#1 Respecting the Circle of Life: Evaluation of an HIV Prevention Program and Self-Administered STI Screening for American Indian Adolescents
Allison Barlow, Rachel Chambers, Angelita Lee*, Lauren Tingey

Purpose: American Indian (AI) adolescents experience greater disparities in sexual risk-taking behaviors and have higher rates of Sexually Transmitted Infections (STIs) than other U.S. adolescents. Evidence-based interventions (EBI) tailored for AI youth combined with innovative STI screening opportunities are needed to reduce risk and subsequent infection. Focus on Youth, an EBI grounded in Protection Motivation Theory (PMT) was culturally adapted, renamed “Respecting the Circle of Life (RCL)” and evaluated through a randomized controlled trial (RCT) in one reservation tribal community. Participants ages 18 to 19 participated in a sub-study of self-administered STI screening.

Methods: The RCT was conducted over two summer basketball camps. AI youth ages 13-19 were randomized by peer group to RCL or control. Assessments were collected at: baseline, immediately post-camp, and 6- and 12-months post-camp. STI screening was conducted with a sub-set of participants post-camp. We evaluated whether RCL versus control significantly increased condom use self-efficacy, HIV risk-reduction knowledge, efficacy, and condom use intention. Feasibility and acceptability outcomes of the self-administered STI screen were collected immediately post-screening and at 3 months follow-up.

Results: 267 adolescents were randomized to RCL (n=138) or control (n=129). RCL participants had significantly improved condom use self-efficacy through 12 months follow-up. They were more likely to intend to use a condom at next sex immediately post-camp, and had increased HIV knowledge post-camp and at 6-months follow-up. RCL participants showed significant improvements in several PMT theoretical constructs immediately post-camp. 32 youth took the self-administered STI test; 44% (n=14) tested positive for at least one STI. 69% preferred this method over visiting a clinic and 100% would use it again.

Conclusions: This is among the first rigorous evaluations of an adapted EBI for HIV prevention with AI adolescents. The study supports the feasibility of conducting a RCT for HIV prevention in a rural, reservation-based Native community and indicates the RCL program may hold promise for decreasing HIV risk among AI adolescents. Sub-study results suggest self-administered STI testing may be an effective tool in increasing screening and treatment of STIs among AI youth. Future directions include a larger-scale RCT evaluating RCL impacts on behavior change triangulated with behavioral and biological outcomes including STI incidence.

#2 Safe in the Village: Developing a Sexual Health Video Program for American Indian/Alaska Native Youth
David Driscoll, Cornelia Jessen, Janet Johnston, Taija Revels*

Purpose: American Indian/Alaska Native (AI/AN) youth ages 15-24 residing in rural Alaska communities experience high rates of sexually transmitted infections (STIs) and have limited access to sexual health programs. The Alaska Native Tribal Health Consortium HIV/STD Prevention Program partnered with the University of Alaska Anchorage (UAA) Institute for Circumpolar Health Studies to address the need for culturally and age appropriate sexual health programs for this population. The outcome is a new healthy relationships and safe behaviors video called Safe in the Village (SITV). Funding was provided by the Indian Health Service through the Native American Research Centers for Health.

Methods: SITV was developed through formative data collection with AI/AN youth (n=97) in rural Alaska communities (n=5) using in-depth semi-structured interviews and Likert scale surveys to understand perceptions, attitudes and knowledge of HIV and STIs and healthy relationships as well associated risk and protective behaviors and factors. In-depth interviews with AI/AN youth were transcribed and analyzed using a grounded theory approach to identify common thematic categories. Surveys were developed based on a cultural consensus approach to ascertain the degree of agreement among participants on key themes. Researchers actively engaged communities by obtaining community support and tribal approvals, employing local site coordinators, interviewing community stakeholders and key informants and involving a community advisory committee to provide guidance and input during the intervention development.

Results: Based on the most commonly shared themes among youth participants, SITV needed to include key messages regarding sex and STIs (e.g.: respect for other teen’s decision to delay sexual activity), interpersonal violence (e.g.: stand up and speak up against acts of harassment), having trusted adults (e.g.: it’s important to have a trusted adult within the family or community to talk to) and alcohol abuse (e.g.: it’s ok...
to say no to drinking and using drugs and still have friends to hang out with). Sexual health and healthy relationship prevention messages targeted at AI/AN youth also need to incorporate local traditional Alaska Native values and culturally appropriate conflict resolution, emphasize protective factors and frame STIs and sex in the context of alcohol abuse and domestic violence.

