetic variation in worldwide population indicates that circumpolar people form the separate clusters in-between North Asians and Native Americans. Admixture analysis reveals specific genetic components in coastal and in-land circumpolar populations. Search for specific genetic variants for Siberia/North-East Asia (i.e. alleles common in circumpolar area but absent or very rare elsewhere) resulted in 5.5K variants in the regions of about 300 genes. Functional analysis demonstrates that genetic variants involved in nervous system development, system development and regulation of blood pressure are overrepresented in the subset of human genetic variation, specific for circumpolar populations.

Conclusion: We suggest that accumulation of common variants in genes involved in particular biological processes reflects the positive selection for cold adaptation in circumpolar populations.

The study was supported by RFBR (grant # 18-04-00758).

215. Population-based study of incidence, risk factors, and mortality for invasive pneumococcal disease in Greenland

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First author's affiliation: Department of Epidemiology Research, Statens Serum Institut, Copenhagen, Denmark

Background: The Inuit population of the Arctic suffers from high rates of invasive pneumococcal disease (IPD). However, data is scarce on risk factors and mortality of IPD in this high-risk population. The aim of the present study was to estimate incidence rates (IR), risk factors, and mortality from IPD among Greenlanders over a 40-year period.

Methods: A matched, case-control study was nested in the Greenlandic population during 1973 - 2013. Cases were identified from the Danish pneumococcus database at Statens Serum Institut and matched 1:10 to controls by age and ethnicity. Statistical analyses included socio-economic status, comorbidity, perinatal- and demographic characteristics using conditional logistic- and Cox-regression.

Results: A total of 230 IPD-cases were identified. Overall IR was 22.6/100.000 person-years (PY), highest among infants < 2 year (59.0/100.000 PY) and among adults aged 50 to <60 years (51.7/100.000 PY). Risk factors among infants included previous infections and neurologic conditions. Among adults significant risk factors were; Inuit ethnicity, being male, living outside of the capital Nuuk, living alone, having cancer, glaucoma or iridocyclitis (aRR 3.46; 95% CI 1.26-9.50). Overall 30-day mortality from IPD-admission was relatively high (25.2%), among children <2 years (16.1%) and adults aged 50 to <60 years (34.8%); among patients living in the southern district (40.5%); among patients with meningitis (28.6%) and in patients with comorbidities.

Conclusions: Overall IR of IPD in Greenland was comparable to other Arctic countries in the pre-vaccine era; however, the estimates are likely conservative due to under-diagnosing in the districts. Age-specific IR differed from low-risk population since increasing rates were observed already from age 50 years. The risk factor pattern mainly reflects Inuit ethnicity and having comorbidity. IPD-mortality among infants and middle-aged is higher in Greenland than other arctic countries.

216. Post-Infectious Fatigue Following Puumala Virus Infection: A Study From Northern Sweden.

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Introduction: Northern Sweden has a high incidence of nephropathia epidemica (NE), a zoonotic infection called vole fever. The causative agent, Puumala virus, is spread by bank voles and causes a mild form of hemorrhagic fever with renal syndrome. Long-term consequences are not well studied. We investigated recovery time after NE infection and levels of fatigue in former patients compared to the general population.

Method: 1719 NE patients diagnosed 2007–2011 and a comparison group matched by age, sex and place of residence, received a questionnaire containing questions about demography, health and for NE patients disease specifics and recovery time. Fatigue was assessed using the tool FSS – Fatigue Severity Scale. Descriptive analyses, simple linear and logistic regression models were used in the analyses.

Results: Questionnaires from 1132 patients and 915 controls (60% response rate) were included. Self-reported complete recovery took three months or more for 47% of NE patients, 6 months or more for 30%, mainly due to fatigue. The specific word feebleness (orkeslöshet in Swedish) was spontaneously added in writing by 98 individuals to describe the symptom preventing recovery. FSS fatigue level scores differed significantly between NE patients and the comparison group, more pronounced in women than men. Adjustment for current diseases, BMI and smoking habits reduced the effect only slightly.

Conclusion: Post-infectious fatigue is very common in former NE patients, persisting for more than half a year in one third of all patients. Higher levels of fatigue are seen in former NE patients compared to the general population.

217. Preliminary results from implementation of in-territory molecular testing for gastrointestinal pathogens at the Qikiqtani General Hospital, Nunavut.

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First author's affiliation: Medicine, Qikiqtani General Hospital, IQALUIT, Canada

Objectives: Nunavummiut have a high burden of gastrointestinal infections. We present preliminary data from the implementation of on-site molecular testing for enteric pathogens.

Methods: Stool samples submitted for microbiological testing at the Qikiqtani General Hospital (QGH), Iqaluit were assayed using a Health Canada licensed multiplex molecular assay (BioFire Filmarray™ Gastrointestinal panel, bioMerieux Inc.). This assay detects 22 enteropathogen targets (13 bacteria, 4 parasites, and 5 viruses). Pathogen detection rates and time to results were compared pre and post-implementation.

Results: In the year prior to implementation 281 stool samples submitted to QGH were sent out of territory (440 separate microbiological tests). During this period 12 patients had at least one potential enteric pathogen detected (4%). A total of 5 patients (1.8%) had a reportable enteric pathogen detected. In the post-implementation period 109 stool samples were submitted to QGH for testing of which 43 (39%) were positive for at least one enteropathogen. 18 were reportable and 35 potentially treatable pathogens were detected. 14 samples positive for bacterial pathogen on PCR testing were sent for culture of which 10 (71%) were culture recovered. Culture results were available a mean of 5.75 days after PCR results for these bacterial pathogens.

Discussion: On-site testing appears to have significantly increased the pathogen yield and detection rate of enteric pathogens of public health importance. Further analysis is required to determine the clinical, and financial impact of having this testing in territory.

219. Prevention of RhD alloimmunization in Northern British Columbia: An interpretive description

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Introduction: Despite best practice guidelines, international evidence suggests that the provision of anti-D prophylaxis to RhD negative pregnant women is suboptimal. Missing from the literature is research exploring the factors that continue to put RhD negative pregnant women at risk for RhD alloimmunization. The purpose of this project was to understand why RhD negative pregnant women continue to be at risk for RhD alloimmunization within the context of northern BC. The specific research questions are: How do health care providers make decisions regarding the care of RhD negative pregnancies in northern BC? How do RhD negative women in northern BC experience pregnancy?

Methods: This presentation describes a qualitative approach used to address the need for rural centric clinical guidelines. Using interpretive description, interviews were conducted with RhD negative women that have been pregnant and health care providers' experiences in caring for RhD negative pregnancies within northern BC. A stakeholder committee guided the research process and provided insight into data analysis to ensure applicability to practice.

Results: A qualitative approach with these two populations has provided a greater understanding into the depth of quality of care for RhD negative pregnancies and the decisions that inform patient safety.

Conclusion: This study provides information into guideline adaptation, decision-making and health literacy in rural health care settings.

221. Project Jewel: On-the-land Wellness Program and Inuvialuit-informed Monitoring and Evaluation

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Indigenous peoples are increasingly required to engage in monitoring and evaluation, despite Indigenous peoples' knowledge that on-the-land programs are key to Indigenous health. In partnership with local Elders, knowledge holders, counsellors, policy makers, researchers, past and current participants, the Inuvialuit Regional Corporation (IRC (Working Group)) is evaluating the effectiveness of Project Jewel, an on-the-land healing program offered to residents of the Inuvialuit Settlement Region. Our goal is to determine an Inuvialuit-informed approach to monitoring and evaluation that generates data that are useful for funders, policy-makers, and those who deliver on-the-land programs.

After obtaining funding, the Working Group determined that it would assess the experiences of participants and program stakeholders through photo-voice, one-on-one interviews, and focus groups/sharing circles.

Data collection, began in the summer of 2017 on-the-land with participants, and in town with stakeholders. Data collection will continue. Project Jewel stakeholders discussed the importance of participants sharing their stories, as these stories do a better job of capturing the benefits than surveys. Participants enjoyed using cameras to take photos and discuss their contents. Some felt that focus groups were difficult contexts to share their feelings, though others appreciated group members' support. Most supported the use of one-on-one interviews.

Everyone recognized the importance of evaluation as a process not just a product. Next steps include further collaboration with participants to co-determine broader research findings for practical benefit (Scougall, 2006). We hope his research informs culturally-safe evaluation approaches of on-the-land programming.

228. Reinfection Twelve Years after Successful Eradication of Helicobacter pylori in Alaska

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First author's affiliation: AIP, CDC, Anchorage, United States

Introduction: Studies in Alaska have shown that despite successful treatment, reinfection with H. pylori 2 years post-treatment is common.

Methods: We previously followed 229 persons (3 groups) for 2-years after successful treatment using the urea breath test (13C-UBT) to determine reinfection rates. In this study, we determined rates of reinfection by 13C-UBT in all 3 groups followed at 10-12 years after treatment: urban AI/AN persons (group 1), rural AI/AN persons (group 2) and urban Alaska non-Native persons (group 3). At each visit, participants were asked about medication use, illnesses and risk factors for reinfection. We reviewed medical records for antibiotic therapy for H. pylori between the 2 and 12-year periods to reduce false-negative diagnoses.

Results: Compared to the 16.1% reinfected at 2-years, 14 of 96 participants were reinfected at 12 years (28.3%, 95% CI: 21.8, 36.3). The reinfection rate among group 1 rose from 14.4% (8.8,23.1) at 2 years to 26.9% (18.0,39.0) at 12 years, among group 2 from 22.0% (13.9,33.8) to 39.3% (26.7,55.3) and among group 3 rose from 12% (5.9,23.5) to 16.2% (7.9,31.5); group 2 had a higher reinfection rate than groups 3 and 1 combined (p=0.04). Study participants who became reinfected at 12 years were more likely to drink water from rivers or lakes, to chew tobacco, or to have peptic ulcer disease (p<0.05 for all three).

Conclusions: Few studies have followed treated cohorts for >10 years. Our study demonstrates that reinfections continue to occur among urban and rural Alaskans for up to 12 years after successful treatment.

232. Remote medical treatment for patients with cardiovascular diseases in the Arctic zone of the Russian Federation

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First author's affiliation: Cardiology, Central Out-patient Clinic of the Zapoliarny district, Iskatelei village, Nenets autonomous region, Russia

Introduction: remoteness and hard accessibility of localities in the Nenets Autonomous Okrug require special approaches to dynamic monitoring and stepwise medical treatment of patients with cardiovascular diseases using telemedicine technologies.

Methods: questioning of patients with suspected cardiac diseases, ECG recording by patients using portable devices, and remote data transmission to a doctor in a consulting center.

Results: a system of organizational and remedial measures for treatment of patients with cardiovascular diseases in hard-to reach Northern areas has been developed. It comprises the following: a questionnaire for collecting anamnesis of patients with suspected acute coronary syndrome, a pain assessment algorithm, a list of mandatory first aid measures, clinical situations for obligatory ECG recording and sending a patient to the district hospital. Results of dynamic monitoring of patients with coronary artery disease and heart arrhythmia who were taught how to use a portable ECG recording device in home conditions have been analyzed.

Findings: the results of telecardiology implementation in the hard-to-reach Northern region have proved the efficiency of comprehensive use of telemedicine procedures – biotelemetry, telemonitoring, remote interpretation of diagnostic data, teleconsulting and home telemedicine.

233. Removal of Parents: A Manitoba First Nation community approach to reducing the trauma of child apprehension

Kyoon-Achan, G. Walker, F.

First author's affiliation: Family Medicine, University of Manitoba, Winnipeg, Canada

Introduction: Child protection services in Manitoba are mandated to protect children who experience physical injury, emotional disability of a permanent nature or sexual exploitation because of an action or failure to act by any person. In practice, this "protection" has involved apprehending children who are often removed from their homes and placed in the care of agencies or foster care in environments that are foreign to the child. This process can profoundly destabilize and traumatize children creating feelings of shame and guilt. The Nisichawayasihk Cree Nation in Northern Manitoba decided to protect children by removing the parents from troubled homes rather than the children.

Methods: The approach was developed following wide consultations with Ketiatisak Elders in the community, families and the community at large.

Results: Parents removed from homes are supported to change the behaviors and conditions that may have resulted the neglect or harm to children. The children are then supported to remain within the comfort of their homes surrounded by familiar environments and other family members.

Conclusion: The "Removal of Parents" encourages a holistic approach to child protection which does not destabilize or merely rely on child apprehensions, causing hardships to the child or children and trauma to parents without recourse. The model sets in motion a process wherein, all parties involved work together towards a desired end. Ultimately, children are secure and sheltered, parents are supported in meaningful ways and protection workers take on mediatory roles that are fundamental for community enhancement.

234. Research Governance in NunatuKavut: Engagement, Expectations, and Evolution

Bull, J.

First author's affiliation: Graduate Studies, University of New Brunswick, Toronto, Canada

Introduction: Some of the world's most southern Inuit live along central and southeastern Labrador in the territory of NunatuKavut and are governed by the NunatuKavut Community Council (NCC). As citizens of this nation, Southern Inuit and NCC staff has been actively collaborating with researchers and research ethics boards (REBs) for more than a decade. As a natural extension of self-determination to understand the nuances of Indigenous community research review and to ensure that research conducted with Southern Inuit or on NunatuKavut lands undergo rigorous review and approval processes, NCC is currently re-visioning the community-based approaches for the next 10 years.

Methods: Multiple qualitative methods have been used during the course of the research and implementation of NCC Research Advisory Committee (RAC), including interviews, focus groups, observations, and document analysis. An explicit partnership model has been developed and maintained between Memorial University of Newfoundland and NCC. By drawing on western and Indigenous methodologies, our work in research governance seeks to address local community research needs and priorities while maintaining connection to academic and research institutions.

Results: Tangible outcomes from our research on research ethics will be provided to participants in the session. These include a guidance document for researchers, sample research agreement, list of resources, sample consent form, and application form.

Discussion: This presentation provides contextual information about the formation, implementation, and revision of the NCC RAC. I discuss the collaborative process of developing an Indigenous model of research governance embedded within mainstream systems by drawing on local Inuit knowledge systems and governance structures.

237. Risk of cardiovascular disease in Greenlandic Inuit with diabetes, defined by different diagnostic criteria

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Introduction: Diabetes prevalence in Greenland is high and increasing. Diabetes can be diagnosed by different criteria; thresholds of HbA1c levels, fasting plasma glucose (FPG) and/or two-hour plasma glucose (2hPG) after an oral glucose tolerance test (OGTT). We compared the risk of cardiovascular disease (CVD) by different diagnostic criteria, among the Greenlandic Inuit.

Methods: Participants included in the Inuit Health in Transition (IHIT) study in Greenland (2005-2010), had HbA1c, FPG and 2hPG levels measured at entry. We followed participants in the Danish and Greenlandic health registries for a composite endpoint of non-fatal and fatal CVD until 31/12-2013. Participants with known diabetes (n=62) and previous CVD (n=121), were excluded. We compared incidence rates for different diabetes diagnoses criteria, adjusted for relevant confounders in a Poisson regression.

Results: We included 2932 adult participants. In the crude analyses, incidence rate rates (IRR) of CVD were highest among participants diagnosed by FPG (IRR:3.03;95%CI(1.80-5.10)), followed by participants diagnosed by both FPG and 2hPG (2.69(1.69-4.28)), and by HbA1c (2.64(1.42-4.87)), compared with normoglycemia. The IRR for all three diagnostic criteria were attenuated after confounder adjustment (FPG: 1.09 (0.62-1.92); FPG and 2hPG: 0.94 (0.56-1.58); HbA1c: 0.81 (0.41-1.59)). Especially age confounded the associations.

Conclusions: IRR of CVD were highest among participants diagnosed by FPG in the crude analyses. None of the diagnostic criteria were associated with CVD after adjustment, indicating that other factors are more important for developing CVD among the Greenlandic Inuit. Future analyses will look into interactions with age and monogenic types of diabetes in the Greenlandic population.

238. Risk-Based Prenatal Hepatitis C Testing Practices, Alaska 2013-2016

Nolen, L. Gustin, C. Seeman, S. Murphy, N. Bruce, M. Bruden, D. Tiesinga, J. Truitt, S. McMahon, B.
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Background: Recent reports show an increase in Hepatitis C virus (HCV) infection in reproductive age women. For women born after 1965, US national guidelines recommend testing only those at high-risk of infection; however, this strategy may miss some HCV-infected individuals. Intravenous drug use (IDU) is a risk factor for HCV infection. We evaluated the outcome of risk-based HCV testing in an obstetrics clinic.

Methods: We reviewed medical records to identify women who delivered infants at a referral hospital in Alaska during 2013-2016 to assess their HCV testing history, results, and IDU history.

Results: We identified 2856 women, of whom 495 (17.3%) had documented HCV testing during pregnancy and 1356 (47.5%) had documented testing at any time prior to delivery. Sixty-one (2.14%) women were positive for HCV antibodies. Women with documented IDU had 18.9 times higher odds of testing positive for HCV exposure compared to those without IDU (CI 11.2-32.1). Forty-nine (31%) women with documented IDU history were not tested for HCV antibodies during pregnancy. If the untested women had the same HCV positivity rate as the tested women, we estimate 14 HCV exposed women with a history of IDU were not identified due to lack of testing.

Conclusions: Approximately 2% of pregnant women who delivered infants in the study population had been exposed to HCV by the time of their delivery. One-third of women with documented IDU did not have a documented HCV test during pregnancy. These results highlight weaknesses in current risk-based screening strategies during prenatal care.

242. Sekuwe (My house): discovering, envisioning and creating housing designs for Dene First Nation health.

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Introduction: The lifestyle and culture of northern remote First Nation communities is distinctly different than life in the south, so why are northern homes built using southern architectural designs? How should the unique realities of Indigenous lifestyles and perspectives be reflected in homes designed for First Nations communities?

Methods: To answer these questions, the University of Manitoba's Northern Health Research group worked with Northlands Denesuline and Sayisi Dene First Nation in northern Manitoba, Canada to develop culturally appropriate housing designs for future use in Manitoba's Dene communities. The project-developed designs for Indigenous-focused homes were informed by community workshops, first hand experiences with Dene lifestyle, student exchange programs and the exchange of knowledge between architectural students, Dene students and the communities.

Results: Here we present some of the designs, concepts and cultural elements that were inspired by using a relational approach to understanding the impact of housing on health. Key themes addressed by the designs include education, job opportunities, local and recycled resources, alternative heat sources, sustaining traditional and current activities, and local cultural and environmental assets.

Conclusions: The University of Manitoba and Dene students created healthy housing designs and demonstrated a process through which housing might impact health.. Future research will continue to model approaches that build relationship, experience, and knowledge to build health equality.

243. Selecting performance indicators for maternity care in a circumpolar context: a modified Delphi approach

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Introduction: Performance measurement has become an increasingly popular tool in the pursuit of healthcare quality, accountability and value for money. In circumpolar regions, indicators that are aligned with national strategies may ignore or even conflict with the priorities and values of Northern, remote, or Indigenous populations. For circumpolar maternity care, the frequent practice of routine evacuation for birth highlights a potential conflict between the necessity to ensure patient safety and the importance of delivering locally responsive services. Contextually appropriate performance measurement is an important step in resolving this conflict. The objective of this study was to select performance indicators that are relevant to maternity care systems in circumpolar regions.

Methods: A scoping review generated a working list of indicators. Fourteen circumpolar maternity care experts then participated in a two-round modified Delphi consensus process. Participants rated each of the 62 proposed indicators according to importance, circumpolar relevance, validity, and reliability. Agreement was measured using Cronbach's alpha.

Results: The scoping review included twenty-six publications from which 81 unique performance indicators were identified. Sixty-two of these indicators were presented to the Delphi panel for evaluation. Eleven indicators met criteria for importance, circumpolar relevance, validity, and reliability. Twenty-nine additional indicators were identified for further consideration.

Conclusions: While most circumpolar health systems engage in performance reporting for maternity care, efforts are heterogeneous and indicators do not necessarily reflect local priorities and challenges. A modified Delphi approach was effective in selecting contextually appropriate indicators for circumpolar maternity systems.

244. Serum selenium levels in Greenlandic seafood factory workers. Is there a link with asthma?

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Introduction: The prevalence of asthma is generally considered to be lower in the Arctic than in most other regions of the World. Seafood makes up an important part of the diet in several Arctic regions, including Greenland. Seafood factory workers in other parts of the World run an increased risk of developing occupational asthma. Seafood contributes greatly to dietary selenium and previous studies have demonstrated high serum selenium (S-Se) levels in Greenland.

Methods: The employees in a number of seafood factories in Greenland were invited to participate in a study with a health and work questionnaire, a skin prick test, lung functions measurement, and blood samples. Mass spectrometry was used to measure S-Se concentrations. They were normally distributed and parametric statistical tests were used.

Results: A total of 290 subjects had available questionnaire data and S-Se levels. The mean S-Se (min;max) concentration was 95.8 (66.5;165.0) µg/L. Employees in larger towns had a mean S-Se of 93.4 µg/L, below the 105.8 µg/l in smaller settlements ($p < 0.0001$). S-Se was decreased among subjects who reported work-related symptoms from the lower airways (90.8 vs. 96.8 µg/L; $p = 0.009$). However, doctor diagnosed asthma and S-Se were not associated.

Conclusion: S-Se levels were lower in this study than in previous studies of settlements in Northern Greenland. The study confirmed that S-Se was higher in settlements in which people are more likely to live on a traditional Greenlandic diet. Preliminary analyses do suggest that higher S-Se levels may be associated with less asthma.

245. Sociodemographic and behavioral characteristics are associated with level of knowledge about cervical cancer prevention.

Roik, E. Odland, JØ.
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Background: Knowledge about cervical cancer (CC) risk factors motivates women to participate in its screening. CC related knowledge has been explored and described worldwide, although little is known about the situation in Russia. This study explores the level of knowledge about CC prevention in the context of sociodemographic and behavioral characteristics.

Methods: The cross-sectional study was conducted in the city of Arkhangelsk, Northwest Russia. It included women 25 to 65 years of age (N = 300) who consulted a gynecologist for any reason in 2015. All participants completed a questionnaire. Student's t-test, Pearson's χ^2 test and linear regression analysis were applied for statistical purposes.

Results: Women with a university education, those who had an early sexual debut, had two or more children, and/or whose physician was the primary source of information had higher levels of knowledge about CC prevention. Women with university education were more likely to have higher knowledge about CC prevention compared to women with lower educational level. Having two or more deliveries was associated with having more correct answers on CC prevention when compared to nulliparous women. However, this difference was not statistically significant after adjustment. In the crude and adjusted linear regression models age, marital status, smoking, age of initiating of intercourse, number of partners and history of sexually transmitted infections were not associated with the number of correct answers about CC prevention.

Conclusions: Educational gaps were identified that potentially could be used to tailor interventions in CC prevention.

246. Solutions to improve End-of-Life care for residents of Canadian Arctic communities: insights from the Nunavut End of Life Care Research Project

Horlick, S. Amagoalik, L. Cherba, M. Feltaous, E. Edmunds-Potvin, S. Elliott, S. Bellefontaine, K. Colepaugh, J. Cole, M. Woodgate, R. Healey, G. Galloway, T.

First author's affiliation: QHRC, Qaujigiartiit Health Research Centre, Iqaluit, Canada

Introduction: The purpose of this study is to improve the systems and supports available for Nunavut residents receiving end of life care.

Methods: In 2016-17 we interviewed 10 community members and 20 health service providers across Nunavut's 3 regions. Transcripts were analyzed for thematic content and consistency across content domains. The implications of the results for practice were discussed with our research partners (the Government of Nunavut and Nunavut Tunngavik Incorporated, the organization that administers the Nunavut Land Claim Settlement).

Results: The presentation will focus on the solutions to improve end-of-life care for Nunavummiut that we have identified by mapping findings against the existing network of services in order to identify those locations where the quality and consistency of end-of-life care may be enhanced by training, mentorship, and other supports to increase the incumbency, skills, communication and cultural awareness of health service providers. We will also explain how our partners are using study findings to examine systemic processes within the health system that will complement this work, such as enhancing mentorship opportunities for staff and enhancing the ability of home care professionals to build networks within communities.

Conclusions: The strongest predictor of knowledgeable, community-engaged and culturally-appropriate end-of-life care was the presence of skilled service providers with multiple years' experience working in the community.

248. Spoken words and silence use in young children medical consultation: the interactional dimension of healthcare, Nunavik, Quebec Arctic

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In Nunavik, the need to promote Inuit language and culture expression in medical institution is acknowledged. While « Qanuippitaa ? » 2004 health survey identified significant nuances regarding Nunavik inhabitants' health, this approach involves considering Inuit conception of health and interpersonal relationships.

Through an ethnographic study including the observation of 16 medical consultations and interviews with Inuit patients and Franco-quebecers medical personnel, verbal and non verbal means of communication are described. Speech act theory and the concept of maintaining, losing or saving « face » in interaction are two notions used to analyze the expression of Inuit social skills, and spoken words and silence effects on health.

Despite a shared concern to maintain harmonious interactions, tensions due to contextual, cultural and language factors have been identified.

These tensions can undermine interpersonal relationships and overall health, but can also be transformed by developing common social skills and sharing knowledge.

250. Successful Prevention of Congenital Syphilis during 2016 Outbreak in the Kivalliq Region of Nunavut, Canada; Rapid mobilization of Community Resources and Regional Strategies.

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Introduction: In 2012 an outbreak of infectious syphilis began in Nunavut, Canada. In 2015 the outbreak spread to the Kivalliq region, primarily affecting the heterosexual population. Enhanced prenatal screening for syphilis and coordination of care for pregnant women and infants was implemented.

Methods: In response to the outbreak, Nunavut's Prenatal protocol was changed in 2016 to implement universal screening for syphilis not only at the first prenatal visit, but with repeat testing at 24-28 weeks and 35-37 weeks gestation. Pregnant women (< 23 weeks gestation) with infectious syphilis were treated with benzathine penicillin G – long acting 2.4 mu by intramuscular injection weekly for 2 doses. Women who were >23 weeks gestation were transferred to a tertiary care center to receive multi-disciplinary care. Delivery of all infants was scheduled at the referral center. Ongoing follow-up of infants was coordinated by Kivalliq region nursing staff together with consulting pediatricians.

Results: Between January 1, 2015 and December 31, 2017, 18 pregnant women were treated for syphilis during pregnancy; 7 at the referral center. All women had serial serology; a few women required retreatment for re-infection. Details of cases will be summarized. None of the infants met criteria for congenital syphilis but several are still under surveillance.

