#1  Therapeutic communication games now developed in a digital format  
*Monica Carpendale*, Jay Carter  
  
**Purpose:** This presentation will introduce the suite of therapeutic communication games that have been developed into a digital format. In the new format, the games can be translated easily into different Indigenous languages. The games are intended to increase self awareness, build emotional language, work on issues of anger and self esteem, and enhance social skills and problem solving.  
**Methods:** The games will be demonstrated through a case study presentation showing the original development of the games for individual indigenous children.  
**Results:** The results of the qualitative research will be discussed.  
**Conclusions:** The games are very valuable in both educational and therapeutic settings.

#2 Evaluating the impact of RSV prevention in infancy on prevalence of asthma and recurrent wheeze among 10-14-year-old Native American children  
*Jessica Atwell*, Kamellia Kellywood, Kristen Rosessler, Jennifer Jaiyeola, Robert Weatherholtz, Raymond Reid, Katherine O'Brien, Laura Hammitt  
  
**Purpose:** Respiratory Syncytial Virus (RSV) is the leading viral cause of lower respiratory tract infection worldwide, and Native American children are at increased risk of RSV-associated hospitalization and death. Studies have documented associations between RSV in infancy and childhood wheeze, but the potential impact of RSV prevention on childhood asthma remains unclear. From 2004-2010, 2,127 healthy, full-term Native American infants participated in a phase III, randomized, placebo-controlled trial of an effective monoclonal antibody (motavizumab) for prevention of RSV. Revisiting these children at 10-14 years of age provides an opportunity to investigate relationships between early RSV and subsequent asthma.  
**Methods:** Parents/guardians of children from the original clinical trial were located between October 2017 and November 2018. After obtaining informed consent, data were collected via questionnaire (adapted from the International Society for Asthma and Allergy in Childhood) and by medical chart review to assess long term respiratory outcomes in the children, including asthma. Results of the questionnaire and chart review will be used to assess associations between RSV in infancy and asthma/wheezing in childhood.  
**Results:** 1765 children (85% of the original trial participants) have been enrolled in the follow-up assessment as of Oct 2018. Preliminary data indicate 18.1% (95% CI: 14.1,22.0) children randomized to the placebo group were asthmatic at age 11-14 years. Analyses of full study data are ongoing and will be completed in early 2019 to assess, among other outcomes: 1) what proportion of children have recurrent asthma/wheeze, and at what level of severity, and 2) if differences are observed according to childhood experience with RSV, environmental exposures, family history of asthma, etc.  
**Conclusions:** This study will provide critical information about the burden of asthma in Native American children, and the connections between RSV in infancy and childhood asthma. No products currently exist for the prevention of RSV in full-term, healthy infants, but several vaccines and monoclonal antibodies are in clinical development. Understanding the impact RSV prevention may have on childhood asthma will be critical for planning the implementation of such vaccines/products, particularly for high-risk children, where such interventions are needed most.
#3 Tailored communication to improve uptake of recommended maternal vaccines among Navajo and White Mountain Apache women

*Jessica Atwell*, Crystal Key, Taylor Holroyd, Nina Ritchie, Raymond Reid, Robert Weatherholtz, Cheyenne Jim, Laura Hammitt

**Purpose:** Vaccines for influenza and for tetanus, diphtheria and pertussis (Tdap) are recommended during pregnancy for all women in the US. Uptake of these vaccines nationally is suboptimal (<60%), and unknown in American Indian/Alaska Native (AI/AN) communities, yet AI/AN infants are at increased risk of hospitalization and death from acute respiratory illnesses such as influenza. Understanding the knowledge, attitudes and beliefs (KAB) of stakeholders in AI/AN communities about vaccines in pregnancy and the diseases they prevent can be used to develop tailored, culturally appropriate materials to improve vaccine uptake.

**Methods:** We conducted surveys, in-depth interviews, focus group discussion and chart reviews among important community stakeholders in one White Mountain Apache and three Navajo communities to understand KAB about vaccines, maternal immunization, and causes of pediatric respiratory disease. A mixed-methods analysis of these data was used to inform development of tailored communication materials, which were reviewed and revised with input from community advisory boards.

**Results:** 277 surveys, 29 in-depth interviews, 7 focus groups, and 175 chart reviews were conducted with pregnant women, women of childbearing age, their partners, healthcare providers, elders, and traditional practitioners. While more than 80% of women expressed willingness to receive recommended vaccines, more than 40% have questions and concerns about the safety, necessity and effectiveness of the vaccines. In collaboration with a Navajo graphic artist, communication materials addressing the leading concerns for maternal immunization in general and for influenza vaccines specifically were created, pilot tested, and deployed in healthcare settings across participating sites to educate the community about maternal immunization.

**Conclusions:** To improve awareness, communicate about access and ultimately improve uptake, maternal immunization must be promoted with tailored, culturally-relevant and appropriate communication and educational materials, even if the predominant concerns and knowledge gaps are similar to those in other settings for which materials already exist. The response to such materials within the community, among public health agencies, and with clinical providers was overwhelmingly positive and should be replicated in other high-risk communities.

#4 Risk factors for oral health in young, urban, Aboriginal and Torres Strait Islander children in Australia


**Purpose:** Dental caries is the most common chronic disease of childhood. Within Australia, young Aboriginal and Torres Strait Islander children experience a disproportionate burden to non-Indigenous children. Despite the prevalence of the disease, data on young Aboriginal and Torres Strait Islander children remains limited. This study reports the potential risk factors and indicators, as well as estimates of the prevalence of caries in a population of urban, Aboriginal and Torres Strait Islander children aged less than 5 years

**Methods:** Demographic and risk factor and risk indicator data were collected at baseline in a cohort study of children attending a health clinic in north Brisbane, Australia. Dentulous children received a basic oral examination to explore the presence of decayed, missing and filled teeth (dmft). Descriptive analyses were performed. A backwards stepwise logistic regression model was planned to identify potential associations with dmft status.

**Results:** Between February 2013 and October 2015, 180 children were enrolled: mean age 18.4 months (interquartile range 7.7-34.3); 51% were male. One hundred and eleven (61.6%) children received the oral examination, of whom 14 (12.6%) (mean age 35 months) were estimated to have dmft >0. Although the data indicated children were regularly brushing their teeth with toothpaste and they lived in a region with fluoridated town water supply, there was a high prevalence of socio-economic, dietary and behavioural risk factors/indicators present for children. Due to the small sample size, planned regression was not performed.

**Conclusions:** The prevalence of risk factors for poor dental health in this population is high. More resources need to be invested before children are school-aged, particularly culturally appropriate services that will increase the uptake of dental care in this population. Measures to encourage better primary prevention, through healthy diet
with minimal sugars, and regular brushing with fluoride-containing toothpastes is important for pre-school children.

#5 Understanding health-related quality of life in Australian Aboriginal and Torres Strait Islander children and their parents
Kaley Butten*, Peter Newcombe, Anne Chang, Jeanie Sheffield, Kerry-Ann F O’Grady, Maree Toombs

Purpose: Health-related quality of life (HR-QoL) is a valued patient related outcome measure. Improving a child’s HR-QoL is thought to have both immediate and long term positive implications. HR-QoL is typically measured using a psychometric tool. Although there are a number of general and illness-specific HR-QoL measurement tools available globally, no tool has been validated for Australian Aboriginal and/or Torres Strait Islander children, nor any other Indigenous population globally. The purpose of this study was to gather Australian Aboriginal and Torres Strait Islander perspectives of HR-QoL in children in order to inform the development of a culturally appropriate tool.

Methods: Yarning circles and face to face interviews were used to document the experiences of parents and carers of Aboriginal and Torres Strait Islander children who had experienced a chronic illness. Participants were recruited from Aboriginal and Torres Strait Islander focused health clinics and through word of mouth. Information collected was transcribed and analysed thematically.

Results: HR-QoL is defined as more than just physical, social and psychological well-being. Knowledge, communication and the relationship with the health system were major domains. Participants described the importance of being heard; their voice trusted and valued by health practitioners. Health literacy was also valued. Participants explained that information and knowledge of health issues and maintenance of symptoms contributed to HR-QoL, as did the capacity to pass on information to family and their support network.

Conclusions: The concepts of HR-QoL identified in this study are not included in conventional HR-QoL measurement tools; which suggests that these tools would be insufficient for Aboriginal and Torres Strait Islander populations. Developing, evaluating and validating a generic HR-QoL tool will lay the foundation for the development of disease specific tools that can be used in a broad range of health issues.

#6 Impact of oral health on urban, Australian Aboriginal and Torres Strait Islander families
Kaley Butten*, Newell Johnson, Kerry Hall, Maree Toombs, Neil King, Kerry-Ann O’Grady

Purpose: The oral health of a child not only impacts the physical wellbeing of the child, but can have quality of life implications for parents and families as they endeavour to provide care and support their child’s oral health needs. Within Australia, Aboriginal and Torres Strait Islander children are thought to experience a disproportionate burden of poor oral health compared to non-Indigenous children. The objective of the study was to explore from the perspective of urban, Aboriginal and Torres Strait Islander parents and carers the impact poor oral health has on children and these families.

Methods: Yarning circles and face to face interviews were used to document the experiences of (N=20) parents of urban, Aboriginal and Torres Strait Islander children. Participants were recruited from an Aboriginal owned and operated primary health clinic in northern Brisbane, Australia and through word of mouth. Information collected was transcribed and analysed thematically. Codes and themes were confirmed by the researcher and two participants.

Results: The findings indicate that oral health is an important issue for urban Indigenous parents and maintaining oral health to a desired standard is having emotional, physical and financial impacts. Key themes identified were financial concerns, worry about the future and juggling multiple priorities, all of which were inter-related and cyclical.

Conclusions: The findings from this study contribute to a growing body of evidence that suggest that oral health care needs a paradigm shift. In order to reduce the negative impacts of oral health issues on families, oral health care cannot occur in isolation of general health care. Families in this study have demonstrated that with the current policy arrangements, oral health is impacting on their quality of life, contributing to stress, financial challenges and at times affecting their physical health.
The development of early childhood community projects for First Nations in Quebec: An approach focused on strengthening the social determinants of health
Patrick Bacon

Purpose: The primary goal of our early childhood interventions is to improve the health and well-being of Indigenous children. Our approach focuses on preventing and strengthening the social determinants of health. The project involved setting up mobilization and consultation committees focused on child and family development. This project contributed to the development of interventions built on awareness, prevention and empowerment. These actions were combined with research and evaluation activities to measure their impacts within communities.

Methods: To identify priorities, the FNQLHSSC conducts the First Nations Regional Health Survey. A portal monitoring the health status and determinants of health of First Nations is also available online. These tools provide stakeholders with information on the health and well-being of members of their communities. They guide evidence-based decision making. We advocate an intervention method that is based on the ecosystem approach and are working to mobilize stakeholders around high-priority issues related to the health and well-being of Indigenous children.

Results: Our research shows that community mobilization and consultation improve preventive services for children. Early childhood mobilization committees focused on the creation of developmental child- and family-oriented services. Such projects helped reinforce protective factors for children and families. Whether in family centres, social paediatrics centres, psychomotor development facilities or elsewhere, these projects helped promote children’s development, healthy lifestyles and the strengthening of parenting skills.

Conclusions: By enhancing the services offered by health and social services centres, these projects have a considerable impact on children and families. However, daunting challenges remain: limited financial resources, a lack of infrastructure, a lack of specialized resources, difficulties recruiting in remote areas, systemic discrimination in community health care and health services, etc. In this context, communities need to be resilient and creative to overcome these barriers. One solution worth exploring would be to share services between community organizations and institutions.

Aboriginal Early Childhood Development (ECD) programs in Canada: Examining parental involvement, food security and special needs
Nadine Badets*, Kelsey Manimtim; Stephanie Cerutti, Suzy Wong

Purpose: This is a program performance measurement study that contributes to the mobilization of knowledge about the Aboriginal Head Start in Urban and Northern Communities (AHSUNC) program. This study also builds on previous Statistics Canada research which found that Aboriginal children with higher socio-economic vulnerability are more likely to attend an Aboriginal Early Childhood Development (ECD) program, and these children show little difference in school outcomes when compared to their peers who did not attend. This study focuses on other key outcomes not previously studied, notably parental involvement, food security and special needs, which are important components of programs like AHSUNC.

Methods: Descriptive statistics are used to study select characteristics and outcomes among First Nations (living off-reserve), Métis and Inuit children and youth aged 6 to 17. Outcomes include parental involvement in the child’s education (such as reading aloud), household food security status, and children with special needs. This study consists of comparisons between three groups of children: those who attended an Aboriginal ECD program, attended a non-Aboriginal ECD program, and those who did not participate in any ECD program. Data are from the national 2012 Aboriginal Peoples Survey conducted by Statistics Canada. Estimates were calculated with SAS-callable SUDAAN.

Results: Children who attended an Aboriginal ECD program were more likely to live in a food insecure household, and were more likely to live in rural areas. When parental involvement was studied, parents of children who attended an Aboriginal ECD program were more likely to report never spending time reading aloud to their child than parents of children who attended general ECD programs. Parents of children who attended Aboriginal ECD programs were less likely to indicate that they would like their child to complete a university degree, and more likely to name a high school diploma as their highest hope for the child’s educational attainment. Finally, children
who attended non-Aboriginal ECD programs were more likely to be diagnosed with a learning disability or a chronic condition.