**Conclusions:** Using a qualitative approach grounded in active community engagement is crucial to developing culturally appropriate, meaningful and relevant sexual health programs for AI/AN youth residing in remote, rural Native communities. An evaluation of SITV is currently underway to be completed January 2015.

#3  
**Epidemiology of Invasive H. Influenzae Infections in Greenland 1995-2013 – A Nationwide Study, Anders Koch*, Johan Emdal Navne**

**Purpose:** H. influenzae (Hi) serotype b (Hib) vaccine has had a major impact on invasive HIB disease worldwide. In the past decade native populations of Alaska and Canada have experienced a number of outbreaks of invasive disease caused by other encapsulated Hi serotypes. Genetic background, living conditions, and infectious disease patterns for the Inuit population of Greenland are highly similar to those of the Inuit populations of Alaska and Canada. To determine whether the outbreaks of Hi invasive disease represent localized phenomena in Alaska and Canada or a general phenomenon common to Inuits we carried out a nation-wide study of invasive Hi infections in Greenlanders 1995-2013.

**Methods:** Nation-wide cohort study using complete information on bacterial isolates from Greenland 1995-2013 and the total population of Greenland (N = 56,000) identified through the unique personal identification number. Health information retrieved from medical files.

**Results:** Invasive Hi was identified in 15 patients in total (1995-1999 N=9; 2000-2004 N=4; 2005-2009 N=1; 2010-2013 N=1); seven cases from blood, five from cerebrospinal fluid, one from both, and two from pleural fluid. Median age of cases was 1 year (range 0 – 71 years; 25 and 75% quartiles 0 and 33 years; 53% females). Overall incidence 1995-2013 was 1.4/100,000 (2000-2013 0.76/100,000); for children aged 0-4 years 10.2/100,000 (2000-2013 3.3/100,000). Seven isolates were Hib (four before Hib vaccine introduction 1997 and three after); one was serotype f; one was non-capsular, two were not characterized by capsule, and for four there was no information on type. In comparison the incidence of invasive pneumococcal disease increased in the period 1995-2013.

**Conclusions:** The incidence of invasive Hi infections is decreasing in Greenland, and no outbreaks have been observed 1995-2013. Cases of non-b serotypes are very rare. Thus, the Inuits in general do not seem to be at particular risk of non-b Hi disease.

#4  
**The Family Spirit Program Randomized Controlled Trial: Three-Year Outcomes from a Paraprofessional Delivered, Home-Visiting Intervention for American Indian Mothers and Children, Allison Barlow, Crystal Kee*, Nicole Neault**

**Purpose:** Home-visiting approaches have the potential to reduce health care disparities, however there has been limited evidence that existing models can overcome implementation and evaluation challenges unique to at-risk populations. This presentation reports 36 month postpartum outcomes of the paraprofessional-delivered Family Spirit home-visiting intervention for American Indian mothers and children. The Family Spirit Program was developed and evaluated by Johns Hopkins Center for American Indian Health in partnership with four southwestern American Indian communities.

**Methods:** Expectant American Indian teens (n = 322) from four southwestern reservation communities were randomized between 2006-2008 to the Family Spirit intervention plus Optimized Standard Care versus Optimized Standard Care alone. Family Spirit consisted of a home visiting intervention delivered by paraprofessionals between pregnancy and 36 months postpartum. Optimized Standard Care consisted of informational handouts and transportation to prenatal and well-child visits. Maternal and child outcomes were evaluated at nine time points: 28 and 36 weeks gestation, and 2, 6, 12, 18, 24, 30, and 36 months postpartum.