Conclusion: The prompt public health response and coordination of medical care for pregnant women with infectious syphilis in the Kivalliq region of Nunavut has been successful in prevention of congenital syphilis to date.

252. Supporting Inuit students' academic retention through land-based education: Indigenous Field Studies, McGill School of Social Work

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Both education and Indigenous ancestry are key social determinants of health. Educational success remains elusive for disproportionately large numbers of Inuit students in Canada. Low educational achievement could reflect disengagement from education. Addressing the education crisis in Inuit communities that are facing socioeconomic struggles is imperative. Continued high drop-out rates further social exclusion of Nunavik's Inuit population and ensure the majority of jobs requiring higher education qualifications remain out of reach for a majority of the region's Inuit.

In 2011, researchers worked with 14 Inuit secondary school students in Nunavik, QC, to develop thematic areas for questions to be used in focus groups and interviews in 2012. Results indicated land-based activities could provide a platform for healthy family engagement, support and communication. Additionally, culturally responsive, relevant educational approaches, including cultural, land-based education, could provide greater options for students struggling academically. Outdoor, land-based activities could also be under Elders' direction. These activities can be overlooked by formal educational systems while seen by community members as legitimate, and could bridge Indigenous and non Indigenous Peoples' educational approaches.

School of Social Work offers an interdisciplinary, integrated classroom/land-based course designed to provide opportunities for students to learn about Indigenous cultures and worldviews. Because of McGill's geographic location, focus is on Haudenosaunee (Iroquois) teachings and their connection to students' areas of practice. Indigenous and non Indigenous instructors ensure representation from Quebec's Indigenous communities, including Inuit and Cree. Discussion will focus on the critical nature of offering land-based courses to support Inuit student retention in Nunavik.

254. Te(a)ch: Teaching coding for youth empowerment and wellness in Nunavut

Tabish, T. Oliver, R.

First author's affiliation: Research, Qaujigiartiit Health Research Centre, Iqaluit, Canada

Introduction: Technology is ubiquitous in Northern Canada, and Nunavut is no exception. Nunavummiut (people from Nunavut) use their devices daily. However, computer science instruction is minimal in schools, so youth are not learning the skills to use these devices to create their own solutions. The te(a)ch program aims to address this in a culturally-relevant way, while focusing on building youth empowerment and wellness.

Methods: This program teaches youth the concepts and application of computer science through the creation of video games, and its method is embedded in Inuit Qaujimagatuqangit (traditional knowledge). The program is a week long, involving older youth who are provided the skills to teach video game design to younger youth participants and peers in a mini "club" program that follows. The design of the program and the skills taught act to build agency, resilience, and empowerment, providing youth with a creative outlet to tell their stories, use their language, and build on their overall wellness. Direct observation and participant feedback is used to evaluate the program delivery.

Results/Conclusions: A key focus of the program has been to shift the relationship between youth and technology from one based solely on consumption, to one that includes creation and innovation. Since 2014, over 100 youth participants and over 20 youth trainers have participated in the program across Nunavut. The response to the program has been overwhelmingly positive. Next steps are focused on how to make it more sustainable while scaling the program.

255. Telemedicine Network in the Arctic Region of the Russian Federation

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Introduction: Remote distances between settlements and the regional center, the lack of ground communication facilities, and the shortage of medical personnel make telemedicine a powerful tool for providing medical assistance to the local population of the Nenets Autonomous District (NAO) located in the Arctic zone of Russia.

Methods: Analysis of organizational and clinical trends in the development of telemedicine in the NAO.

Results: Practical use of telemedicine in the NAO started in 2000. Telemedicine is separated in an independent structural unit of the regional hospital – a telemedicine department. In 2011 – creation of telemedicine network of NAO. In 2012 – introduction of remote health monitoring of pregnant women in remote settlements. In 2013 – participation in the Russian-Norwegian project “Qualitative improvement of health services for indigenous people in remote areas in the Nenets Region”. The main topic is organizational aspects of telemedicine. Technologies and communication will no longer be great challenges in this project because the NAO have seen about the equipment and communications channels long before the project. The following issues come to the fore: technical competence of the local staff, informational safety and judicial base, as well as interaction between the practical healthcare and the healthcare administration, the rules of their play in the shared area. In 2014-2018 - introduction of tele-cardiology, application of telemedicine technologies in endocrinology and sports medicine.

Conclusions: The further development of telemedicine requires joint efforts of the authorities, health care organizers, specialists in telemedicine and health workers.

258. The Arctic Mental Health Working Group: an example of Arctic research coordination and support

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The United States Arctic Research Commission (USARC) is an independent federal agency that recommends Arctic research policy to the President and US Congress reflecting the advice of the scientific community and promotes Arctic research, federal agency coordination and international collaboration.

Part of USARC's work includes the coordination of three working groups, one of which is the Arctic Mental Health Working Group (AMHWG). The working group's mission, developed in early 2016, is to "strengthen systems of care to prevent suicide and improve mental health in the circumpolar North via promotion of indigenous knowledge, research, and evidence-based early intervention and primary prevention efforts". The AMHWG is comprised of federal, state, indigenous and academic members and works collaboratively with tribes, healthcare providers, and other stakeholders to promote research on the significant mental health disparities that exist between Arctic and non-Arctic populations. As an initial focus, AMHWG has chosen to address suicide prevention in Arctic communities with a specific emphasis on early intervention approaches for children and youth. As a means of achieving this focus, several subgroups have been formed. These include: the Data Integration Subgroup; the Mental Health Workforce Capacity Subgroup; the Protective Factors Subgroup; and the Climate Change and Mental Health Subgroup.

Working group efforts are responsive to community concerns regarding mental and behavioral health in Alaska. Efforts undertaken by the AMHWG group are being coordinated with the Alaska Native Collaborative Hub for Resilience Research (ANCHRR) in order to avoid duplication and provide synergistic support.

259. The effect of housing characteristics on health outcomes among Inuit in Greenland

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Introduction: Housing conditions experienced by Indigenous peoples can impact health over the life course. This study examines the long-term effects of household overcrowding and composition on self-rated health and mental health among Inuit in Greenland.

Methods: A cohort of 1283 adults was constructed, based on two population-based cross sectional surveys among the Inuit in Greenland, the Inuit Health in Transition survey 2005-2010 (IHIT) and the Health survey in Greenland 2014 (B2014). Cohort participants took part in both surveys, lived in Greenland at the time of the surveys, and were born in either Greenland or Denmark. The IHIT survey was used for baseline measures and the B2014 survey for follow-up measures. Health outcomes included self-rated health (SRH), and a measure of mental health (12-item General Health Questionnaire). Associations between household characteristics at baseline and health outcomes at follow-up were examined using logistic regression models, adjusting for individuals' characteristics.

Results: Participants who lived in an overcrowded house at baseline had significantly higher odds (42 %) of experiencing poor SRH at follow-up compared to those who were not living in an overcrowded house at baseline. Additionally participants who lived alone at baseline had significantly higher odds (77 %) of experiencing poor mental health at follow-up compared to those who lived with children at baseline.

Conclusion: This study demonstrates that household overcrowding and household composition influence health on a long-term basis among Inuit in Greenland. Results confirm the importance of improving housing conditions in Greenland, which might contribute to improving the overall health.

261. The EHLF Analysis: Exploring reproductive health inequity and environmental health literacy in Australian and Greenlandic Indigenous communities

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First author's affiliation: Northern Institute & Office of the ProVice Chancellor Indigenous Leadership, Charles Darwin University, Darwin, Australia

Introduction: Across the world, many indigenous women experience reproductive health inequity. Health literacy is used as a concept for improving the quality and safety of health systems, while addressing population health disparities and improving equity. Common for communities in rural Australia and Greenland is a shared history of colonization impacting women's reproduction; and how this relates to understanding good reproductive health and health literacy. In this presentation/poster we aim to demonstrate an Environmental Health Literacy Framework (EHLF) analysis to the prevention and management of unplanned pregnancies.

Methods: Using a case study approach and applying an EHLF analysis through the lens of gender and culture we will compare and contrast components in how two remote Australian and Greenlandic Indigenous communities are impacted in preventing and managing unplanned pregnancies.

Results: Application of the EHLF analysis included the components of materials, people and relationships, policies and processes. We documented a range of modifiable factors impacting unplanned pregnancies.

Conclusions: The EHLF analysis offers a powerful method to better understand local and context-bound impacts on reproductive health outcomes. It is a useful way to better comprehend population-based Indigenous health inequities and may offer a novel way of demonstrating the barriers and prioritising interventions to improving reproductive health outcomes.

263. The Epidemiology of Haemophilus influenzae serotype a disease in the North American Arctic, 2000-2016

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Background: Prior to introduction of the Haemophilus influenzae type b conjugate vaccines in the early 1990s, rates of Hib disease among the Indigenous people of the North American Arctic were among the highest reported in the world. Routine vaccination reduced these rates to very low levels; however, serotype replacement with non-type b strains is of concern. Invasive Haemophilus influenzae type a (Hia) disease has emerged in the North American Arctic beginning in the early 2000's.

Methods: Cases of invasive Hia were identified in Alaska (AK) beginning in 2002 and Northern Canada (NCan) in 2000. A total of 187 Hia cases (AK=54, NCan=133) were reported to the International Circumpolar Surveillance (ICS) project.

Results: Overall, rates of invasive Hia disease were higher in NCan (5.3/100,000) than in AK (0.5/100,000); rates were higher in Indigenous (AK=2.1/100,000, NCan=7.9/100,000) compared to non-Indigenous populations (AK=0.1/100,000, NCan=0.2/100,000, $p<0.001$). Rates of disease were higher in Indigenous children <2 years of age (AK=40.9/100,000, NCan=115.4/100,000) compared to non-Indigenous children <2 (AK=0.8/100,000, NCan=0.0/100,000, $p<0.001$).

Meningitis was the most common clinical presentation in children <5 years of age. Most patients were hospitalized (AK=85%, NCan=84%); case fatality was high and similar in both regions (AK=9%, NCan=8%). Molecular testing showed one sequence type (ST), ST23 in NCan and three STs, ST56 (54%), ST23 (34%) and ST576 (12%) in AK.

Conclusions: Serotype a is now the most common Hi serotype in the North American Arctic, with the highest rates among Indigenous children. Further research is needed to determine long-term sequelae, risk factors, and prevention strategies.

267. The intersection of market-driven food subsidy with social, health and transportation policy in Canada's north: structural elements constrain health and well-being for Inuit

Galloway, T.
First author's affiliation: Anthropology, University of Toronto, Mississauga, Canada

Introduction: Nutrition North Canada is a retail subsidy program implemented in 2011 to reduce the cost of nutritious food for residents living in Canada's remote, northern communities.

Methods: The present study examines the impact of the subsidy on food costs in Canada using publicly-available data (fiscal, price and compliance reports) on subsidy operations. These data are evaluated alongside policy documents from federal and provincial/territorial agencies involved in delivery of health and transportation services across Canada.

Results: The subsidy program fails to provide consistent, affordable food pricing in remote communities. The intersection of a market-driven subsidy policy with other elements of federal-provincial health, social and transportation policy compounds hardship for many northern residents.

Conclusion: An overarching policy framework across service domains is required to enable equity in service delivery across northern regions. In the areas of health, social and transportation, factors such as remoteness and small population size require that the policy framework be service- and equity-oriented, rather than market-driven.

268. The nature of nursing practice in Canada's northern territories

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First author's affiliation: School of Nursing, University of Northern British Columbia, Prince George, Canada

Introduction: Although anecdotal reports depict nursing in Canada's arctic, the experiences of nurses who live and work in northern communities have seldom been systematically examined. The purpose of this study was to explore what it means to be a nurse in Canada's northern territories.

Methods: A nation-wide survey of nurses from all practice settings (acute care, long term care, community health, public health) in rural and remote Canada included all nurse practitioners, registered nurses, licensed practical nurses, and registered psychiatric nurses actively practicing in the Yukon, Northwest Territories, and Nunavut (n=1913). Of the 621 nurses who responded to the survey, 365 provided narrative answers to the question, what does it mean to be a nurse in rural and remote Canada? This presentation focuses on these narrative answers, which ranged from a few words to lengthy descriptions of experience. A several-stage thematic analysis resulted in four themes.

Results: Many nurses described their ability to use a wide range of skills, and practice with considerable autonomy and responsibility. They mentioned challenges related to the complexity of northern nursing, including those concerning isolation, geography, and cultural dynamics. Four themes stood out: facing the social determinants of health, being a resilient practitioner, becoming culturally competent, and working productively within low-resourced work environments.

Conclusions: Many complexities and challenges are experienced by nurses in Canada's northern territories, but there are also great opportunities. Within supportive work and community environments, nurses can make substantial contributions to addressing health inequities and improving access to respectful, responsive health services.

269. The opportunities for, and challenges of Geographic Indications in supporting Indigenous Food Systems in Canada

Appavoo, D. Korzun, M.

First author's affiliation: Sociology, Ryerson University, Toronto, Canada

Introduction: As awareness of Indigenous peoples' history and experiences in Canada, including in circumpolar regions, continues to rise; the need to protect Indigenous knowledge and ways of life is increasingly recognized as critical. The purpose of this study is to examine the potential role of Geographical Indications (GIs) in strengthening Indigenous food systems in Canada. GIs have been promoted as beneficial tools for protecting food systems, which the authors believe is vital to improving the complex circumstances of Indigenous people in Canada.

Methods: This study will outline the opportunities and challenges of GIs in supporting Indigenous food systems by constructing a concept map representation of ideas, concepts or actors and their relationships and connections. The

researchers believe developing a concept map is an important first step in exploring a potential relationships between GIS and Indigenous food systems, two concepts that have yet to be explored in the academic space.

Results: The concept map identifies various actors, institutions and concepts and the relationship between them, in outlining the potential for implementing GIS as a tool for supporting Indigenous food systems. Some of the factors include policy decision making, the free market, the diversity of Indigenous peoples and land access.

Conclusions: Despite issues identified, there is evidence for potential benefit of GI in contributing to the vitality of Indigenous food systems in the circumpolar regions of Canada. A priority in the development of any GI schema in this region would be ensuring that indigenous knowledge holders have a lead role in the process.

272. The Promise of Telehealth for Northern and Indigenous Communities

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First author's affiliation: College of Nursing, University of Saskatchewan, Saskatoon, Canada

Introduction: Northern and Indigenous communities face well documented barriers to accessing health care service. Telehealth—the means of delivering health information and health care through the use of telecommunications technologies, promises to address some of these barriers. There is significant evidence confirming that telehealth provides consistently high quality care at a lower cost. Research demonstrates that telehealth outcomes and patient satisfaction rates are generally found to be equivalent or higher than in-person services. However, introducing new systems like telehealth in large and complex health service bureaucracies presents challenges.

Methods: A one day Forum was held to discuss the opportunities and challenges to telehealth implementation in northern and Indigenous communities of Saskatchewan, Canada. Participants included Provincial and Federal Governments, health disciplines, First Nation Councils and Band leaders, administrators and public representatives

Results: Telehealth use in most northern and Indigenous communities in Canada remains in an early adoption phase. The technology exists; but the processes and uptake are evolving slowly. Seven core recommendations resulted from the discussions. Issues such as network reliability in northern communities, confusion around payment for services and a redistribution of provision of health services at the point of care in an efforts to keep clients in their home community using telehealth. This presentation will describe a strategic approach to moving forward with a telehealth strategy inclusive of northern, Indigenous communities.

Conclusions: For telehealth to be successful and sustainable, it will need to become part of “normal” operations. Post-secondary health sciences programs can be instrumental in normalizing telehealth.

274. The Qanuikkat Siqinirmiut project – developing a research partnership to describe Inuit health in Southern Quebec

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Our paper describes the development of research objectives and partnership between the newly created Southern Quebec Inuit Association (SQIA) and a multi-disciplinary research team. Our project adopts a community-based and participatory research strategy that seeks to develop a knowledge base on community health from an Inuit conceptual framework and on which Inuit community and institutional capacity, services and programs can be developed. It is well established that people in Inuit Nunangat—the four Inuit land claims regions of Nunavut, Inuvialuit Settlement

Region (Northwest Territories), Nunatsiavut (Labrador), and Nunavik (Northern Quebec)—suffer disproportionately from a range of chronic and communicable diseases when compared to non-indigenous and southern Canadian populations. Much of this burden can be accounted for within the social determinants of health approach in which access to the resources and conditions that support individual and community health is inadequate, unequal to the other regions of the country, or simply unavailable in northern communities. In contrast, the health of the roughly 20% of the Nunavik Inuit population in Southern Quebec has never been examined in any systematic way. Indeed, Inuit living outside of Inuit Nunangat are largely invisible to northern and southern health authorities. While it is clear to community members and their allies that there are serious health and social issues in the urban centres there is no systematic and comprehensive data available for the population. Given the important health disparities which exist and the growing community capacity of the urban Inuit community our project has the potential provide a deeper understanding and effect positive change in the long run.

275. The SamBa study Growing up in the Arctic - a Longitudinal study of early childhood development and health in indigenous and non-indigenous children

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First author's affiliation: Department of clinical medicine, UiT The Arctic university of Norway, Alta, Norway

Introduction: The SamBa (Samiske Barn) study is a longitudinal study of ethnic diverse children in the Arctic part of Norway. The study aims to fill the gap of knowledge on early child development and health in Arctic children by combining data from the Norwegian Mother and Child Cohort Study (MoBa) study and a supplementary data collection based on a participatory research design. By collaborating with the Longitudinal study on Indigenous Children (LSIC) in Australia this is the first project to study social and cultural determinants of indigenous child development and health across indigenous peoples.

Methods: Approximately 5700 children from North Norway participated in the MoBa study, 487 Sami children included. In step 1 we want to examine the influence of peri- and postnatal maternal health and pregnancy length on the child's developmental milestones (motor, social and language development) and well-being at the age of 18 and 36 months. In step 2 Sami parents and their controls will receive a questionnaire on Sami ethnicity, language use and identity and cultural determinants, worked out in close collaboration with a community of Sami parents/ grandparents and health care workers based on community-based participatory research. The data from this collection will be combined with data from the MoBa study to study effects of social and cultural determinants on early developmental trajectories and well-being in Sami and non-Sami Children and shared determinants across the indigenous groups.. Results from the group process and child-oriented discussions of the focus groups will be presented.

276. The significance of sharing foods amongst low-income, non-Native Alaskan food pantry users

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First author's affiliation: Social Work, University of Alaska Anchorage, Anchorage, United States

Introduction: It is well established that sharing food is culturally as well as nutritionally important for Alaska Natives and other Northern indigenous peoples. This is true for Native people in urban areas as well as remote villages. However, the importance of sharing food has been overlooked for non-Natives.

Methods: We conducted 1:1 semi-structured interviews with users of food pantries in Anchorage and accessible-rural communities. The multi-racial sample includes some Alaska Natives but consists mostly of non-Natives of diverse backgrounds. All are low-income and rely on charitable food for a significant portion of their diet.

Results: Relationships matter affectively as well as nutritionally for food-insecure Alaskans of many cultural backgrounds. The fellowship involved in sharing game meat, fish, and meals can be more important to individuals than the food itself, though it is clear in the interviews that the food is consequential.

Conclusions: While sharing foods is a strategy for stretching meals and food dollars, it also brings people together and acts as a source of strength in building a sense of community. These findings do not undercut the cultural importance of sharing for Native peoples, but they do challenge the colonial narrative that all non-Native Northerners are well-resourced and individualistic.

277. The Struggle goes North: Industry Pressures and the Northern Alcohol Research Study

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First author's affiliation: Office of the Chief Medical Officer of Health, Government of Yukon, Whitehorse, Canada

Introduction: Yukon and North West Territories consistently demonstrate the highest rates of alcohol consumption in Canada. However, few people are aware of safer limits of alcohol consumption and the range of health effects associated with drinking beyond these limits.

A multi-partner collaboration provided an opportunity to test the effect of health-warning labels on alcohol containers in the North.

Methods: After preliminary studies and focus groups, a baseline consumer survey was carried out in both Whitehorse (YT) and Yellowknife (NWT). Two types of warning labels were subsequently attached to most alcohol containers in the Whitehorse store. The first label advised that alcohol can cause cancer while the second presented Canada's low risk drinking guidelines. A planned third label illustrates the number of standard drinks per container of alcohol.

Results: The alcohol industry reacted to the study launch with vigorous protests, citing inaccuracy of health claims, trademark infringement; defamation and other concerns. As a result the study was paused for four months, eventually resuming without the cancer warning label. The study has thus been compromised in both duration and content.

Conclusions: For a small and isolated jurisdiction, the vigour of the industry response was surprisingly strong but the resulting publicity was worldwide. Yukon government had to negotiate an act of social responsibility while minimizing a potentially expensive litigation risk. This study illustrates the strong hold that corporate interests still have on public policy. However, public awareness was inadvertently strengthened, at least temporarily, by the resulting publicity.

278. The use of big data for assessment of hypertensive care quality in Greenland

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First author's affiliation: Agency of Health and Prevention, Government of Greenland, Nuuk, Greenland

Greenland faces a tremendous challenge in maintaining an efficient healthcare system with high quality healthcare available to its dispersed population. Since 2004 healthcare data has been digitalized in a primary healthcare system, which was expanded in 2014 to cover the whole healthcare system. Here we present a cross-sectional register study aiming to test the potential of the registration of healthcare data and the data structure as well as our ability to use data to measure the quality of care in Greenland.

Data was extracted from the national electronic medical record system for patients from age 20 and up who receive anti-hypertensive care. OECD standard process indicators including blood pressure (BP) measurements and smoking

status were used as indicators of the quality of data registration. The number of patients with BP values below 140/90 was used as proximal indicator of the treatment quality.

14% of the total population currently receives anti-hypertensive medication. Within the last 24 months 70% have had their BP measured and 30% of the patients have had their smoking habits registered of whom 40% smoke. Of all most recent recorded BP values 50% of patients were within normal range.

Digitalization enables extraction and analysis of large sets of lifestyle indicators to establish estimates on the current health status of the Greenlandic population while, at the same time, allows us to monitor of the registration efficiency. However, from the low registration rates we find that development of the current registration practice has potential to improve monitoring of healthcare quality in Greenland.

279. The use of emergency management principles to coordinate tuberculosis screening in a remote arctic community

Patterson, M.

First author's affiliation: Department of Health, Government of Nunavut, Iqaluit, Canada

Introduction: Qikiqtarjuaq is an isolated community on the eastern coast of Baffin Island, Nunavut, with a population of approximately 640 individuals. In 2017 this community experienced a significant increase in tuberculosis, with over 10% of residents being diagnosed with active or new latent TB infections. In December 2017 it was decided to mobilize a community wide screening (CWS) effort.

Methods: Mobilizing the staff and resources required for CWS required cooperation of several departments of the government of Nunavut, along with the federal government of Canada, the hamlet of Qikiqtarjuaq and private partners. In order to coordinate these efforts, we established a modified incident command framework.

Results: Starting February 5th 2018, the community hall of Qikiqtarjuaq was used as a site for the CWS clinic. In the following 6 weeks over 90% of the town's population were screened for latent or active tuberculosis. Screening was carried out using a combination of physical assessment; contact tracing; digital x-ray; mantoux testing, and collection of sputum. Sputa samples were processed using onsite genexpert, as well as being shipped out for AFB smear and cultures.

Conclusion: Community wide screening appears to be an effective response to increased incidence of tuberculosis in remote communities, and these efforts can include advanced diagnostic techniques not normally available in remote communities. The incident command system provides a useful framework to coordinate these activities, however emergency response in remote communities presents unique challenges that must be dealt with to achieve success.

280. Time to treatment and outcomes among Inuit patients from Nunavut treated with palliative radiotherapy at The Ottawa Hospital.

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First author's affiliation: Division of Radiation Oncology, The Ottawa Hospital, Ottawa, Canada

Introduction: The cancer burden among Canadian Inuit is high, and palliative radiotherapy is effective in helping control many symptoms of advanced cancers. Significant barriers, including geography and the resulting travel burden, may lead to prolonged times required to access cancer treatment such as palliative radiotherapy, but has not yet been described among this population.

Methods: Retrospective chart review of Inuit patients from the Qikiqtaaluk region of Nunavut treated with palliative radiotherapy at The Ottawa Hospital between 2005–2014.

Results: Nearly 60% of all radiotherapy patients were treated with palliative intent. Seventy percent of patients had stage IV disease at diagnosis, and the most common cancer type was lung (72%). Median time from first symptom in Nunavut to start date of palliative radiotherapy in Ottawa was about 4 months (112 days), with the longest interval occurring between the date of first symptom to date of first imaging in Nunavut (median 30 days). Median overall time spent in Ottawa was 2 months (64.5 days). Median survival time from date of pathological diagnosis was approximately 5 months (155 days).

Conclusions: A high proportion of Inuit radiotherapy patients at The Ottawa Hospital were treated with palliative intent, likely due to the high incidence of lung cancer and proportion of patients presenting with advanced-stage disease. Survival is poor, and further work is required to improve early detection of disease and to prevent unnecessary stays in Ottawa.

281. Time trends in Physical activity in Greenland and the relation to social indicators - Greenland Health Surveys 2005 to 2014

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Introduction: Knowledge on time trends in physical activity (PA) in Indigenous populations, experiencing a rapid social transition, is limited. The aim of the study was to examine time trends in physical activity patterns in Greenland and the association with social indicators.

Methods: Data were collected in Greenland from 2005 to 2010 and in 2014 as part of two population-based health surveys. Physical activity was measured using a modified version of the interviewer-administrated International Physical Activity Questionnaire (LongIPAQ). A linear mixed model was used to examine time trends in PA and the association between PA and socio-economic indicators over time.

Results: In total, repeated measures on PA was available from 1198 adult participants (18 to 97 years of age, women n=744; men n=454). Preliminary results revealed a decrease in total PA, corresponding to an extra hour of gentle walking each day. For men, the most marked difference was a decrease in active transportation (-6.8 min/day, p=0.001). For women, time spent on domestic chores decreased by 15 minutes per day between the two surveys. Time spent on sedentary activities increased by 1.3 hours/day (p<0.001) for men and 0.75 hours/day (p<0.001) for women. The result of the interaction analyses suggests no statistically significant difference in PA over time in relation to socio-economic indicators, such as educational level, but analyses are ongoing.

Conclusions: In parallel with the rapid social transition in Greenland, PA is decreasing. It is important to promote a physically active lifestyle, such as active transportation in order to prevent chronic diseases.

282. Timiga, Ikumajuq: Reimagining Sexual Health Programming for Inuit Youth through the Arts

Sallaffie, MC. Sallaffie, M.