**Conclusions:** Preliminary results confirm that among First Nations (off-reserve), Métis and Inuit children, those with higher socio-economic vulnerability are more likely to have attended an Aboriginal ECD program, which could be an indication that programs such as AHSUNC are reaching their intended populations. One of the six key components of the AHSUNC program is to encourage parental involvement in children’s education, and initial results imply a need for continued emphasis on parental involvement. The lower diagnosis of learning disabilities and chronic conditions among children who attended an Aboriginal ECD program may be tied to remoteness and limited access to health care services.

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**#9 The Rationale and design of the Missing Piece Surveillance Study**

*Dylan Barth, Jonathan Carapetis, Marianne Mullane, Claudia Sampson, Asha Bowen*

**Purpose:** Acute rheumatic fever (ARF) is the most common cause of acquired heart disease in children worldwide. Although a causal pathogenic pathway has been confirmed between pharyngitis and subsequent ARF, a plausible link has been proposed between Strep A impetigo and ARF, a hypothesis primarily driven by the very high rates of ARF and Rheumatic Heart Disease (RHD) in Aboriginal populations in Australia where impetigo is pervasive and Strep A pharyngitis is seemingly uncommon. A key piece of missing evidence in this narrative is the documentation that Strep A pharyngitis is truly rare in remote Australian communities. The aim of this study is to comprehensively evaluate the concurrent burden of Strep A impetigo and pharyngitis in Aboriginal children (5 – 15 years) in the Kimberley, Australia.

**Methods:** A comprehensive tool-kit, developed and tested during the pilot study will be used to determine the burden of Strep A sore throat and skin infections in Aboriginal children attending two schools in the Kimberley. This study will comprise two components: (a) Screening every child for skin and sore throat infections at baseline, halfway, and at the end of the study period, and (b) Active surveillance of skin and sore throat infections once a week over a one-year period. Children participating in this study will have their throats and skins sores swabbed for microbiological evaluation.

**Results:** Primary prevention strategies and efforts in vaccine development have long been based on the concept that ARF is caused solely by GAS pharyngitis. In the North of Australia, some primary prevention efforts have been directed at reducing GAS impetigo however in the absence of clear evidence it is more difficult to advocate for significant spending, guideline development and policy frameworks. To direct these efforts, a comprehensive understanding of the concurrent burden of impetigo and pharyngitis in children with the highest risk of developing ARF is needed.

**Conclusions:** This work will have important implications for the improvement in treatment and management of Strep A infections driving high rates of ARF and RHD in Aboriginal children living in Australia.

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**#10 Community consultation in remote Aboriginal communities in WA, Australia**


**Purpose:** Australian Aboriginal children have some of the highest rates of impetigo and scabies in the world. The SToP trial (see, treat, prevent) skin sores and scabies is a cluster randomised trial with a stepped wedge design that is testing whether we can translate the results of what we know works in skin health to enhance usual care in the Kimberley region of Western Australia. The trial is a partnership between Telethon Kids Institute researchers and local Kimberley service providers including Aboriginal led health and environmental health services. Here we describe the community consultation prior to the commencement of this trial.

**Methods:** A situational analysis of current activities in skin health in the Kimberley was planned to coincide with community consultation. This facilitated funding, important research preparation activities, an opportunity to build relationships with communities, and a broader understanding of the scope of skin health in the region prior to the commencement of the SToP trial.
Results: Community consultation in the nine SToP Trial communities was co-led by a local Aboriginal research coordinator. Community elders, community council members, community members, local teaching staff, remote health clinic staff and local environmental health workers were all consulted with as part of this process. All communities were visited face-to-face at least once by the coordinator and research team, and regular visits and communication are ongoing. This guidance alongside the direction of the local Aboriginal service providers enabled discussions to progress at a pace directed by the communities. Letter of support were provided by all communities prior to submission of the ethics proposals.

Conclusions: Planning the time needed (12–18 months) for culturally appropriate, considerate, respectful, collaborative community consultation is essential for successful clinical trials in remote Australian Aboriginal communities. However, due to limitations in funding and timelines this is rarely done adequately. We present an example of effective ongoing engagement (18 months) at the community’s pace in preparation for trial launch in early 2019. Regular visits to remote communities whenever possible is important for ongoing engagement, and also means project activities can be fine-tuned as per the wishes of community members. This process of community engagement has been lauded widely as best practice.

#11 Consent for a clinical trial: Partnering with local Aboriginal environmental health workers


Purpose: Australian Aboriginal children have some of the highest rates of impetigo and scabies in the world. The SToP trial (see, treat, prevent) skin sores and scabies is a cluster randomised trial with a stepped wedge design that is testing whether we can translate the results of what we know works in skin health to enhance usual care in the Kimberley region of WA, Australia. The trial is a partnership between Telethon Kids Institute researchers and local Kimberley service providers including Aboriginal led health and environmental health services. Here we describe the consent process for the trial.

Methods: Although randomisation is at the cluster level, individual consent for school-based skin surveillance for all school aged children is essential. Kimberley research partners advised that the consent for this trial should be collected by local Aboriginal people trained by study staff. This would ensure the consenting process was culturally appropriate as the Aboriginal workers trained in this consenting process would be going house to house to ‘yarn’ and explain trial to parents of school aged children.

Results: Eight Aboriginal environmental health workers employed through an Aboriginal led research partner organisation, Nirrumbuk Environmental Health Services, were recruited and trained in research methods and the consent process. Training was provided over one full day and involved an in-depth explanation of the aims and methods involved in the SToP Trial which was facilitated through use of a flipchart developed by the study staff in collaboration with partners. The lead coordinator of the consenting process also attended a three day ‘Introduction to Aboriginal Research’ workshop at the local Kimberley University.

Conclusions: Training local Aboriginal people to collect informed consent for a clinical trial is respectful of local community culture and customs, and provides an opportunity to build local Aboriginal research capacity and upskilling. Feedback from environmental health workers confirmed they found the training valuable in understanding the principles and requirements of consent for research. Consent is ongoing using the flipchart which will be presented in this talk.

#12 Exploring the determinants of First Nations child injury according to local Mohawk key informants to inform meaningful child injury prevention actions

Émilie Beaulieu*, Rose-Alma McDonald, Ian Pike, Alison Macpherson

Purpose: According to the First Nations (FN) Information Governance Centre, “injury is probably the most under-recognized public health problem facing First Nations today.” Given nearly 50% of the FN population is younger than 25 years of age, FN children and youth are disproportionately affected by the burden of injury. A comprehensive understanding of community-based determinants of child injury is missing and essential to inform
culturally-appropriate FN child injury prevention actions and prevent injury-related deaths and comorbidities. This study aimed to provide an understanding of the prevailing determinants, causes, and resources for child injury in the Mohawk First Nation community of Akwesasne according to selected local key informants.

**Methods:** As part of the community-based participatory research project The VOICES of Children and Youth, a purposive sampling was used to identify nine key informants with perceived insights from different Mohawk Council of Akwesasne Departments, including health, police services, justice, and education, to participate in semi-structured interviews. Interviews were conducted by the local Mohawk researcher of the team and included four questions addressing the causes of injuries to Akwesasronon children and youth, perceptions of injury as a problem in the community, solutions to reduce child and youth injuries and injury prevention programs available in the community.

**Results:** The most common or serious causes of injuries reported by key informants included all-terrain vehicles (ATV) and bicycle injuries, team sport and swimming-related injuries, and dog bites. Bullying at school and racial slurs and abuse during sports events from coaches and parents were also reported as serious concerns. Injury prevention and safety awareness, cultural identity and connectedness and positive parental supervision were identified as important protective factors for child injury in Akwesasne. Risk factors included risk-taking behaviors, substance abuse and inadequate and poor infrastructure such as lack of sidewalks or street lights.

**Conclusions:** All interviewed key informants identified injury to children and youth as a problem in Akwesasne, with ATV injuries and dog bites being the most reported injury issues. Information provided by key informants will be compared and combined with data from the community survey and Visual Storytelling school club (The Akwesasne Danger Dodgers), in order to inform meaningful child injury prevention actions.

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**#13 Understanding community attitudes and perceived preventability of child and youth injuries in the Mohawk Nation of Akwesasne to inform meaningful child injury prevention actions**

*Émilie Beaulieu*, Rose-Alma McDonald, Ian Pike, Alison Macpherson

**Purpose:** First Nations (FN) children and youth in Canada face significantly higher injury rates than non-Indigenous populations. Current injury prevention programs do not reflect the realities of Indigenous children and are thus insufficient to protect them. Based on the historical, cultural and environmental context, FN communities have unique worldviews that must be accounted for in order to effectively address the burden of injury faced by Indigenous children. This study aimed to provide a community-level understanding of the attitudes and perceived preventability of children and youth injuries in the Mohawk community of Akwesasne, located along the St-Lawrence River.

**Methods:** As part of the community-based participatory research project The VOICES of Children and Youth, an anonymous, self-administered survey was developed, including 15-questions covering child injury knowledge, attitudes and perceived preventability of injuries. The survey was implemented online through the Mohawk Council of Akwesasne platform and promoted at community venues by community members involved in the project where paper surveys were available. Individuals 15-years old and older were eligible and invited to participate on a voluntary basis between May and September 2018. Consent to participate was obtained for all individuals.

**Results:** Over 500 individuals completed the survey, but paper surveys are still being entered. Preliminary results based on 120 respondents representing the community membership showed that 77% reported being most of the time to very concerned with the possible impacts of injuries on Akwesasronon children, with all-terrain vehicle injuries and bullying being perceived as the most serious or common injuries occurring to them. The most important protective factors reported for child injury were support from parents and cultural identity, while risk factors included alcohol and drugs, and family breakdown.

**Conclusions:** This study provides new knowledge about Akwesasne community members’ attitudes, knowledge and perceived preventability of child and youth injuries. This will inform the implementation of meaningful, relevant and community-led child injury prevention initiatives in Akwesasne.
#14 Training safe physicians: An immersive Indigenous health experience for pediatric residents
Lisa Brown*, Stacey Marjerrison, Alex Thomas, Eric Sault, Adrian Nasager, Rebecca Leitch, Portia Worthy

**Purpose:** In response to the calls to action published by the Truth and Reconciliation Commission, particularly those related to health care and medical education, an immersive teaching session was created for residents in the Pediatrics program at McMaster University in Hamilton, Ontario. The experience involved a trip to the Woodland Cultural Centre, a former residential school (now museum). The purpose was to evaluate residents’ baseline knowledge of Indigenous health history and current issues, based on their background and previous medical training, and to evaluate the impact of the experience on their beliefs and attitudes, in order to improve the curriculum.

**Methods:** The residents in the McMaster Pediatrics program were surveyed regarding their baseline knowledge and awareness of Indigenous history and current issues, and the data was analyzed using both quantitative and qualitative methods. A half-day immersive experience at the Woodland Cultural Centre exposed thirty residents to a presentation by a residential school survivor and the museum. A post-exposure survey and debrief occurred afterwards, allowing participants to reflect. The debriefing session was recorded then transcribed for analysis. The researchers (including Indigenous medical students) then analysed the data to identify common themes amongst the responses, and to assess residents’ attitudes and beliefs post-experience.

**Results:** Based on analysis of the pre-experience survey, it is clear that Indigenous health education in medical schools in Canada is lacking. There is no standardized national curriculum for Indigenous health education, and based on survey responses the amount of exposure at many medical schools is minimal (with the exception being the Northern Ontario School of Medicine). Residents universally felt that the immersive half-day experience was a positive learning experience, and were left with the desire to learn more in order to become better health care providers.

**Conclusions:** While a half-day immersive experience in Indigenous health does not provide enough education to constitute a formal curriculum, the residents recognized their knowledge of Indigenous health was lacking and that their beliefs and attitudes were changed after the experience. This high level of engagement suggests that an immersive learning experience is a helpful tool to use in medical education, and that this session can and should be offered to all residents at McMaster University as a mandatory component of residency education. Similar experiences may exist near other postgraduate training programs, and schools should seek out these experiences for their trainees.

#15 The epidemiology of Haemophilus influenzae serotype a disease in the North American Arctic, 2000-2016
Michael Bruce*, Tammy Zulz, Karin Johnson, Debby Hurlburt, Karen Rudolph, Carolyn Debyle, Raymond Tsang

**Purpose:** 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.

#16 Do home visiting programs improve the well-being of Métis children and parents?
Marni Brownell *, Julianne Sanguins *, Mariette Chartier, Sheila Carter, Jennifer Enns, Nathan Nickel, Dan Chateau, Joykrishna Sarkar, Elaine Burland

Purpose: Since 1999, Healthy Child Manitoba has funded and coordinated the province-wide Families First Home Visiting Program, which provides home visiting services to families with children from the prenatal period to age five living in conditions of risk. While program planners and service providers use a strength-based, family-centred approach and aim to be culturally safe, it remained unknown whether Metis families were benefiting from the program. The Manitoba Metis Federation partnered with Manitoba Centre for Health Policy (MCHP) researchers to conduct this study, to determine whether this home visiting program improved health and social outcomes for Metis children and parents.

Methods: Seven years (2003-2009) of Families First Home Visiting Program data were linked to de-identified health and social service use administrative data held at MCHP for 2,963 Metis children and their parents. Propensity score weighting was used to adjust for differences between groups who received (n=1392) and did not receive (n=1571) the program. Regression analyses were used to compare groups on outcomes related to children (being taken into care, justice system involvement as victim or witness, maltreatment hospitalization, immunizations, child development scores at school entry) and parents (physician visits for maternal mental health disorders, community support program participation).