**Results:** Participating teen mothers (mean = 18.1 years; N = 322) had high rates of substance use (>84%), depressive symptoms (>32%), school dropout (>57%) and residential instability (51% >2 homes/past year) at baseline. Retention was >83% across the study period. From pregnancy to 36 months postpartum, intervention mothers had significantly greater parenting knowledge (effect size = 0.42) and parenting locus of control (effect size = 0.17); fewer depressive symptoms (effect size = 0.16) and externalizing problems (effect size = 0.14); lower past month marijuana (odds ratio = 0.65) and illegal drug use (odds ratio = 0.67). Intervention children had fewer externalizing (effect size = 0.23), internalizing (effect size = 0.23) and dysregulation (effect size = 0.27) problems.
Conclusions: The Family Spirit trial demonstrated the efficacy of a paraprofessional home-visiting intervention to promote effective parenting, reduce maternal risks, and improve child developmental outcomes in a population with the lowest resources and highest behavioral health disparities in the United States. Methods and results can inform federal and tribal efforts to disseminate and sustain evidence-based home-visiting interventions in at-risk populations.

Making the Invisible, Visible: Using Population Data Linkage to Illuminate Aboriginal and Torres Strait Islander Maternal and Child Health Outcomes
Anne Guevremont*, Dafna Kohen

Purpose: Infant mortality is a key indicator of effective public health policies and programs, an accurate picture of infant mortality informs a society as to its social progress. High infant and child mortality rates within marginalised groups within Australia reflect the stresses and challenges faced by them, not only at birth and in the first year of life, but throughout the entire life cycle. Using population data linkage, the Victorian Aboriginal Child Mortality Study (VACMS) reports a comprehensive description of the patterns and trends of births and deaths of Aboriginal Victorian-born infants and children from 1999 to 2008.

Methods: The VACMS utilised population data linkage of (independent) statutory and administrative datasets to validate an infant’s Indigenous status by matching birth information collected in the Victorian Perinatal Data Collection (VPDC) with the birth registration information collected by the Victorian Registry of Births Deaths and Marriages (RBDM). The study then applied the ever-Aboriginal Rule to determine a more accurate and complete identification of Indigenous identification. The death case files of every child who died in Victoria (Australia) between 1999 and 2009 were scrutinized, and the cause of death coded and classified according to a specific cause of death code that was independently validated.

Results: Over 1.34 million birth files were linked. Over 12,000 death case files were scrutinized and 150 variables relating to the cause of death and context within which the child died were collected. Infant and child mortality rates and the relative rates of mortality between the Aboriginal and non-Aboriginal populations were reported. Patterns and trends of mortality are identified over the ten-year period. The results of this study are currently under government embargo pending the release of the VACMS results (November 2014)

Conclusions: This is a landmark report as this is the first time that infant and child mortality rates for Aboriginal and Torres Strait Islander populations have been reported. This report describes the mortality gap for Aboriginal compared with non-Aboriginal infants and children between 1999 and 2008. In order to improve, to close the gap, data must be systematically collected, analysed and most importantly acted on, on a population basis. These data will inform the priorities, strategies and access to services and the evaluation of programs that are essential if we are to achieve Aboriginal health equality. These data are critical to achieving the consensus priority targets of the Council of Australian Governments to halve Aboriginal infant mortality

Physical and Mental Health of Off-Reserve First Nations Children of Teen Mothers
Anne Guevremont*, Dafna Kohen

Purpose: Children of teenage mothers differ in their health and social outcomes compared to children of older mothers. Even though the teen birth rate for First Nations women in Canada is higher than the national teen birth rate, there has been little research examining the outcomes of off-reserve First Nations children born to mothers who began childbearing in their teen years. Socio-economic status (SES) factors that may be associated with teen motherhood such as lower levels of education, income, and single marital status may be influential. However, other factors such as parenting practices, social support, and father involvement have also been considered to be important.

Methods: This study will present data from the 2006 Aboriginal Children’s Survey as well as the 2006 Aboriginal Peoples Survey, to examine the physical and mental health outcomes of off-reserve First Nations children, aged two to five and six to fourteen, who were born to teenage mothers, as compared to those born to older mothers. The associations with various factors including socio-economic conditions (income, education, household size, family structure, urban residence) as well as the influence of a variety of contextual influences such as breastfeeding, parenting, cognitive stimulation in the home, screen time, support, child care, and community characteristics were examined.