First author's affiliation: Youth Mental Health and Wellness, Qaujigiartiit Health Research Centre, Iqaluit, Canada

Introduction: Timiga, ikumajuq - my body, the light within; was an Inuit arts based sexual health workshop developed and done in collaboration between Qaggiavut Society for the Performing Arts and Qaujigiartiit Health Research Centre at the Inuksuk High School in Iqaluit, NU. The purpose of the workshop was:

- 1) Pilot the arts- and drama-based approaches for data collection and exploration of issues like sexual health and relationships.
- 2) Better understand the aspects of sexual health and relationships that are important to Nunavut youth in order to inform a larger program of research and intervention in sexual health in the territory.
- 3) To build confidence and self-esteem among participants, increase peer networks, and provide an opportunity for creative expression.

Methods: The approaches used to deliver the workshop were; Inuit/cultural performance - Greenlandic mask dancing and story telling- body mapping, tableau theatre, group discussions and forum theatre. Pre and post surveys were distributed to participants, with a closing discussion group to track changes and to collect perspectives on efficacy of program.

Results: Results from the workshop showed that youth learned to communicate better, increased their knowledge about sex, sexual health and sexuality, learned more about Inuit culture and traditions, increased their value of the arts, showed an increase in emotional resiliency, and enjoyed their time in the workshop.

Conclusion: I propose to present on how the workshop was developed, piloted, evaluated, what the results were and what some of the next steps for the program are, and how other communities can develop, pilot and implement a similar program in their own communities.

283. Transforming the academy: The University of Manitoba's Indigenous Institute of Health and Healing

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In June 2017, the University of Manitoba launched the Indigenous Institute of Health and Healing, Ongomiizwin (an Anishnabee word which means clearing the path for generations to come). This launch was the culmination of a number of factors, including,

- 50 years of northern health service provision through the J.A. Hildes Northern Medical Unit;
- The success of the Manitoba First Nations Centre for Aboriginal Health Research in promoting partnership-based research between Indigenous communities and organizations, and university-based researchers;
- The pivotal role of the Centre for Aboriginal Health Education in supporting Indigenous students engaged in health professional programs; and
- A critical mass of Indigenous leadership as well as support for reconciliation within the Faculty and the University of Manitoba's broader priority of Indigenous Achievement.

The Institute's scope and scale is unprecedented in Manitoba and Canada. Ongomiizwin's mission is to provide leadership and advance excellence in research, education and health services in collaboration with First Nations, Metis and Inuit communities. Its work is led by the Vice-Dean of Indigenous Health and guided by Knowledge Keepers and Elders, who help to blend Indigenous and Western health paradigms. This presentation will discuss Ongomiizwin's transformation agenda under the three pathways,

- Embedding antiracist curriculum in professional programs offered by Rady Faculty of Health Sciences' five colleges;
- Supporting Indigenous communities and organizations towards the development of their own research capacity and leadership in Indigenous health research;
- Expand efforts for culturally safe, effective and integrated service delivery models. Help create an environment patients need to facilitate health and wellness.

285. Trends in drinking patterns in Greenland from 2005 to 2014 – how is the relation to social correlates?

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First author's affiliation: Centre for Public Health in Greenland, National Institute of Public Health, University of Southern Denmark, Copenhagen, Denmark

Background: Indigenous populations in the Arctic are experiencing a rapid social transition with changes in lifestyle and living conditions influencing their health. High alcohol consumption represents a major public health challenge in Greenland, causing both physical and social pathologies. This paper investigates drinking patterns in Greenland from 2005 until 2014 in relation to sex, age, birth cohort, period and a sociocultural status.

Methods: A total of 4463 participants aged 18-88 years were included from the Population-based Health Surveys of 2005-2009 and 2014-2016. Drinking patterns were defined by weekly binge drinking and potentially harmful alcohol use (CAGE-C), within the past year of the examination. Analysis were based on logistic regression stratified on sex, adjusting for sociocultural status and period.

Results: The prevalence of weekly binge drinking within the past year was 46.4% in 2005 and 41.5% in 2014 among males, and 33.4% in 2005 and 30.5% in 2014 among females. The prevalence of potentially harmful alcohol use within the past year was 36.8% among males in 2005 and 25.6% in 2014 and for females 24.8% in 2005 and 21.0% in 2014. Weekly binge drinking was associated with age and the highest prevalence was found among the youngest (18-24 years) and the middle aged (45-54 years). The prevalence for a potentially harmful alcohol use decreased with increasing age. There were no clear trends in relation to cohorts.

Conclusions: Time trends in drinking patterns in Greenland are different depending on age and sex. Results indicate that the overall alcohol consumption is decreasing.

289. Under the Same Sky Cultural sensitivity in nursing education - learning across the rural Circumpolar North

Norbye, B. Exner-Pirot, H. Butler, L.

First author's affiliation: Department of Health and Care Sciences, UiT The Arctic university of Norway, Tromsø, Norway

Introduction: The recruitment and retention of health professionals in northern and Arctic regions is an ongoing issue. Hiring of internationally educated physicians and nurses to meet the pressing needs of the health care system is costly and often results in retention issues. Many Arctic regions consist of predominantly Indigenous communities who experience poorer health outcomes than the rest of the population. Professional knowledge of cultural differences and understanding of health issues has been poor. This leaves community health services and rural health centers with less continuity and culturally responsive care for its patients. A northern nursing education network was established in 2014 across three continents to improve knowledge relevant to educating nursing students living in

northern and Indigenous communities. One of the Network’s activities was an annual International Innovative Learning Institute for Circumpolar Health (IILICH) for northern nursing students.

Methods: We performed a case study with a descriptive design of the IILICH, from 2015 – 2017.

Results: The IILICH was the first chance for the Nursing students to participate on an exchange program due to family commitments and work obligation. Gaining experience from other students, cultures, and new health systems was eye opening for many, as they share similar background as northern residents and Indigenous people. The field trips gave valuable input on their learning and values of the land and the families.

Conclusion: The IILICH allowed nursing students from northern and Indigenous communities to learn about themselves, their cultural differences, and common health related issues that will stay with them as health professionals in their future practice.

290. Understanding Youth-Identified ‘Connection to the Land’ as a Determinant of Dene First Nations Peoples’ Health

Lines, LA. Jardine, CG.

First author’s affiliation: School of Public Health, University of Alberta, Yellowknife, Canada

Introduction: Social determinants of Indigenous health are known to include unique structural determinants that consider history, political climate, and social contexts that stress the importance of relationships, interconnectivity, and community. Understanding these determinants from the perspective of Indigenous youth is vital to identifying means of alleviating future inequities.

Methods: In 2016, Yellowknives Dene First Nation (YKDFN) youth in the Canadian Northwest Territories participated in the On-the-Land Health Leadership Camp. Using a strength- and community-based participatory approach through an Indigenous research lens, the YKDFN Wellness Division and university researchers crafted the workshop to provide opportunities for youth to practice cultural skills, and to capture the youth’s perspectives of health and health agency. Perspectives of a healthy community, health issues, and health priorities were collected from fifteen youth through sharing circles, PhotoVoice, mural art, and surveys.

Results: The overall emerging theme was that the land connection was imperative for Dene health. Some examples of land connection included practicing cultural skills, Elders passing on traditional knowledge, and surviving off the land. The youth framed future health solutions to include roles for youth and an on-the-land component that builds YKDFN culture, community relations, and traditional knowledge transfer.

Conclusions: This research supports the argument that structural context has a direct relationship to determinants of Indigenous Peoples’ health and can play a role in creating future positive impacts.

291. Unhealthy Policies: The Government of Canada's response as a factor in the high rates of tuberculosis in Indigenous populations 1945-2015

Thomas, GS.

First author's affiliation: School of Social Work, Carleton University, Ottawa, Canada

Introduction: The rates of tuberculosis among Indigenous peoples remain 10 to 20 times higher than among non-Indigenous Canadians. The purpose of this study was to confirm the role of the federal government's health policies, programs and funding initiatives in addressing these inequalities.

Methods: An archival search of policy statements, ministerial announcements and departmental Annual Reports from 1945 to 2015 was used to track the government's reporting on the success of reducing the incidence of tuberculosis in Indigenous populations.

Results: Although the overall number of tuberculosis cases has dropped since mid-20th century, the rates among Indigenous populations have never reached the levels in non-Indigenous populations. Inequalities persist, even between Indigenous population groups, with the highest rates recorded among Inuit. This is due in part to the federal government's own policies which support an ad-hoc approach across Indigenous peoples. At the core of the federal response is a limited interpretation of its legal and constitutional obligations to provide health care to Indigenous peoples. The outcome is a patchwork network of policies that target specific resources, in specific Indigenous communities, in specific geographical regions across Canada. As a result, Indigenous individuals may have restricted access to the health resources that they require.

Conclusions: The federal government's policy response has not only failed to address inequalities in tuberculosis between Indigenous and non-Indigenous populations, it in fact continues to perpetuate the unequal social and economic conditions that contribute to tuberculosis and other health disparities.

292. Unwanted Pregnancies in Greenland – a situational analysis

Trulsson, AMC.

First author's affiliation: MTID, Liverpool School of Tropical Department, Liverpool, United Kingdom

Introduction: Having one of the highest abortion rates in the world, this situational analysis aims to investigate the incidence of abortion and the characteristics of unwanted pregnancies along with sexual reproductive health related policies and preventative strategies in Greenland.

Methods: Being a narrative review, a literature search on MedLine was carried out including publications from 1975 and onwards. Grey literature was searched from governmental and non-governmental organizations. Relevant findings were extracted, evaluated and discussed.

Results: Abortion was legalized in Greenland in 1975 and the rate has been relatively stable since 2007. In 2016 the number of abortions were 64,4/1,000 women. The highest abortion rates are reported between the ages 18-19 and 20-24. A range of sexual health and prevention interventions, mainly lead by PAARISA (The Department of Health and Prevention), have been initiated since 1988. Cultural aspects and varying quality of the sexual reproductive health education have been highlighted as well as a demand for better accessibility of condoms and improved collaboration between health care professionals. Evidence shows a low contraception utilization among abortion-seeking women and certain demographical differences between abortion-seeking and other pregnant women.

Conclusion: Despite free medical consultations, medications and condoms, unwanted pregnancies are still common in Greenland. Sexual reproductive health projects have had varied effects and sustainability. Studies have emphasized aspects related to sexual reproductive health and cultural facets worth implementing in future preventative strategies. However, there is a need for newer studies looking into the characteristics of unwanted pregnancies in Greenland.

293. Uptake and Impact of Prenatal Education in Northwestern Ontario: Mother's Perspective

Møller, H. Alzghoul, M. Wakewich, P. Sameshima, P. Gupta, N.

First author's affiliation: Department of Health Sciences, Associate Director Centre for Rural and Northern Health Research, Lakehead University, Thunder Bay, Canada

Introduction: Prenatal Education Programs aim to provide pregnant women and their supports, with the information and skills they need to improve pregnancy and birth outcomes and prepare for early parenting. Indigenous women, immigrant and refugee women, women who are younger, and women who have lower education, and lower income, report poorer maternity experiences compared to other Canadian women. They are also less likely to access prenatal care and education.

Methods: This interdisciplinary qualitative project is grounded in a philosophy of equity in access to quality maternal care. We conducted in-depth interviews with 40 women from Sioux Lookout, Kenora, and Thunder Bay, Ontario, Canada to explore women's experiences, accessing desired pre, peri- and postnatal knowledge and education.

Results: While prenatal education was thought to be important and empowering for all women, inequities in availability and accessibility of programs were reported. Significant gaps in information covered were identified. Mothers desired earlier and more personalized prenatal education, and more information about mental health challenges and supports, pregnancy and birthing complications, pain management options, breast feeding and postpartum family adjustments. Mothers with midwifery supported births reported more satisfaction with the availability and comprehensiveness of the information they received.

Conclusion: Targeted sessions to identify individual women's concerns, needs and challenges early in pregnancy, increasing prenatal education time in medical visits, and increasing the focus on mental health through the pre- and postnatal periods would optimise pre-, peri- and post-natal experiences for many women.

294. Using Research to Inform Community Prevention Practice: Sharing Participatory Approach and Results from Promoting Community Conversations About Research to End Suicide (PC CARES) in Alaska

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First author's affiliation: Health Promotion and Policy, University of Massachusetts Amherst, Amherst, United States

Introduction: Youth suicide is a pressing health issue that disproportionately affects rural arctic Indigenous communities. This health disparity is fairly recent, and linked to forced social, economic and political change, and intergenerational trauma. It is imperative that suicide prevention includes—at its heart—decolonization, while also using 'best practices' from research.

Methods: PC CARES is a community-based, self-determined approach to Indigenous suicide. The model shares research with community stakeholders, and guides them through learning circles (LCs) that invite interpretation and application of knowledge to local contexts. The goal is to create a community of practice that enables Alaska Native communities to create local multilevel evidence-based efforts. Trained local facilitators conducted a series of nine monthly LCs in Northwest Alaska; 376 unique participants attended at least one LC, which were audio recorded. Surveys compared participant responses about knowledge, attitudes and behaviors at baseline and three months post-intervention. We compared participant responses with community members who had not attended LCs. We conducted a social network analysis to detect potential social diffusion of the prevention behaviors of participants, those 'close to' them, and others. **Results:** Participants showed statistically significant positive change in attitudes, perceived knowledge, perceived skills from their pre- and follow-up surveys, and participants implemented

significantly more suicide prevention behaviors compared to non-participants. Persons close to participants were more likely to have taken preventative action than others.

Conclusion: PC CARES shows both community acceptance and positive impact on participants and people close to them. The model offers a practical, scalable method for translating research evidence into community-driven, culturally responsive prevention practice.

295. Using Traditional Arctic Games to Promote Sustainability & Peace in the North

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With climate change expanding trade routes in the Arctic and the resultant pursuit of oil, gas, mineral deposits, and fish, it is imperative that the eight Arctic countries find paths towards sustainability and peace in the region. Revisiting and understanding the traditional games of the indigenous people of these regions can go a long way towards helping those determining the region's future to work cooperatively towards these goals. By reconnecting with and understanding the games of our past, we can build meaningful bridges between our past and present, and hopefully gain a better understanding of our modern world. The aforesaid are timely and important, especially as they relate to indigenous people throughout the world who are trying to preserve their traditions in a fast changing modern world. This presentation/paper will offer, based on my research and experiences in the Arctic, lessons learned from traditional Sámi and Inuit games that may help promote sustainability and peace in the Arctic world. Hopefully by acknowledging these lessons we can pursue a path forward, together reconnecting with the traditional games of the Arctic with the hope of building meaningful bridges between the past and present and moreover, helping to enhance our understanding of the important role traditional games can play in shaping an Arctic where sustainability and peace flourish.

296. Vision with Action for Pediatric Oral Health

Ogenchuk, M.

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Canada's health system faces many challenges related to chronic and complex health conditions. As a result of advances in biomedicine, children and young people are now surviving conditions where they may have suffered early death just a short time ago. As a result, children and families must manage chronic health conditions while going to school. These children can be easily overlooked in our education system. On the contrary, early recognition of medical issues by health care providers can expedite healing and facilitate school attendance.

One faculty member from the College of Nursing in a Western Canadian University developed a nursing practicum for fourth year students in a primary education system to support the health of children and to fulfill the requirements of the public health course. This successful nursing practicum met community needs, fulfilled practicum objectives and changed the practice of one school's approach to student wellness. Outcomes of this practicum include the creation of healthy oral care routine in children. Although treatment pathways for care have been previously created, the needs exceeded the existing supports and new initiatives have been added for children's oral health needs to be met. Urgent referrals were to acute care facilities were realized and long- term outcomes are much broader and include better oral health throughout the youth population, which would include similar programs initiated in other schools by nursing students.

297. Vitamin D status in a multiethnic population of Northern Norway – The SAMINOR 2 Clinical Survey

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First author's affiliation: Department of Community Medicine, UiT The Arctic University of Norway, Tromsø, Norway

Introduction: Vitamin D status is of special concern in northern geographical areas. In the most northern part of Norway (69-71°N), UVB-activated skin production of vitamin D is absent for a considerable part of the year.

Methods: Using cross-sectional data, based on the SAMINOR 2 Clinical Survey, conducted in 10 municipalities of Northern Norway (latitude 68°–70°N) in 2012-2014, we investigated serum 25-hydroxyvitamin D (S-25(OH)D) concentrations in a multiethnic population of Northern Norway and determined predictors of S-25(OH)D, including Sami ethnicity. S-25(OH)D was measured by the IDS-iSYS 25-Hydroxy Vitamin D^s assay among 2041 males and 2424 females aged 40-69 years. Daily dietary intake was assessed using a food frequency questionnaire.

Results: Mean S-25(OH)D in the study sample was 64.0 nmol/L, and median vitamin D intake was 10.3 µg/day. The prevalence of S-25(OH)D <30 nmol/L was 1.9% and <50 nmol/L was 24.7%. In sex-specific multivariable linear regression models, older age, blood sample collection in September-October, solarium use, sun bathing holiday, more hours of sun exposure (in males), higher intakes of vitamin D in diet and supplement use including cod liver oil, were associated with higher S-25(OH)D, whereas being a current smoker and having obesity were associated with lower S-25(OH)D. There were no clear ethnic differences found. Even in winter, the low prevalence of vitamin D deficiency found among participants with non-Sami, multiethnic Sami, and Sami self-perceived ethnicity was likely due to adequate vitamin D intake.

Conclusion: Adequate dietary intake of vitamin D is necessary to prevent hypovitaminosis D in this geographical area.

298. Weaving Autoethnography, Poetry, Digital Storytelling, and Empirical Inquiry to Re-story the Research Ethics Regulatory System in Canada

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First author's affiliation: Aboriginal Engagement and Outreach, Provincial Systems Support Program, Centre for Addiction and Mental Health, Toronto, Canada

Introduction: A paradigm shift is occurring in research involving Indigenous Peoples that is simplistic at its core: research with Indigenous Peoples instead of research on them. To do this, we must meet in a space of multiple worldviews. Negotiating this meeting place—the ethical space—demands that researchers, Research Ethics Boards (REBs), and Indigenous Peoples collaborate to find mutually agreeable solutions to research ethics tensions.

Methods: The emergence of creative research methods provides researchers an opportunity to explore and examine the self and not artificially compartmentalize one's self from one's research – the preferred relational approach to conducting research involving Indigenous Peoples. This presentation discusses one such method – digital storytelling, an arts-based method that is relational and reflexive, challenges conventional positions of 'researcher' and 'participant', and re-imagines innovation through relationship.

Results: This presentation reports on a 2018 study, *Research is Relational and Reflexive: Peoples, Policies, and Priorities at Play in Ethically Approving Health Research with Indigenous People* that addresses the existing policy-to-practice gap with respect to applying Canada's research ethics policy, Tri Council Policy Statement: Ethical Conduct for Research Involving Humans: Chapter 9, by demonstrating the dance and continuous navigation of ethical engagement

by practicing Etuaptmumk (Two-Eyed Seeing): the Mi'kmaq concept of learning to see from and integrate multiple perspectives.

Discussion: Movements within both Indigenous and academic communities to develop policy on research ethics for research with Indigenous Peoples provides an opportunity and impetus for researchers to do differently. There are few things that all researchers have in common aside from all researchers having a self; Yet, the practice of acknowledging self-in-science or examining self-as-science is not widely applied. This presentation does so by weaving empirical research and autoethnography through poetry, digital storytelling, and academic writing.

299. Weight among children in Nuuk at school entry from 2011-2016

Budtz, AES. Lynge, AR. Budtz, CS. Pedersen, ML.

First author's affiliation: Queen Ingrid Healthcare Center, Queen Ingrid Healthcare Center, Nuuk, Greenland

Introduction: Childhood overweight and obesity is a serious public problem throughout the world. Obesity is associated with increased morbidity and mortality.

Among Inuit overweight and obesity have been documented to be an increasing problem. It remains unknown whether the prevalence of overweight and obesity among children in Nuuk, Greenland is still rising.

Methods: Register study based on data from electronic medical records (EMRs) All children born in 2005-2010 with a permanent address in Nuuk, and an EMR registered weight and height, were included in the study. Body Mass Index (BMI) was calculated. Participants were categorized into age and gender-specific weight classes based on the International Obesity Task Force (IOTF) cut-offs for child overweight, obesity and thinness.

Results: A total of 1390 children born between year 2005-2010, were identified. Among those, 78% (N=1082, 732 boys and 658 girls, range 5,4-7,6 years) had a record of weight and height at entry of school.

Overweight were estimated to 11,9% (N=129) and obesity to 5,5% (N=60), The proportion of overweight and obese boys in total (16,9%), was significantly lower than among girls 18,1% (p<0,001) Conclusions: Nearly one in five of the children are overweight or obese at school entry. This indicates that a stable number of overweight and obese children or might even be decreasing.

Continuous monitoring of the proportion of overweight and obesity among children using data from the EMR in Greenland is recommended.

300. Well-being among indigenous children and youth in the Arctic – with a focus on Sami and Greenland Inuit

Larsen, CVL. Ingemann, C.

First author's affiliation: National Institute of Public Health, University of Southern Denmark, Copenhagen K., Denmark

Introduction: Children and youth in the Arctic regions of the Nordic countries represent Indigenous Peoples and are in some aspects a vulnerable group. The aim of this study was to scope the literature to identify knowledge gaps, action taken and needed, as well as directions for future research and interventions in regards to indicators for the well-being of indigenous children and youth in the Arctic region of the Nordic countries and Greenland.

Methods: Literature (both scientific and grey) on the well-being among children and youth in the Arctic region was reviewed. The search was limited to the timeframe 2009-2017. A search syntax inspired by Augustsson and Hagquist was applied in the databases PubMed/MEDLINE and PsycINFO.

Results: From 247 scientific articles focusing on well-being of children and youth, 27 were found relevant to the Arctic context. Additionally, 31 documents and 46 homepages categorized as grey, non-peer reviewed literature were reviewed of which 28 sources were selected.

Discussion: The findings of the scoping review indicate that the focus on indigenous children's and youth's well-being in the Nordic countries is limited. This study reveals how the efforts for promoting children's and youth's well-being and mental health in the Arctic need to be developed in close collaboration with the local population in the Arctic region, children as well as adults. The evidence for actions and initiatives with a focus on involving cultural identity, skills in the nature and local connection are increasing in the north American literature, but hardly existing in literature on Sápmi and Greenland.

301. Why do young Greenlanders drink alcohol?

Niclasen, B. Schnohr, C.

First author's affiliation: Allorfik, Department of health, Nuuk, Greenland

Aim: To highlight the reason for using alcohol given by greenlandic schoolchildren

Introduction: Alcohol use among Greenlandic schoolchildren have been followed in the Health Behaviour in School-aged children survey since 1994. For the first time the data collection in 2018 also investigated reason for using alcohol.

Method: National school survey including 11-17 year olds.

Results: Data from the data collection in 2018 on trends in alcohol use and reasons for using alcohol are presented.

302. Why Fetal Alcohol Spectrum Disorder (FASD) is Important for Circumpolar Health

Drossos, A.

First author's affiliation: Department of Psychiatry and Behavioural Neurosciences, McMaster University, Hamilton, Canada

Introduction: The burden of FASD is considerable. The overall incidence in Canada is upwards of 1 in 100 live births. The degree of impact or disability ranges on a spectrum and the classically described physical features are not always present. The financial burden on the Canadian economy is also significant, and the prevalence of FASD in those criminally involved, including in youth justice, is particularly high. Although there have been some limited regional reports, incomplete information is available about the impact and burden in Canada's circumpolar north.

Methods: A literature review of published and grey literature was completed to better understand FASD epidemiology in Canada's circumpolar north including variations that may occur across the northern territories from west to east. Using this same literature, as well as the websites of local service providers, a list of available prevention/education strategies and clinical services was generated, highlighting some of their similarities and differences.

Results: A gap in FASD services has been identified in the past, and local/regional support groups have been developed to advocate for the need for formalized clinical services. A few such services exist, but they are significantly under-resourced and lack a coordinated approach across the circumpolar north.

Conclusions: Despite the controversies associated with how to diagnose FASD, and the associated sensitivities of those affected (including their families), the timing is right for moving forward with improved understanding of the impact of FASD in Canada's circumpolar north and the development of local expertise and services.

303. Working as a construction worker, in colder regions of Sweden, increases the risk of cardiovascular mortality

Pettersson, HG.

First author's affiliation: Occupational and Environmental Medicine, Public Health and Clinical Medicine, Umea, Sweden

Introduction: Working in a cold climate, common in northern Sweden, strains the cardiovascular system. Earlier research suggest an increase of cardiovascular disease related to cold work. The purpose was to investigate if working in cold, as a construction worker, increases the risk of myocardial infarction and stroke mortality.

Methods: During the mid-1960s up to 1993, Swedish construction workers were invited to participate in health examinations every 2-5 years by the nationwide occupational health service. 389 132 of those who participated at least once are now included in a cohort. The cohort includes information on birth year, weight, height, smoking habits, exposure to noise, and in which region of Sweden they worked. The cold assessment is based on three regions where the participants worked. The southernmost region is used as reference. Negative binominal regression was used to analyse an association between working in cold climate of northern Sweden and the risk of dying in myocardial infarction or stroke.

Results: The risk of myocardial infarction mortality, for those working in a northern Sweden compared to southern Sweden was OR 1.19 (95% CI 1.12-1.26) and the risk of stroke mortality, was OR 1.22 (95% CI 1.11-1.33), after adjusting for age, BMI, smoking habits, and noise exposure at work.

Conclusions: The results indicate that working in cold climate increases the risk of cardiovascular diseases as myocardial infarction and stroke. It is important to protect against cold for workers' health.

304. Working together to build a culturally safe health and social services system in the Northwest Territories

Yakeleya Newmark, M. Blondin Hall, K.

First author's affiliation: Health and Social Services, Government of the Northwest Territories, Yellowknife, Canada

Indigenous peoples have long understood that their knowledge and ways of being including culture are a source of identity, strength and confidence for themselves and their communities. The Government of the Northwest Territories (GNWT) recognizes this too and in 2016 the Department of Health and Social Services (DHSS) made a legislative commitment to transform the current system into one that is culturally safe. This was done to address health inequities and promote overall health and wellbeing among Indigenous peoples in the territory. First steps have focused on a DHSS led engagement strategy to explore the meaning of cultural safety within a Northwest Territories context. In 2017-2018, over twenty knowledge sharing sessions across the territory were conducted to capture the experiences, wisdom and desires that Indigenous people have in relationship to their own health and wellbeing as well as the relationship they have with DHSS. In addition, DHSS staff have visited regional health and social services staff and facilities, and community gathering places and centres to gain a holistic view of health and wellbeing in the communities. Preliminary results indicate emerging themes such as the need for staff training and staff development

including on land based learning opportunities, developing relationships, building trust with Indigenous patient-clients and embracing Indigenous knowledge and ways of being. The DHSS has a unique opportunity to make a positive impact on the overall health and wellbeing of Indigenous peoples by working together with Indigenous peoples and communities to build a culturally safe health and social services system.