Results: Receipt of the Families First Home Visiting Program was associated with improvements in children’s complete immunization rates at age 1 (adjusted relative risk (aRR): 1.04 (95% CI: 1.00,1.09)) and age 2 (aRR:1.09 (1.01, 1.18)), increased parental involvement with community support programs, (aRR:1.48 (1.27, 1.72)) and lower rates of children being taken into care of Child and Family Services within the first year of life (aRR: 0.80 (0.64, 0.99)). Receipt of the Families First Home Visiting Program was not significantly associated with hospitalization due to maltreatment, justice system involvement, children’s development at school entry, or maternal mental health service use.

Conclusions: The results suggest that the Families First Home Visiting Program is beneficial for connecting program recipients with important services (child immunizations, parent support programs) and helping to protect children from being taken into care. However, more research is needed to understand how the program could be enhanced to improve the other outcomes examined (maltreatment hospitalization, involvement with the justice system, school readiness, mothers’ use of mental health service).

#17 Mental health and climate change among Indigenous peoples
Lori Byron

Purpose: Solastalgia: The sensation of profound melancholia as one’s immediate environment changes negatively. This sense of sadness and loss can only be greater for place-based, indigenous peoples. As climate change progresses, the losses to indigenous peoples continue to mount, and research on the mental health effects of climate change continues to grow. Besides PTSD, depression, anxiety after acute events worsened by the changing climate, dementia, autism, and schizophrenia are now linked to the air pollution that causes climate change, and fetuses of women exposed are at risk for future mental health effects.

Methods: Dr. Lori Byron practiced pediatrics on the Crow Indian Reservation for 27 years. She has been intimately involved in the family life and health care therein. With climate change deemed to be the greatest public health crisis, yet opportunity, of the century, now as a climate advocate, she will present the current health-climate research along with knowledge gained from her indigenous family and friends, providing hope with examples of indigenous resilience and strength in the international efforts to slow the emissions producing climate disruption.

Results: Health care providers working among indigenous peoples need to understand the varied mental health effects of climate and air pollution, especially as it pertains to place-based peoples. As providers of public health
and patient care, we need education to better prepare and educate our patients. Attendees will gain appreciation for the depth of the issue and how to work with patients and families.

**Conclusions:** Our initial medical training was not always optimal for the situations in which we find ourselves. The community-based approaches so common in working with indigenous peoples require us to have big-picture concepts and a passion for preventative medicine. This session allows us all to gain understanding of the present effects of climate in our patients’ lives. Participants will be able to 1) Describe three mental health conditions worsened by climate and air pollution 2) Identify the increased risks to indigenous, place-based peoples 3) Recognize the extensive indigenous-led advocacy currently occurring that lends hope both to individuals and their communities.

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**#18 Evaluation of eczema, asthma, allergic rhinitis and allergies among the grade-1 children of Iqaluit**
*Ahmed Ahmed*, Amir Hakim, Allan Becker

**Purpose:** Very little is known about the prevalence of asthma, allergic rhinitis, eczema and allergies among Canadian Inuit children, especially those living in the arctic and subarctic areas.

**Methods:** A cross-sectional study among grade one students attending schools in Iqaluit, the capital of Nunavut, was conducted during the 2015/2016 school year. We used the International Study of Allergy and Asthma in Children (ISAAC) questionnaire with added questions relevant to the population. In addition, skin prick tests were conducted to test for sensitization to common food and inhaled allergens.

**Results:** The prevalence of current asthma was 15.9% (>2:1 males) with the highest prevalence among those with mixed ethnicity at 38.5%. The prevalence of current and past allergic rhinitis was 6.8%, predominant among males, with the lowest prevalence among the mixed ethnicity. Being ever outside Nunavut was associated with higher prevalence of current and past asthma. The current eczema prevalence was 20.5%, with the highest prevalence recorded among the Inuit at 25% while 15.4% among the mixed ethnicity and 14.3% among the non-Inuit. A high sensitization rate to Cat at 26.7% while absent sensitization to dog and house dust mite.

**Conclusions:** Variations in the prevalence and risk factors of asthma, allergic rhinitis and eczema among different ethnicities living at the same subarctic environment may be related to genetic, gene-environment interaction and/or lifestyle factors that require further investigation at larger scale.

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**#19 Racial discrimination associated with health and wellbeing of Aboriginal and Torres Strait Islander children aged 4-12 years**
*Leah Cave*, Carrington Shepherd, Matthew Cooper, Stephen Zubrick

**Purpose:** Racial discrimination is a central social determinant of health in Australian Aboriginal and Torres Strait Islander (hereafter referred to as Aboriginal) populations, and is associated with health inequities within these populations. Targeted public health initiatives addressing racism must account for age and development, particularly during childhood. We sought to examine developmental trends in the health risk of racism to Aboriginal children in Australia.

**Methods:** Data from waves 2-8 (2009-2015) of the Footprints in Time: The Longitudinal Study of Indigenous Children (LSIC) dataset was used in analysis, which included up to 1,759 Aboriginal children aged 4-12 years. We examined exposure to direct racism between 4-11 years and first exposure at 4-5 and 7 years as predictors for general health, weight status, mental health and behavioural outcomes and substance use. Multilevel logistic regression was used in all analysis.

**Results:** Direct exposure to racism at ages 4-11 was associated with twice the risk of socio-emotional difficulties, sleep difficulties and behaviour issues at school, 1.7 times the risk of obesity and nearly 7 times the risk of trying smoking but not with general health, being underweight or trying alcohol. First exposure to racism at 4-5 years was associated with higher risk of socio-emotional difficulties than first exposure at age 7, comparable risk of sleep difficulties was seen for first exposure at both 4-5 and 7 years and behaviour issues at school was only associated with first exposure at age 7.

**Conclusions:** Direct racial discrimination has a significantly negative impact on the mental and physical health of Aboriginal children. First exposure to racism up to 7 years has ongoing effects for mental health and behavioural
outcomes in later childhood. Public health interventions and policy are required to address the harmful impact of racism on Aboriginal children and these initiatives must begin in early childhood.

#20 Determinants of neonatal hypoglycemia in the Kivalliq region of Nunavut (2010-2013)
Sorcha Collins*, Elske Hildes Ripstein, J. Robert Thompson, Sharon Edmunds-Potvin, Michelle Doucette Issaluk, Cheryl Rockman-Greenberg, Laura Arbour

Purpose: Although most infants in Nunavut are born healthy, Nunavut leads the country for a number of adverse birth outcomes, including preterm birth (PTB, <37wks), low birth weight (LBW, <2500g) and large for gestational age (LGA, >90th percentile). These outcomes are also risk factors for hypoglycemia. As part of a larger study to understand child health outcomes in Nunavut, we report rates of birth outcomes that pose risk for neonatal hypoglycemia for Inuit infants born to mothers residing in Kivalliq Nunavut. The presence of carnitine palmitoyltransferase 1A (CPT1A) p.P479L variant is also included given its possible association with hypoglycemia.

Methods: We reviewed clinical charts of 714 Inuit infants born to mothers residing in Kivalliq Nunavut (Jan 1, 2010 - Dec 31, 2013). Study ethical approval was granted by UBC and UofM Research Ethics Boards and Nunavut Research Institute. This research was developed and conducted in partnership with Nunavut Tunngavik Inc. and Government of Nunavut, Department of Health. Birth outcomes were compared to Nunavut and national averages reported by Statistics Canada. Hypoglycemia and severe hypoglycemia (were defined using the CPS guidelines (hypoglycemia: <2.0mmol/L between 0-2hrs or <2.6mmol/L between 2-48hrs of life and severe hypoglycemia: <1.8mmol/L between 0-2hrs or <2.0mmol/L between 2-48hrs).

Results: Of newborns reviewed, 13.8% were PTB, 6.7% were LBW, 6.7% were SGA (<10th percentile), 11.3% LGA, 1.8% macrosomia (>4500g) and 95% had at least one copy of the CPT1A p.P479L gene variant (26% one copy, 69% two copies). Hypoglycemia and severe hypoglycemia were documented in 28.9% and 12.5% of newborns and were highest in PTB (41.2%/28.9%), LBW (31.3%/22.9%), SGA (36.2%/19.2%), LGA (25.3%/11.4%) and those with the p.P479L variant (29.1%/12.5%). Only PTB was significantly associated with hypoglycemia and severe hypoglycemia (adjOR: 1.68, 95%CI:1.02-2.78, p=0.038 and adjOR: 3.01, 95%CI:1.67-5.42, p<0.001).

Conclusions: PTB, LBW and LGA were higher and SGA lower in Kivalliq Nunavut than the national reported averages, which is consistent with comparative data for Nunavut as a whole. Hypoglycemia and severe hypoglycemia were documented in 28.9% and 12.5% of newborns. Only prematurity was significantly associated with hypoglycemia and severe hypoglycemia. The CPT1A p.P479L variant was very common, consistent with previous studies. Further study will investigate long-term effects of these birth outcomes using five-year follow-up health information. The results will inform public health and clinical care strategies.

#21 Psychological distress and suicidal ideation, self-harm and substance use in Indigenous Australians from adolescence to young adulthood
Belinda Davison*, Gurmeet Singh

Purpose: Almost half (45.5%) of Australian adults experience mental illness (psychological distress, affective or substance use disorder) at some point in their lifetime. Indigenous adults have higher rates of psychological distress and suicide compared to non-Indigenous Australians. The Northern Territory (NT) has the highest rates of suicide of all Australian jurisdictions over recent decades, particularly in Indigenous young adults. Mental health disorders are associated with increased risk of suicidal ideation and self-harm.

Methods: Indigenous participants of the Darwin, NT, Australian based Aboriginal Birth Cohort study, recruited at birth (1987-1990) and assessed in adolescence at age 16-20 years (n=469) and in young adulthood at age 22-27 years (n=459). Emotional status was assessed at both time points; suicidal ideation and self-harm questions was assessed by the strong souls (SS) questionnaire and psychological distress by the SS in adolescence and Kessler-5 in young adulthood. Tobacco smoking behaviour (current smoker or non-smoker) was recorded. Analysis was restricted to those with complete data at both time points (n=266).

Results: Significantly higher rates of psychological distress, suicidal ideation and risk of self-harm were seen in women at both ages. Participants with psychological distress reported significantly higher suicidal ideation and risk of self-harm, irrespective of gender. After adjusting for gender, a trend was seen in risk of self-harm (OR 2.02; CI
between adolescence and young adulthood, no association was seen for psychological distress (OR 1.14; CI 0.62, 2.11) and suicidal ideation (OR 2.16; CI 0.78, 6.00). High rates of smoking were present in adolescence (66%), increasing in young adulthood (74%), in both genders, but no association with psychological distress.

**Conclusions:** One in four participants in this cohort reported psychological distress both in adolescence and young adulthood, higher in young women. Alarmingly high rates of smoking was evident, with no reduction over time. With increasing awareness of the intergenerational effects of maternal stress, the higher rates seen in women of childbearing age (one in three) are of particular concern. These high rates of emotional distress and substance use both in adolescence and young adulthood, emphasize the need for tailored, culturally appropriate, gender specific programs targeting early screening and treatment commencing in childhood and continuing into adolescence.

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**#22 Building bridges for Stollery Awasisak Indigenous health**
*Sherri Di Lallo*, Hailea Purcell*, Chrystal Plante, Pauline Cardinal*

**Purpose:** The purpose of the “Stollery Awasisak Indigenous Community Engagement” presentation is to provide health care professionals a unique example of honouring and implementing the Truth and Reconciliation Commission of Canada: Calls to Action, especially #19 “to consult Indigenous peoples, to establish measureable goals to identify and close the gaps to health outcomes...focus on indicators as: infant mortality, maternal health, mental health, addictions, infant and child health issues, chronic diseases, illness and injury incidence, and the availability of appropriate health services (2015, pgs. 2-3).”

**Methods:** Stollery hosted 6 Talking Circles throughout central to northern Alberta, Canada to engage families and communities to listen to the knowledge and wisdom from the people we serve. 160+ participants involving 32 communities provide Indigenous solutions by Indigenous voices. The Awasisak Indigenous Health model is holistic incorporating 7 Sacred Teachings, the Medicine Wheel in conjunction with Alberta Health Services Mission, Values and Strategies.

**Results:** Stollery Awasisak Indigenous Health team hosted a “Vision Day” to talk about what is the best care for children and their families at the Stollery. Priorities were established by the families and communities to decolonize the system. Stollery Awasisak Indigenous Health Program at the Stollery Children's Hospital is the only Indigenous pediatric program in North America.

**Conclusions:** The foundation of Awasisak Indigenous Health is following protocol and ceremony. This is the foundation of our program which gives us credibility to the people and communities we serve. This process gives us time to reflect, marks our growth steps, provides spiritual guidance which impacts they rhythm of our work, landmarks our journey, evaluating where we are, celebrating our accomplishments and being inclusive.

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**#23 Improving vaccination rates for Aboriginal and Torres Strait Islander patients at the Royal Children’s Hospital, Melbourne, Australia**
*Sonja Elia*

**Purpose:** Delays in vaccination among Aboriginal and Torres Strait Islander (ATSI) children continue to place them at increased risk of disease in early life. The Royal Children’s Hospital (RCH) Immunisation Service recommends and provides opportunistic vaccines to all patients. Despite this, the number of ATSI patients immunised each year has remained low.

**Methods:** In August 2014, the Immunisation Service at RCH met with the medical and nursing staff from the WADJA Aboriginal family place. Outpatients attending the weekly WADJA clinic had immunisation status checked using the Australian Immunisation Register (AIR). Patients who were identified as due/overdue were then encouraged to attend the Immunisation service for catch up vaccines.