Results: Off-reserve First Nations children of teenage mothers did not differ from children of older mothers in health status, chronic conditions, asthma, or ear infections. However, they were more likely to have dental problems compared to children of older mothers. Children of teen mothers also had lower scores on maternal-reported behavioural outcomes. Although some of these differences were explained by socio-economic characteristics other differences remained. Two of the contextual factors, parenting behaviours and having four or more people involved in raising the child, did not differ for off-reserve First Nations
children of teen and older mothers. However, differences were apparent in breastfeeding, screen time, father involvement in raising the child, maternal satisfaction with social support, and residential mobility. **Conclusions:** Differences between the physical health of off-reserve First Nations children of teen mothers did not differ from the physical health of First Nations children of older mothers except in the area of dental health. More numerous differences were found in the area of mental and behavioural outcomes. While socio-economic differences accounted for some of these differences, other factors such as parenting behaviors, father involvement, social support, and residential stability were important. Implications of these findings will be discussed.

#7 **Re-Balancing the Wheel - The Two Eyed Seeing, TES Diagnostic Wheel for FASD and Related Conditions**  
*Lori Vitale Cox, Noel Miliea, Renee Turcotte*

**Purpose:** FASD is a complex condition that affects all aspects of an individual’s development. It is embedded in a generational and social-cultural context. Research indicates an epigenetic, generational component affecting the expression of both primary and secondary conditions. Research also indicates that certain mental health conditions may be part of the trajectory of the primary FASD condition rather than secondary. None of the widely used FASD diagnostic systems have a framework to consider the secondary disabilities or the generational, social-cultural context of the condition. The objective of this work was development of an FASD assessment tool that includes such a framework in order to improve FASD service delivery in an indigenous community.

**Methods:** The TES diagnostic wheel, includes a structured, culturally informed approach to the assessment of generational risks as well as secondary disabilities in relation to FASD and related conditions. It was developed in collaboration with traditional Mi’gmag healers as a clinical tool for a multi-disciplinary assessment team for complex conditions related to pre-natal trauma such as FASD. It provides a system based approach to diagnosis, intervention and prevention.

**Results:** This system approach to FASD assessment and intervention has contributed to improved FASD service delivery in the small indigenous community in Atlantic Canada where it was developed. It aligns more closely with traditional ways of approaching health and well-being and was especially helpful in terms of the provision of system based interventions for affected individuals as well as differential diagnosis of adolescents and young adults. In 1999-2000 3.4 % of the school age population was diagnosed with FAS. In 2013-14 of school age population 0% diagnosed with FAS. FASD has not been eliminated but rates have decreased significantly. At the request of the coordinator of the New Brunswick FASD Centre of Excellence the TES Wheel was recently introduced as an assessment tool to the provincial diagnostic team practitioners.

**Conclusions:** The Two-Eyed Seeing Wheel provides a multidimensional framework for diagnosis, intervention and prevention of FASD and related conditions in an indigenous community context. It was developed through the collaboration of health professionals and traditional aboriginal healers and is a key tool in providing culturally safe FASD service delivery in an indigenous community system. The TES Wheel may prove to have a wider application than the FN diagnostic team where it was developed.

#8 **What Have We Learned About Health Surveys with Aboriginal Children Living On-Reserve?**  
*Tricia Burke, Diane Jacko*, Brenda Pangowish, Mary Jo Wabano, Nancy Young*

**Purpose:** The Aboriginal Children’s Health and Well-Being Measure or Aaniish Naa Gegii (meaning How are you? in Ojibway) was developed to help us understand health from the perspectives of our children. It was essential to develop a process to respond quickly when we learned that a child was potentially at risk of harm. The team at the Nadmadwin Mental Health Clinic was instrumental in identifying key questions within the survey that may indicate risk based on the response and established process to address these answers. This new screening process is unique in that it ensures support is provided and operationalizes social accountability.

**Methods:** The survey was implemented on the Wikwemikong Unceded Indian Reserve, by a team of researchers and mental health workers, with the informed consent of children and their parents. It was administered on Android tablets that ensured feasibility, but also enabled us to screen responses in real time. Our screening process had two main components: (a) an automated algorithm run on the tablets to identify children potentially at risk based on responses to 17 questions within the survey; and (b) brief mental health assessments completed by local mental health workers, in private, with participants whose responses suggested emergent health issues.