306. Worlds Apart: Exploring the logics of Indigenous women's planned birthplace locations in remote arctic Greenland and tropical Australia

Montgomery-Andersen, R. Ireland, S.

First author's affiliation: Cultural Studies, Greenland University, Nuuk, Greenland

Introduction: Across the world, many indigenous women living in remote locations are giving birth outside of their communities. In this presentation we aim to demonstrate how a theoretical framework analysis using Daviss's logic can be used to better understand historical and current impacts on planned childbirth locations.

Methods: Using the theoretical framework of Daviss's logic we will compare and contrast how different logic principles have been used in planning childbirth locations for remote Australian and Greenlandic Indigenous communities.

Results: Application of the theoretical framework analysis demonstrated that specific logics have been used to implement and justify changes in referral guidelines, which thus removes the women's reproductive choice. Common to both remote Australia and Greenland are concerns over the cultural and political implications of moving and removing childbirth from communities and the ongoing status quo where childbirth care is undertaken without the consultation, input or negotiation with Indigenous women and their families.

Conclusions: Despite vast geographical distance and cultural disparities, this analysis demonstrates the hegemony of biomedicine in the provision of childbirth care for Indigenous women in Greenland and Australia. We suggest there needs to be better inclusion of Indigenous women and their families desire to have reproductive choice.

308. Yukon Hepatitis C Epidemiologic Profile

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First author's affiliation: Health and Social Services, Yukon Government, Whitehorse, Canada

Introduction: Yukon has one of the highest incidence rates of hepatitis C virus (HCV) in Canada, with rates nearly twice the national average.

Methods- Using Yukon 1992-2017 HCV surveillance data, a descriptive analysis was conducted using Stata 14.2 and Excel 2016. We calculated the incidence rate by positive antibody and PCR-RNA status, assessed case characteristics, acquisition risk factors, infection stage, genotype distribution and liver elasticity scores. Positive antibody and chronic infection prevalence rates were calculated as of March 9, 2018.

Results- HCV incidence decreased substantially from 2000 to 2017 from 156.0 to 46.8 cases per 100,000 population. Incidence rates among males were higher than females with differences in age distribution ($p < 0.05$). About 64.8% of infections were "active" (94.0% chronic and 6.0% acute), 25.0% cleared the virus, and 10.2% had an unknown stage. Between 1992-2017, 61.1% were exposed through injection drugs about two decades ago, while snorting and crack pipe users were generally current users. About 64.4% had genotype 1, 21.6% genotype 3a, and 13.0% genotype 2. There were differences in F-scores between cases diagnosed from 1992-1999 and 2000-2017 ($p < 0.05$) and more cases

with F4 scores had genotype 3a. Prevalence for HCV positive antibodies was 17.7-23.6 per 1,000 population and the chronic HCV prevalence rate was 8.2-11.0 per 1,000 population.

Conclusions- Most infections in Yukon are chronic. Baby boomers and males were most affected, and a main risk factor was injection drug use. Greater fibrosis progression occurred with genotype 3a and was less influenced by duration of infection.

POSTER PRESENTATIONS

6. A paper media review of patient experiences in the Northwest Territories

Affleck, Z.

First author's affiliation: Research Intern, Institute for Circumpolar Health Research, Yellowknife, Canada

Background: There has been a need identified to understand patient experiences in the NWT. Patient experiences entail elements such as quality of care, resources, health plans, accessibility, and availability. In the Territory there is consistent use of media to share information and is seen to be one source of patient experiences. Media reviews have previously explored issues around domestic violence, and travel emergencies in the Northwest Territories. Patient experiences in the media have yet to be explored. This information is being sought to provide a lens on the voice of patients in the NWT.

Methods: This voice will be categorized as per the Ontario patient experiences framework which recognizes patient aspirations including “don’t hurt me”, “safety”, “heal me” etc. This framework outlines the shared commitment and responsibility to respond to the needs and aspirations of patients.

Results: Our analysis of patient experiences in the NWT and Nunavut aims to improve patient outcomes by improving our knowledge of issues important to the public. Through an analysis of digital media, we hope to indicate common illnesses, patient experiences, and outcomes.

Conclusions: Key findings that may help address reoccurring issues to ensure better outcomes concerning the health and wellbeing of patients in Canada’s North will be shared.

9. A Public Health Approach to Cannabis Legalization in Yukon, Canada

Hanley, B. Zuccharini, C.

First author's affiliation: Office of the Chief Medical Officer of Health, Government of Yukon, Whitehorse, Canada

Introduction: Within Canada, Yukon has one of the highest rates of cannabis use. Canada is committed to the legalization of cannabis by summer 2018. In response, each province and territory has been developing local legislation, covering how and where cannabis will be sold, where it can be consumed, and addressing public health and safety issues. We wish to highlight Yukon’s public health approach to cannabis legalization and the process of indicator development.

Methods: A working group comprised of senior officials from across government was formed to guide the development of cannabis legislation and regulations. The Office of the Chief Medical Officer of Health (OCMOH) was engaged early in this process. The OCMOH provided evidence and a public health perspective on public engagement, policy development, and led the identification of health indicators that could be monitored and used to measure the impact of legalization.

Results: The OCMOH provided input into all key policy decisions throughout the development of legislation and regulations. The OCMOH led the creation of a cannabis indicator framework for the territory, one of the first in Canada.

Conclusions: The OCMOH applied a public health and safety lens to the cannabis legalization process, prioritizing harm reduction and focusing on protecting youth from negative health effects. The use of indicators will be critical to monitor and track the impact of cannabis legalization on Canadians now and in the future.

15. Adult Occupational Therapy (OT) and Physiotherapy (PT) Services in the Kivalliq Region of Nunavut: Mapping the Client Journey

Achtemichuk, M. Leclair, L. Fricke, M. Lavoie, J.

First author's affiliation: Indigenous Institute of Health and Healing, Ongomiizwin - Health Services, University of Manitoba, Winnipeg, Canada

Introduction: Based on the findings of a community needs assessment, the Kivalliq Region of Nunavut, population 10,467 with most self-identifying as Inuit, introduced OT and PT services in 2000. Funded by the Government of Nunavut, Ongomiizwin – Health Services (formerly the J.A. Hildes Northern Medical Unit) at the University of Manitoba coordinates OT and PT services to the Region. There has been no evaluation of these services since their inception.

Methods: Following a literature review examining rehabilitation services and best practices in community-based program evaluation in Indigenous rural and remote communities, the researchers propose a descriptive single embedded case study design to conduct a program evaluation. Research methods will include quantitative data (program utilization data) as well as qualitative data (client journey mapping process which includes chart audits and interviews). Researchers have adapted The Managing Two Worlds Together Patient Journeys workbook (Kelly, Dwyer, Mackean, O'Donnell, & Willis, 2016) to focus on the Inuit OT and PT client journey in Nunavut. Descriptive statistics, content analysis and visual mapping will be used to analyze the data.

Results: Researchers will present key literature review findings along with the program evaluation proposal. The phases of the case study including sample, recruitment, data collection methods and data analysis will be outlined.

Conclusions: The program evaluation will provide an overview of the utilization of adult OT and PT services and describe the client journey and experience of Inuit OT and PT clients and perspectives of OTs and PTs in the region.

19. An analysis of media representations of cancer among residents of Canada's Arctic: preliminary findings

Cherba, M. Feltaous, E. Horlick, S. Amagoalik, L. Edmunds-Potvin, S. Elliott, S. Bellefontaine, K. Colepaugh, J. Cole, M. Woodgate, R. Healey, G. Galloway, T.

First author's affiliation: Communications, Université de Montréal, Montréal, Canada

Introduction: This presentation will focus on preliminary findings of an ongoing review that examines media representations of cancer among residents of Nunavut, Canada, in three popular media outlets.

Methods: Specifically, this poster will outline the results of a thematic content analysis of articles containing the word "cancer" found in online archives of Nunatsiaq News spanning 1996-2017.

Results: Of the 413 articles found, 38% associate cancer with some form of risk factor (smoking, radiation, pollution, lifestyle changes, HPV) and 35% identify a specific cancer site (most commonly lung or breast cancer). Mentions of cancer mortality are common (27%) in contrast to mentions of cure or recovery, which are rare. Statements about available services or resources for cancer patients are extremely rare. In contrast, statements about limited services or resources are common, with reports describing screening and detection services as limited. The difficulties of medical travel are mentioned in 8.4% of articles, in particular the financial costs borne by families. Mentions of cancer are often accompanied by critiques of the health care system and government policies. Media reports form part of the public narrative around cancer, and can contribute to the experiences of northern residents encountering the health

care system by “setting the agenda” (McCombs, 2005) and giving more importance to certain issues, as well as by framing issues in particular ways.

Conclusions: Our findings can also be useful to journalists and editors, by highlighting, for instance, the lack of information about available support services and resources for patients and families.

20. An examination of health determinants and status of older Aboriginal and non-Aboriginal peoples in Canada using national survey data

Abonyi, S. Karunanayake, C. Khanam, U. Pahwa, P.

First author's affiliation: Community Health & Epidemiology, University of Saskatchewan, Saskatoon, Canada

Introduction: Statistics Canada data reveal Aboriginal people are aging faster than the overall population, with the Health Council of Canada referring to them as among Canada's most vulnerable. We are only recently exploring in what ways seniors' health differs by Aboriginal identities and compared to non-Aboriginal counterparts.

Methods: We applied univariate and multiple logistic regression to data from the 2012 Aboriginal Peoples' Survey and the 2012 Canadian Community Health Survey. Our analysis considered three age categories (55-64, 65-74, 75+), and five categories of identity (non-Aboriginal, all Aboriginal, First Nation, Metis, Inuit).

Results: Only Aboriginal seniors aged 65-74, are significantly less likely than those aged 55-64 to report their health as excellent/very good. The situation is reversed for those aged 75+, with non-Aboriginal seniors more likely to report fair/poor health than their younger counterparts. Healthy survivor effect may explain why the oldest Aboriginal seniors are similarly likely to report excellent/very good health as those aged 55-64. Metis and Inuit are more likely than First Nations to report excellent/very good health. Both Aboriginal and non-Aboriginal people who report excellent/very good health are significantly more likely to have completed high school, and have an income greater than \$20,000 per year. While there was no significant difference for non-Aboriginal people, rural dwelling Aboriginal people were more likely to report excellent/very good health than their urban counterparts.

Conclusion: Support needs may differ within growing Aboriginal senior populations, as well as compared to the non-Aboriginal population, to meet aspirations for aging well.

21. An exploration of medication events in a Canadian undergraduate nursing program.

Pender, K. Bursey, N.

First author's affiliation: Nursing, Aurora College, Yellowknife, Canada

Introduction: Safe medication administration is a fundamental nursing skill and focus in baccalaureate nursing education (Fothergill Bourbonnais & Caswell, 2014). Despite levelling education in the classroom, lab, and clinical settings there continues to be concerns related to safe medication administration practices. The purpose of this review was to provide a retrospective study of student's medication events (medication errors or near misses) which occurred in a Bachelor of Nursing program in Northern Canada to identify gaps in education and /or system issues and to provide recommendations for improvement.

Methods: Medication events were recorded by faculty over a 10-year period at a rural Arctic college in a 4-year Bachelor of Science in Nursing program.

Results: Multiple factors contributed to these events. Namely, incorrect time, delivery error, and safety breaches were most prevalent. Similarly, incorrect time, incorrect dose and safety breaches contributed to the highest incidents of near misses.

Conclusion: Data collection has been inconsistent and minimally evaluated. A student medication error reporting system requires a robust review to determine a process for accurate collection of data between partner sites and the educational facility. Innovative teaching methodologies should be incorporated to assist students with knowledge translation and remediation when faced with the challenge of safe medication administration and the realities of nursing practice.

23. Antibody Levels and Protection after Hepatitis B Vaccine: Results of a 35 year Follow-up Study and Response to a Booster Dose

Bruce, M. Seeman, S. Hurlburt, D. Morris, J. Bruden, D. Thompson, GV. Lecy, D. Simons, B. Rudolph, K. Spradling, P. Hennessy, T. McMahon, B.

First author's affiliation: AIP, CDC, Anchorage, United States

Introduction: In 1981, we immunized a cohort of 1578 Alaska Native (AN) adults and children from 15 Alaska villages who were 6 months or older using 3 doses of plasma-derived hepatitis B vaccine. At 22 and 30 years, we administered a hepatitis B booster dose to persons with antibody to hepatitis B surface antigen (anti-HBs) <10 mIU/ml. We sought to determine the proportion of persons with protective anti-HBs levels (>10 mIU/ml) and to evaluate response to a booster dose among persons with antibody levels < 10 mIU/ml 35 years after vaccination.

Methods: AN participants were tested for anti-HBs levels 35 years after receiving the primary series and again boosted with 1 dose of recombinant hepatitis B vaccine if they had antibody levels <10 mIU/ml. They were then evaluated on the basis of anti-HBs measurements 30 days post-booster.

Results: 254 persons who responded to the original primary series but received no subsequent doses during the 35-year period (53.7% of 473 eligible) were recruited. Among the 98 participants who did not participate in the 22-year or 30-year follow-up, 44 (44.9%) had an anti-HBs level > 10 mIU/ml. Among participants with anti-HBs levels <10 mIU/mL who were available for follow-up, 37/48 (77.1%) responded to a booster dose with an anti-HBs level ≥10 mIU/mL. Initial anti-HBs levels after the primary series was correlated with higher anti-HBs levels at 35 years.

Conclusions: Based on anti-HBs levels and response to a booster dose, approximately 90% of participants had evidence of protection 35 years later.

26. Arctic region: human and social factors

Lobova, VA. Mironov, A.

First author's affiliation: Institute of Humanities, Yugra State University, Khanty-Mansiysk, Russia

Introduction: The objective of the research is to study the influence of social factors on psychological welfare of Yamal's Nenets people. Peculiarities of work activities, household features, family lifestyle and communication were picked out to be analyzed as social factors. Besides this a life exhaustion factor and personal peculiarities were taken into account.

Methods: To study the social factors affecting the psychological welfare of an individual the Reeder psychological stress scale was employed (L.G. Reeder, 1969).

Results: The research suggests that no-stress people occur more often among tundra male inhabitants as compared to those ones who live in the village. Both men and women remained pleased with their spontaneous and social communication having revealed high performances in this criterion. Moreover it also specifies that the tundra female inhabitants suffer from life exhaustion and are satisfied with family relations in a lesser extent as compared to the village females. Meanwhile, men who do not run the house in traditional ways begin to be more concerned about their job. Thus, there are significant differences revealed in the «I am very concerned about my job» scale in the village inhabitants as compared to nomadic males. This criterion is more positive in reindeer breeders.

Conclusions: (1) Stress changes related to peculiarities of work activity and living conditions were discovered in Nenets people who enjoy the civilization benefits. (2) Positive indicators on the communication scale were obtained that show communicative comfort and satisfaction with communication in Nenets.

29. Availability of obstetric beds and women's reproductive health issues in Yakutia

Douglas, NI. Chasnyk, VG. Burtseva, TE. Pavlova, TY. Odland, JØ. Savvina, MS. Evseeva, SA.

First author's affiliation: Gynecology and obstetric department, M.K. Ammosov North-Eastern Federal University, Yakutsk, Russia

Introduction: At the turn of the year 2017, the population of Yakutia was estimated at 962,800 with the steady upward trend over the past years and the reproductive health of women being a matter of concern.

Methods: Women's reproductive health issues and obstetric and gynecological care system in Yakutia were analyzed using data obtained from the public health reports.

Results: In 2016 the availability of obstetric beds was 31.3 per 10,000 women of fertile age (31.5 in 2015) which is better than in Russia in total (19.0 in 2015). Of them, the availability of beds for pregnant/in labor women was 15.0 (15.4 in 2015), of beds for women with pregnancy pathologies – 16.2 (16.9 in 2015), of gynecological beds - 8.0 (8.8 in 2015) per 10,000 women's population. The number of births in 2016 was 15,425 and the crude birth rate - 16.0 ‰ (12.9‰ in Russia in total) with 51.2 % normal births (52.3% in 2015). Over the past 3 years, the number of infertile women increased by 23.8% to a total number of 2257 (526 new cases). The number of in vitro fertilization has reached 383 in 2016 (334 in 2015) with 143 of them followed by a normal pregnancy (108 in 2015).

Conclusions: Better availability of obstetric beds, attributed to the requirements to ensure timely referrals and easy access to a health facility, which are hampered by large territory and poor transportation infrastructure, must be supplemented with the restructuring of service and improvement of the quality of care.

30. Bases of creation of new food in Arctic territories

Konstantin, S. Uliana, L.

First author's affiliation: scientific and organizational department, Yakut Science Centre of complex medical problems, Yakutsk, Russia

Introduction: The impact of a complex of extreme climatogeographical, socio-economic, environmental factors is reflected in unfavorable dynamic changes in the health status of the population of the Arctic Territories and have a significant impact on the body's need for nutrients and energy. To provide specialized food products from local raw materials, it is necessary to develop new technologies based on complex medical and biological research.

Methods: Standardized epidemiological and technological studies are conducted. The evaluation of actual nutrition by the method of frequency of consumption of food products was conducted on 51 product groups, including 12 national dishes.

Results: The energy value of the diet for the 10-year period decreased by 11%, and averaged 1885.7 kcal. At the same time, the greatest decrease in energy value occurred in the industrial zone (1,797 kcal), the lowest in the Arctic zone (2020 kcal). The average daily intake of proteins, fats and carbohydrates over the 10-year period did not change significantly, remaining well below the recommended physiological norms. There is a significant deficit of potassium, magnesium, calcium, iron, vitamins B1, B2, C, PP, retinol.

Conclusions: The main goal of our scientific team is the development of innovative biotechnologies for specialized food products that really help the population of the Arctic Territories, in the preservation of health, which fully corresponds to the idea of transition to preventive biocorrection and medicine, the main tasks of which are to protect the genetic apparatus of cells, prevent disease and slow the aging process.

31. Best practices in tuberculosis prevention implemented in the Northern Circumpolar regions - from 2007 to 2017

Michelsen, SW. Koch, A. Soborg, B.

First author's affiliation: Department of epidemiology research, Statens Serum Institut, Copenhagen S, Denmark

On behalf of the International Circumpolar Surveillance – Tuberculosis Working Group

Background: Tuberculosis (TB) remains a serious public health problem in the Circumpolar region. Despite difference in languages, disease patterns, geography and resources, the jurisdictions share many similarities such as difficulty in delivery of care, climate and infrastructure, which are all important for a successful TB program. Much can be learned and shared regarding delivery of health care, which may be key in preventing TB in the region and in reaching the WHO goal of TB-elimination. In 2009, the International Circumpolar Surveillance – Tuberculosis Working Group (ICS-TB) was established with the aim to share expertise and improve existing knowledge of TB in the Circumpolar region. Within ICS-TB, the national boards of health or corresponding administrative organs are represented for USA (Alaska), Canada, Greenland, Norway, Sweden, Finland and three jurisdictions in Russia. Using the network, the knowhow and collaborative efforts within the ICS-TB network, we aim to develop a best-practice catalogue of local TB preventive interventions that have proven successful. The aim is to share and disseminate successful interventions across the Circumpolar region. The catalogue is intended to be a resource for stakeholders at all levels.

Methods: Examples of best TB practices in Arctic populations in USA (Alaska), Canada, Greenland, and three jurisdictions in the Russian will be collected for the period 2007 through 2017. The examples of best TB practices will be categorized according to predefined WHO criteria. An expert committee from within ICS-TB ensures that submitted material meets submission criteria.

Results: Data-collection is ongoing.

32. Biomarker Feedback Pilot Intervention for Tobacco Cessation among Pregnant Alaska Native Women

Patten, C. Flanagan, C. Hiratsuka, V. Koller, K. Willetto Wolfe, A. Murphy, N. Benowitz, N. Hatsukami, D. Hughes, C. Thomas, T.

First author's affiliation: Psychology, Mayo Clinic Cancer Center, Rochester, United States

Significance: Thirty percent of Alaska Native (AN) women smoke during pregnancy. A previous study with pregnant AN women tobacco users suggested specific information about fetal exposure to tobacco could influence cessation. We developed a biomarker feedback intervention and evaluated its feasibility, acceptability and effectiveness.

Methods: We enrolled 60 participants in a two group, randomized controlled 5-week intervention study (30 in each group). All participants received standard of care cessation counseling. The intervention group also received personalized biomarker feedback information. Tobacco-use assessments were obtained at baseline, post intervention, and at delivery.

Results: Per protocol analysis demonstrated no significant difference between study groups for self-reported smoking abstinence post intervention ($p=0.22$) or at delivery ($p=1.0$). At delivery, 26% of participants in each group had quit smoking, which was biochemically confirmed.

Conclusions: While the biomarker feedback intervention was feasible and acceptable, it was no more effective than current cessation counseling on smoking abstinence rates. However, the 26% abstinence rate is a vast improvement over a prior study in Alaska with an abstinence rate of 0% at delivery. The improved cessation rates could have been the consequence of several programmatic changes influenced by the study that involved more active outreach to pregnant women who use tobacco and placement of a cessation counselor in an accessible location in the clinic.

39. Building Partnerships on Solid Ground: Indigenous and non-Indigenous researchers exploring decolonised research relationships

Ireland, S. Marsh, J.

First author's affiliation: Northern Institute & Office of the ProVice Chancellor Indigenous Leadership, Charles Darwin University, Darwin, Australia

Introduction: Indigenous scholarship and commentary has made it clear that Western research is implicated as mechanism of colonisation affecting Indigenous people's lives and sense of well-being. To prevent the perpetuation of this harm there is an imperative that Indigenous health research is responsive to the history of colonialism and builds healthy relationships between communities and researchers. In this presentation we aim to demonstrate critical insights into decolonising our research partnership.

Methods: We used discursive self-reflectivity and a decolonising framework to critically analyse our experiences, motivations and goals in partnering for a community research project on women's health.

Results: We identified principles that guided the successful building of safe and sustaining relationships between non-Aboriginal and Aboriginal health researchers and community. These principles were centered on resource acquisition, power, ownership, reciprocity and historical awareness. With mutual commitment and effort we were able to find 'solid ground' to build research praxis while challenging the perpetuation of colonial power imbalances. In this way we have found our research partnership transformative.

Conclusion: While research partnerships between Indigenous and non-Indigenous people and communities are complex and carry the risk of further harm, they also offer opportunities for transformation. We suggest that persistence in research efforts that are based on, and bound by, ethical and moral partnerships it is possible to work in an environment of mutual respect.

40. Cancer Screening in Northern Canada: An Analysis of Current Practices

Beaudry, A. Orr, P.

First author's affiliation: Faculty of Health Sciences, University of Manitoba, Winnipeg, Canada

Introduction: The Canadian Taskforce on Preventive Health Care publishes recommendations regarding cancer screening based on national data. However, provinces and territories must take into account factors that include local epidemiology, resources, priorities and health systems. In this study we analyze the relevance of the national guidelines to northern regions of Canada.

Methods: Benefit/harm algorithms used in national recommendations were applied to cancer incidence statistics for the northern Canadian territories including Nunavut.

Results: A review of current cancer screening practices indicates differences among the territories (Nunavut, Northwest Territories and Nunavut), and differences between northern practices and those recommended by the Taskforce. There are also differences with respect to whether screening services are provided locally as opposed to requiring travel to southern Canadian centres. Differences in cancer incidence - for instance, the lower rate of breast cancer in Nunavut compared to the national Canadian rate - result in alterations to the harm/benefit profile of screening maneuvers such as mammography. This in turn has economic significance, in terms of the costs of providing services locally versus the costs of travel to other centres.

Conclusions: Cancer screening guidelines must be adapted to local conditions. This requires accurate and timely epidemiological data as well as transparent decision making regarding resources and priorities.

43. Changing risks to outdoor soft-mobility and use of public spaces in the Arctic

Larsson, A. Chapman, D.

First author's affiliation: Department of Health Sciences, Luleå University of Technology, Luleå, Sweden

Introduction: In Arctic regions, generations have evolved lifestyles that fit with working and living with local conditions and seasonal variations. With emerging climate changes new risks appear and prior individual experiences based on preconceptions of risk may not remain valid. In everyday life, soft-mobility is required in varying conditions, such as ice and snow covered surfaces, darkness, extreme weather conditions. Inability to detect environmental clues to risk is a critical aspect for injury. Also, fear and activity avoidance lead to an increased risk of physical inactivity, a significant population health concern worldwide.

Methods: An explorative survey, on subjective ratings of barriers to 1) soft mobility and 2) the use of outdoor public space in winter was performed. The EAMQ –Climate survey, tailored for climatic sensitive urban design research, include dimensions of distance, ambient and terrain, and a range of weather conditions found in winter, such as sun, coldness, wind, ice and ground surface properties (ice, snow, slush). Respondents were 1) 344 people in the Nordic Countries and 2) 325 responses from people in Canada.

Results: The results highlight that rain, icy surfaces and darkness are today's most significant barriers to soft-mobility in winter. For the use of outdoor public spaces, the most significant barriers were slushy and icy surfaces, rain precipitation and darkness.

Conclusions: The traditional risks associated with outdoor activity in winter are changing with climate change. Future urban design and planning for safer and more walkable winter cities need to consider a more extensive pallet of weather conditions.

50. Chronostructure of blood pressure in workers engaged in monthly round-trip sojourns to the Arctic

Shurkevich, N. Vetoshkin, A. Gapon, L. Gubin, D.

First author's affiliation: Department of arterial hypertension and coronary insufficiency, Tyumen Cardiology Research Center, Tomsk National Research Medical Center, Russian Academy of Science, Tomsk, Tyumen, Russia

Introduction: Arterial Hypertension (AH) is an important health problem for people working in monthly round-trip sojourns to the Arctic since it's a typical adaptation disease.

Methods: Chronobiological characteristics of BP circadian rhythms and target organ disease were analyzed in shift workers of the Arctic polar region (71 degrees North latitude), (Group 1) and native residents of Tyumen city (57 dNl), (Group 2). Altogether 373 patients with AH stage I-II (Gr.1) and 144 patients with AH stage I-II (Gr.2) were examined and underwent 24-hour ambulatory BP monitoring (ABPM), standard method and cosinor analysis of 24-hour ABPM, echocardiography, brachiocephalic artery ultrasound, treadmill ergometer test, a controlled study of autonomic nervous system (ANS) function, blood lipid profile and 24-hour ECG Holter monitoring.