**Results:** From 20/08/2014 – 5/11/2014 there were 44 patients who attended the WADJA clinic. Of these, 7 (16%) were identified as being due/overdue for a scheduled vaccine. Of the 7 patients, 1 (14%) received catch up vaccines. Despite influenza vaccine being recommended and funded by the RCH, 98% of ATSI patients did not receive the vaccine.
**Conclusions:** Encouraging ATSI patients to attend the RCH Immunisation service has had limited success. It may be that the centre is not considered a culturally safe space. Since 2014, we have improved engagement with the RCH Aboriginal liaison officers to directly contact the Immunisation nursing staff to attend the WADJA clinic and provide vaccines 'on the spot'. We continue to improve and monitor the success of these interventions.

#24 Oral aspiration and laryngeal clefts in Canadian Inuit children; A retrospective cohort study
Sarah Farrow, Amisha Agarwal, Jeremy Saban*, Darcy Scott, Nick Barrowman, Tom Kovesi

**Purpose:** Infants of Canadian Inuit suffer the highest rates of lower respiratory tract infections (LRTI's) in the world. The causes of this are incompletely understood. Over the past decade, swallowing dysfunction in typically-developing Inuit and First Nations children has caught the attention of physicians caring for this population. Previous work has shown an association between aspiration during swallowing and Indigenous heritage. The primary objective of this study was to determine whether there exists an association between respiratory morbidity and aspiration in Inuit children.

**Methods:** A retrospective chart review was conducted. Children from Nunavut who underwent Video Fluoroscopic Swallowing Study (VFSS) at CHEO between the years of 2001-2015 were included in the study. The primary outcome of the study was admissions for lower respiratory tract infection (LRTI). Charts were reviewed up to three years of age. The rate ratio for admissions for LRTI was determined between those with aspiration, laryngeal penetration and those without. We hypothesized that infants found to have aspiration by VFSS would experience a higher number of admissions for LRTI than those with normal swallowing studies.

**Results:** One hundred twenty-seven patients were identified, of which 94 were included. 56.4% had an abnormal swallowing study, with 31.9% and 24.5% demonstrating aspiration and penetration on VFSS, respectively. There was a statistically significant higher incidence of LRTI (IRR 1.51, p-value <0.001) in patients with aspiration relative to normal swallowing. Similar findings were seen with penetration (IRR 1.40, p-value 0.004). 13.8% of patients had confirmed laryngeal cleft on bronchoscopy. Further, laryngeal cleft was significantly associated with increased incidence of LRTI (IRR 1.66, p-value <0.001). There was a statistically significant difference in incidence of aspiration by region in Nunavut (p <0.001), with a predominance of patients from West Baffin Island.

**Conclusions:** Swallowing dysfunction is not only prevalent amongst infants of Canadian Inuit, but clinically significant, with both aspiration and penetration being associated with increased rates of admission to a tertiary care center for LRTI. This is the first study to demonstrate an association between swallowing dysfunction and respiratory morbidity in this population. The impact of swallowing dysfunction on both individual and systems levels is likely significant and under-recognized. Geographic distribution patterns and high rates of laryngeal cleft may point to a potential genetic and/or anatomic etiology for what remains at this point, idiopathic swallowing dysfunction.

#25 The wellness of Métis women and children in the South Saskatchewan River Valley
Cindy Gaudet*, Anna Flaminio, Leah Dorion, Christine Tienkamp

**Purpose:** This CIHR project encompasses an academic and community-centred collaboration among four kinship Métis communities in Saskatchewan. The purpose of the study was to build evidence on the Metis way of visiting – keeoukaywin – which is at the center of wellness for Metis women and children. Highlighting the methodological application of Metis Ways of Knowing, from Metis women’s perspective, guides this work. Through various methods, including visiting at the heart of our methodology, we gathered wellness practices and stories from Metis knowledge keepers. Determining and defining wellness is vital to revitalizing place-based health for Metis women, children, families and communities.

**Methods:** We engaged local Metis women living in the Saskatchewan river valley area. The research approach privileged Keoukaywin (Metis visiting way or approach) as a feasible methodology to achieve holistic wellness within Metis women's kinship systems. Documenting its role in Metis child, family and community wellbeing meant engaging in various methods led by community members. In addition, the project focused on a Metis cultural and artistic methodology and pedagogy which is embedded in Metis-specific ways of knowing, being and doing.
**Results:** Our project explored the revitalization of Metis place-based sites as a way to support the resistance, resilience, and wellness of Metis women and families. Our research also explored Metis-focused arts through cultural symbols, such as mother buffalo, to assist in transmitting Metis women’s knowledge to Metis women, youth and families. Our preliminary results demonstrate the importance of Metis women gathering together on our river lands to learn more about Metis women’s knowledge, history, teachings and ways of wellness as a strong measure to affect the health and wellness Metis children and families.

**Conclusions:** Based on Metis women’s wellness project outcomes, we conclude the health and wellness of Metis children, families and lands is interdependent on the continued health, wellness and resilience of Metis women. We also conclude that Metis women’s wellness is strongly interconnected with the actions of gathering and learning together with their families and community, while also demonstrating the preference to gather together on their local river lands. We learn that wellness research must engage in interdisciplinary and holistic efforts from within the communities themselves.

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**Impact of PCV13 on invasive pneumococcal disease in Native Americans less than 5 years of age living on the Navajo Nation**

*Lindsay Grant*, Grace Douglass, Robert Weatherholtz, Carol Tso, Raymond Reid, Karen Rudolph, Mathuram Santosham, Katherine O’Brien, Laura Hammitt

**Purpose:** Native Americans living on the Navajo Nation experience high rates of invasive pneumococcal disease (IPD) compared with the general US population. IPD rates declined after pneumococcal conjugate vaccine (PCV7) introduction in 2000. In April 2010, PCV13 replaced PCV7. We assessed the impact of PCV13 routine use on IPD in children <5 years of age from Navajo Nation.

**Methods:** Pneumococcal isolates cultured from normally sterile sites in Navajo children <5 years of age were identified through active, population-based, laboratory-based surveillance. Isolates were serotyped by slide agglutination and confirmed by Quellung reaction. Rates of IPD were calculated using Indian Health Service User Population denominators. We compared rates of IPD in the PCV7 era (2001-2009) to the PCV13 era (2011-2018) using Poisson regression. PCV13-types were 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, and 23F. Non-vaccine types (NVT) were those not contained in PCV13.

**Results:** We identified 210 IPD cases from 2001-2009 and 57 from 2011-2018. The overall IPD rate declined 64%, from 101 to 36 cases/100,000 (p<0.0001). The PCV13-type IPD rate declined 89%, from 65 to 7 cases/100,000 (p<0.0001). Rates of IPD for serotypes 7F (17 vs. 1 cases/100,000; p<0.0001), 1 (9 vs. 0/100,000; p<0.0001) and 19A (16 vs. 2 cases/100,000; p<0.0001) decreased significantly. Cases of PCV13-type IPD identified after introduction of PCV13 were serotypes 3 (n=4); 7F (n=1); 4 (n=1); 19A (n=3); 19F (n=1) – all were partially immunized. Serotypes 12F (n=7) and 22F (n=6) were the most common NVTs from 2011-2018. The rate of NVT IPD remained unchanged (p=0.27).

**Conclusions:** Use of PCV13 has led to a substantial and sustained decline in the rate of PCV13-type IPD and overall IPD among Navajo children. The residual rate of IPD is four-fold times higher than the general U.S. population. This is driven by pneumococcal serotypes not targeted by the vaccine. This persistent disparity highlights the need for broader public health interventions, in conjunction with vaccination, to improve the health of Native American children.

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

*G. Huang*, Y.A. Li, I. Martin, W.H.B. Demczuk, R. Tsang

**Purpose:** 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, invasive Hi, and IPD data for northern Canada were obtained from the International Circumpolar Surveillance network and analysed. IMD, invasive 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:** Ninety-eight percent of cases were Indigenous. The annualized 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). Rates for IPD and IMD were 8.4 and 9.3 times higher than the rest of Canada. For Hib, the rate was 19.0/100,000 (n=5), 32.9 times higher than the rest of Canada. Eighty percent of Hib (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. Fifty-seven percent of IMD (n=4) were serogroup W and 43% (n=3) were B.

**Conclusions:** The incidence rates of invasive 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.

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**#28 Involvement of Indigenous peoples in Indigenous child health research in Canada: A systematic review**  
*Sarah Hyett*, Stacey Marjerrison, Bernice Downey, Josha Rafael, Eric Lickers

**Purpose:** In order for health inequities to be successfully addressed through health research, it is necessary that researchers strive for genuine engagement with stakeholders. Indigenous people are experts on their own lives and as such, have critically important perspectives in Indigenous health research. The purpose of the present study is to systematically review research concerning the health of Indigenous children in Canada to determine the prevalence of Indigenous community, organization and/or researcher participation, and how this has changed over time.

**Methods:** A systematic search of Cochrane, Embase and MEDLINE was conducted utilizing a validated extensive string containing terms for “child”, “Indigenous” and “Canada”. Two independent reviewers determined inclusion by consensus. Eligible studies included full research papers of all study types, in English or French, on health outcomes of Indigenous children <18 years in Canada. Data abstraction is ongoing, and performed by two reviewers. Data will be collected in Microsoft Excel, and analyzed with descriptive statistics, using SPSS.

**Results:** The search generated 14,918 abstracts after duplicate removal. Initial title and abstract screening resulted in 1,618 texts for full review. Full text review is ongoing to confirm inclusion and discern Indigenous researcher, community, or organization participation (yes/no), type of participation, year published, study type, outcomes of interest, age range of participants, and geography. Prevalence of studies involving Indigenous participation will be reported with 95% confidence intervals. Observed data trends will be reported.

**Conclusions:** Overall presence of Indigenous researcher, community, or organization participation will be analyzed. Trends in participation based on year, geography, topic etc. will be discussed as appropriate. Successes and areas for improvement will be highlighted.

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**#29 Barriers to health care access, perceived unmet needs, and opportunities for improving access for pregnant and parenting teenagers and their children: The CARE Project**  
*Kate Kerber*, Fariba Kolahdooz, Meeka Otway, Se Lim Jang, Melina Laboucan, Sangita Sharma

**Purpose:** Families with young children interact frequently with the healthcare system. Good care during pregnancy and the postnatal period is particularly important to facilitate positive long-term outcomes; especially for youth. This research is part of a larger community-based mixed-methods study, Caring and Responding in Edmonton: The CARE Project. The objectives of this study were to: 1) Work with community partners to assess the health factors associated with perceived unmet needs for health care amongst pregnant and parenting teenagers; 2) to document youth health care experiences; and, 3) to identify youth-led solutions for improving access to healthcare.

**Methods:** Structured one-on-one interviews (n=52) lasting approximately 45 minutes were conducted with participants of a community organization supporting pregnant and parenting teenagers in Edmonton, Canada. The questionnaire collected information using standard perceived unmet need for care questions across difference health services, as well as self-reported demographic characteristics, health status as well as housing and food security. Open-ended questions were asked about barriers to accessing health care services, and opportunities for
improvement. In addition, eight key informant interviews with health professionals, social workers, and support staff working with Indigenous youth and pregnant and parenting teenagers supplemented the qualitative data.

**Results:** The ages of respondents ranged from 15-25 years. Nearly half (45%) self-identified as Indigenous. 60% of respondents had a perceived unmet need for healthcare in the past year, with 42% reporting that lack of money prevented access to care in the past year. 30% were not able to fill a prescription at all or right away. 28% of respondents said they didn’t feel like they could ask questions of healthcare providers, and 19% felt discriminated against. Qualitative analyses revealed that barriers to accessing healthcare services included not being able to get there and feeling judged.

**Conclusions:** There is a need to reduce barriers to accessing care and continuity of care between service users, community support services and healthcare providers. Respondents made several suggestions for improving service delivery including more information accessible to youth, opportunities for facilitated appointments with a trusted advocate, and increased cultural awareness, respect, and caring. Understanding specific challenges faced by young Indigenous women and their families while accessing care is key. The findings have been shared with community organizations and participants. The next phase of The CARE Project involves implementation of program activities designed to improve the experience of pregnant and parenting teenagers.

#30 Navajo FVRx (Fruit and Vegetable Prescription) Program  
*Lydia Kim, Leandra Jones, Carolyn Bancroft, Sonya Shin, Carmen George, Akeemi Martinez*

**Purpose:** Childhood overweight and obesity is one of the major public health issues of the 21st century. Native Americans have some of the highest rates of obesity and diabetes in the United States. Navajo Nation is the largest tribal reservation in the United States, and only 13 supermarkets are located on an area the size of West Virginia.

**Methods:** Community Outreach and Patient Empowerment (COPE) initiated the Navajo FVRx (Fruit and Vegetable Prescription) Program in 2015. The Navajo FVRx Program has taken place at 19 clinical sites across Navajo Nation. Each 6-month cycle was conducted by a multidisciplinary team that delivered monthly education sessions on health topics including nutrition, physical activity, and healthy routines. Participants completed quantitative surveys at each education session on health behaviors such as fruit and vegetable consumption, physical activity, and screen time. After each session, families received vouchers after each education session valued at $1/day to purchase fruits, vegetables, or traditional foods from participating retailers.

**Results:** 243 Navajo FVRx Program participants met inclusion criteria between May 2015 and September 2018, with an estimated 1,278 beneficiaries. The mean servings of fruits and vegetables consumed per day by participants significantly increased between baseline and follow-up. The percentage of participants reporting food security significantly increased. The mean Body Mass Index percentile among children who were initially overweight or obese decreased significantly by the end of the program.