**Results:** A total of 125 children, 8 to 18 years of age, participated in the survey. Their scores ranged from 40 to 99 with an average of 72.4. Strengths were in the spiritual (mean of 77.8), physical (75.1) and
emotional (72.4) quadrants. The greatest opportunity for improvement was in the mental (cognition) quadrant (59.8). The screening process allowed us to identify those who were in need of further assessment, and led mental health workers to identify ongoing support services for 22 participants. It is important to note that most of those needing ongoing support were already connected to mental health services.

Conclusions: This is the first report of the ACHWM scores and screening results for First Nations children living on-reserve. These estimates establish benchmarks for the future. While it is unfortunate that many surveys ask sensitive questions yet are unprepared to respond to the results in a timely fashion, this presentation provides an example of how that screening can be done effectively, in real-time and to immediately refer participants. This proved essential to conducting a survey in a way that protected all children’s safety. It is important to ensure adequate resources are put in place for survey implementation and follow-up in the future.

#9 General Practitioner Utilisation amongst Urban Aboriginal and Torres Strait Islander Children Aged Less than 5 Years
Anne Chang, Kerry Kathryn Hall*, Kerry-Ann O’Grady, Michael Otim

Purpose: There are limited studies documenting the frequency and reason for attendance to primary health care services in Australian children, particularly for urban Aboriginal and Torres Strait Islander children. This study describes health service utilisation in this population in an urban setting.

Methods: An ongoing prospective cohort study of Aboriginal and Torres Strait Islander children aged <5 years registered with an urban Aboriginal and Torres Strait Islander primary health care centre in Brisbane, Australia. Detailed demographic, clinical, health service utilisation and risk factor data are collected by Aboriginal researchers at enrolment and monthly for a period of 12 months on each child. The incidence of health service utilisation was calculated according to the Poisson distribution.

Results: Between 14 February 2013 and 31 October 2014, 118 children were recruited, providing data for 535 child-months of observation. Ninety-one percent of children were Aboriginal, 4% Torres Strait Islander and 5% were both Aboriginal and Torres Strait Islander. The incidence of presentations to see a doctor for any reason was 43.9 episodes/100 child months (95%CI 38.4 – 49.9) The most common reasons for presentation were for immunisations (23%), respiratory illnesses (19%) and for Australian Government funded Indigenous child health check (16%). The primary health services used, for majority of these visits were Aboriginal and Torres Strait Islander specific medical services (61%).

Conclusions: Within a cultural-specific service for an urban Aboriginal and Torres Strait Islander people, there is a high frequency of childhood attendance at for primary health care services. Well-health checks and respiratory illnesses were the most common reasons. The high proportion of visits for well child services suggests a potential for opportunistic health promotion, education and early interventions across a range of child health issues.

#10 Delivering Healthcare to the Children of the Canadian Arctic: Building Strong Partnerships
Radha Jetty*

Purpose: Canadian Inuit children experience disproportionately poorer health than their non-Inuit counterparts. Delivering healthcare to children of the Canadian Arctic is challenging due to high burden of complex illness, remote isolation of communities, lack of available resources, high turnover of personnel, high cost of healthcare and challenging coordination of care due to suboptimal communication and integration of services. When children and families must access specialized pediatric services at a tertiary center that far, located in another jurisdiction, coordination of care must be strong otherwise health care delivery can be fragmented, disorganized, complicated, inefficient and expensive. A strong partnership between northern and southern health care systems can address these gaps as well as creating opportunities for education, advocacy and research.

Methods: As the referral center for the Qikiqtani region of Ontario, the Children’s Hospital of Eastern Ontario launched a restructuring of its model of care by creating the Qikiqtani Child and Youth Health Committee. It is an exemplary model of partnership that addresses the gaps by using a community based participatory approach. This process was guided by objective input gathered through an online survey, focus groups as well as multiple consultations with key stakeholders to establish key priority issues and appropriate direction.

Results: This consultation process identified the need for a system that facilitates a strong northern voice with strong southern support. It is a system that is well-integrated, multidisciplinary, patient and family centered, culturally appropriate that connects and oversees all services including coordination of clinical care, education, research and advocacy both within the tertiary care center and with the community partners.
in Nunavut and Ottawa. It should ensure accountability and transparency in delivering and managing services. The key priority areas identified were: coordination of clinical care, children in foster care, and cultural competency. As a result, working groups have been created to address these key areas.