Results: In Group 1 circadian BP profile was associated with low circadian rhythm indices, high BP variability, mainly night hyperbaric overload, high frequency of circadian BP profile («non-dipper» and «night-peaker»). In (Gr.1) ANS dysfunction was detected significantly more often and heart rate variability indices were found significantly lower compared to (Gr.2). Chronobiological BP circadian rhythms disorders in (Gr.1) were defined by predominant ultradian rhythms and alterations in BP circadian rhythms, disruption of external and internal synchronization of physiological processes (desynchronosis).

Conclusions: In the conditions of Arctic shift work, AH clinical implications were more evident and associated with ANS dysfunction along with desynchronosis and disintegration of BP circadian rhythms that is related to more pronounced structural heart alterations, high frequency of brachiocephalic atherosclerosis, dyslipidemia, low exercise tolerance and level of adaptive potential.

63. Comparative analysis of the psychological safety of shift workers in oil and diamond productions in the Far North and the Arctic

Korneeva, Y. Simonova, N. Tyulyubaeva, T.

First author's affiliation: Psychology department, Northern (Arctic) Federal University, Arkhangelsk, Russia

The Arctic is very rich in oil, gas and other minerals. An important role in the development of the Arctic is played by attracting and retaining a relatively small number of able-bodied people in these remote regions. For the possibility of prospecting and mining in these hard-to-reach regions with extreme climatic conditions, the shift method of labor organization is used. High-tech production, extraction and transportation of hazardous substances in oil and gas production pose a serious threat to the environment and the health of the worker himself. Despite the development of the problem in this direction, there remain a number of poorly understood questions. The goal is to identify differences in the psychological safety of workers in oil producing and diamond mining industries under shift work organization in the Far North and the Arctic. The study involved 70 persons at the ages from 24 to 60 years (average age 38.7 ± 1.3). The methods are as follows: study of documentation, monitoring of work process, questionnaires, psycho-physiological and psychological testing, and statistical methods of data analysis. As the research result, the models of psychological safety of oil producers and diamond mining companies under the shift work organization in the Far North and the Arctic (including psychological properties, functional states, behavioral characteristics and attitudes to dangerous and extreme factors and conditions of the professional environment) are refined. The role of

production factors in the formation of psychological safety and safe behavior of the personnel of extractive companies was determined.

67. Country Food Contaminant Advisories: Assessing Awareness and Preferences of Health and Risk Communication Messages in the Sahtú Region of the Northwest Territories, Canada

Brandow, D. Skinner, K. Laird, B. Ratelle, M. Simmons, D. Andrew, L. Bezha, W.

First author's affiliation: Applied Health Sciences, University of Waterloo, Waterloo, Canada

Introduction: Elevated concentrations of heavy metals in fish and in moose within the Sahtú Region of the Northwest Territories resulted in a series of food consumption advisories that suggested people limit their consumption of country foods in the region. This project has several objectives: to assess the risk perceptions and awareness of current contaminant advisories; to provide baseline data to evaluate the impact of contaminant advisories over time; and to begin to develop more effective health and risk communication dissemination strategies with Dene communities in the Sahtú region.

Methods: As part of a larger biomonitoring project, this study uses a collaborative and participatory mixed-methods approach with community co-researchers, three terminology workshops, a Health Messages survey, and interviews with community members.

Results: The terminology workshops with community members (n=27) helped to build important understanding around relevant terms and facilitate more meaningful language use. The Health Messages survey (n=63) gathered information on health behaviours and country food consumption for those who had heard or seen contaminant advisories as well as who community members would trust for information and their health messaging preferences. Interviews (n=12) provided context for the responses to the Health Messages survey.

Conclusions: Long-term objectives of the study are to help create more effective public health communication strategies to reduce contaminant exposure, maximize nutrient status, while also endorsing country food consumption for Dene communities in the Sahtú region of the Northwest Territories.

72. Cultural Competency Training in a National Organization; Realizing the Truth and Reconciliation's Calls to Action.

Hutchinson, P. Tobin, P. Muirhead, A. Handa, D. Sunak, A. Ng, H.

First author's affiliation: Strategy, Canadian Partnership Against Cancer, Toronto, Canada

Introduction: First Nations, Inuit and Métis experience a disproportionate burden of illness and inequitable access to health and cancer care in Canada. For the Canadian Partnership Against Cancer (The Partnership) and cancer care across Canada is to minimize the disparity realized amongst First Nations, Inuit and Métis. An evidenced based strategy to reduce this disparity recognizes a strong correlation between health outcomes and culture. This strategy is also informed by the recognized need to incorporate Indigenous knowledge into the delivery of cancer care. By providing cultural competency training Partnership staff will be prepared to engage First Nations, Inuit and Métis in respectful effective relationships to advance the priorities and engage the strategies of First Nations, Inuit and Métis within cancer care. Cultural competency training will increase the knowledge of Partnership staff on material that contextualizes First Nations, Inuit and Métis and influence health outcomes and health care utilization.

Methods: Six training modules have been developed to deliver cultural competency training. The approach utilizes the stages of change model and an Indigenous informed social change model. Evaluation of the modules is meant to improve uptake and understanding of cultural competency.

Results: Evaluations demonstrate increased understanding and increased uptake of culturally competent practices.

Conclusions: People are moving through the modules in understanding and intellect. The qualitative feedback indicates an understanding and awareness of the necessity for cultural competency and the need to place this awareness within their work immediately. Limitations to uptake are addressed and program revisions to increase diffusion are described.

74. Culturally-responsive arts and social media-based interventions to promote positive sexual health, attitudes and behaviours among Nunavut youth

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First author's affiliation: Family Health Research, Qaujigiartiit Health Research Centre, Iqaluit, Canada

Recurrent Syphilis outbreaks and high reports of Gonorrhoea and Chlamydia in Nunavut communities confirms the need for responsive, innovative, and evidence-based intervention strategies. The purpose of the project is to shift attitudes and behaviours towards, and improve knowledge about, sexual health, sexuality, intimate relationships, and sexually transmitted infections through Inuit knowledge sharing and teaching techniques through the use of a social marketing campaign.

A mixed methods approach will be conducted to include the collection of quantitative and qualitative data through the implementation of pre and post workshop surveys focused on safe sex and self-efficacy, STI knowledge, attitudes toward HIV, attitudes toward intimate partner violence, agency and decision-making, and peer pressure experiences to provide baseline data for the social marketing campaign. As youth report the largest number of STIs, the primary audience will include Inuit youth between the ages of 14 and 25 who reside in Nunavut.

Preliminary data was collected in Cambridge Bay and Iqaluit, Nunavut (n=35) to provide insight into youth use of social media. Self-report indicated Facebook and Snapchat are the most popular social media platforms in this population. Next steps are to use this data to: develop a social marketing campaign for Facebook and Snapchat to focus on sexual health messaging; Engage local gender and sexual diversity youth groups to develop the campaign content; Pilot and evaluate the social marketing campaign based on the engagement with and uptake of campaign messaging, visuals, and stories.

78. Detection of *Vibrio* spp. in commercial fishermen.

Nelson, CM. Bulzacchelli, MT. Davis, MF.

First author's affiliation: Environmental Health and Engineering, Johns Hopkins Bloomberg School of Public Health, Baltimore, United States

Introduction: Little is known about zoonotic infections in commercial fishermen from pathogenic bacteria that may have moved into the Arctic regions due to changing environmental factors. Due to morbidity- and mortality-related risks of infection via injury (punctures, scrapes, and slashes), the various *Vibrio* species are of signal interest. The occupational exposures of these workers are not well characterized, and a 2018 pilot study will begin the process of determining that burden via enumeration of nasal carriage and fish contamination, and will explore whether hand contamination could mediate exposure.

Methods: Participant nasal swabs and fresh commercial fish will be cultured to generate 1) prevalence of contamination, and 2) degree of contamination via colony-forming unit counts. Glove-juice sampling will be performed on a subset of participants who meet inclusion criteria for this assessment. Biospecimens will be archived for later bacteria genetic testing directly from nasal, glove juice, and fish samples to identify the concentration of genes for *Vibrio* species and other bacteria.

Results: We hypothesize that *Vibrio* spp. will be identified in samples obtained from study participants and fish samples, and that human hand contamination will be more prevalent than nasal carriage.

Conclusions: If the pilot study results demonstrate that *Vibrio* spp. colonization is prevalent in the studied commercial fishermen and/or fish, then we will seek additional funding to pursue identification of the burden of *Vibrio* spp. and other zoonotic bacterial SSTIs related to occupational injuries that damage the skin in commercial fishermen in Arctic waters.

86. Discrimination, Mental Health and Resilience Among Indigenous Sami and Non-Sami Populations in Norway: The SAMINOR2 Study.

Hansen, KL.

First author's affiliation: The Faculty of Health Sciences, UiT The Arctic University of Norway, Tromsø, Norway

Background: New research shows that many Sami people experiencing various forms of discrimination. The aim of this present study is to give updated information on the challenges of discrimination, mental health status and Sami people face in Norway.

Methods: The figures are based on qualitative data collected in 2012 from 11,600 individuals (both Sami and majority Norwegians), from 25 municipalities in the five northernmost counties in Norway. The study is part of a health and living conditions investigation in areas with Sami and Norwegian communities, called the SAMINOR 2 questionnaire survey.

Results: In the sample, approximately one in five experienced discrimination. About a third of those who had been discriminated against, say that the incident happened in the last two years. Sami people experience discrimination much more frequently than majority Norwegian. Discrimination is generally negative for mental health and well-being; however, few studies have examined protective effects of resilience factors, especially among minority indigenous people.

Conclusion: The findings from this study show that the Sami people still experience high levels of discrimination in Norwegian society. Our findings suggest that interventions specifically designed to prevent discrimination against the indigenous Sami people of Norway should be implemented.

88. Effects of climatic factors and climate change on infectious diseases in the Arctic

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First author's affiliation: Arctic Health,, Faculty of Medicine, University of Oulu, Oulu, Finland

Introduction: The Arctic is experiencing climate change more intensely and rapidly than the rest of the world. As a result, increases in temperature and precipitation will impact infectious diseases in the Arctic, both directly and indirectly.

Methods: A systematic review was conducted in PubMed, Scopus, ScienceDirect, Plos One, and the Russian "eLibrary.ru" database.

Results: Vector-borne diseases appear to be the most researched for the effects of climate change, followed by water-borne diseases. Vector population and habitat changes are likely to expand and shift infectious disease ranges, particularly mosquitos and ticks. Increased sea surface temperature provides a suitable environment for pathogens (i.e. *Vibrio* spp.) to flourish and may increase human activity in public waters. Tick-borne encephalitis, anthrax, tularemia, vibriosis, and gastroenteritis are the most researched infectious diseases to be impacted by climatic factors in the Arctic.

Conclusion: Climatic factors and climate change have an effect on infectious diseases in the Arctic. Increased monitoring and surveillance of vectors, climatic factors, and infectious disease rates across the Arctic can help predict and detect changes in incidence. Current models using climate data and disease incidence have been developed to predict outbreak risk, however a standardized model for the entire Arctic may be needed. Additionally vaccination and education will be important for disease prevention.

89. Emergency medical air transportation in Labrador, Canada: A population-based study

Pradhan, G. Pollock, N.J. Wilson, MM.

First author's affiliation: Labrador Institute, Memorial University, Happy Valley-Goose Bay, Canada

Introduction: An air ambulance ('medevac') service is used to transport critically ill patients from fly-in communities in Labrador where access to emergency care is limited. Although 'medevacs' are an essential part of the health system, they are expensive, require staff with specialized training, and travel in hazardous environmental conditions. Despite this, there is a limited knowledge of how, why, and for whom the service is deployed.

Methods: This project was developed through a partnership between the Nunatsiavut Government, Labrador-Grenfell Health, and the Labrador Institute. In this retrospective, population-based study, the objective was to describe the demographic and clinical characteristics of medevaced patients. We identified cases in the hospital flight registry from January 1, 2009 to December 31, 2015. For each medevac, data was extracted from medical records with a standardized chart audit tool. We used descriptive statistics to analyze the data.

Results: We identified 1,219 medevacs that originated in one of the 8 coastal communities in the region. The annual medevac utilization rate varied at the community-level. 65% of all emergency air transfer patients were admitted to hospital, with a mean length of stay of 3.69 days. The leading discharge diagnoses for patients included gastrointestinal illness, trauma, mental health problems, and circulatory diseases.

Conclusion: Despite the need for emergency care and the potential medical complications related to severe illness and injury, a large proportion of patients were not admitted to hospital. This baseline study provides information that can help inform collaborative health service planning in Labrador.

94. Enhancing access to cancer screening in Yukon First Nation Communities

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First author's affiliation: Health & Social Services, Government of Yukon, Whitehorse, Yukon, Canada

Introduction: Yukon's cancer mortality rates are above national rates and colorectal cancer is the second-leading cause of cancer death. Disparities in cancer screening and outcomes continue in rural communities and indigenous populations.

Methods: In partnership with Council of Yukon First Nations' (CYFN) Cancer Care Coordinator, the newly created Coloncheck Colorectal Cancer screening program representatives travelled to 11 Yukon communities. Discussions with First Nation health workers and community members centred on: a) barriers to access; b) screening strategies c) culturally relevant education on screening; d) cancer risks and prevention.

Results: This initiative helped inform how Yukon First Nations view cancer and screening. Although all communities felt that cancer screening is a priority, awareness and screening prevention activities were limited. Participants knew about screening activities but felt that screening services were not easily accessible in their communities. Health care provider turnover and cultural differences made it difficult to build trust. A lack of understanding of First Nations health beliefs, values, and behaviours was perceived to affect access to health care and prevention services. The role of timely information provided by a knowledgeable and trusted advocate was seen as important. These findings and input from First Nations representatives influenced the design and messaging of ColonCheck Yukon's public campaign.

Conclusions: Patient-centeredness and cultural competency are required in the planning and delivery of colorectal cancer screening services. Continued consultation, prevention and screening education, outreach initiatives and improvements in culturally responsive services are required to improve First Nations access to and participation in colorectal cancer screening.

104. Evaluating the dental health status of American Indian and Alaska Native (AI/AN) children age 11-13

Lutz, T. Smith, N. Becker, T.

First author's affiliation: Epidemiology Center, Northwest Portland Area Indian Health Board, Portland, United States

Introduction: According to the Indian Health Service, 54% of AI/AN children age 1-5 have experienced tooth decay. The Toddler Overweight and Tooth Decay Prevention Study (TOTS) implemented community and family-based interventions to improve breastfeeding, water consumption in families, and limit sugared beverages for infants and toddlers. Children in TOTS tribes had less tooth decay at age 2 than children in non-TOTS tribes. Ten years later, TOTS to Tweens is a follow up to the TOTS study to test whether TOTS influenced the dental health of children age 11-13.

Methods: We visited the same five TOTS tribes and conducted community and school-based screenings. We performed dental exams, measured height and weight and administered behavior questionnaires to children.

Results: We collected data on 299 children age 11-13; half were girls (51%). Nearly half (47%) had a body mass index \geq the 95th percentile for age, and 47% reported a sugared beverage consumption equal to one or more drink per day. We found untreated decay in 40% of children and 68% had at least one decayed, missing, or filled permanent tooth (DMFT). Children from TOTS intervention tribes, regardless of individual participation in the study, had a mean DMFT score of 2.1 compared to 2.7 for control tribes, p-value for 1-sided t-test=0.028.

Conclusions: Preliminary analyses suggest dental health status is more closely associated with community of residence than with reported individual behaviors. This population experienced more decay than US children the same age. Community protective factors are being explored.

106. Examination of a new specialty clinical service in the Kivalliq region of Nunavut.

Durcan, A. Moffatt, M. Schantz, D. Soni, R. Nguyen, H.

First author's affiliation: Ongomiizwin Health Services, University of Manitoba, Winnipeg, Canada

Background: OHS, (formerly the JA Hildes Northern Medical Unit), has been providing remote specialist outreach clinics for almost five decades. With the development of portable ultrasound machines, pediatric cardiology outreach clinics have become a viable alternative to going to the Winnipeg based referral centres.

Objective: To evaluate a newly introduced pediatric cardiology program in the Kivalliq Region of Nunavut.

Methods: Surveys from three clinic visits from September 2014-September 2015 were collected. A database was used to calculate the number of children seen from the Kivalliq in the pilot year, and two years prior to the pilot study. Access to care, level of satisfaction, and a cost analysis were analyzed.

Results: Eighty eight pediatric patients were seen during a one year period in Rankin Inlet, Nunavut. The majority of patients were from communities outside of Rankin Inlet. Most respondents (94%) felt the Rankin Inlet clinic was the same or better than services in Winnipeg. No further appointments in Winnipeg for 91% of respondents. The consultant feedback identified understanding patterns of referrals, available resources, and cultural exposure as valuable lessons from the outreach clinic. A crude estimate cost saving of over \$350,000 resulted 1 year after implementation of the program.

Conclusion: An outreach pediatric cardiology program in Rankin Inlet Nunavut was cost effective, reached the intended patient population, and provided high quality services. Barriers were identified such as patient transport and accommodations in Rankin Inlet. These, as well as facilitators and sustainability factors, will be areas for further evaluation and improvement.

107. Exploring Pediatric Oral Health With Indigenous Populations

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First author's affiliation: College of Nursing, University of Saskatchewan, Saskatoon, Canada

Introduction: Dental caries create a significant burden in both human and financial costs. The annual cost of hospital care to treat advanced forms of decay in Canada being \$21.2 million. The objective of this study is to explore the oral health needs with two Indigenous communities in Saskatchewan.

Methods: This mixed-methods study utilized community-based participatory research to build upon existing relationships with the communities. Semi-structured interviews were conducted with Elders, health care providers, teachers, and parents/guardians of elementary school-aged children. Interviews were transcribed and an inductive, thematic analysis was undertaken with each of the communities. During data collection the findings/results will be returned to each of the communities on a regular basis to establish direction, build success and consider next steps.

Results: The research process will include tool development within each community; to identify their strengths and opportunities for change and subsequently to generate solutions to the practical problems; and, potentially transform the health system accessed by the communities.

Conclusions: Community based research in this project has the ability to ensure that any change in and with the community is sustainable and has the potential to prevent dental caries among young children.

110. Family Violence in Nunavut: A Scoping Review

Diakite, NA.

First author's affiliation: Research, Qaujigiartiit Health Research Centre, Iqaluit, Canada

Introduction: The rate of police-reported family violence in Nunavut is 9 times higher than the rest of Canada, and Inuit women experience violence rates 14 times the national average. Family violence is linked to historical trauma, the normalization of violence, drug and alcohol abuse, and poverty and overcrowding.

Methods: A literature review, systems analysis, and a review of statistical data were conducted with the aim to provide contextual information relating to the policies and legislation that are in place to protect families in Nunavut. Data were derived from peer-reviewed literature, grey literature, and statistics from the Juristat and the Nunavut Bureau of Statistics. A thematic analysis was conducted and included the Iqqaumaqatigiinni concept on our Inuit health research framework.

Results: Those living in one of Canada's three territories are three times more likely to experience violent victimization. The literature included a review of the criminal justice system, child protection laws, local shelters, and the Family Abuse Intervention Act and points to the need to implement culturally relevant interventions rooted in traditional practices.

Conclusions: Family violence is related to the colonial processes that sought to assimilate and dominate Indigenous peoples into European cultural society. Colonization created power imbalances, severed family connections, and removed Indigenous peoples from their land. To address the root causes of family violence, QHRC will adapt, pilot, and evaluate the culturally relevant evidenced-based Inunnguiniq Parenting Program with high-risk families in Nunavut.

115. Fostering Research Communities of Practice in the Canadian North: A Social Capital Analysis

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First author's affiliation: Centre for Rural Health Studies, Memorial University of Newfoundland, St. John's, Canada

Introduction: In the Canadian province 'Newfoundland and Labrador', Memorial University is growing a physician-led community of northern health research. The institution's dedicated approach involves research education and support programming with a constructive funding where community-based research proposals are iteratively and interactively improved rather than rejected. Research collaborations between rural/remote physicians are facilitated through the approved projects, resulting in 'communities of research practice' across northern regions of the province. A social capital analysis has yet to be conducted on these networks.

Methods: We examine the association between social capital and research collaborations by deriving social capital indices from 32 pre-post questionnaires collected from 2014-2018, inclusive. Multiple regression analyses will then be applied to analyze the impacts of research collaboration (financially and academically) on social capital components. Qualitative survey responses will also be incorporated to cross-validate and triangulate the findings.

Results: This is a research project in progress. Results will be available for, and presented, at the conference.

Conclusions: The concept of social capital plays a significant role in both social science and public health. Rural360 is building communities of research practice in northern areas of Newfoundland and Labrador. This research project will examine the social capital of these networks for the first time.

117. Frequency of a common splice site mutation in sucrase-isomaltase in in Greenland.

Eiberg, H. Lind, O. Kern, P. Nielsen, IM. Bisgaard, ML.

First author's affiliation: RCLINK, Department of Cellular and Molecular Medicine, Panum Inst. University of Copenhagen, Copenhagen N, Denmark

Background: Congenital sucrase-isomaltase deficiency causes a chronic diarrhea in children. This disease is rare, but must common among Inuits in Canada and Greenland. The disease is a recessive disorder and earlier studies among Inuit's in Canada identified a c.273_274delAG mutation among the patients. Patients with this disease could not digest di- and oligosaccharides, including sucrose and isomaltose leading to malabsorption. We here try to estimate the frequency of the sucrase-isomaltase mutation among Inuits in 15 cities in Greenland.

Methods: First we sequenced the sucrase-isomaltase gene, SI, in eight healthy Inuits to find a carrier of a mutation. We then made specific primers to genotype for this splice site mutation in anonymized persons from 15 cities in Greenland to estimate the allele frequencies here. DNA from the dried filter papers were amplified with a mixture three primers (one elongiated) and run on an agarose gel for identification of the mutated and the normal allele.

Results: We identify the same founder mutation in Greenland as in Canada, the frame shift mutation, c.273_274delAG (p.Gly92Leufs*8), predicted to result in complete absence of a functional protein product. This mutation was very common (about 10%) among the Inuit people in Greenland

Discussion: We found a common mutation, SI c.273_274delAG, and this mutation has earlier been described to be responsible for the high prevalence of congenital sucrase-isomaltase deficiency among Inuit people in Canada. Testing for this mutation is a simple test for diagnosing patients in Greenland with chronic diarrhea.

118. Frequency of gene alleles - diabetogenic markers in Nenets population

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First author's affiliation: Department of Diabetes of Children and Adolescents, Endocrinological Research Centre, Moscow, Russia

Introduction: To reveal possible genetic factors of Type I Diabetes mellitus protection in Nenets population. Over the past 30 years of observation no case of Type I Diabetes mellitus has been detected in the ethnic group, belonging to the indigenous population of the European North of Russia.

Methods: genomic DNA 61 samples of the Nenets ethnic group representative have been examined. The given ethnic group lives in isolation on the territory of Nenets Autonomous Area. The polymorphism typing has been performed with RT LP-PCR or Real Time – PCR.

Results: the allele frequency of polymorph markers A49G for gene CTLA4 (rs231775) and that of C1858T for gene PTPN22 (rs2476601) have been determined in Nenets population. For polymorph marker A49G of gene CTLA4 (rs231775): the allele A frequency was 35%. The A/A genotype frequency was 13%. For polymorph marker C1858T of gene PTPN22 (rs2476601): the allele C frequency was 91%. The C/C genotype frequency was 84%.

Conclusion: the specific features of allele Frequency of highly diabetogenic marker A49G of gene CTLA4 (rs231775) have been determined in Nenets population, belonging to Northern mongoloids. The results of investigation allow suggesting marker rs231775 to be a significant factor in low Type I Diabetes mellitus predisposition.

121. Gender differences in carotid artery and heart remodeling in workers engaged in monthly round-trip sojourns to the Arctic

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First author's affiliation: Medical Unit, Medical Unit "Gazprom dobycha Yamburg" LLC, Yamburg, Tyumen, Russia

Introduction: Atherosclerosis is a complex process associated with gender.

Methods: 744 men (M) and 212 women (W) (mean age 49.7 ± 7.7 years) engaged in round-trip sojourns to Yamburg settlement (71°N) from different regions of the country were examined. 864 Doppler ultrasound (DU) examinations of the common carotid arteries (CCA) with intima-media complex (IMC) assessment, hemodynamically non-significant stenosis (non HSS), 657 Echocardiography (EchoCG) and 448 of ABPM were performed.

Results: Regardless of the type of the shift work and age, normal CCA was found more often in W ($p < 0.0001$); non HSS in M ($p < 0.0001$); IMC thickening in M without gender differences in age groups ($\chi^2=8432$; $\chi^2=0.1530$; $\chi^2=0.9661$). EchoCG showed normal LV geometry more frequently in W ($p < 0.0001$), concentric LV geometry in M ($p < 0.0001$) while the prevalence of concentric remodeling and eccentric LV geometry did not differ. Negative test was recorded in 82.6% M and in 87.2% W; positive test was in 5.6% M and 1.8% W; doubtful in 11.7% M and 10.9% W. 24-hour ABPM 24-hour showed AH 1 degree more often in W ($p=0.0286$) while AH 2 degree was more often in M ($p=0.0067$) and no differences were detected in circadian BP profile disorders.

Conclusions: Vessel wall remodeling in workers depends on BP level, circadian BP profile and weakly depend on type of the shift work. IMC is related to age and isn't associated with gender differences. Subclinical CCA atherosclerosis in men occurs at almost twice more often compared to women. Heart remodeling and non HSS of the CCA is observed simultaneously and more pronounced in men.

122. Gender features of myocardial infarction and stroke in population with sleep disorders in Russia / Siberia: MONICA-psychosocial epidemiological study

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First author's affiliation: Collaborative laboratory of Cardiovascular Diseases Epidemiology, Institute of Internal and Preventive Medicine - branch of Institute of Cytology and Genetics, Novosibirsk, Russia

Objectives: To determine the gender differences in the effect of sleep disorders on risk of myocardial infarction (MI) and stroke in population 25-64 years over 16 years of follow-up.