**Conclusions:** The Navajo FVRx Program combined both vouchers and health education and resulted in increased fruit and vegetable consumption among children under seven years old, and a significant percentage of children who were overweight or obese who participated in the program achieved healthy weight after six months. The Navajo FVRx Program shows that a fruit and vegetable voucher program can be a valuable tool to target childhood overweight and obesity among rural indigenous populations.

#31 Stop and listen: Getting community recommendations on scale up of Healthy Smile Happy Child to promote First Nations and Metis early childhood oral health  

**Purpose:** Indigenous children’s oral health is a priority in promoting overall health and well-being. Research reveals a high prevalence of Early Childhood Caries (ECC) in Indigenous populations in Canada. The Healthy Smile Happy Child (HSHC) initiative is a collaborative partnership that takes an upstream community-development approach to improve the oral health and well-being of young children. In partnership with Nanaandawewigamig and the
Manitoba Metis Federation, our Scaling-Up HSHC research project aims to understand factors affecting early childhood oral health (ECOH) in First Nations (FN) and Metis preschool children in Manitoba.

**Methods:** HSHC is partnering with FN and Metis communities in the Spirit of Reconciliation to listen and support traditional teachings regarding oral health, to identify practices in Indigenous children’s oral health, and to assess the effectiveness and scalability of HSHC. Focus groups and sharing circles were conducted with 8 Indigenous groups. These included 3 FN groups, 2 Metis communities and 3 mixed (First Nations and Metis) groups. Sessions incorporated storytelling and mutual interactions in a workshop format with 59 participants, most of whom were parents and grandparents of children under 6 years old. Data analysis employed manual open-coding and Nvivo software.

**Results:** Participants indicated that poverty (including inability to afford oral hygiene products and healthy foods), lack of dental insurance, limited access to dental care and transportation, and lack of awareness and knowledge hinder families’ ability to prevent ECC. They also shared that better access to dental care and dental information, resources and hygiene products, sustained community outreach for dental health promotion, insurance coverage, and the involvement of other healthcare professionals could increase oral health uptake and assist in preventing ECC.

**Conclusions:** First Nations and Metis participants have pointed to intensive oral health campaigns using various media platforms, and access to dental care and hygiene products as promising approaches that could be effective in guiding the scaling up of HSHC and engaging individuals and families in improving ECOH in First Nations and Metis communities.

#32 Characteristics of implementing a peer-led Indigenous youth mentorship program in year 1
Lopresti S*, Willows N, Storey K, McHugh T, IYMP National Team

**Purpose:** The Indigenous Youth Mentorship Program (IYMP) is peer-led school program grounded in the teachings of Indigenous scholars, Drs. Verna Kirkness and Martin Brokenleg currently being delivered in 13 Indigenous communities across Canada. High school mentors and a young adult health leader offer elementary students healthy snacks, physical activity games and cultural teachings. Peer-led programs have been recognized for enabling positive outcomes not only for younger students, but also for improving social skills, self-esteem, and social responsibility among older students who act as peer leaders. The purpose of this study was to explore the characteristics of IYMP program implementation.

**Methods:** A community-based participatory research approach was used with qualitative research methods to generate data. The key characteristics of program delivery were explored by those at the front lines of program delivery, which includes young adult health leaders (YAHLS) and youth mentors (YM) as a means of fostering sustainable school programming. Focus groups were conducted with young adult health leaders (n= 8) and high school mentors (n=8) from participating IYMP communities in 2017. These were then followed-up with individual interviews (n=4) as well as a review of field notes and community debriefing notes. Data generated was analyzed through content analysis.

**Results:** A supervisory committee team reviewed results. The IYMP National Team, which includes community representatives, will review findings. Key characteristics emerged as foundational in IYMP delivery in Year 1. Preliminary results suggest the following characteristics were important during program implementation. These were building relationships; community engagement including Elder engagement for traditional knowledge teachings; communication at all levels; instilling a sense of ownership with program participants; and within the community and program, supports such as national training meetings for YAHLS and YM, sustainable funding and regularly scheduled collaborative meetings between academics and community representatives.

**Conclusions:** The identified key characteristics in Year 1 will be used to improve IYMP program delivery in future years through an understanding of how to weave these foundational characteristics within the fabric of the IYMP program. Ideally, by recognizing their importance and building upon these characteristics, IYMP may be successfully rippled to further Indigenous schools across Canada with community ownership as the ultimate goal.
The invisible work of parents in accessing childhood immunization in a First Nation community in Alberta
Shannon MacDonald*, Bonny Graham, Jillian Paragg, Caroline Foster-Boucher, Nicola Waters, Melissa Shea-Budgell, Nancy Bedingfield, Diane Kunyk, Eve Dubé, Bonnie Healy, Lea Bill, Larry Svenson, Gregory S. Nelson

Purpose: Canada’s recent Truth and Reconciliation Commission has shed light on challenges that Indigenous families in Canada face when accessing health care services. Immunizations are one critical preventive intervention for the promotion of health. Indigenous people, including First Nation children, often have immunization coverage below what public health officials recommend for community protection from disease. The purpose of this project was to partner with a First Nation community to explore contextual, structural, and historical factors that organize families’ decisions and actions regarding childhood immunization.

Methods: The project setting was a large rural community (>15,000 residents) of four First Nations in Alberta, Canada. We used an institutional ethnography approach, which seeks to show how the “work” that people do (i.e. anything that uses time and energy) is organized to happen in certain ways within a complex web of external factors, such as policies and institutional norms. We conducted immunization appointment observations; interviews with parents (n=33) and health centre staff (n=6); and reviewed immunization policies and practice guidelines. Transcribed interviews and texts were analysed jointly by Indigenous and non-Indigenous team members.

Results: Parents report spending considerable time and energy on: booking immunization appointments, planning transportation and childcare, organizing documentation, and communicating/coordinating with family members and health centre staff (i.e. invisible work that is often unrecognized). The multitude of choices and actions that they are required to make are constrained by other contextual factors, such as family health issues, lack of health literacy, and the impacts of intergenerational trauma and colonialism. While parents report that health centre staff are supportive in helping them access immunization services, both parents and staff report having to work around institutional regulations and structural barriers.

Conclusions: Attending immunization appointments can be a significant hurdle for many First Nation families to overcome, as there is invisible work that parents must undertake outside standardized processes to access health services. In order to improve immunization acceptance and access, it is necessary to dedicate time, energy, and resources to respond to historical harms and mistrust in health institutions, as well as to reduce the number and difficulty of actions required by parents. Health centres should be supported in their efforts to build equity, flexibility, and creativity into routine practices when working with First Nations families.

Does the Children’s Oral Health Initiative (COHI) affect the rates of pediatric dental surgery to treat severe-early childhood caries in Manitoba?

Purpose: The Children’s Oral Health Initiative (COHI) is a federal program that started in 2004. The purpose of the program is to improve oral health for children, reduce the need for dental treatment under general anesthesia and support parents & caregivers by preventing dental disease. Today, COHI is available in 27 First Nation communities in Manitoba. The purpose of this research is to determine whether Manitoba First Nation communities with COHI in their community have lower rates of dental surgery to treat Severe-Early Childhood Caries (S-ECC) than First Nations communities without COHI.

Methods: Administrative health and social services data identified children < 6 years, living in Manitoba First Nations communities who received surgery to treat S-ECC (ICD-10/ICD-9 or anesthesia tariff). Surgery rates were compared before (1994/95-2004/05) and after (2005/06-2016/17) the start of the program and communities without COHI served as controls. Generalized linear models determined whether COHI results in significant changes in the rates of surgery. Community structure, size, degree of isolation, access to health services and other known determinants of S-ECC are considered in comparative models and the time trend analyses. Analysis to control for the influence of multiple covariates is ongoing.

Results: Preliminary results reveal that dental surgery rates to treat S-ECC have been increasing over time regardless of whether or not COHI is available in the community. The average rates of pediatric dental surgery per 100 children in COHI communities were as follows: 6.67 (1994/95-1998/99); 10.30 (1999/00-2003/04); 13.07
(2005/06-2009/10) and 13.77 (2010/11-2014/15). Similarly, in Non-COHI communities rates were: 6.49 (1994/95-1998/99); 11.28 (1999/00-2003/04); 13.40 (2005/06-2009/10) and 13.86 (2010/11-2014/15) respectively. We are currently working with our First Nations partners to consider the influence of community characteristics on outcomes.

**Conclusions:** At this time, results suggest that communities with COHI do not have significantly lower rates of dental surgery to treat S-ECC than communities without the program. However, the influence of community characteristics on outcomes may shed some light on the overall impact of the program on the oral health of First Nations children.

#35  
**Early life environment and adolescent health in the context of a nutrition transition: A cohort study from the Bolivian Amazon**  
*Erin Masterson*, Philippe P. Hujoel

**Purpose:** Nutrition transitions are characterized by shifts to a cash economy, a “Western” diet, more sedentary lifestyle and eventually, an increase in the prevalence of overweight/obesity and chronic diseases. This trend can be observed worldwide, particularly within low- and middle-income populations. We sought to evaluate multilevel factors in early life that influence adolescent health outcomes in the context of an Amerindian population in transition from a subsistence to market economy in the Bolivian Amazon.

**Methods:** This cohort study of 349 adolescents (age 10-17 years) in rural Bolivia was derived from children included in the 9-year Tsimane’ Amazonian Panel Study. We considered the influence of social factors (community characteristics and household wealth) and diet (refined carbohydrates and traditional foods) during early childhood (0-5 years) on adolescent health indicators (including oral health, anthropometrics, glycated hemoglobin (HbA1c), hemoglobin (Hb) and white blood cell (WBC) count). Multiple linear regression with robust standard errors was used to estimate risk differences and 95% confidence intervals. Mediation and hierarchical analyses were used to better understand the inter-connected relationship between these factors.

**Results:** The adolescent study sample has a high prevalence of severe dental caries (51.8%), anemia (74.4%), stunted growth (33.2%), and elevated WBC count (66.0%). Fewer adolescents are overweight (15.8%) or have prediabetes (9.7%). Children in communities with easier access to a market town were raised in homes with greater wealth (p<0.01) and more sugar and refined carbohydrates, including pasta and bread (p<0.0001). Adolescents who grew up with easier access to a market town are taller (p=0.0014), have higher Hb (p<0.0001) and lower WBC count (p<0.0001) than their rural peers, but are also heavier (p=0.0052) and have higher HbA1c (p<0.0001).

**Conclusions:** This study uniquely examined multilevel and longitudinal influences on Tsimane’ adolescent health. Findings indicate that this population suffers from persistent infectious illness, yet early signs of the health consequences of a nutrition transition are emerging: heavier weight and higher blood glucose levels in those nearer market towns. This study evaluates the influence of nutrition transition-related social factors on specific dietary patterns and adolescent health outcomes. The findings suggest early life environment has long-term influences on Tsimane’ health.

#36  
**Jon’s Tricky Journey**  
*Patricia McCarthy*

**Purpose:** This presentation will describe the creation of a children's book, written for Inuit children with cancer, and resource guide for families. The inspiration for this book came about after meeting two amazing Inuit nurses who worked in cancer care in the north. The author, a retired pediatric oncology nurse practitioner, recognized a gap in supportive and educational material for families who must travel so far from home for cancer care. The book is intended to provide a source of comfort and useful information for newly diagnosed hospitalized Inuit children with cancer and their families. The project was supported with a grant from the Childhood Cancer Canada Foundation and C17, a Canadian pediatric cancer and blood disorder group.

**Methods:** The author followed an young Inuit child with cancer and his family over the course of a year, and it is their story that is told in the storybook. The author also researched and compiled a comprehensive resource
section for the book, that is national in scope, and includes such information as care co-ordination for the Inuit in Canada, useful questions to ask the oncology team, an art project for the hospitalized child, and definition of select cancer terminology. The book is relevant to health care providers who oftentimes lack understanding of the precise co-ordination of care for Inuit families. Recommended readings for staff are included in the resource section. The book is also of interest to non-Inuit oncology families, in order to have a better understanding of the unique experiences faced by their fellow oncology families.

**Results:** The book was published in the summer 2017, by Inhabit Media, which is located in Iqaluit, Nunavut. It is bilingual in English and Inuktitut. The book was also beautifully illustrated and translated. The book has been distributed across Canada to all children's hospitals oncology departments, and to many national Inuit and cancer related health organizations. It is also being used as a resource by school boards, for example in Winnipeg, Manitoba, which has a large urban living Inuit population.

**Conclusions:** This book has served to address an important gap in supportive and educational material for Inuit families who must travel far from home for cancer care. Since publication, it has had many wonderful book reviews, and children's hospital staff user feedback has been outstanding. Feedback indicates that before the book was published, staff had been unable to proved accurate resource information to Inuit families. Inuit families are reported to be very happy to have a book in their own language to help explain to their children and community what is happening to them. Non-Inuit oncology families have a better understanding of some of the unique experiences Inuit families have to face on their cancer journey.

#37 The northern landscape of gastroschisis in Manitoba
Melanie Morris*, Suyin Lum Min, Anna Shawyer, Matthew Levesque, Richard Keijzer

**Purpose:** Indigenous children make up 48% of all children in Canada and the infant mortality is nearly double the national average. Health care professionals must identify when inequities in social determinants of health lead to health disparities like increased incidence of diseases as is suspected in Gastroschisis (GS). GS is a congenital anomaly with a defect in the abdominal wall requiring surgical repair. Current literature suggests that the geographic distribution of incidence of GS is not homogenous. We aim to identify if there are “hot spots” with higher rates of GS in our northern populations that affect indigenous children.