**Conclusions:** By building strong partnerships with all key stakeholders, the Qikiqtani Child and Youth Committee has improved communication between all partners, works to improve ease and timeliness of access to pediatric services, facilitates sharing of information between partners, facilitates working together as one team in an environment of trust and respect. It has facilitated the identification of key priority areas and has created a transparent and collaborative process that addresses challenges in delivering care to this vulnerable population.

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**#11 Through the Eyes of Children: First Nations Children’s Perceptions of Health**  
*Kyla English*, Chantelle Richmond, Debbie Rudman, The Southwest Ontario Aboriginal Health Access Centre

**Purpose:** Although incorporating First Nations children’s views of health can enhance appropriateness and effectiveness of health programming (Graham & Stamler, 2010), few studies addressing Indigenous children’s health have incorporated the voices of children (Isaak & Marchessault, 2008). In partnership with the Southwest Ontario Aboriginal Health Access Centre, this community-based study used artwork and sharing circles to understand First Nations children’s perceptions of health during a week-long culture camp in August 2013. The objectives were: (1) to understand how First Nations children think about their health, and (2) to explore how these children connect health with their culture.

**Methods:** Multiple methods were used to collect qualitative data with First Nations children (n=20) aged 10-12 years during a week-long culture camp, called the Bimaadiziwin Learning Experience (BLE). On the first day of the BLE, participants painted pictures in response to the question “what does being healthy look like to you?”. Following this activity, perceptions of health were further explored in small Sharing Circles, facilitated by local First Nations youth. In these circles, children were asked to share their paintings and to answer various questions in relation to health and their culture. Observations were recorded throughout the camp activities.

**Results:** Children’s perceptions of health largely centered around physical aspects, such as nutrition and exercise. Children attended much less to spiritual, mental, and emotional aspects, or to links between cultural activities (e.g., smudging or dancing) and health. Children associated both healthy and cultural activities with being outdoors and with other people. Children appeared to learn about health through first-hand experience and observation of others. Family members, especially parents and siblings, were described by the children as important influences on their perceptions of health. Grandparents were described by the children as important sources of cultural knowledge.

**Conclusions:** The knowledge generated in this study can inform the future development of programs aimed at promoting the health of First Nations children. Given that children’s perspectives emphasized relationships, the natural environment, and learning through doing, the findings point to the importance of involving community members, enacting experiential learning, and incorporating cultural traditions in programs aimed at promoting the health of First Nations children.

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**#12 Developmental Milestone Achievement among Aboriginal Children in Canada**  
*Leanne Findlay*, Dafna Kohen, Anton Miller

**Purpose:** Early adverse life circumstances, including poor socio-economic conditions, can be linked to children’s vulnerability for poorer developmental, educational, and health outcomes. Aboriginal children may be particularly vulnerable given that Aboriginal people are known to have lower socio-economic status and greater health problems compared to the Canadian population at large. Several screeners exist for early identification of children’s developmental problems, however, researchers and clinicians have relied on general norms for comparing early child development rather than considering culturally-specific developmental ranges for Aboriginal children. Based on the WHO approach of determining “Windows of Achievement” for developmental outcomes, the current study identified ranges in which most off reserve First Nations, Métis, and Inuit children attained certain developmental skills.

**Methods:** Using data from the 2006 Aboriginal Children’s Survey (ACS), developmental skills for Inuit, Métis, and off-reserve First Nations children ages 0-5 were examined, including skills such as walking, first words, dressing self, and counting. Where possible, developmental ranges were compared to the Canadian population using data from the National Longitudinal Survey of Children and Youth (NLSCY). Next, as a check for “validity”, logistic regression models were used to examine associations between socio-demographic characteristics (e.g., gender, parental education) and health factors (e.g., physical activity...
Results: The ranges of developmental milestones achievement will be presented for each of the three Aboriginal groups, and where possible, compared to Canadian children in general. Gross motor and self-help skills were found to be achieved earlier (across the three Aboriginal groups), whereas language skills were achieved slightly later than for Canadian children in general. Furthermore, health factors (e.g., low birth weight, chronic health conditions) were associated with late achievement of developmental outcomes even when socioeconomic conditions were considered.