Methods: Under the third screening of WHO program MONICA -Psychosocial a random representative sample of both gender aged 25- 64 years in Novosibirsk was examined in 1994 ($n=1346$, male 48.8%, mean age $44,9 \pm 0,4$ years). The sleep assessment was performed using the Jenkins Sleep Questionnaire. There were 15 cases of new-onset MI in women and 30 in men, new-onset stroke 35 cases in women and 22 in men from 1994 to 2010.

Results: In an open population aged 25-64 years 48.6% of men and 65.9% of women had sleep disorders ($p < 0.001$). Univariate analysis showed 2.4-fold risk of MI in those males with SD over 16-year of follow-up (95%CI 1.1-5.3; $p < 0.05$) but not for women. MI risk was higher in those men who were never married, divorced or widowed (p for all < 0.01) compared to married ones. Risk of stroke was higher in men $\text{HR}=3$ (95%CI 1.2-7.6; $p < 0.05$) than in women $\text{HR}=1.9$ (95%CI 1.03-3.7; $p < 0.05$). Multivariate analysis revealed 2.8-fold risk of stroke (95%CI 1.1-7.1; $p < 0.05$) in men and $\text{HR}=2.7$ in women (95%CI 1.4-5.42; $p < 0.01$) with SD. Stroke risk was higher in men with lower educational level and in women with college degree in those with SD.

Conclusions: Sleep disorders is a risk factor of MI in men only and stroke for both gender and negative social gradient increases cardiovascular risk.

133. "Healthy Workplaces" – an intervention. Promoting health among Greenlandic employees

Beck, ALM. Sørensen, I. Ingemann, C. Larsen, CVL.

First author's affiliation: Centre for Health Research in Greenland, National Institute of Public Health, Copenhagen, Denmark

Introduction: Workplace health promotion is vital in ensuring the well-being among employees. An intervention program called 'Healthy Workplaces' was implemented by the initiation of CSR Greenland (Corporate Social Responsibility) and its partners, the Ministry of Health and Greenland's Athletics Union. Healthy Workplaces focuses on training employees to become 'Health Ambassadors' (HAs). HAs are then expected to implement health promotive activities in their workplace with the support of their managers. The study aim is to identify the enabling and constraining determinants HAs face in the implementation process.

Methods: The first phase of the intervention has been evaluated, which included the evaluation of the first round of trainings and implementation experiences of the HAs. Qualitative methods were applied where HAs and their managers were interviewed immediately after the first training course and follow-up telephone interviews. The initiators were continuously briefed of the study's progress via meetings. Additionally, a literature review based on scientific articles investigating the effects of workplace health promotive programs was also completed.

Results: HAs can be categorised into three groups; (1) the highly motivated and passionate, (2) the motivated, and (3) the unmotivated. Managers can also be categorised into three groups; (1) a less engaged manager, (2) an engaged manager, and (3) a highly-engaged manager.

Conclusions: The results from the evaluation of the first phase have resulted in recommendations that have been presented to the initiators and are continuously being implemented in the program. The results will be discussed and therefrom solutions will be achieved.

140. Hydro-climatic Change Impact on Water-related Disease

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First author's affiliation: Department of physical geography, Stockholm University, Stockholm, Sweden

Introduction: The role of climate change in altering infectious disease propagation and distribution has been recognized through numerous studies on well-understood diseases, such as influenza and malaria. However, there have been fewer studies that focus specifically on water-related diseases. This study, which is a contribution to the CLINF Nordic Centre of Excellence, will depart from a review and synthesis of relevant hydrological variables that are associated with water-related disease spreading pathways and project expected changes to targeting variables. This can provide a reference for quantifying future disease prevalence rate and distribution.

Methods: Hydrological modeling and GIS are applied, combining projected data of future temperature and precipitation, among other hydro-climatically relevant variables, to analyze, visualize and quantify the climate, water and landscape drivers related to known water-mediated disease spreading pathways in the environment.

Results: Relevant water and climate factors to investigate are not confined to temperature and precipitation. They include water flow, standing water, soil moisture, snow cover, and vegetation as well. In addition, infectious diseases may be more sensitive to extremes and variability than to time-mean properties of hydro-climatic variables.

Conclusions: The variables that influence water-related disease involve many hydro-climatic factors across different time scales. Understanding of the mechanism and conducting an accurate and comprehensive projection of these variables can contribute to establishing an early warning system for disease prevention.

143. Impact of high protein intake on viral load and hematological parameters in HIV-infected Khanty indigenous people

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First author's affiliation: Health Department, Municipal Center of HIV/AIDS prophylaxis, Surgut, Russia

Objective: The impact of protein intake level leads to considerable alterations of the host essential amino acid profiles in the context of chronic viral infectious process. Amino acids play an important role in the pathogenesis of virus-related infections both as basic substrates for constant protein synthesis and as regulators in many metabolic pathways. The excess or deficiency of these host essential nutritional elements can play a limiting role in the life cycle of some viruses. Our aim was to determine the changes of hematological parameters and viral load due to the high protein and L-lysine amino acid intake in HIV-infected Khanty indigenous people.

Methods: A total of 84 HIV-infected Khanty indigenous people, who kept the traditional high animal protein and lysine-rich diet, without highly active antiretroviral therapy (HAART) monitored in the Municipal Center of HIV/AIDS prophylaxis, Surgut, Russian Federation.

Results: The present survey shows that HIV-infected Khanty indigenous people have the highest levels of plasma L-lysine and HIV-1 RNA and a more pronounced state of immunosuppression in comparison with the total patients' cohort.

Conclusions: The traditional food habits of Khanty indigenous people, as a variety of high animal protein and lysine-rich diet, have substantial health promoting effects and lead to appreciable changes of the protein metabolism and plasma amino acid profiles. However, in the context of HIV infection, these adaptation alterations may significantly influence on the dynamic of infectious process. There was evidence for an association between plasma L-lysine level and viral load.

148. Improving Recruitment and Retention of Physicians in Nunavut, Canada by Implementing a Health Career Camp for High School Aged Youth

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First author's affiliation: Health Research, Qaujigiartiit Health Research Centre, Iqaluit, Canada

Background: Nunavut's healthcare system faces a number of ongoing challenges directly related to transience in the health care workforce. These include patient exhaustion, cultural orientation, continuity of care and communication, building trusting relationships, and patient outcomes. Evidently, to address these challenges, new approaches to stabilizing Nunavut's health care workforce that emphasize training and recruiting Nunavummiut are needed.

Methods: With the goal of increasing awareness and interest in health care careers, Nunavut post-secondary students were identified as the target population. A 1-day meeting with community and government representatives determined the objectives of a pilot Health Career Camp for Nunavut youth. The camp model was adapted from the existing Northern Ontario School of Medicine Health Science Camp model, and delivery included local Nunavut health professionals. Pre- and post-intervention data were collected from the youth, mentors, and facilitators to determine whether the objectives of the pilot program were achieved and if an annual camp is supported.

Results: Youth from 6 different communities (n=18) were selected by community mentors in the pilot program, held February 12-16, 2018. Pre- and post-intervention data collected from the youth suggests the camp resulted in

increased interest and knowledge in the health sciences and health careers. Highest rated components by the youth included hands-on medical activities and a session with an elder on Inuit perspectives of health and wellness.

Conclusion: Health Career Camps delivered by and for Nunavummiut have the potential to encourage and empower Nunavut youth to finish high school and pursue health careers through post-secondary education.

166. Learning from the Land and One Another: Place-based Indigenous health research education and mentorship in Atlantic Canada

Cunsolo, A. Hart, C. Bombay, A. Worden-Driscoll, I. McMillan, J. Pollock, N. Martin, D.

First author's affiliation: Labrador Institute, Memorial University of Newfoundland, Happy Valley-Goose Bay, Canada

Introduction: The Atlantic Indigenous Mentorship (AIM) Network was formed in 2017. The goal of the network is to support and expand research capacity, skills, and career trajectories of Indigenous early career researchers, health care practitioners, and trainees across the program's two sites in Wabanaki and Labrador, Canada.

Methods: The network's primary activities are to: develop mentorship opportunities for Indigenous graduate students and early career researchers; create a health research portal to connect communities with research opportunities; develop and deliver place-based graduate-level field schools and learning opportunities; establish a seed grant and scholarship program; and, conduct an assessment of Indigenous health research priorities in the region.

Results: The AIM Network is impacting the Indigenous health research field by: supporting the next generation of Indigenous health researchers; leveraging the mentorship capacity of established researchers and Indigenous community health partners; embedding activities in a Two-Eyed Seeing framework that promotes and centres Indigenous languages and ways of knowing, being, and doing from Inuit, Innu, Mi'kmaq, and Wolastoqey perspectives; facilitating the implementation of Indigenous knowledge(s) and support for Indigenous health research in post-secondary institutions; and, creating a supportive environment that welcomes, encourages, and builds capacity for Indigenous trainees.

Conclusions: Through an innovative and ambitious program to advance Indigenous health research, the AIM Network is creating space for Two-Eyed Seeing, on-the-land learning, and reconciliatory and transformative research and education. It seeks to foster a safe and collaborative learning environment in Indigenous health research and to decolonize health professional programs and institutions.

169. Makimautiksat Youth Wellness and Empowerment Camp: A Model for Promoting Community Well-being, Culture, and Resilience

Sallaffie, MC.

First author's affiliation: Youth Mental Health and Wellness, Qaujigiartiit Health Research Centre, Iqaluit, Canada

Introduction: The Makimautiksat Youth Wellness and Empowerment Camp is a program developed by Qaujigiartiit Health Research Centre (QHRC) out of a consultation process with community members and in Nunavut. It is a 10-day camp focusing on fostering wellness, positive Inuit identity, community building and skill building. Makimautiksat was developed following these core components:

Methods: Through community consultation, literature reviews, and input from Nunavut youth service providers, the Eight Ujarait/Rocks Model for the camp was developed. The model was developed to provide a foundation for the

curriculum and to bring Inuit and Western knowledge together to address mental health and wellness for youth. The Eight Ujarait represent the foundation needed to hold in place the qammaq/traditional skin tent.

Results: Makimautiksat is a practical model for promoting mental health and wellness among youth. By using evidence-based camp programs with culturally relevant curriculum built on Inuit values and knowledge, QHRC has developed a unique program and practice of delivering education that has proven to contribute to overall Nunavut youth mental health and wellness. Makimautiksat serves as a model for ways that indigenous communities worldwide can deliver culturally relevant curriculum developed by and for their community.

Conclusions: On behalf of QHRC I propose to present on how Makimautiksat was developed, evaluated, how it promotes well-being, culture and resilience in Nunavut, and how the model for developing, piloting and evaluating this program can be used in other communities to deliver culturally relevant education.

170. Māmawōhkamātowin (working together) – Enhancing Health & Wellness with Sturgeon Lake First Nation

Ramsden, VR. Kirychuk, S. Rabbitskin, NY. Abonyi, S. Dolovich, L. Dosman, JA. Fenton, M. Graham, H. Lamarche, L. Bighead, S. Davis, B. Turner, T.

First author's affiliation: Academic Family Medicine, University of Saskatchewan, Saskatoon, Canada

Introduction: When environmental tobacco smoke (ETS) is combined with other home-based exposures such as mould, dampness, and crowding, the risks to respiratory health are dramatically increased. Currently, 50% (119/238) of the homes are participating in the Green Light Program and as a result are smoke-free. Objectives: 1. To investigate whether or not the Green Light Program is improving health and wellness with Sturgeon Lake First Nation. 2. To determine whether or not measures of mould are different between houses that are smoke-free and those that are not.

Design: The overall design of the study was informed by the integration of community-based participatory research and transformative action research. In this method, community involvement is actively sought. This approach facilitates the process of identifying an issue of concern to the community, utilizing the strengths and contributions of that community and its members, and involving all partners equally in the initiative. With the goal of having at least one adult from each of the 238 homes at Sturgeon Lake First Nation, adults from each home were invited to participate. Ethical approval was obtained.

Results: The participation rate was 100% with 238 of 238 homes participating in both the survey and the assessment. The data are currently being entered into SPSS for analysis. The preliminary results/findings will be presented at the conference. Community-chosen, co-created interventions will evolve from the co-created community-based survey and assessment.

Conclusions: Building on strengths and celebrating the small changes provides an environment in which meaningful change can be made.

180. Monitoring Brown Adipose Tissue in Alaskan Sled Dogs: A Pilot Study

Dunlap, KL. Kromrey, L. Jerome, SP. Duffy, LK. Reynolds, AJ.

First author's affiliation: Chemistry & Biochemistry/ Institute of Arctic Biology, University of Alaska Fairbanks, Fairbanks, Alaska, United States

Introduction: Brown adipose tissue (BAT) has the unique function of burning energy to create heat through the process of non-shivering thermogenesis. There is a growing interest in methods that activate BAT in humans in order to combat obesity. Sled dogs have shown to be unique northern research sentinel for Arctic people. In this pilot study, BAT was investigated in a five sled dog cohort.

Methods: Thermal images of the chest region and blood samples were collected monthly before and after a 15-minute cold exposure in 4-month-old sled dogs. The biomarkers, irisin, FGF-21, and meteorin, were measured via ELISAs. The temperatures of the chest images and biomarkers were compared pre- and post-cold exposure and over time.

Results: No significant temperature changes were observed between pre- and post- cold exposures, as well as over the 4-months of rapid growth. Additionally, no significant differences in concentrations were found in plasma biomarkers.

Conclusion: Methodology and reliable research models are needed to advance this area. Sled dogs provide a unique model to investigate brown fat activation by cold exposure, age, and by diet and exercise intervention. The results of this pilot study can be used to design future studies that investigate therapeutic treatments potential for metabolic regulation in humans. This is the first attempt to monitor the function of BAT in sled dogs. A new pilot project with a younger cohort of sled dogs and imaging multiple locations is in progress.

182. Motivating and value aspects of exercise dependence in middle age women

Zelianina, AN. Varentsova, IA. Korelskaya, IE. Kinal, A. Nechaeva, E.

First author's affiliation: Higher school of psychology, education science and physical education, Northern (Arctic) Federal University named after M. V. Lomonosov, Arkhangelsk, Russia

Introduction: In Russia the number of person engaging in sports activities is increasing. The care about health is high relevant today. At the same time the aspiration of improve and seeking for beach-ready body have flipside such as exercise dependence. This approach to exercise leads to somatic and psychological problems. The goal of research is to study and describe motivating and value aspects of exercise dependence in middle age women.

Methods: Analysis and generalization the data regarding investigation the problem in scientific papers; the form "The style self-regulation of human behavior" (V.I. Morosanova, E. M. Kono, 2000); Exercise Addiction Inventory (Griffths, Szabo, Terri, 2005); Purpose-in-Life Test (J. Crumbaugh, L. Maholic, 1964); Motivation sources inventory (Dj. E. Barbuto, R. V. Scholl, 1998); Data Analysis.

Results: In total 200 middle age women were tested. The sample consists of two groups: 100 persons with sport activities two or four hours per week and 100 persons with sport activities more than five hours per week.

Conclusions: The value and motivating characteristics are associated with data regarding exercise dependence in middle age women with sport activities more than five hours per week. If woman has low level of planning, appraisal of result, low level of self-regulation, high level of instrumental motivation and external self-concept-based motivation, she tends to exercise dependence.

187. Mycobacterium tuberculosis drug resistance in patients with tuberculosis/syphilis co-infection in a northern region of Russia

Mordovskaya, L. Vinokurova, M. Alekseeva, S. Pavlov, N.

First author's affiliation: Immunological laboratory, Phthisiatry Research-Practice Center of the Sakha Republic (Yakutia), Yakutsk, Russia

Introduction: Northern regions of Russian Federation have persistently high incidence of socially significant infections despite the visible positive trend of late. In 2016, incidence of syphilis in the Sakha Republic (Yakutia) was 31.7 per 100,000, which was 50% higher than in Russia (21.3 per 100,000). The aim of this study was to analyze Mycobacterium tuberculosis (MTB) resistance to antibacterial drugs in patients with tuberculosis/syphilis co-infection.

Methods: We observed 352 patients with tuberculosis/syphilis co-infection hospitalized at the Phthisiatry Research-Practice Center from 2010 to 2015. Patients with tuberculosis were tested for syphilis using EIA-test based on quantification of total antibodies to Treponema pallidum. Culture tests for MTB and determination of MTB drug resistance were performed using BACTEC system and classical solid medium culture methods based on absolute concentrations.

Results: Among 352 patients with tuberculosis/syphilis co-infection, MTB were detected in 208 (59.1%) individuals. Drug-resistant MTB strains were detected in 64 (30.8%) patients. Multidrug-resistance (resistance to both isoniazid and rifampicin irrespective of resistance to other drugs) was detected in 111 (53.4%) patients. Of these cases, 12.6% had extensive drug-resistance (multidrug resistance plus resistance to aminoglycosides and fluoroquinolones). The rest of patients had poly-resistance (to 2 and more drugs).

Conclusions: In most patients with tuberculosis/syphilis co-infection, bacteria were found to be multidrug- or extensively drug-resistant in half of the cases. Such adverse trends call for urgent solution of the tuberculosis problem in Yakutia, and are the reason to predict continuing increase in diagnoses with drug-resistant MTB strains among patients with tuberculosis/syphilis co-infection.

190. Nenets and the Arctic: Forms of Adaptive Behaviour

Lobova, VA. Mironov, AV.

First author's affiliation: Institute of Humanities, Yugra State University, Khanty-Mansiysk, Russia

Introduction: The research took place in the territory of the Arctic region in the settlement Nyda. Surveyed representatives of the indigenous people of the North belong to the Samoyed (Nenets) group. The group included 41 people.

Methods: Life Style Index (LSI).

Results: The study of deep mechanisms of personality showed that such type of psychological defense as a projection is the most expressed in the Nenets, which is closely associated with their mythological perception of the world, characterized by installing the personification of animals, trees, and a tendency to attribute own motivations, feelings and desires to the phenomena of nature. The second active mechanism of psychological defense of the Nenets is negation, which has traditionally been one of the main mechanisms of fear and indicates the ignoring of the emerging danger. Another type of defense used by the Nenets is overcompensation, which explains a strong feelings in violation of personal space. It also demonstrates the importance of such aspects of life as order, commitment to comply with cultural norms and traditions in the consciousness of Nenets. Among the forms of the Nenets adaptive behaviour there have been highlighted independence, evident readiness to external confrontation, contemplation. Women has actualized communicative need, men - expression of freedom, self-reliance and originality.

Conclusions: The Nenets adaptive behaviour is characterized by evident tension of psychological defense mechanisms and importance of such aspects of life as the commitment to the preservation of traditions and customary principles of life in the consciousness of the Nenets.

195. Norwegian and Sami Nurses experience in health meeting with sami patients in north sami area

Engnes, JI.

First author's affiliation: Faculty of Health and Science, IHO Hammerfest, UiT, The Arctic University of Norway, H, Norway

Introduction: PhD project aimed to search which gain experiences Sami and Norwegian nurses have in meetings of Sami patients in North Sami area. The aim is illuminate the concept Culture Safety in nursing, in the north sami area, and one of the research questions is: How the nurses conduct themselves to Sami culture and language and if they perceive how they practice nursing as safety for the Sami patients.

Method: 6 focusgroup interviews of Norwegian and Sami nurses, three in norwegian and three in sami language. Recruited by leaders in health institutions, combined with snowballing. Criteria for participation: the nurses self-identifies themselves as Sami or Norwegian before entering the study. The Sami nurse must speak Sami and be raised in Sami culture, the Norwegian nurse must speak Norwegian, raised in Norwegian culture. All nurses must have been working as a nurse in the north sami area minimum two years. The analyze will be content analysis by Graneheim and Lundman principles.

Results: My findings indicates that the health care institutions in North Sami areas not fulfill the Sami patients legal rights to speak the Sami language and to get their culture included in the care. In some areas the nurses mean they can fulfill idealistically good nursing, based on their own knowlegde of sami cultur and the legislation they as nurses are organized under. And in othera aresa they can not.

Conclusion: The knowledge generated in this project is to contribute to developpe the nursing services to become more Cultural Safe for the sami patients. It will strengthen the focus on Sami culture in public, also in nurse education. And ensure the sami patients good healthcare so they can feel safe, welcoming and safeguarded in the health care system. Also in Sami language.

204. One Arctic Health: Bringing the Arctic Health Website under the One Health Umbrella

Brudie, S. Sam, LD.

First author's affiliation: Alaska Medical Library, University of Alaska Anchorage, Anchorage, United States

Introduction: When the Arctic Health website launched in 2001 as a joint project of the U.S. National Library of Medicine (NLM) and the University of Alaska Anchorage (UAA), its purpose was to provide information on human health in the Arctic. A decade into the project, research proliferated on the impacts of climate change on the Arctic environment, impacts inseparable from human and animal health. For people in the Far North, changes to the environment directly affect subsistence activities, food and water security, sanitation, safety, and health. Thus, the website's scope was broadened beyond human diseases and conditions to include research on sea ice, permafrost, erosion, pollutants, shifting species, extreme weather, and other nonhuman elements. The website became difficult to navigate as the content became more wide-ranging. During the website's second decade, the One Health concept

emerged as an ideal structure for a single database bringing together human, animal, and environmental health, and the website was recently redesigned under this model.

Methods: Librarians from UAA, NLM, and Andornot Consulting (Vancouver, Canada) worked to unify the Arctic Health website into a single publications database where articles, reports, media, websites, and other resources are indexed and searchable from a single portal under the One Health concept.

Results: This poster demonstrates the new design of the Arctic Health website.

Conclusions: Over its 17 years, the Arctic Health website has expanded and had growing pains but has successfully slimmed down, with a single portal to a wealth of information unified under the One Health umbrella.

206. Opioid overdoses and deaths in Yukon Territory, Canada

Hanley, B. Sohn, JJ.

First author's affiliation: Health and Social Services, Government of Yukon, Whitehorse, Canada

Introduction: The opioid crisis remains a top public health concern in North America and Europe. Canada's Yukon Territory is no exception; Yukon has experienced a number of opioid overdoses and deaths, with the majority of overdose deaths attributed to fentanyl. Although small in number, the death rate per capita is one of the country's highest. Driven by this crisis, Yukon is building a surveillance system to monitor numbers and guide effective public health interventions.

Methods: Using data from Yukon's Chief Coroner, hospital emergency room visits, and laboratory results from overdose visits, basic descriptive statistics were performed for a "first cut" analysis, while further databases such as emergency medical services and drug information systems are under exploration.

Results: Yukon has 10 documented fentanyl deaths since April 2016 through 2017. Preliminary findings show a surge in visits to Yukon emergency departments from overdoses on narcotics or hallucinogens from 2016 to 2017. From 2006 to 2017, opioids accounted for 46.5% of overdoses in this category. Heroin overdoses spiked in 2017, and fentanyl is suspected to be contributing to these events. Finally, overdoses from synthetic narcotics, including fentanyl, increased dramatically from 2016 to 2017.

Conclusions: Northern locations, especially with well established transportation corridors, are equally vulnerable to this international opioid crisis. Yukon's enhanced surveillance is helping focus its public health response on a number of key areas including public communications and clinical and social management of addictions. Establishing a surveillance system and ongoing data analysis are key, and have already uncovered important findings.

209. Patterns of mortality rates in Republic of Sakha (Yakutia)

Klimova, T. Kuzmina, A. Malogulova, I.

First author's affiliation: Medical Institute, North-Eastern Federal University named M. K. Ammosov, Yakutsk, Russia

The Republic of Sakha (Yakutia) is the largest region in the northeast of the Russian Federation. The population is 958,528 (2010 Census) people. The purpose of the study was analyzes of the territorial specificity of mortality in the Republic of Sakha (Yakutia) and factors that affect mortality rates.

Methods: To eliminate heterogeneity in the age structure of the population of the municipalities of the republic, was used a direct standardization method. The division of territories into clusters with different levels of total mortality was carried out using the method of hierarchical cluster analysis.

Results: Mortality rates were analyzed for 34 districts and capital city Yakutsk. Large between-regions disparities were evident for every cause, with the gap in age-standardized mortality rates (all causes of death) between regions varying from 6,6 deaths to 14.9 deaths per 1000 population. The cluster with a high mortality rate differed from the others in mortality from neoplasms, cardiovascular diseases and causes of death caused by alcohol. At the same time, there were no statistically significant differences between clusters in the sex structure, the levels of ecological and socio-economic indicators. Analysis of health resources has shown sufficient capacity of outpatient and polyclinic organizations, provision of personnel and beds. In the most dysfunctional cluster, the number of people with high educational status was significantly lower than in the other two.

Conclusions: The search for the reasons for the differences in the mortality rate of the population can give the key to managing the demographic situation in the region.

210. Persistence of human papillomavirus (HPV) 16, 18, and 52 variants in Inuit women in Northern Quebec, Canada

Gauthier, B. Cerigo, H. Coutlee, F. Franco, EL. Brassard, P.

First author's affiliation: Department of Epidemiology, Biostatistics, and Occupational Health, McGill University, Montreal, Canada

Introduction: Intratypic HPV polymorphism has been described in Inuit women in Nunavik, Quebec, a high-risk population for HPV infection and cervical cancer risk, but there is no previous research on the association between HPV polymorphism and infection persistence within Inuit women. Methods: Polymorphisms of HPV types 16, 18, and 52 were described in women recruited from 2002-2010 in the Nunavik cohort of Inuit women with HPV infections and multiple clinic visits (N=64 of 749) between the ages of 15- 69. Logistic regression and Cox proportional hazards models were used to assess the association between HPV variants and infection persistence and clearance. Results: Infections with lineage A3 HPV16 variants cleared 3.13 times faster (95% confidence interval (CI) 1.10-8.97) than those with HPV16 variants in lineage A1. Conversely, lineage A variants of HPV52 cleared faster (Hazard Ratio=0.28, 95% CI: 0.08-0.98) than lineage C variants. Conclusions: HPV polymorphism may be a predictor of viral clearance for certain HPV types in this population.

212. Picturing food insecurity: Using photographs to explore how users of food pantries eat

Burke, T. Walch, A. Byam, B. Gates, K.

First author's affiliation: Social Work, University of Alaska Anchorage, Anchorage, United States

Introduction: Photographs have been used successfully to validate information provided by participants in research about nutrition intake. Here we borrow the technique to ground and invigorate a discussion of patterned strategies for coping with food insecurity. It is widely acknowledged that poverty shapes food-insecure people's food choices, but for many onlookers, the challenges remain abstract.

Methods: A diverse sample of users of an urban food pantry, including but not limited to Alaska Natives, participated in paired semi-structured interviews, the second of which was grounded in photographs of recent meals. Participants described the ingredients of the foods pictured, where they got the foods, and how long foods were expected to last.