**Methods:** A population-based longitudinal cohort review of all children treated for GS between January 1st, 1992 and December 31st, 2014 was performed at both tertiary care hospitals in Manitoba. The cohort was drawn from Winnipeg’s Surgical Database of Outcomes and Management (WiSDOM). Manitoba population level data was derived from Census Canada.

**Results:** The overall incidence of GS in Manitoba between 1992 and 2014 was 4.39/10,000 births. The Northern region was found to have a higher overall incidence of GS than Winnipeg (9.63/10,000 births vs. 3.81/10,000 births, p <0.001). A log-linear regression model demonstrated that the incidence of GS in Manitoba increased by 6.35% per year (95% C.I. = 3.68%-9.19%, p<0.001). The rates of GS provincially increased from 2.03/10,000 births in 1992 to 7.88/10,000 births in 2014. The total increase in incidence each year was 2.48 times greater in the Northern Region than in the Winnipeg region (p<0.001).

**Conclusions:** The results of this study demonstrate that the incidence of GS in Manitoba is unevenly distributed geographically. The northern region had a consistently higher incidence of GS during the 23 year period (1992-2014) and increased at a higher rate when compared to other regions in Manitoba over that time. In the context northern Manitoba where the population is largely indigenous we must pursue investigations into possible causes of this inequitable distribution. As health care providers we must use all means at our disposal to fight disparities and identify inequities in social determinants of health to create an environment in which indigenous children are healthy and thrive.

#38 Results of the RHS phase 3: A look at the health status of First Nations children and youth
Amy Nahwegahbow*, Albert Armieri, Fei Xu

**Purpose:** Our presentation will focus on key findings of the third phase (2015-16) of the First Nations Regional Health Survey (RHS) conducted by the First Nations Information Governance Centre (FNIGC) and its Regional
Public health response to a cluster of Haemophilus influenzae serotype A cases in rural Alaska
Leisha Nolen*, Amanda Tiffany, Caryolnn DeByl e, Gail Thompson, Alisa Reasonover, Debby Hurlbert, Tony Kretz, Louisa Castrodale, Joseph McLaughlin, Michael Bruce

Purpose: Haemophilus influenzae type a (Hia) is a bacteria that can cause invasive disease in young children. The first case of invasive Hia in Alaska was detected in 2002. Since that time an increasing number of sporadic cases have occurred, predominantly in Alaska Native (AN) children. Recommendations were recently published in the American Academy of Pediatrics Red Book® to consider providing rifampin prophylaxis to all close contacts of an invasive Hia case. Between May and July of 2018, four invasive cases of Hia occurred in an AN village of approximately 650 people. A public health response aimed to prevent additional cases.

Methods: A team of state, tribal, and federal employees traveled to the affected village in July 2018. The team identified all persons with close contact (contacts) to an invasive Hia case, collected throat swabs from these individuals, and offered them a four-day prophylactic course of rifampin. The team returned to the village 5 days later, collected throat swabs from all willing community members and offered prophylactic rifampin to children < 10 years old. Close contacts who had completed their antibiotic treatment were asked about antibiotic compliance and re-swabbed. Throat swabs were tested using PCR and culture to identify Hia carriage.

Results: Sixty-one contacts were identified. Pre-treatment throat swabs were collected from 29 contacts and 364 community members (~60% of village). Hia was carried by 4/29 (13.8%) contacts and 7/364 (1.9%) community members (p<0.001). Eight of the 13 carriers (61.5%) were <6-years old, compared to 87/393 (22.1%) of those tested (p<0.001). Forty contacts (65.6%) and 121/195 (62.1%) community children accepted rifampin. Twenty-one of 31 (67.7%) re-interviewed contacts reported taking all doses. Post-treatment testing found that carriage of Hia was eliminated in 3/4 (75%) contacts who initially carried Hia. The one contact carrying Hia post-intervention could not recall the number of doses taken.

Conclusions: This outbreak response benefited from strong community participation. We found that young children in affected households were the most likely group to carry the bacteria. Hia was predominately carried by contacts < 6 years old. A four-day course of rifampin was largely successful at eradicating Hia carriage and a most people completed the full course. No additional cases of invasive Hia have been reported from this community in the intervening three months. These results support the Red Book® guidelines regarding prophylaxis of contacts;
A fatal case of rheumatic carditis in a 12 month old American Indian (AI) infant

Nadia Norton Anspach*, James B. McCauley, Ryan Close

**Purpose:** Acute rheumatic fever (ARF) is pervasive throughout indigenous communities but lacks proper investigation among AI and Alaskan Natives (AN). A previously healthy AI 12 month old male presented to a local hospital in asystole. Earlier that day the patient was behaving normally, later, he was fussy, moaning, had one bout of emesis, two loose stools and was refusing fluids. There was no fever. The patient later fell down on his bed, thought to be asleep. Thirty minutes later, a caregiver noticed that he appeared stiff. Emergency services performed cardiopulmonary resuscitation en route to the hospital where he was pronounced dead.

**Methods:** On extensive chart review, his birth history was unremarkable. He attended well child checks, received vaccinations, and growth and development were appropriate. At 10 months old he was hospitalized with croup. His course was complicated by hypoxia, and recurrent fever on day 5, and he was diagnosed with pneumonia, treated with ceftriaxone, then discharged home with amoxicillin/clavulanate. His recovery was uneventful. Five weeks prior to his death, the patient was seen for fever (101.2 F), cough and right ear tugging. Exam was only notable for a red and bulging right eardrum. He was treated for otitis media with azithromycin.

**Results:** Autopsy attributed cause of death to “acute and ongoing fulminant rheumatic carditis”. The microscopic description notes, “the left ventricle and interventricular septum show...patchy areas of confluent Aschoff nodules”. Chart reviews of 4 close familial contacts did not reveal suspicion for recent contacts with streptococcal disease. After his death, 3 of these contacts tested negative for group A streptococcus (GAS) on throat culture.

**Conclusions:** Both non-invasive and invasive GAS infections and post-GAS sequelae occur at significantly higher rates in indigenous communities, but recent studies in the U.S. are lacking. Clear data exist abroad that expose the exorbitant impact of ARF on these groups, even when they reside in developed countries. Given the rarity of ARF, both in this age group and in the U.S., this tragic case stresses the urgent need to explore the full impact of GAS in AI/AN groups, as well as the possibility of macrolide resistant GAS leading to ARF.

Pediatric oral health: Community resilience and systemic resistance

Marcella Ogenchuk*, Holly Graham, Vivian Ramsden, Gerry Usmak, Rob Weiler, Robert St. Pierre, John Janvier, Randy Herman, Marina Janvier, Stephen King, Justina Lemaigre, Keith Shewchuk, Janine Boucher, Martha Morin

**Purpose:** Dental caries is the most common chronic childhood disease in Canada and creates 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 was to explore and address the strengths and barriers related to oral health services with an Indigenous community in Saskatchewan.

**Methods:** A mixed-methods study, aligned with Chapter 9 of the Tri-Council Policy Statement (TCPS 2), utilizing community-based participatory research. This project focused on developing relationships with the community and forming authentic partnerships. Semi-structured interviews were conducted with Elders, health care providers, teachers, and parents/guardians of elementary school-aged children (n=38). Interviews were transcribed and an inductive, thematic analysis undertaken with the community. During data collection, the findings/results were returned to the community for interpretation and to establish direction, build success and identify next steps. Demographics were analyzed using descriptive statistics to provide an overview of those that participated in the research project.

**Results:** The research process includes tool development with the 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. The outcomes have included several steps including presentation of the findings and overall themes to key stakeholders and strategies to the larger community. The most commonly identified themes included: community resilience; the need for resource development and
process to improve oral health literacy and skills; access to care barriers dually effect and are related to personal and community cost, time, and human resources.

**Conclusions:** Community-based participatory research in this project resulted in next steps being defined with the community to ensure that it was sustainable and has the potential to prevent dental caries among young children. The research process is as significant as developing the community driven responses to the findings. Along with building on the strengths developed: skills; capacities in the community; sustainable relationships; the research process and findings will inform local and provincial policy and practice guidelines; as well as, future research.

#42  **Janvier Food Security and Garden Project: A collaborative approach to improving community food security**

*Diane Janvier*, *Doreen Janvier*, *Jennifer O’Reilly*

**Purpose:** The main purpose of this project is to collaborate with community leaders, health professionals and organizations in an Indigenous community in rural Alberta in order to help improve community food security and healthy eating practices in a more sustainable and empowering way. This is accomplished by: 1) Engaging children/youth and community members (e.g. parents and elders) in community gardening and other activities related to healthy food and cultural food teachings. For example, making baby food, preparing bannock and soup, and participating in jarring/canning. And, 2) Providing access to fresh vegetables and herbs through Tower Gardens, which are aeroponic growing systems that can grow up to 28 items of fresh produce per unit.

**Methods:** This project targets children/youth as well as community members. It is guided by a strengths-based approach, and so it focuses on providing participants with opportunities to gain skills and knowledge related to gardening and healthy eating. Participants have a voice and participate in the planning of activities and events. Annual reports are written to show project outcomes and a mixed methods approach is used.

**Results:** This project has been running since June 2017. Outcomes include: 1) Improvement in community food security by building 2 new community gardens (one at Sekweha Youth Center and one at Janvier Health Center), and adding garden beds to a third community garden. 2) Improvement in community food security by providing access to 7 Tower Gardens (3 at Father Perrin School, 1 at Headstart Daycare, 1 at Sekweha Youth Center, and 2 at the Municipal Building. 3) Enhanced knowledge and skills related to gardening, nutrition and healthy eating practices.

**Conclusions:** Community food security and healthy eating practices are being impacted as a result of community gardening, Tower Gardens, and other activities focused on healthy eating. Collaboration and building strong relationships with community leaders/organizations are key factors contributing to the success of this project.

#43 **Prevalence and predictors of perinatal mental health disorders in Indigenous populations: A systematic review and meta-analysis**

*Sawayra Owais*, *Mateusz Faltyn*, *Ashley Johnson*, *Bernice Downey*, *Nick Kates*, *Ryan J. Van Lieshout*

**Purpose:** While it is known that perinatal mental illness predicts impaired maternal-infant attachment and increased rates of offspring cognitive, emotional, and behavioural problems, these are based on general population samples. Much less is known about populations living in at-risk situations, particularly Indigenous women. This is troubling as, globally, Indigenous women have more children per capita, and have faced barriers which have contributed to disparate health outcomes compared to their non-Indigenous counterparts. To better understand the prevalence and predictors of perinatal mental health disorders among Indigenous women, we conducted a systematic review and meta-analysis.

**Methods:** A literature search of MEDLINE, EMBASE, CINAHL, PsycINFO, and Web of Science was conducted with no date restriction. A research librarian and our Indigenous research partners were consulted with to ensure our search terms were inclusive. Indigenous knowledge and research methods were acknowledged by searching for articles or studies conducted by Indigenous community programs and/or those implementing Indigenous ways of knowing. Studies were included if participants were perinatal Indigenous women (as defined by the WHO or other valid criteria), mental health outcomes were assessed, and participants were assessed from the first trimester of pregnancy to 12 months postpartum.
**Results:** An electronic search of databases identified 4322 potentially relevant articles. After removal of duplicates (n=831), title and abstract screening, we identified 23 articles for inclusion in our systematic review of which 18 were eligible for meta-analysis. Indigenous ethnicity was associated with higher odds of mental health problems (OR 1.42, 95% CI 1.20–1.68), particularly depression and anxiety. These were higher when analyses were restricted to problems of greater severity (OR 1.88, 95% CI 1.22–2.90), and when Caucasian women alone comprised of the control groups (OR 1.63 95% CI 1.29–2.07).

**Conclusions:** Our systematic review and meta-analysis informs clinicians, researchers, and community members on the prevalence and predictors of perinatal mental health problems among Indigenous women. The relatively low odds may be due to the widespread use of convenience sampling and measures without established cultural equivalence. It is important that resources are devoted toward developing culturally sensitive tools to accurately screen for perinatal mood disorders among Indigenous women. Researchers should consult Indigenous stakeholders when conceiving research designs and methods to ensure that all relevant outcomes and risk factors are assessed to help improve the well-being of Indigenous women, their families, and future generations.

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**#44**  
**Anishinaabe ecological relational knowledge in the classroom**  
*Sharla Peltier*

**Purpose:** Sharla's recently completed dissertation research with school children (Demonstrating *Anishinaabe* Storywork Circle Pedagogy: Creating Conceptual Space for Ecological Relational Knowledge in the Classroom) to rekindle their relationship to Aki/the Land will be shared.

**Methods:** An Indigenous research methodology based on *Anishinaabewin* theory is presented. The dissertation research is a case study that included 17 school children and their classroom teacher in an urban, public school Grade 4/5 classroom. A narrative is brought forward from an Indigenous storywork Circle pedagogy inclusive of teacher and children's voices and participant researcher reflections and query.

**Results:** The schoolyard as classroom is especially supportive for First Nations students transitioning to the city. Students' and educators' engagement in an inclusive community of respect and mutual understanding supports biophilia (the love of nature) and balanced relationships. *Anishinaabe* world view perspectives such as ecological relational knowledge - ways of knowing inter-relationships and inter-connections with Aki and each other according to the Ojibway/Algonquin perspectives of this research project locale, are illustrated.