Conclusions: The findings suggest that the timing of developmental milestone achievement may differ for Aboriginal children, highlighting the importance of establishing culturally specific ranges rather than relying on those identified for the general population. This information may be useful for practitioners and parents interested in identifying the age ranges for development as well as potential for developmental risk and opportunities for early intervention for Aboriginal children.

#13 Healthy Bodies, Healthy Minds: Summer Literacy Camps as an Investment in the Future
Melanie Valcin*

Purpose: A person's literacy and education level can affect his/her “ability to navigate the health care system, interpret health information and communicate effectively with physicians and other professionals,” People with low literacy are vulnerable to ineffective or overuse of health services; chronic illness, preventable disease, accidents; and misuse of medication or devices. In 2005, Frontier College began offering Summer Literacy Camps to address low literacy and education levels among Aboriginal children. The camps have grown from five communities in Northern Ontario to 87 communities across Canada in 2014. 1. The Association of Faculties of Medicine of Canada. http://phprimer.afmc.ca/Part1-TheoryThinkingAboutHealth/Chapter2DeterminantsOfHealthAndHealthInequities/DeterminantsofHealth

Methods: Summer Literacy Camps target Aboriginal children and youth living in isolated communities. In 2014, more than 6100 campers took part in camps that lasted between 2 and 6 weeks. The curriculum focuses on reading, numeracy, writing and storytelling skills, as well as learning from Elders and other leaders in the community. Counsellors are often hired locally and the entire community is invited to participate in the activities. Through rich, diversified programming, campers increase their literacy skills, social skills and self-confidence, preparing them for the school year ahead and offering them an inclusive, fun and supportive learning environment throughout the summer.

Results: The outcomes of the project are the following: Over 30,000 thousands Aboriginal children and youth reached since 2005. In 2013: 80 percent of surveyed teachers noted strengthen social skills in participating students 77% teachers said it increases school readiness 98% of parents said their child was more prepared for school after camp, 1360 community members visited camps to read with campers or lead activities 81% of campers feel that reading has improved.

Conclusions: In communities disproportionately affected by poor health outcomes linked to poverty and historical trauma, investing in literacy – a key determinant of health – is an investment in the future. Literacy-embedded programming supports the development of Aboriginal children's academic and social skills in the summer months. Grounded in community traditions and values - and integrating established education principles and practices - camps instill positive, esteem building experiences of books and learning. By including parents, Elders and other community members, collective ownership is achieved, which is significant since formal schooling carries negative associations resulting from the legacies of colonialism and residential schools.

#14 A Community-based Approach to Suicide Surveillance, Follow-up and Brief Intervention: The White Mountain Apache Model
Allison Barlow, Mary Cwik, Kyle Hill, Angelita Lee*

Purpose: Suicide is the second leading cause of death for AIs aged 15 to 24, and suicide rates among AIs aged 10 to 24 are the highest of any U.S. racial/ethnic group.

Methods: To address high rates of youth suicide, the White Mountain Apache Tribe (WMAT/Apache), with technical support from the Johns Hopkins Center for American Indian Health (JHU), developed a community-based suicide surveillance system that includes community based reporting of suicidal and related behavior, engagement and referral of at-risk individuals, and the development of prevention and intervention strategies based on the resulting data.

Results: From 2007 to 2011, the total volume of reports received by the Apache Surveillance System was 2,640, including 976 for suicide ideation, 758 for NSSI, and 906 for suicide attempt for a community of approximately 17,000 members. In the five most recent years, reports increased from 519 to 627, which appear to be related to greater awareness and willingness to report events. In addition, the proportion of individuals referred who report subsequently seeking treatment has nearly doubled in five years from 39% in
2007 to 71% in 2011. In addition, based on data from the surveillance system, Apache-JHU collaborators
developed the first cultural adaptation of an evidence-based intervention for Native adolescents who made a
suicide attempt, called New Hope. New Hope was evaluated in a pilot study with n=13 Native adolescents.
Preliminary findings indicate effects in the desired direction on several hypothesized outcomes: reductions in
adolescents’ negative cognitive processing, depressive symptoms and suicide ideation, as well as an
increase in utilization of psychological services from baseline to three months follow-up.

Conclusions: In conclusion, the Apache model holds promise to prevent suicide both directly and indirectly
and reduce medical costs and burden through use of local paraprofessionals to advance early identification,
increase continuity of care and help-seeking, and deliver targeted and culturally-informed interventions.