Results: Photographs add depth to descriptions of what struggling families eat, but the attrition between the two interviews in this pilot study suggests that for low-income people, the practical barriers to using photographs are greater than described in the literature.

Conclusions: More effort is required to navigate the challenges involved in using photographs with low-income people but the contrast between the photos and the narrative description suggest that when used successfully, photos increase data quality.

213. Place-Making in the Research Process: Sewing, Stories, and Sense of Place at a Medical Boarding Home in Iqaluit, Nunavut, Canada

Brubacher, LJ. Tatty, N. Healey, G. Dewey, CE. Cunsolo, A. Humphries, S. Harper, SL.
First author's affiliation: Population Medicine, University of Guelph, Guelph, Canada

Introduction: Arts-based research methodologies, such as sewing or crafting together, resonate with many Indigenous cultures. They engage Indigenous peoples in research processes that may connect them to culture and to one another. This poster discusses the use of an engaging sewing group methodology to facilitate storytelling and sharing of lived experiences among pregnant Inuit women currently away from their home communities for delivery.

Methods: Seven in-depth focus group discussions were conducted with pregnant Inuit women staying at a medical boarding home in Iqaluit, Nunavut, Canada. Each of these focus group discussions were formatted as a two-day sewing group. Women sewed sealskin baby slippers or mittens and shared stories of (1) their lived experiences of being away from home for delivery; (2) traditional pregnancy and birthing knowledge learned from parents, grandparents, and Elders in their communities; and (3) how they felt about the sewing groups. Stories were shared in both Inuktitut and English, and later interpreted and transcribed into English.

Results: This poster identifies and characterizes the successes and challenges of the sewing group methodology. Women reflected on the sewing groups as a welcome distraction from homesickness; a remedy for boredom; a purposeful form of work while they awaited birthing; a connection to their culture; and an opportunity to connect with one another.

Conclusion: For Indigenous peoples disconnected from their home places – such as pregnant women required to fly out of communities for delivery – arts-based research approaches may facilitate a sense of place and well-being in the midst of medical evacuation.

218. Prevalence of metabolic syndrome in a multiethnic population in Northern Norway - The SAMINOR Study

Michalsen, VL. Kvaløy, K. Svartberg, J. Melhus, M. Broderstad, AR.
First author's affiliation: Centre for Sami Health Research, Department of Community Medicine, UiT The Arctic University of Norway, Tromsø, Norway

Introduction: The Sami, an indigenous people, lives in the northern and/or middle parts of Norway, Sweden, Finland and Russia. Metabolic syndrome is a premorbid condition linked to insulin resistance and abdominal obesity, and increases the risk of cardiovascular disease and type 2 diabetes. This study aimed to examine time trends in metabolic syndrome and the individual cardiometabolic risk factors among Sami and non-Sami in rural Northern Norway.

Methods: Two cross-sectional surveys were used: The SAMINOR 1 Survey (2003-2004) and the SAMINOR 2 Clinical Survey (2012-2014). All inhabitants aged 40-79 years in ten rural municipalities in Northern Norway were invited. In total, 6550 (56.9%) in SAMINOR 1 and 6004 (48.0%) in SAMINOR 2 attended. Time trends for all five cardiometabolic risk factors and metabolic syndrome were tested with generalized estimating equation logistic regression models with age, survey and ethnicity as independent variables.

Results: Age-adjusted prevalence rates for metabolic syndrome increased among Sami males (absolute increase +9.1%, $p < 0.001$), non-Sami males (+7.4%, $p < 0.001$) and Sami females (+3.9%, $p = 0.019$). Metabolic syndrome was more prevalent in Sami than non-Sami females, adjusted for survey and age ($p = 0.011$). Hypertension was more common among non-Sami, whereas increased triglycerides and low HDL cholesterol were more common among Sami participants, regardless of sex.

Conclusion: The prevalence of metabolic syndrome in males has increased greatly in only a decade. Ethnic differences existed, but were small.

222. Prospective lines of establishment of medical care for indigenous peoples in Northern Territories difficult of access

Zubov, L. Gorbatova, L. Malyavskaya, S. Degteva, G.

First author's affiliation: Research Institute of Arctic Medicine Institution, Northern State Medical University, Arkhangelsk, Russia

Introduction: The goals of the circumpolar medicine are promotion and preservation of health of population living in the Arctic zone and surrounding the Polar high-latitude territories, prolongation of life, prevention and treatment of human diseases.

Methods: The medical-social problems, the morbidity trends and health status of the population of the Nenets Autonomous area have been analyzed.

Results: There have been proposed time-tested prospective forms of medical care for the indigenous population of the northern territories difficult of access: the medical-social project "Red Tent" as an organizational form of mobile medical teams, training of sanitary assistants in deer brigades, introduction of telemedical technologies.

Conclusion: The following strategies of circumpolar medicine development are: regional, market, innovation, environmental, ethnic, multidisciplinary, integral and program-purposeful strategies.

223. Psychological quality oil and gas companies workers with different levels of meteorological reaction in the Arctic

Korneeva, Y. Simonova, N. Degteva, G. Kinal, A.

First author's affiliation: Psychology department, Northern (Arctic) Federal University, Arkhangelsk, Russia

The study was sponsored by the Russian President's grant for state support of young Russian scientists - PhD (MK-6409.2018.6). The article is devoted to the definition of the psychological characteristics of oil and gas shift workers with high and low levels at meteorological reaction in the Arctic. The oil and gas employees in conditions of the Far North and the Arctic are the most likely to develop painful meteorosensitivity. At the same time, the severity of it is caused by not only natural environmental factors, but also the person's psychological qualities and characteristics. The study was conducted as the scientific expedition, in which 70 oil and gas workers in the Nenets Autonomous Okrug participated

from March to April 2015 (shift duration 30 days of arrival), their ages are from 24 to 60 years (mean age $38,46 \pm 1,410$). The study was conducted through questionnaires, psychological tests. Statistical analysis was performed using the methods of descriptive statistics and stepwise discriminant analysis. Processing was carried out using SPSS 22.00 software package. As a result of the research, it was revealed that the psychological characteristics of oil and gas employees with a high level of situational meteorological reactions are characterized by hypertensive and excitable types of character accentuations, a high level of constructive external self-limitation and constructive sexuality, as well as a low level of severity of destructive and deficit aggression, deficit anxiety, destructive internal self-limitation, destructive narcissism and sexuality.

224. Quality Of Life and Health Self-Rate of Working-Aged Migrants to the North

Lobova, VA.

First author's affiliation: Institute of Humanities, Yugra State University, Khanty-Mansiysk, Russia

Introduction: We conducted a study of quality of life and self-rated health of migrants working in the north of Siberia. The main objective of the study was to analyze the attitude to health and the allocation of social factors that shape the north migrants' quality of life. A random sample of the northern region population was surveyed, including 108 men and 113 women, aged 20-59 years. Social and psychological aspects of the analysis included satisfaction with life in general, satisfaction with living conditions and needs.

Methods: Questionnaire by Kopina «Your health» (Kopina O. S., Souslova E. A., Zaikin E. V.)

Results: Gender differences were obtained, indicating that the self-reported health quality among women is higher than among men. Individuals with higher education show the lowest self-reported health. The analysis of the social status and quality of life (on the example of north migrants) was conducted. According to the study, we identified factors that contribute to migrants' quality of life: education, occupation, marital status, age. On the basis of that we isolated social groups the least satisfied with life in general, these are – young women; persons without higher education; persons engaged in physical labor.

Conclusions: It was investigated the quality of life of northerners. The most positively they characterize the satisfaction of their needs in the field of communication and family relationships. Low values were obtained on the scales of rest, material well-being and life prospects.

225. Quality of life in industrial region of Yakutia (Russia)

Zacharova, R. Klimova, T. Fedorov, A. Ammosov, E. Baltakhinov, M.

First author's affiliation: Research Institute of Health, North-Eastern Federal University named after M.K. Ammosov, Yakutsk, Russia

One of important conditions of high working capacity, competitiveness and success of the modern person in the conditions of the market relations is its high quality of life (QL) connected with health. The objective of this research was to study quality of life of able-bodied population of Far North.

As the tool for data collection used a questionnaire SF-36, indicators was standardized by USA population. Data were collected from participants of industrial region of the Sakha Republic (Yakutia). The sample includes 250 participants (53% women, 47% - men).

Results of a research showed that mean values of scales of the population QL are at the level of lower than 50% from "ideal" 100%. The male population had the higher-level indicators of QL on all scales than women's one. Age dynamics of QL indicators of the Yakutian population was comparable to the general patterns of change of QL with age received in other researches. However, it should be noted that decrease in parameters of quality of life generally happens after 45 years due to deterioration in physical health. The psychological component of QL practically does not depend on age and long remains invariable. This moment can be connected with features of mentality of the northern person who survived in a cold climate of the North.

Contract grant sponsor: Ministry of Education of the Russian Federation No. AAAA-17-117021310139-5 "Clinical and genetics aspects of the diseases characteristic of aboriginals of Yakutia in modern conditions".

229. Relationship between health behaviors and marital adjustment and marital intimacy in multicultural family female immigrants

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First author's affiliation: Department of Healthcare center, The Catholic university of Korea Daejeon St.Mary's hospital, Daejeon, South Korea

Background: This study analyzed the relationship between health behaviors and marital adjustment in multicultural couples to evaluate their health status.

Methods: Married couples (70 Korean husbands and their immigrant wives) completed a structured interview on health behaviors and sociodemographic factors, the Revised Dyadic Adjustment Scale (RDAS), and the Marital Intimacy Scale (MIS). Based on the cut-off value of the RDAS, respondents were classified into two groups: high/low dyadic adaptation groups. The collected data were compared with health behavior regarding smoking, alcohol consumption, exercise, and weight.

Results: The odds ratio (OR) (95% confidence interval (CI)) by logistic regression with adjustment for age, education, career, occupation, length of residence in Korea, nationality, religion, age difference between couple, number of children, monthly income, and proficiency in Korean was 1.279 (1.113–1.492) for unhealthy exercise and 1.732 (1.604–1.887) for unhealthy body weight in female immigrants with low marital adjustment. In Korean husbands with low marital adjustment, the OR (95% CI) was 1.625 (1.232–2.142) for smoking and 1.327 (1.174–1.585) for unhealthy exercise. No significant relationship was found between marital intimacy and health behaviors in female immigrants or Korean husbands.

Conclusion: More desirable health behaviors were observed in highly adapted couples. Therefore, family physicians should be concerned with marital adjustment and other associative factors to evaluate and improve multicultural couples' health status.

236. Restoring Indigenous miyo-mahcihoiyān (physical, emotional, mental, and spiritual wellness)

Graham, HA. Ramsden, V. Butt, P.

First author's affiliation: College of Nursing, University of Saskatchewan, Saskatoon, Canada

Introduction: Dr. Graham (PI) a member of the Thunderchild First Nation and her two co-investigators facilitated a research project to: develop, implement, and evaluate the relationship between the collaborative development of a community-based plan and the empowerment of the Plains Cree people (néhiyawak) from Thunderchild First Nation,

SK. This research project built on the previous work done by the primary investigator with the Thunderchild First Nation with the addition of the voices of the Elders and youth prior to developing the community-based plan.

Methods: The medicine wheel, an Indigenous holistic approach to wellness, provided the conceptual framework. Action research and participatory processes guided the research process and relationship with the community. Interviews were conducted with youth and Elders, guided by narrative inquiry. Data analysis was conducted according to the principles of thematic narrative analysis. Defining and measuring success of the community-based plan was a collaborative endeavor with the community using Arnstein's Ladder as the frame; Culturally Responsive Evaluation and Assessment (CREA); as well as Rissel's Model of Community Empowerment which links personal and community empowerment with collective action.

Results: The plan reinforced healthy relationships, supported their spiritual beliefs and cultural practices, and expanded their tānīsī wāpahtaman pimātisiwin (worldview) by a variety of events planned and coordinated in the community.

Conclusions: The researchers have added to evidence-informed strategies and processes that facilitate empowerment in and with First Nations. This project highlights community and research success by adhering to participatory processes and the Tri-Council Policy Statement (TCPS-2nd Edition) Chapter 9 that outlines research process when involving Aboriginal peoples in Canada.

239. Role of surgery in management of multidrug-resistant tuberculosis in the Sakha Republic (Yakutia), Northern Russia

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First author's affiliation: Science Department, Phthisiatry Research-Practice Center of the Sakha Republic (Yakutia), Yakutsk, Russia

Introduction: We determined the role of surgery in the cure of newly identified patients with multidrug-resistant tuberculosis (MDR-TB) in the Sakha Republic (Yakutia).

Methods: Cohort study of treatment outcomes from 2009 to 2013 was conducted. Six annual cohorts included 512 registered cases of MDR-TB. All patients were prescribed appropriate chemotherapy regimens.

Results: During 24 months, treatment success was achieved in 71.9% (n=368) patients, of them 46.2% (n=170) were treated surgically. Treatment failure occurred in 11.1% (n=57) of cases, 11.7% (n=57) died, 3.1% (n=16) transferred out, and 2.8% (n=14) were lost to follow-up. For comparison, treatment success of MDR-TB over the Russian Federation in 2012 was only 40.2%. Subsequently, with active use of surgical methods treatment effectiveness in MDR-TB can be improved by a factor of 1.7. In cases with persistently positive sputum tests showing destructive lung abnormalities by the end of the 5th month of chemotherapy decisions concerning the next steps in treatment are made after compulsory surgeon consultation. Usually, about 6% of cases have contraindications to surgery due to extensive lung involvement. Nearly 10% of patients voluntarily refuse surgery. The rest of patients undergo surgery between months 8 to 10. Post-operatively, patients continue their treatment in the Therapeutic Department until the completion of intensive phase. Analysis of the long-term outcomes showed absence of relapses following surgical treatment, compared to 5.8% of relapses among cases treated in a conservative way.

Conclusions: In conclusion, active use of surgical treatment allows achievement of higher rates of treatment success in new identified MDR-TB.

241. Rural Week: Medical Student Perspectives on a one week first year placement in Northern and Remote Settings - 12 Years of Reflection

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First author's affiliation: Ongomiizwin Health Services, University of Manitoba, Winnipeg, Canada

Introduction: In the late 1990s, educating medical students in a rural environment was identified as a priority at the University of Manitoba (U of M). Rural exposure in medical school is associated with choice of rural practice in the future. (1). Early, frequent, and longer duration of rural exposures have the greatest impact on choice of rural practice. (2) The U of M partnered with Manitoba's Office of Rural and Northern Health (ORNH) in planning and delivering a rural clinical and community experience at the end of first year medical school. The J.A.Hildes Northern Medical Unit (NMU; now Ongomiizwin Health Services OHS) had a long history of sending learners to communities served. NMU/OHS partnered in sending students to communities in the Kivalliq Region of Nunavut and northern Manitoba. Student evaluations over 12 years were entered into a database held by ORNH.

Question: Did students positively evaluate their experiences in NMU/OHS communities? Did their experience change their level of interest in working in a rural or northern community?

Methods: Student level of satisfaction with the clinical and community experience, attitudes to rural medicine and were analyzed. Results from 2014-2017 students' surveys pre and post Rural Week regarding interest in working in small communities were used to see if attitudes to northern medicine changed after the exposure.

Results: Qualitative and quantitative data will be presented regarding level of satisfaction with clinical and community experience, and changes in attitude regarding work in small communities upon graduation.

247. Spatial Epidemiology Analysis of Pedal-Cycle Crashes in Anchorage, Alaska from 2013-2016

Griffith, K. Amstislavski, P. Dougherty, K.

First author's affiliation: Department of Health Sciences, University of Alaska Anchorage, Anchorage, United States

Introduction: Increasing the number of people using the active transportation method of bicycling can provide the dual fold benefits of increasing physical activity levels and reducing the environmental impacts from motor vehicle usage which are contributing to climate change. Characterizing motor vehicle-related pedal-cycle crashes within the Municipality of Anchorage can offer insight into risk and protective factors which can provide guidance to transportation, planning, and public health officials in developing communitywide strategies to make the activity safer and more appealing.

Methods: Police-reported collision data during the 2013-2016 time period are being analyzed using spatial and traditional epidemiological methods. Spatial methods include descriptive mapping techniques, kernel density tools to identify hot spots, and cluster analysis.

Results & conclusions: Pending anticipated completion of analysis in April 2018.

249. Stomach Cancer Trends Across the North American Arctic

Simkin, J. O'Brien, D. Hannah, H. Nash, S. Corriveau, A. Hanley, B. Bruce, M. Ogilvie, G. Elliott, C.

First author's affiliation: Office of the Chief Medical Officer of Health, Department of Health and Social Services, Government of Yukon, Whitehorse, Canada

Introduction: Stomach cancer rates are declining throughout Canada and the United States (US), but the burden is not shared equally. Our objective was to calculate and compare stomach cancer incidence and mortality rates for North American Arctic populations to national counterparts.

Methods: Data were obtained from Canadian and American population-based cancer registries that contain diagnosis and mortality data for all cancer patients that reside in their jurisdiction. Arctic stomach cancer incidence and mortality (Alaska-Native people (AN), Alaska-Whites (AW), Yukon Territory, Northwest Territories and Nunavut) was examined from 1998-2012 relative to Canadian regional (Pacific/Prairies, Central, and Atlantic) and national comparators (Canada and US Whites (USW)). Five-year-rolling age-standardized incidence (ASIR) and mortality rates were calculated using the direct method. Standardized incidence (SIR) and mortality ratios were calculated using the indirect method relative to age-specific rates of Canadian regions, Canada and USW.

Results: Canadian Arctic ASIRs were elevated compared to Canadian comparators for the entire period. Of all populations, AN rates were highest while AW rates were lowest. In 2008-2012, Arctic Canadian SIRs were elevated relative to age-specific rates of Canadian comparators (SIR-Rest_of_Canada=143, 95%CI: 105,196; SIR-Pacific/Prairie=161, 95%CI: 118,220; SIR-Central=141, 95%CI: 106,189; SIR-Atlantic =132, 95%CI: 97,179). Compared to USW, AN incidence was significantly greater (SIR-AN =352, 95%CI: 275,529) while AW showed no difference (SIR-AW=89, 95%CI: 73,105). Analyses are underway to assess mortality.

Conclusions: Canadian Arctic populations showed elevated stomach cancer incidence compared to national counterparts. Relative to USW, incidence was elevated for AN but not AW. More research is required to elucidate these differences.

251. Summer research training institute for American Indian and Alaska Native (AI/AN) health professionals—a 15 year perspective

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First author's affiliation: Tribal EpiCenter, Northwest Portland Area Indian Health Board, Portland, United States

Introduction: Few research grants focused on the health of tribal people in the United States have included AI/ANs in principal investigator roles. For the past 15 years, we have been addressing this shortcoming with targeted education programs for tribal trainees.

Methods: With federal funding from National Institutes of Health Native American Centers of Excellence, we have designed and implemented a series of short courses focused on research skill development for tribal people, including grant writing, database management, data analysis, human subjects concerns, and other research-related week long classes. We hire tribal instructors to the extent possible. We also support many of these summer trainees with graduate school fellowships.

Results: Over the past 15 years, we have trained 1100 tribal health workers in research skills, and supported 21 graduate school students per year with fellowships. Follow-up surveys of trainee supervisors indicate that our program has an effect on improving job performance among graduates of our summer institute. Over our funding period, 93% of the graduate students we supported completed their advanced degrees, and most remain involved in tribal health research.

Conclusions: Despite successes of our trainees and of our program, the federal government should be encouraged to expand research training opportunities and provide more funding for tribal health researchers.

256. Temporal trends of environmental contaminants in Arctic human populations

Abass, K. Rautio, A.

First author's affiliation: Arctic Health, Faculty of Medicine, University of Oulu, Oulu, Finland

Introduction: Trend data are valuable to assess the stability of contaminants in ecosystems and provide a first warning when potentially harmful contaminants may be elevating. Trend data are also valuable to examine the impact of regulations and regulator policy to limit the input of environmental contaminants to the environment.

Methods: We studied temporal trends of contaminants in humans of the Arctic based on data previously reported in various Arctic Monitoring and Assessment Programme (AMAP) reports. The aim is to provide a firm basis for future levels of pollutants in humans of the Arctic under climate and environmental changes. have previously been reported in various Arctic Monitoring and Assessment Programme (AMAP) reports

Results: Several time series of 31 contaminants in humans of the Arctic from different cohorts were reported. The lengths of time-series and periods covered differ from each other. International restrictions have decreased the levels of most persistent organic pollutants in humans and food webs. Percentage changes for contaminants in human biological matrices (blood samples from children, mothers and males and breast milk samples) for the period of sampling showed declining trends in most of the monitored Arctic locations, with the exception of oxychlorodane, hexachlorobenzene (HCB), 2,2',4,4',5,5'-Hexabromodiphenyl ether (PBDE153) and perfluorinated compounds (PFCs).

Conclusion: Future research should focus on new emerging contaminants

260. The effects of ventilation tubes among Greenlandic children - The SIUTIT Trial

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Introduction: The prevalence of otitis media in Greenland is one of the highest in the world. International studies have shown that otitis prone children may benefit from tubulation of the tympanic membrane. However, it is unknown if this can be applied to Greenlandic children and trials on the effects of ventilation tubes in high-risk populations have never been conducted.

Methods: The primary objective will be to assess the effects of bilateral insertion of ventilation tubes in children with recurrent acute otitis media and/or chronic otitis media with effusion in Greenland. With randomisation stratified on otitis media subtype and trial site, a total of 230 participants are needed to detect a decrease of 2 visits to health clinic during 2 years, which is considered the minimal clinical relevant difference. The trial is an investigator-initiated, randomised trial of bilateral ventilation tube insertion versus conventional treatment in Greenlandic children aged 9-36 months with chronic otitis media with effusion and/or recurrent acute otitis media.

Results: The primary outcome will be number of visits to health clinic during the two years after the randomisation assessed by investigating medical records. Secondary outcomes include number of acute otitis media episodes and quality of life, measured by validated questionnaires.

Conclusion: The effects of ventilation tube administration among a high-risk population as the Greenlandic have never been investigated. The trial will provide knowledge of how to treat otitis media in high-risk populations and improve the understanding of conducting randomized trials in remote areas, where logistical aspects may be challenging.

264. The Evolution of Chronic Primary Angle Closure Glaucoma in the Inuit and Oriental Eye

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Introduction: primary angle closure glaucoma (PACG) is common amongst northern Asian and particularly Mongolian populations resulting in a large burden of care. Four Inuit Groups (Greenland Inuit, Siberian, Alaskan, and Canadian) share a common anterior segment ocular anatomy along with the disease. We have been fortunate to have introduced Swept source Optical Coherence Tomography (OCT) on the Labrador and obtain 3D imagery to help elucidate better treatment and its provision.

Methods: A comprehensive literature review of Genetic, Anthropologic, Anatomy and treatment strategies, was followed by imaging pre and post argon laser goniotomy in both new and previously diagnosed cases. Visual fields, vision and intraocular pressures as well as repeat imaging have been done on an ongoing basis.

Results: Analysis of mitochondrial DNA and the non-recombining portion of the Y chromosome, along with other imaging and epidemiologic work support Inuit migration across the Bering land bridge. Swept-Source OCT supports "plateau Iris" as a shared characteristic between Asian and Inuit. Immediate efficacy of laser goniotomy is shown using this newer imaging technique.

Conclusion: The choice of treatment for PACG in Arctic populations (cataract surgery, iridotomy, goniotomy) is complex. Long term efficacy, repeatability of goniotomy and comparison of treatments using this method may help in developing newer treatment paradigms.

270. The Population-based Study on Health and Living in Regions with Sami and Norwegian Populations - the SAMINOR Study

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First author's affiliation: Centre for Sami Health Research, UiT The Arctic University of Norway, Tromsø, Norway

Background: The Population-based Study on Health and Living Conditions in Regions with Sami and Norwegian Populations – The SAMINOR Study consist of three separate surveys; the SAMINOR 1 Survey (2003- 2004), the SAMINOR 2 Questionnaire Survey (2012) and the SAMINOR 2 Clinical Survey (2012 – 2014). The main objectives are to assess associations between lifestyle factors and risk factors for disease in relation to the different ethnic groups.

Methods: In SAMINOR 1 inhabitants aged 30, 35 – 79 yr in 24 selected municipalities were invited. Participation rate was 61%. The SAMINOR 2 Questionnaire Survey, was performed in the same areas as SAMINOR 1. The invitees was in the age range 18 – 69 yr. The participation rate was low (27%). The SAMINOR 2 Clinical Survey was done in 10 selected SAMINOR municipalities. The age range was 40–79 yr, with a participation rate of 49 %. The 11 questions regarding ethnicity were identical in all three surveys.

Results: The definition of ethnic groups is a core question in the SAMINOR Study and can be defined in different ways, depending on the selected criteria. The questions include both objective and subjective criteria. Self-reported ethnicity information enables comparisons between Sami and non-Sami participants. Selected results from all of the three surveys, will be presented with focus cardiovascular diseases, type 2 diabetes mellitus and mental health.

Conclusions: The study design with both objective and subjective criteria on Sami language and self-perceived ethnicity and identity, makes it possible to categorize the participating sample into indigenous versus non-indigenous groups. This has resulted in valuable information about lifestyle and diseases in north.

271. The Posttraumatic Growth: Current State of Subject and Research Perspectives

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Introduction: The subject of posttraumatic growth is of topical interest because of the increasing amount of stress penetrating every area of our life. It is not a secret that traumatic events can produce many physical and psychological consequences. While interestingly, there are no posttraumatic stress disorders in survivors' psychic brought about by the calamities in their life. The posttraumatic growth is the phenomenon of positive personality change, caused by the efforts to survive through the most horrible sets of circumstances. The concept of posttraumatic growth has only recently become a focus of interest for researchers and practitioners in Russia, while a number of investigations have been carried out abroad. Taking the above into consideration, the goal of the theoretical research is to study and generalize the international experience of investigation into posttraumatic growth.

Methods: Theoretical methods: analysis, synthesis, comparison, generalization.

Results: The survey of 510 scientific papers have been carried out.

Conclusions: The current state of the subject is presented by further points: the definition of "posttraumatic growth", the theories explaining the phenomenon of posttraumatic growth, the techniques used to evaluate the posttraumatic growth degree, the data of my international colleagues' investigations regarding the dynamics of posttraumatic growth and the forecasts.