**Conclusions:** The research informs awareness of ecological relational knowledge and how to access experiences and reflective practice. Purposeful time to experience the Land as a safe and nurturing place engages a person wholistically (visioning, experiencing, feeling and thinking) for grounding, a sense of belonging and well-being. Health professionals and educators will be stimulated to engage for personal wellness and to support the children and their families that they work with to spend time on the Land, in urban and rural contexts.

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**#45**  
**Select factors related to breastfeeding in Wisconsin tribal communities**  
*Meghan Porter*

**Purpose:** The Indigenous Breastfeeding Coalition of Wisconsin worked with staff from nine tribes in Wisconsin to better understand factors related to breastfeeding initiation and duration. The Coalition wanted to better understand reasons why women stopped breastfeeding, experiences related to breastfeeding at the time of birth, people who helped with breastfeeding, and use of traditional medicines/herbal remedies while breastfeeding.

**Methods:** Women age 18 or older, whose most recent baby was age 5 or younger and enrolled in or a descendant of a Tribe, were eligible to take the anonymous self-administered pen-and-paper survey. Surveys were administered in 2017-2018 via convenience methods at various venues including community events, clinics, and WIC offices. Results were analyzed with SAS and Excel.

**Results:** 218 valid surveys were collected. 90% of participants reported breastfeeding their baby at least once. The most commonly-reported reason for deciding to stop breastfeeding was not producing enough milk (53%). At the hospital, many women stayed in the same room as their baby (94%) and received help learning how to breastfeed (79%); however, 38% received a gift pack that included formula. Half the women reported a lactation consultant helped them breastfeed; family member(s) and nurses also commonly helped (42% and 40%, respectively). One-
fifth reported using traditional medicines while breastfeeding; Mother’s Milk Tea was the most commonly reported type.

**Conclusions:** Many mothers of Native babies reported experiences in the hospital that support breastfeeding, although more than a third received formula (which does not support breastfeeding). Participants commonly reported that they received breastfeeding help from multiple sources, both from professionals as well as from friends and family. The most commonly-used traditional medicine/herbal remedy was a commercial product. Potential activities the Coalition could implement include working with hospitals to stop providing formula upon hospital discharge; promoting breastfeeding among friends/family to strengthen breastfeeding support systems further; and providing more education about traditional indigenous medicines that help with breastfeeding.

#46  Discovering the importance of optometry on reserve  
*James Robertson*, *Shannon Gatrell, Bev Missions*

**Purpose:** Ocular health is an important component of pediatric development. It is documented that one in four Aboriginal children in Canada are at risk of a vision problem. The long-term consequences of undiagnosed or a lack of treatment for ocular issues is of great significance to the overall development of a child. Care provided to First Nations children on reserve in Saskatchewan highlights that off reserve services are not meeting the needs of children living on reserve.

**Methods:** 131 children aged 0-17 were seen on reserve in Southern Saskatchewan. These are communities that do not have continued eye care services on site.

**Results:** Of participants, 60% had an ocular exam for the first time. Exams also indicated that in addition to lack of eye care coverage significant issues have been either not diagnosed or addressed in children in these communities. 22% had an Rx of +/- 2.00 diopters sphere or +/- 2.00 diopters cylinder. 21% had an uncorrected acuity in at least one of 20/40 or worse. 3% had strabismus. 14% were ambylopic. 33% ordered glasses on site.

**Conclusions:** These findings highlight the need to increase access to eye care health on reserve.

#47  Socioeconomic status and gestational length in Indigenous and White women: Evidence for “diminishing returns”  
*Kharah Ross*, *Rebecca J. Baer, Molly R. Altman, Laura Jelliffe-Pawlowski*

**Purpose:** Relatively little is known about preterm birth disparities among Indigenous women. “Diminishing returns” is a phenomenon whereby higher socioeconomic status (SES) may not be equally protective against adverse health outcomes, e.g. shorter gestational length, among racial/ethnic minority women compared to White. No research has explored whether “diminishing returns” is also apparent for Indigenous women with respect to gestational length. As such, the purpose of this study was to assess associations between race/ethnicity (Indigenous, White), SES (education, insurance status), and their interaction with gestation length, to test whether the effect of SES on gestational length differed for White and Indigenous women.

**Methods:** The sample was drawn from a California population-based birth cohort (White: N=605,753; Indigenous: N=10,630). Women had pregnancies free of chromosomal or structural abnormalities, were 18-55 years old, and had pre-pregnancy body mass index (BMI) of 19-45 kg/m2. Education was defined as level of education completed (no formal education to doctorate). Insurance status was defined as enrollment in California’s low-income health insurance (Medi-Cal) or not. An interaction term was calculated for race/ethnicity and both SES indicators. Covariates were pre-pregnancy BMI, age, month of prenatal care commencement, parity, and smoking.

**Results:** In linear regression models, Indigenous women had shorter gestational length relative to White women. Having less education or MediCal enrollment also predicted shorter gestational length. A significant interaction emerged for education, b(SE)=-.106(.019), p<.001. Among White women, more education predicted longer gestational length, b(SE)=.089(.003), p<.001. Among Indigenous women, however, no association between education and gestational length emerged, b(SE)=-.017(.019), p=.376. The race/ethnicity-by-insurance status interaction was not significant, p=.283.

**Conclusions:** Among Indigenous women, no protective effect of higher education was observed for gestational length, consistent with the “diminishing returns” effect. Future research needs to address the potential causes of
“diminishing returns,” e.g. how the effects of racism/discrimination could affect any benefits of higher education. These findings highlight the unique challenges faced by Indigenous women, and the importance of studying health disparities at the intersection of race/ethnicity and SES.

#48 The responses of Canadian medical education bodies and institutions to the Truth and Reconciliation Commission of Canada’s Calls to Action: A scoping review and thematic analysis of documents

Amrita Roy*, Saadia Hameed

Purpose: Indigenous communities face significant health disparities, including in children’s health. The Truth and Reconciliation Commission (TRC) of Canada’s final report includes several Calls to Action on health. In response, various Canadian medical education bodies and institutions have released formal statements and reports. Through a scoping review and thematic analysis of formal response documents released by medical education bodies and institutions regarding the TRC Calls to Action on health, our research objectives are: 1) to map out the extent and nature of the responses; and 2) to contextualize the responses with the underlying principles of truth and reconciliation in Indigenous health.

Methods: Through online searches and consultation with medical education experts, a list of 104 key Canadian medical education bodies and institutions - national bodies, provincial bodies, faculties of medicine, and individual medical education programs – was generated. Websites were hand-searched for publicly available formal responses in English or French; when no document was located online, the body/institution was contacted by e-mail. Eligible documents were reviewed, and data extracted, charted, mapped and synthesized. Trends, patterns and gaps were noted. The thematic analysis involved coding, categorization and abstraction; triangulation was done with theoretical and research literature on Indigenous health.

Results: As of November 2018 (abstract submission), analysis is in progress; preliminary results are as follows. Nine documents were deemed eligible for inclusion. Common content included declarations of commitment to address specific calls to action; summary of activities done to date; proposal of future activities; delegation of shared responsibilities; reference to collaboration with Indigenous communities and partners; acknowledgement of Indigenous health disparities and healthcare access barriers; acknowledgement of colonization and social determinants of health; and recognition of traditional healing approaches. Education and curricular issues discussed included cultural competence and safety training, and recruitment and support of Indigenous trainees.

Conclusions: In addition to the nine bodies/institutions with released formal responses, several others indicated by e-mail that specific work was being done towards responding to the TRC report. Thus, there appears to be some commitment towards addressing the Calls to Action. However, the process of reconciliation is complex and challenging, and risks tokenism if not done appropriately. Only one of nine documents included an action plan with timelines and measurable landmarks for proposed activities, and there was minimal reference in documents to rigorous and ongoing evaluation. Additionally, while physician education is important, broader system-level and societal changes are required.

#49 Growth trajectory of Indigenous and non-Indigenous Australian fetal growth restricted babies: Adolescence to young adulthood

Gurmeet Singh*, Belinda Davison

Purpose: Obesity is a major risk factor of chronic disease risk. However, being underweight predisposes an individual to disease, particularly infectious disease; it delays recovery from illness and detrimentally effects physical and psychological health. Underweight women are at an increased risk of pregnancy complications and giving birth to fetal growth restricted (FGR) babies. FGR babies have an increased risk of developing chronic diseases with the risk is magnified in those become obese. Indigenous people in the Northern Territory, Australia have high rates of foetal growth restriction (FGR) at birth and chronic diseases like diabetes, renal and cardiovascular disease later in life.

Methods: Two distinct but complementary life course studies, Aboriginal Birth Cohort (urban and remote Indigenous) and Top End Cohort (urban non-Indigenous), follow participants regularly to assess risk of chronic
disease. Detailed anthropometric data was collected at birth, in adolescence (mean 18yrs) and young adulthood (mean 25 yrs).

**Results:** Significantly higher rates of FGR (<10th percentile) were present in Indigenous to non-Indigenous (28 vs 7%). Those born FGR had a significantly lower BMI in adolescence and young adulthood than non-FGR. They were significantly shorter, weighed less and had smaller mid upper arm, waist and hip circumferences, and lower waist to height and waist to hip ratios. By young adulthood rates of overweight/obesity (BMI≥25 kg/m²) were increasing, highest in urban Indigenous (56% men: 56% women) compared to urban non-Indigenous (49% men: 34% women) and remote Indigenous (27% men: 37% women).

**Conclusions:** Rates of chronic disease markers are low at this age. Rates of obesity are increasing, and reflect the increase in chronic disease markers. Higher rates of chronic disease markers are seen in those that are overweight, with the highest were seen in those who are obese. In young adults in the NT, obesity poses the greatest risk for chronic disease; this is not significantly increased by FGR.

#50 Findings from Australian Aboriginal Birth Cohort Study

_Gurmeet Singh*, Belinda Davison_  

**Purpose:** Aboriginal Australians fare worse than other Australians on almost every measure of physical and mental health. A greater burden of disease is evident at both ends of the life course, with higher rates of preterm birth and low birth weight babies at the start of life and higher rates of chronic diseases such as diabetes, cardiovascular and renal disease at the end of life. The core objective of the Australian Aboriginal Birth Cohort (ABC) is to examine the effect of early life events and conditions on later health in this high risk population.

**Methods:** The ABC is recognised as the largest and longest running prospective birth cohort of Indigenous Australians. 686 babies born to Aboriginal mothers (a representative sample of the 1238 eligible) at Royal Darwin Hospital (RDH), between January 1987 and March 1990. Subsequent follow-up has occurred at mean ages of 11.4 years (85% of living participants), 18.2 years (71%) and 25.4 years (71%). Core data obtained at each follow-up: anthropometry, socioeconomic measures, renal, metabolic, cardiovascular and haematological biomarkers. Also collected were puberty stage, respiratory function, oral health, lifestyle and emotional status, cognitive and novel cardiovascular markers, nutritional intake, stress and inflammatory markers.

**Results:** Fetal Growth Restriction (FGR) rates were high (25%) and explained by maternal smoking, undernutrition and young age. At 11, 18 and 25 years participants who had been FGR at birth were still shorter and lighter than non-FGR babies. Although undernutrition is still present at 25 years in this population, the rates of overweight are rising. The high risk combination for chronic disease, of FGR with later obesity, was rare in this cohort. The prevalence of chronic disease markers at adolescence and young adulthood was low. Current weight, not birth weight, has been the predominant determinant of early biomarkers of chronic disease.

**Conclusions:** Although the prevalence of chronic disease markers at adolescence and young adulthood was low, these are increasing with age. Current weight continues to be the predominant determinant of biomarkers of chronic disease. The major strengths of the study are the availability of reliable gestational age, the direct standardised collection of comprehensive health data obtained via face-to-face health checks by a core group of trained researchers and excellent retention rates despite logistical challenges.

#51 The Mama-We mothers-mentors project: Building capacity in Ontario’s indigenous communities by empowering and developing local young mothers into impactful community resources.

_Jennifer Carpenter*, Eleftherios Soleas, Robert Lovelace, Josee Lusignan, Momina Khan, Jessica, Baumhour, Ian Speirs, Nancy Dalgarno, Richard van Wylick_

**Purpose:** The Mama-We project proposes a tri-partite model with the aim of building capacity with young Indigenous women to empower them to bring transformative change to their communities as mentors through a built capacity approach. Given that they are members of the community their capacity for influence vastly outweighs the potential influence of external individuals or organizations. Mama-We mentors will consist of women who became mothers at a young age and who currently live in the communities where the program will be implemented.
Methods: The Mama-We mentorship program is based on the results of an ongoing mixed-method needs assessment involving community, Chief and council, and primary healthcare providers with the First Nations around Moose Factory in Northern Ontario. The findings will guide the content of two one-week intensive content immersions at Queen’s University in February and April 2019. These sessions will provide the identified skills to the 10 mentors-in-training who will have travelled from the Cree community to exchange knowledge with Mama-We advisors who are content-skilled indigenous community leaders, university students, practising professionals, health sciences professors, and Moose Factory community elders.

Results: We will use established educational research methodologies to conduct the needs assessment to determine the best means to: 1. Create sustainable mentorship programs for young Indigenous mothers informed by Indigenous communities 2. Facilitate knowledge exchange between Indigenous communities and academic institutions and departments 3. Educate teen mothers on pregnancy, self-care fundamentals, and reproductive health in a culturally responsive manner. 4. Educate teen mothers on the basics of culturally-responsive infant care. 5. Bring national attention to issues not currently being addressed (ex. high teen pregnancy rates on reserve, lack of access to services pertaining to family planning on reserve, etc.)