273. The psychological risk in professional work shift workers as an example oil and gas companies in the Arctic

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The reported study was funded by RFBR according to the research project № 18-013-00623. Climatic, geographical, industrial and welfare factors make on the body of shift worker claims exceeding its reserves, which excludes the possibility of complete adaptation to these conditions and leads to the existence of occupational health hazards. In extreme conditions, shift work in the Far North would be assessed not only occupational risks, but also the risks to the health and psychological risks. Assessment of the risks to health workers suggests a wide range of criteria and indicators, which improves the timely development and implementation of preventive measures. Psychological assessment of risks in a professional activity would develop technology and conduct management activities, as moral hazard and risks to health. Psychological risk in professional work is the probability of a professional personal destructions and the formation of functional states of adverse personnel in the performance of job functions due to prolonged exposure negatively welfare and production factors for insufficient rated personal and environmental resource. The study was conducted as the scientific expedition, in which 70 oil and gas workers in the Nenets Autonomous Okrug participated from March to April 2017 (shift duration 30 days of arrival), their ages are from 24 to 60 years (mean age $38,46 \pm 1,410$). Methods: questionnaires, psychological testing, participant observation. Statistical methods: one sample Student's t-test, one-step immunoassay multiregression analysis. In this paper, there are differences of expression character accentuations of oil and gas workers with shift experience is more and less than five years. It is determined that oil and gs workers in the Arctic, with a lot of character accentuations used mainly psychological defenses compensation, substitution, and denial, and have an average level of flexibility expression as the regulatory process.

284. Trends and patterns of congenital heart diseases in children of Yakutia in 2001 - 2013

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First author's affiliation: Cardiology, Pediatric center, Yakutsk, Russia

Introduction: Birth prevalence of congenital heart disease (CHD), being the largest class of all major congenital anomalies, varies widely among different ethnic groups and regions averaging ~ 1% of live births throughout the world with about 25% of cases requiring intervention in the first year of life. The spectrum of CHD and its changes must be considered during health service planning and development.

Methods: Trends in spectrum of CHD in neonates which were examined in the Yakutsk Diagnostic Centre in 2001 – 2003 (n = 724) and in 2011 - 2013 (n=1226) were analyzed. Eligibility criteria for the detailed medical evaluation: a CHD in family history or any clinical signs of a heart disease revealed during clinical examination.

Results: Among the most common CHD for both periods in total were tetralogy of Fallot (27 cases), coarctation of the aorta (17 cases), pulmonary atresia (13 cases), complete atrioventricular canal defect (9 cases) and Ebstein's anomaly (9 cases). The comparison of CHD incidence and patterns in 2001 – 2003 and in 2011 – 2013 revealed almost 2-fold increase in the total number of revealed CHD. The ratio of simple CHD increased from 22.4% to 39.9% and the ratio of complex CHD – from 3% to 8.2%.

Conclusions: Analysis of the results showed that the increase in number of the revealed CHD reflects better availability of cardiac services and higher professional qualification of specialists rather than higher incidence of CHD in Yakutia in 2011 - 2013.

286. Tuberculosis disease features in relation to M.tuberculosis genetic clusters in the Sakha Republic (Yakutia)

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First author's affiliation: Science Department, Phthisiatry Research-Practice Center of the Sakha Republic (Yakutia), Yakutsk, Russia

Introduction: Population structure of M.tuberculosis was studied based on 178 strains from new patients with pulmonary tuberculosis (TB) residing in Yakutia.

Methods: 24-locus MIRU-VNTR typing was used.

Results: The following families were detected: Beijing (n=60; 33.7%); T (n=31; 17.4%); S (n=23; 13%); Ural (n=16; 9%); Orphan (n=13; 7.3%); Harlem (n=15; 8.4%); LAM (n=12; 6.7%); Uganda (n=5; 2.8%); X (n=2; 1.1%), H (n=1; 0.6%).

Patients were mostly young- or middle-aged male, except those in T (48.3%) or Uganda (40%) groups. Also, patients were mostly urban residents. By ethnicity, genotypes S, T, and Orphan were associated mostly with aboriginal population, Yakuts and minority northern peoples. In terms of clinical manifestations, genotypes Beijing and S were predominantly associated with extensive lung destructions and pronounced symptoms of body intoxication. Genotypes Harlem and Uganda were associated more with less disease manifestations and mostly local symptoms. Proportions of drug sensitive cases were 50% or above in Beijing, Ural, Orphan, LAM, T families, and 100% in Harlem and Uganda. Mono-resistant cases were solitary (only Beijing and T families). Poly-resistance was observed in Ural (50%) and S (21%). The incidence of MDR was notably higher in S (73%), compared to Beijing (36.7%) and Orphan (23%) families, or solitary cases in T and LAM families. Cases of XDR were limited to Beijing and S families.

Conclusions: To conclude, high prevalence of Beijing and S clusters in Yakutia defines unfavorable epidemiological situation in this northern region, with high incidence of multidrug-resistant TB, calling for enhanced measures to fight TB infection.

307. Wuskiwiy-tan! (Let's Move!): Aging well in a northern Saskatchewan Métis community

Oosman, S. Abonyi, S. Lavallee, A. Durocher, L. Roy, TJ.

First author's affiliation: School of Rehabilitation Science, University of Saskatchewan, Saskatoon, Canada

Introduction: Aging well, in place are priority topics in Canada as the proportion of seniors increases. Statistics Canada data reveal Aboriginal people are aging faster than the overall Canadian population, reporting more chronic conditions earlier in life. Our ongoing collaboration with a remote Saskatchewan Métis community is revealing their experiences, and aspirations for aging well.

Methods: Breath of Life theory informs this study, and is approached through Two-Eyed Seeing. Using ethnographic methodology, we gather biographical narratives of aging through interviews, photographs, participant observation, surveys, and objective diet and activity measures. Findings from interviews and participant observation are analyzed using hybrid inductive and deductive thematic analysis.

Results: The value of aging well in place is fundamental. Métis seniors want to stay in their community to remain connected as Elders to children and youth. Community healing from impacts of colonisation is central to this aspiration. Seniors and youth identified specific skills, stories, knowledge, and language vital to share between generations to support healthy development as Métis people. At the same time, there are quotidian challenges of food insecurity and poverty, with suffering from multiple chronic conditions as they age, with limited access to health care and transportation, that are barriers and reveal gaps in formal supports. Many are managed to some degree through informal networks and ad hoc reactions to crises; a situation that is unsustainable.

Conclusions: Our findings can inform strategies to support life course-oriented and intergenerational aspirations for aging well among Métis, but also have relevance for other peoples.

WORKSHOP PRESENTATIONS

34. Body composition and basic movements' ability of elderly female population of Arctic cities (Arkhangelsk Region)

Nechaeva, E.

First author's affiliation: High School of Psychology, Pedagogy and Physical Education, Northern Arctic Federal University named after M. V. Lomonosov, Arkhangelsk, Russia

Introduction: The proportion of the elderly in urban population of the Arctic region is on a steady rise. Functional autonomy of elderly population requires the complex interaction of many factors including physiologic, psychological, environmental and social. This survey is aimed to analyze functional states of women aged 60 to 80 in order to determine their ability to perform wide variety of activities needed to maintain their health.

Methods: 70 women aged 60 to 80 were included in the study. The data of body composition and metabolic rates was obtained by bio impedance investigation. The basic movements' test for older adults comprises of six movement patterns: deep squat, lunge, shoulder mobility, push up, rotary stability, one-leg stand test.

Results: Functional assessment of women aged 60 to 80 in urban population has shown that women who participate in regular group exercises have significantly higher results in movement assessment, however metabolic as well as body composition parameters was not significantly different. The average BMI was 27.87, total fat was 35.61 which classifies the participants as a whole as "overweight" and has a high level of total body fat. The average bone mass was 2,01, which classifies the participants has a lack of bone mass.

Conclusions: Analysis of the obtained data provides ample evidence that functional states of the elderly can be improved by regular fitness regimen. The body composition has shown the prevalence of overweight, which can be, attributed to the fact that majority of the elderly in Arkhangelsk region live a sedentary life.

38. Building on Strengths in Naujaat – a Youth Initiative: First results

Anang, PJ. Haqpi, E. Putulik, S. Kopak, L. Bronson, M. Gordon, EV. Gottlieb, N.

First author's affiliation: Child & Adolescent Psychiatry, University of Manitoba, Winnipeg, Manitoba, Canada

Introduction: Inuit youth suicide is a public health emergency with rates among the highest worldwide. It touches every youth growing up in the community both personally and as they live through the tragedies of losing loved ones. The scholars have acknowledged that a strong sense of cultural identity and pride as well as social capital are protective against suicide. Very little research so far has engaged Inuit youth directly in the design and implementation of resilience enhancing projects.

Methods: Participatory Action Research is being introduced to a group of youth researchers in Naujaat, Nunavut on the Arctic Circle. Youth researchers spent two years preparing for the launch of the project. Five focus groups were conducted with 36 youth in April 2017. Ongoing evaluation and analysis of the findings is being processed in feedback groups from October 2017 to present.

Results: A 46 item list of future projects that would benefit the whole community has been compiled. In-depth discussions reflect the pivotal role intergenerational knowledge exchange is playing in preserving and modernizing the sense of purpose and belonging in Naujaat. Personal Meaning Maps and Voting with the Feet point to importance of knowing the land, hunting and fishing, as well as educating future professionals among Inuit youth.

Conclusions: Engaging Inuit youth in life-affirming future-oriented research is enriching and welcomed by community members of all ages. Despite complex discrepancies in perspectives of Inuit Youth and non-indigenous researchers, we have started a conversation that is promising and open-ended.

65. Continuing Our Unity: Advancing Indigenous Suicide Prevention in the Circumpolar Arctic

Larsen, CVL. Crawford, A. Petrusek MacDonald, J. Ford, S. Durkalec, A. Hackett, C.

First author's affiliation: National Institute of Public Health, University of Southern Denmark, Copenhagen, Denmark

Introduction: At the last of the three workshops held under the RISING SUN project, the Inuit Circumpolar Council (ICC), a major international non-government organization representing approximately 160,000 Inuit of Alaska, Canada, Greenland, and Chukotka (Russia), hosted focus groups with the goal of exploring how the 25 suicide prevention indicators of the RISING SUN project fit with existing circumpolar suicide prevention strategies. ICC Canada developed a discussion paper to advance this work.

Methods: The WHO framework from Preventing Suicide (2014) was used as a reference model to enable comparison across the outcomes of the RISING SUN, the Canadian National Inuit Suicide Prevention Strategy, the National Strategy for Suicide Prevention in Greenland, and the Plan for Suicide Prevention Among the Sámi People in Norway, Sweden and Finland. From this, measurable and actionable future priorities at community-, national/regional and circumpolar levels were identified.

Results: Universal, selected, and indicated suicide prevention and intervention approaches were correlated with RISING SUN outcomes, and with each of the three Indigenous circumpolar strategies. Additional comparisons across domains of problem definition, policy development, implementation and evaluation were conducted. This approach also enabled the identification of specific Indigenous and community-based strategies to advance suicide prevention and build resilience in the circumpolar context. We highlight the value of employing an implementation framework.

Conclusion: Next steps for collaborative approaches to implementation, evaluation, research, and community engagement in suicide prevention were identified. ICC Canada is playing a key role in sustaining the network created through the RISING SUN project.

123. Getting around, doing activities. Everyday practices and challenges of mobility

Nørtoft, K. Carroll, S.

First author's affiliation: APEN, KADK - School of Architecture, Copenhagen K, Denmark

Introduction: In Greenland, the combination of geography and climate makes it harder for older people with limited mobility to get around and to get access to places of daily activities than is the case in most other regions of the world. This study identifies challenges and experiences of older people and explores a case of participation when involving older people in the development of a physical design solution providing easy access to the nature next to their homes.

Methods: The study is based on ethnographic fieldwork in the Greenlandic municipalities in 2017 and 2018 and on co-design workshops in Qeqqata Kommunia in 2018.

Results: Getting around can be a massive challenge and limit older people's participation in various activities that they used to enjoy. The lack of access to nature experiences and activities is emphasized as the cause of decreased quality of life in old age.

Conclusions: Engaging older people in the development of physical design solutions helps to target design solutions and to empower older people to re-engage in meaningful everyday life activities despite challenges with limited mobility.

155. International Circumpolar Partnerships in One Health; Role of the Arctic Council

Hennessy, T. Corriveau, A. Rautio, A. Cox, S. Glasser, J.

First author's affiliation: Arctic Investigations Program, US Centers for Disease Control and Prevention, Anchorage, United States

Complex impacts of climate change on the Arctic call for regional multidisciplinary stakeholder collaborations to advance understanding of emerging health threats and improve resiliency of Arctic communities and the ecosystem. Under the aegis of the Arctic Council's Sustainable Development Working Group (SDWG), Canada, Finland and the U.S., are collaborating on a project, One Health- One Arctic with the view to regionalize One Health approach in the Arctic. The project aims to develop a multidisciplinary One Health network of the Arctic to disseminate information between the Arctic states, regionally as well as locally. Our proposal is to assemble a panel of 5 speakers, including an Indigenous representative, to highlight recent accomplishments under the SDWG's One Health arena as well as Finland's plan to establish a circumpolar animal health network. We would also showcase the outcomes of a tabletop exercise carried out in Alaska (February 2017), as well as the roles being played by the Local Environment Observation Network (LEO) and the International Circumpolar Surveillance System (ICS) to improve the monitoring of diseases transmitted by animals to humans, animal health, food and water safety and adaptation to climate and environmental change.

173. Measuring the workload of family doctors at Ongomiizwin Health Services in Manitoba and Nunavut: An advocacy tool for change in a complex health care system

Goulet, S. Jamieson, R. Dawson, T. MacKinnon, M. Myeryz-Dixon, B. Nguyen, H.

First author's affiliation: Ongomiizwin Institute (formerly Northern Medical Unit), Faculty of Health Sciences, University of Manitoba, Winnipeg, Canada

Introduction: Ongomiizwin Health Services provides skilled family physicians to northern remote Indigenous communities in Manitoba and Nunavut. Governments and policy makers require work load measurement reports to allocate family physician resources appropriately. Traditional fee -for -service billing methods which capture only direct patient care underestimate the work done by a physician in the North, who is working similarly to a specialist consultant in a nurse managed clinic. The need to develop a tool to collect accurate workload measurement of physicians was identified, along with the need to utilize existing human resources in the process.

Methods: Over a series of meetings and pilot-testing, the group of Ongomiizwin Health Services fly in physicians and staff as well as a Doctors Manitoba administrator and the billing clerk developed an innovative fee for service PLUS billing system to accurately capture workload of physicians in our setting.

Results: Preliminary results confirm that this tool accurately captures workload measurement of physicians and that they are spending a significant amount of time providing indirect patient care as well as completing administrative tasks which do not require a physician.

Conclusions: This process demonstrates the value of developing cross-organizational and discipline teams to solve problems and accurately collect data. It also confirms that our physicians are under-utilized in direct patient care and

the need for restructuring of the current system is evident. The data collected from this tool will be utilized to advocate to our governments that the current system of primary care provision in the North needs reform.

201. Old age in Greenland – negotiating identity and place in society

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Introduction: As part of the Danish commonwealth, yet culturally and geographically distinct territory, Greenland has a culturally and socially adjusted version of the Nordic welfare system. Social change and increase in life expectancy have been rapid. The significant social, demographic and cultural changes mean that meanings of old age need to be negotiated at individual, intergenerational and societal level.

Methods: This study uses material from semi-structured interviews with older Greenlanders. Through analysis of the accounts on daily life and experiences on ageing, we investigate how the older Greenlanders are constructing their identity and place in society as they age.

Results and conclusions: We find that the traditional sources of meaning making and identity construction are related to nature, kinship and Greenlandic food. Societal and cultural changes, such as family diaspora and introduction of active ageing paradigm based policies create disruptions. Also individual age-related functional changes limit access to the sources of meaning making.

220. Project CREATeS: Circumpolar Resilience, Engagement and Action Through Story

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Introduction: A key finding through focus groups conducted by the Inuit Circumpolar Council at the last meeting of the RISING SUN project, a mental health initiative under the US Chairmanship of the Arctic Council, is a pressing need for community engagement to move suicide prevention efforts forward. Community engagement, the incorporation of youth perspectives, the ability to adapt global best-practices to local context, and to apply Indigenous knowledge to suicide prevention and resilience efforts, are all foundational to a knowledge-to-action cycle.

Methods: We have developed a model, utilizing digital storytelling (DS), to engage youth and community members across Arctic states to share their perspectives and to contribute to action in suicide prevention. DS is a method of participatory research that utilizes technology to create and disseminate personal and collective stories.

Results: Qualitative analysis of the stories, using a grounded theory approach, will report on emergent themes, such as identity, belonging, healing, land-based knowledge, and community. Focus group results report on specific actions that youth and community members would like to advance through suicide prevention efforts, including virtual strategies to continue this network and collaboration.

Conclusion: Our DS method is an engagement approach that connects youth and community voice to policy makers, and simultaneously allows for the dissemination of knowledge and best-practices to the community level, and between regions and communities. Finding ways to build and sustain the network for circumpolar suicide prevention is essential to implementation and sustainability of the work through the Arctic Council's SDWG.

226. Reducing the Incidence of Suicide in Indigenous Groups – Strengths United through Networks

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Introduction: RISING SUN was a multi-national mental health and wellbeing initiative under the 2015-2017 U.S. Chairmanship of the Arctic Council focused on identifying community-based outcomes to be used in evaluating suicide prevention efforts, and to assess the key correlates associated with suicide prevention interventions across Arctic states.

Methods: The core of RISING SUN was a series of three regional meetings across the circumpolar Arctic, accompanied by a virtual Delphi process to develop common outcomes and set priorities, that convened participants to review diverse stakeholder input, come to consensus on the best outcomes and measures available, specify gaps in available measures that may require further development, and identify potential implementation challenges.

Results: Overall, the findings from RISING SUN revealed that diverse advocacy, clinical, community, policy, and research stakeholders identified and prioritized outcomes resulting from relationship-based community- and family-level interventions. In addition, the RISING SUN initiative led to the development of a web-based toolkit comprising a collection of prioritized outcomes and measures to assess the impact and effectiveness of suicide prevention efforts being implemented across the circumpolar Arctic.

Conclusion: RISING SUN generated shared knowledge to aid health and community workers in better serving their communities, and to help policy-makers measure progress, evaluate interventions, and identify regional and cultural approaches to implementation. Further, the prioritized, community-based outcomes and their measures, developed through engagement with Arctic Indigenous peoples and mental health experts, facilitate data sharing, assessments, and interpretation of research findings across service systems in the circumpolar North.

227. Rehabilitation in Everyday Life: Citizens' Perspectives on Old Age Life in Nuuk – Challenges and Possibilities in the Professional Support

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'Everyday Rehabilitation' in municipal home care in Scandinavia is meant to meet the challenges concerning the growing amount of elders and people with chronic illness. In Greenland, like in Scandinavian countries, everyday rehabilitation is most often practiced as physical training and training of activities of daily living. This focus is dictated by economic considerations. However, as studies show, training is not enough to support people's endeavours to manage their everyday life with illness or disabilities. The purpose of this study was to investigate chronically ill and elder citizens' perspectives on wellbeing, and the personnel's possibilities to support them.

The study was conducted in Greenland's capital, Nuuk, as ethnographic fieldwork with participant observations and qualitative interviews with citizens and professionals over a period of 9 months.

The study shows, that the narrow focus on physical training accentuate people's weaknesses, is demotivating and passivating, and causes conflicts between citizens and personnel. Many ill or elder people feel excluded from society and lonesome, and institutional arrangements for socializing are not optimal. However, chronically ill and elder people possess many resources and they want to participate in and contribute to communal life as fellow human beings.

Goals for professional support must include the citizens' needs and wishes for a meaningful life in their community. The frontpersonnel who is the mainstay in everyday rehabilitation in municipal home care need education in professional, investigative dialogue with citizens. Furthermore, there is a need for giving priority to citizens' everyday knowledge on equal terms with professional knowledge.

231. Remembering life

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Introduction: Life expectancy is increasing in Greenland, causing new challenges and possibilities for older people. Based on ethnographic fieldwork this study explores how older people in Southern Greenland experience care as they age. The informants were born before or during the modernization in the 1950ies and 60ies, which rapidly changed social and cultural circumstances and conditions of life. They experienced the introduction of Home-Rule in 1979 and Self-Rule in 2009 as well as globalization and technological development. As they age they many of them are increasingly in the need of care from their community, which consists of family, friends and other caregivers.

Method: The fieldwork includes semi-structured interviews, participant observation at kaffemiks, church, sports for older people, bingo, the retirement home and observation of everyday life in 5 settlements and towns in Southern Greenland during august 2017.

Discussion: The discussion of this presentation takes its departure in the different concerns and challenges that the informants experience in their everyday life, in order to show how it is not always simple to ask for the help you need and still feel as if you are not being a burden to your community and maintaining a feeling of agency in your own life. The Greenlandic concept of "sila" will be discussed in relation to a care, uncertainty and personhood among the informants, asking how this concept might be useful when discussing how care is best provided for the elderly in Greenland.

235. Research is reflexive and relational: promoting and practicing ethical research with indigenous peoples

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Indigenous Peoples around the world have been mobilizing to (re)assert their inherent right to self-determination, a movement that has both shaped and been reshaped by globally significant developments such as the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Truth and Reconciliation Commission (TRC) in Canada. Both UNDRIP and the TRC reinforce the notion of self-determination and a natural extension of this self-determination is governance of research. In Canada, innovations in policies to enhance the ethical conduct of research involving Indigenous communities have led many around the world to look to Canada to understand how we are creating policy in this area. Despite the growing amount of documentation about what to do in research involving Indigenous Peoples, there is little description of how to do it. Through the lens of both academic and grassroots Indigenous initiatives that aim to understand the intersection of different knowledge systems, and the movement to decolonize research by Indigenizing methods and ethics, this session provides contextual and practical information with actionable suggestions to implement immediately.

240. Rural Arctic Suicide Prevention: A Workshop to Try Promoting Community Conversations About Research to End Suicide (PC CARES)

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Promoting Community Conversations About Research to End Suicide (PC CARES) is a community-based approach that shares practical research evidence with community members so that they can use it, strategically in self-directed ways, to prevent suicide. In the community mobilization model, local facilitators share 'what is known'—practical and easy-to-understand information from prevention research—with community stakeholders. These Indigenous leaders, family members, service providers, school personnel and others spend time interpreting the information ('what we think') and applying it to their family, jobs, and community. They, then, develop ideas about 'what they want to do'. This simple framework, 'what is known', 'what do we think', 'what do we want to do', is a practical way to translate research to self-determined actions. Evidence from the first pilot study of the approach resulted in self-perceived knowledge, skills and beliefs about suicide prevention (NIMH R34 MH096884). Importantly, in follow-up surveys, we also found increases in participants' prevention behavior after attending two or more learning circles. Additionally, social network measures suggest that people close to PC CARES participants were exposed to prevention ideas and were more likely to enact some preventative actions as a consequence. Conference attendees will learn about the theory and structure of PC CARES, promising results from an NIH pilot study, and engage in a PC CARES learning circle focused on arctic Indigenous suicide prevention. There will be time for discussion about how such a model could be transferred to other arctic contexts and/or be applied to other complex health problems faced by arctic communities.

253. Sustainable Development Goals in a Thriving Arctic

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Introduction: Arctic States are looking to achieving the United Nations Sustainable Development Goals (SDGs). This roundtable will investigate the applicability of the SDGs to Arctic communities.

Methods: Round table talking circle workshop on resilience and SDGs in the Arctic.

Results/Conclusions: Actions and recommendations for implementation on the SDGs in the Arctic for Healthy Thriving Communities.

257. The 2018 survey among the members of the UArctic Thematic Network “Health and Well-being in the Arctic”

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In spring 2018, as part of the leadership change of the UArctic Thematic Network (TN) “Health and Well-being in the Arctic” (Arctic Health TN) and planning for the future development strategy, all members of the Arctic Health TN filled in the questionnaire. It included the update on the (1) Personal data (name, affiliation, position, contact details), (2) Network activities, such as keywords on the member’s research interests, description of the member’s current research and education projects, as well as their status of involvement in the activities of Arctic Health and other TNs of the UArctic. (3) Next, we have surveyed the opinions about future directions of the network activities, i.e. what research activities they wish in the agenda of the Health TN in the future, what kind of courses their institutions can offer for the network agenda, what information they want to see at the webpages etc. (4) Finally, the members were encouraged to suggest new members to the network or a person who is potentially interested to join. At the ICCH17, I will provide a summary of the survey results to identify the current network profile and precede the discussion to the future development of the Arctic Health network.

288. UArctic’s Thematic Networks Health and Well-being in the Arctic

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UArctic's Thematic Networks foster issues-based cooperation within networks that are focused but flexible enough to respond quickly to topical Arctic issues.

The goal of the Thematic Network on Health and Well-being to support sustainable development on health and well-being in populations in the circumpolar regions. The network aims to do so by

- promoting research projects and education on health;
- organizing research training;
- distributing scientific information.

The network will base its research and higher education activities on the contemporary needs and priorities of the circumpolar regions and aims to promote a multidisciplinary approach to improve social circumstances for the populations, both in regard to health and well-being as well as delivery of health care and social services in the Arctic.

305. Working Together to Support Indigenous Health and Wellness in Northwest Territories

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Introduction: First Nations, Inuit and Métis – many living in Canada’s north – bear a disproportionate burden of cancer, chronic and communicable diseases in Canada. In the spirit of Truth and Reconciliation, and to have the greatest impact, it is important for non-Indigenous and Indigenous partners to reflect on lessons learned in working together to support First Nations, Inuit and Métis health and wellness.

Methods: From 2013 to 2017, the Canadian Partnership Against Cancer (CPAC) partnered with the Government of Northwest Territories on five cancer prevention and care initiatives: integrating cancer prevention within primary care; supporting workplace wellness; developing policies tailored to support northern community wellness; improving the cancer patient journey; and supporting patients through oncology-primary care transitions. These initiatives, coupled with extensive community engagement, informed the development and implementation of a territorial cancer strategy: Charting Our Course: NWT Cancer Strategy 2015-2025.

Results: This session will assemble a panel to share successes and lessons learned from developing and implementing cancer prevention and care initiatives and a territorial cancer strategy with First Nations, Inuit and Métis. Key themes will include: respectful and meaningful engagement between non-Indigenous and Indigenous partners; and listening and responding to community priorities.

Conclusions: The actionable lessons learned and experiences shared in this session are intended to guide future relationship building and engagement between non-Indigenous and Indigenous partners. It is hoped that these lessons will be beneficial to agencies and organizations working with Indigenous partners to promote health, wellness, and reconciliation to inform broader system change while focusing on regional priorities in northern settings.