Conclusions: The principle goal of the program is to build a vibrant local support group (the mentors) for young mothers who can deliver educational workshops, advocate for peers, and effectively support the interests of young mothers in their community. Their efforts will be supported with ongoing mentorship. All aspects of the Mama-We program will be developed under the guidance of Indigenous elders, scholars, and knowledge-holders to ensure that the information presented is culturally sensitive and responsive. The curriculum for these sessions will be developed in collaboration with the community council and the Office of Professional Development and Education Scholarship at Queen’s.

#52 Early childhood oral health in First Nations and Métis communities in Manitoba: Guiding the scaling up of the Healthy Smile Happy Child Initiative

Purpose: There is an urgent need to implement comprehensive and intersectoral strategies to reduce early childhood caries (ECC) in Canada. Healthy Smile Happy Child (HSHC) is a collaborative partnership that takes an upstream community development approach to engage communities in ECC prevention strategies and promotion of early childhood oral health (ECOH). First Nations (FN) and Metis communities in Manitoba are at the forefront guiding this project’s activities with an aim to build individual and community capacity (knowledge, awareness and behavior-change) to improve young children’s oral health.

Methods: Community-based participatory research is demonstrably effective in engaging Indigenous communities in health transformation. Partnering with FN and Metis communities in the Spirit of Reconciliation, we aim to identify practices in Indigenous children’s oral health, and adapt/assess the effectiveness and scalability of HSHC. Adhering to the FN and Metis Principles of Collaboration, the Implementation Research Team (IRT) are conducting various activities including eight sharing circles/focus groups comprising of 59 participants (parents, grandparents, Elders, community members, etc.) in 1 urban and 3 rural FN and Metis communities. Oral-health assessments of 400 preschool children are underway and their parents/caregivers are completing baseline questionnaires.

Results: We have highlighted research as a process to develop respectful and transformative relationships, have built upon existing linkages, and have implemented and are continuing to learn from tailoring HSHC approaches in participating communities. The Project Coordinator and Oral Health Promoters are applying the knowledge gained from the sharing circles/focus groups, the oral health assessments, and baseline questionnaires to promote oral health and increase awareness of traditional knowledge and teachings and share existing knowledge and best practice recommendations for ECOH in order to foster community-based prevention strategies.

Conclusions: Scaling-up HSHC is committed to culturally informed enhancements for both First Nations and Metis children in order to address the problem of ECC. Team members, stakeholders, and the participating communities are guiding the tailoring and enhancements of this intervention to improve the oral health and well-being of young
First Nations and Metis children. The IRT will continue to promote meaningful engagements and relationships with First Nations and Metis communities and their organizations.

#53 Childhood disability from the standpoint of Indigenous families: Understanding early childhood education, care and intervention across nations

Kathryn Underwood*, Renee Sanderson, Temiskaming Native Women’s Support Group (and their Elders’ Council), Niwasa Kendaaswin Teg, Native Child and Family Services Toronto, Brandon Friendship Centre, and Yellowknife Women’s Support Group

Purpose: The Inclusive Early Childhood Service system project is an ongoing longitudinal study of how children with disabilities are documented and processed in our institutional practices, and the work that families are required to do to gain access to these institutions. Sharing examples from families, the presentation will explore the disability culture embedded in institutional processes, and how these processes diverge from cultural knowledge of Indigenous specific experiences of childhood disability.

Methods: The study is a longitudinal Institutional Ethnography that maps early childhood disability services from the standpoint of families. Working from interviews conducted in 8 communities (in Ontario, Northwest Territories, Manitoba and British Columbia), our participants are parents of children with disabilities, with approximately 1/3 of our sample identifying as First Nations or Metis. The presentation will include findings from the larger sample as well as a specific example from the second author who is a parent of two children with autism.

Results: Our findings indicate that early childhood disability services are experienced at the intersection of health, social services, education and other institutional experiences. These services operate with a lot of work being done by families (particularly mothers), which may be a barrier for some families, but also the site of resistance and control. Many of the processes of these services hinge on a medical approach to understanding disability, which may be inconsistent with traditional understandings of child development. We have also found that childhood disability is connected to geography (as in geo-political context), particularly for families in rural and remote communities. The example we will share includes lived experience of accessing services that are an entitlement through Jordan’s Principle.

Conclusions: Understanding the institutional settings that are interconnected with experiences of early childhood development must include the standpoint of families because they are tasked with doing the work of accessing those services. We also have documented the risk that is involved for Indigenous (as well as other racialized and poor families) in interacting with children’s developmental services because of the inter-connected relationship between health, education and child protection agencies.

#54 A pilot educational initiative responding to the Truth and Reconciliation Commission - Student perspectives

Kaarina Valavaara*, Cary Brown, Shaniff Esmail, Michele Moon, Susan Mulholland, Cori Schmitz

Purpose: The Indigenous Focus at [University of Alberta]-Department of Occupational Therapy was initiated in response to the Truth and Reconciliation Commission Calls to Action. Students have the opportunity to participate in the Focus for the duration of their twenty-six month program. The extracurricular Focus includes monthly seminars, a one-credit course and fieldwork where Indigenous peoples are served, ideally by Indigenous-led organizations. Students, instructors, and community Knowledge Keepers co-create content to achieve an understanding of how colonization informs current health and well-being in Indigenous communities and to equip students in partnering with Indigenous peoples to build culturally safe and responsive practice.

Methods: This poster presents students’ perceptions about the value-added of participating in the Focus and how well the Focus facilitates development of foundational knowledge, attitudes, and relationships to assist students in developing culturally safe occupational therapy practice. The Focus started in September 2017 with twelve students of diverse Indigenous and non-Indigenous backgrounds. In September 2018, after completing their first academic year of the Focus, students were invited to participate in an anonymous questionnaire containing closed and open ended questions. Their responses were thematically grouped for analysis and used to inform program development.
Results: Students stated the Focus increased their knowledge of historical events and ongoing impacts of colonization on Indigenous peoples’ health and felt it was relevant to their future clinical practice with Indigenous clients and communities. Students reported value in scheduled, protected time to reflect on and discuss their learnings with others. Students also reported value in collating and sharing resources regarding Indigenous People’s health to utilize during fieldwork and later as clinicians. Several students recommended balancing more project and experiential based learning opportunities with reflective, discussion-based meetings. All would recommend the Focus to others and thought it should continue.

Conclusions: By facilitating additional classroom, experiential and clinical opportunities throughout their entry-level occupational therapy education, the Indigenous Focus is a potential route to cultivating culturally safe, responsive healthcare providers. The model is flexible to meet the individual learning needs of students in their personal and professional reconciliation journeys. This model could be adapted to other entry level healthcare programs in Canada.

#55 A review of fifteen years of pediatric infectious disease admissions to two referral hospitals from rural communities of northern British Columbia and the Yukon

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Purpose: Infections are a leading cause of childhood hospitalizations and deaths in many rural and remote regions of northern Canada, particularly among Indigenous populations. There is also evidence to suggest the rate of re-admission in this population of patients is unacceptably high. Little data exists regarding the burden of pediatric infectious disease admission in northern British Columbia and the Yukon. We sought to review 15 years of these admissions from rural regions in the Northern Health Authority of British Columbia and the Yukon to two referral centres in British Columbia.

Methods: Using hospital databases and International Statistical Classification of Diseases (ICD) -9 and -10 codes, children admitted due to infectious diseases from rural regions of northern British Columbia or the Yukon between 2000 and 2015 to either BC Children’s Hospital (BCCH) or the University Hospital of Northern British Columbia (UHNBC) were identified. Only the first admission for an infectious disease was eligible (i.e. each admission represented a unique patient). A total of 854 patients were deemed eligible and clinical, laboratory, and socio-demographic data admission was captured via chart review and recorded using REDCap. Data was summarized using descriptive statistics.

Results: There were 238 admissions to BCCH and 616 admissions to UHNBC. 58% of children were male. Median age was 24 months (IQR: 5 months–9 years) and the median length of stay was 3.5 days (IQR: 2-6 days). 33.5% of children were identified as of Indigenous ethnicity and in 39.5% ethnicity was not specified. 42% of children had at least one comorbidity, asthma accounting for 12.8%. The most common diagnosis was lower respiratory tract infection (32%). Other common diagnoses included gastroenteritis (10%) and sepsis (8.2%). Respiratory Syncytial Virus (RSV) was the leading pathogen detected, being found in 12% of all admissions. In-hospital mortality was 0.6%.

Conclusions: The leading cause of admission was lower respiratory tract infection and RSV as the leading pathogen. The cohort revealed a likely overrepresentation of children who were identified as Indigenous and a large proportion with comorbidities. The next step of the study involves further analysis using a province wide database linking these admissions to subsequent readmission's and mortality within the 6-month post discharge period. This will be used for the development of a risk prediction algorithm to aid in the identification of children at highest risk for mortality and readmission to help guide resources towards the most vulnerable children in an effort to reduce their risk of readmission or death.
First Nations children’s experiences of a peer-led, culture-based after-school program

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Purpose: The Aboriginal/Indigenous Youth Mentorship Program (A/IYMP) is an after-school, peer-led, culturally framed intervention grounded on Dr. Brokenleg’s Circle of Courage. It provides elementary school students with healthy snacks, physical activity and relationship-building activities. A/IYMP aims to prevent type 2 diabetes in Indigenous children in Canada. High school students plan and deliver the program weekly to elementary school children. Children’s perceptions of the program are of primary significance and can be used to evaluate the program’s impact. The purpose of this study was to gain an understanding of children’s experiences of the A/IYMP using an arts-based data-generating strategy.

Methods: This study used a qualitative community-based participatory research design. Photovoice was the main data generation strategy. Two First Nations communities implementing the program in Alberta participated in the study. Children received a disposable camera to capture through photos their experiences in the A/IYMP. They were asked “What does A/IYMP mean to you?” Photos were used in one-on-one interviews to stimulate conversation. Nineteen interviews were completed with children and transcribed verbatim. Field notes of the program’s delivery were included in the analyses. Transcripts are being analyzed using latent content analysis. Community members will be engaged in data interpretation.

Results: The data analysis is in progress. Preliminary results show that some of the findings resonated with the Circle of Courage guiding framework of the program, such as generosity and belonging. Having a designated space and time to play and have fun was considered an important aspect of the program for children. In addition, the building and strengthening of relationships with each other and with high school students enriched student’s experiences of the A/IYMP. This is a community-based participatory research project. Results will be co-interpreted with participating communities and will be available by the conference date in March 2019.

Conclusions: Children’s experiences of the A/IYMP provided relevant feedback about the program’s impact on their lives. Findings indicated that the A/IYMP fostered a sense of life purpose and belonging among children. The A/IYMP is a good holistic way of offering First Nations children with a culturally appropriate health promotion program. Both community schools will use these results to further improve the program. We aspire to disseminate the program to a greater number of Indigenous schools across Canada in the future.

American Indian Alaskan Native (AIAN) access to appropriate cleft lip and palate treatment using Geographic Information Systems (GIS)

Erik M. Wolfswinkel, Anna Howell, William Magee, Lori K. Howell*

Purpose: Past studies reveal American Indian Alaskan Natives (AIAN) have unmet needs in healthcare. Health facilities are frequently inaccessible and/or medically obsolete. Additionally, AIAN patients’ access to subspecialty care services, particularly surgical subspecialty care, is even more sparse. It is well documented that AIAN populations have the highest rate of cleft lip and palate (orofacial clefts (OFCs)) when compared to other ethnic groups. In this study, we aim to determine the AIAN population’s proximity, availability and access to American Cleft Palate-Craniofacial Association (ACPA)-accredited centers for treatment of OFCs. Our hypothesis is the AIAN population is underserved by ACPA accredited OFC teams.

Methods: The ACPA accredits multidisciplinary teams providing standard of care to patients with OFCs. In order to be recognized by the ACPA, teams must include experienced and qualified professionals from medical, surgical, dental and allied health disciplines working in an interdisciplinary and coordinated system. An internet search of ACPA-affiliated surgeons was conducted. Data collected included what type of training the surgeon has obtained (plastic surgery, otolaryngology, craniofacial fellowship), and their current practice. The ACPA centers and density of craniofacial trained surgeons were mapped using Geographic Information Systems (GIS) and overlaid with 2010 census population data to visually display the possible disparities.

Results: The results included 359 surgeons at 146 ACPA centers (including duplicate surgeons staffing multiple sites). When duplicates were excluded, there remained only 215 fellowship-trained craniofacial surgeons at 123 ACPA centers. ACPA centers do not operate in nine states, three of which (New Mexico, South Dakota, Alaska) are in the top ten most AIAN populated states. Thirteen of the top twenty American Indian reservations and Alaska
Native areas (65%) with the largest AIAN populations are in states without craniofacial trained surgeons or ACPA centers. The GIS mapping demonstrates how geographically isolated these populations are from accessing care.

**Conclusions:** AIAN populations are underserved by ACPA-accredited centers with fellowship-trained craniofacial surgeons. Not addressing OFCs in a timely manner with standard of care practices often leads to greater complications regarding their congenital deformities and marginalization of these children. Future studies should determine timing and access to standard of care for cleft deformities being afforded to these children. As we move forward with GIS mapping, by including essential data, such as the capacity of cleft care facilities and reach of other non-profit organizations, we will be able to make data driven, informed decisions to more effectively ensure access to appropriate surgical care.