#15 The Childhood of Mercury
Elena Alvarado, Jose Guillermo Guevara Torres*

Purpose: This presentation is about an ongoing longitudinal study on the effects and consequences of oil
extraction and transportation in the health of Amazonian children, specifically, in Maranon and Loreto, Peru.
Since the 70's different companies are extracting oil and bringing it to the Pacific Ocean shore, through a
pipeline that crosses territories of several Amazonian ethnic groups. The purpose of this work is to measure
the levels of mercury, and other chemicals, that have been accumulated in children and realize an inventory
of the diseases, from a medical, social and cultural point of view, that are being generated because of this.
Methods: The target group is children, in a sample of 100 individuals of both sexes, aged 01-10 years old
from different communities located in the direct impact zone. The Ministry of Health of Peru has limited
historical epidemiological data from this region. In a first moment, an analysis of these data permits to have
an approximation to the health situation of population, before the intervention of oil companies. We
compared the medical records of these children with other Amazonian children who were outside the zone
of influence of the oil exploitation. Blood tests and additional clinical and psychological evaluation were
performed in each child of our sample. Cultural aspects of the relationship between them and their
environment are also being evaluated. Each child has an integrated record that will allow follow his/her
evolution through various health/psychological/cultural indicators.
Results: So far, the results of the blood test in children, showed higher levels of mercury, than those
accepted by WHO. Cognitive ability is shown diminished and their level of education is lower than observed
in other children of the same age, in other regions. They have lost the sacred relationship with the forest,
because they have found that it is also "sick" or contaminated. Their culture has suffered a decline in the use
of natural resources for current life and the symbolic of the relationship man and nature is almost broken.
His ability to understand the oil phenomenon is distorted, and their vision of future since an Amazonian
perspective is pretty gloomy. This study is ongoing, in this occasion we will share partial results and
reflections.
Conclusions: At this point we can only offer a glimpse of what is currently happening and not final
conclusions. The solution of problems generating this condition mostly belongs to the sphere corresponding
to the social determinants of health. The company is trying to re-inject used water underground, but is
committing technical errors in the process. Adjacent areas to oil perforations, that have endured more than
20 years of operation, without minimum environmental parameters, cannot be remedied without a
comprehensive management plan. This plan must include the indigenous population; it must include
medical, psychological and cultural treatment. The leaders are not sufficiently empowered to negotiate their
own rights. All this must be reinforced by clear and firm political decisions.

#16 The Healthy Weights Connection: A Public Health Systems Intervention to Improve Urban Aboriginal
Child Health
Martin Cooke*, Ornell Corvaglia-Douglas, Tasha Shields, Piotr Wilk, Dana Zummach

Purpose: Urban Aboriginal children are at higher risk to overweight and obesity compared to the general
population. These children may be impacted by a complex local public health system of programs and
services that may impact obesity in various ways; some delivered by Aboriginal-specific organizations, but
many delivered by “mainstream” community-based organizations such as health units, clinicians and others.
The purpose of the project is to promote healthy weights among Aboriginal children living primarily in urban
areas by improving the ability of the local public health system to serve them, by promoting better
collaboration among the various organizations whose activities potentially affect child health.
Methods: The Healthy Weights Connection intervention aims to establish a collaborative structure which: 1)
actively connects Aboriginal and mainstream organizations that serve Aboriginal children in our
communities; 2) promotes collaboration and resource-sharing to help partner organizations provide better
and more culturally-appropriate and evidence-based programming for local children and families, and 3)
assists those organizations with program development by providing access to information resources and helping with funding opportunities. The intervention will be evaluated at the system and family levels using a mix of surveys, focus groups, and key informant panels interviews with service providers and community members.

**Results:** The first year of the project has provided insight into various engagement techniques with mainstream and Aboriginal organizations. Two community sites have been established resulting in the development and growth of relationships with various organizations and networks. Invitations to participate with local bodies, circles, and tables suggest community interest and perceived value in the intervention. Data from an organizational survey will identify organizations that are less connected to other organizations, which will guide site coordinators to provide opportunities for relationship-building activities with these organizations.

**Conclusions:** The Healthy Weights Connection intervention is being evaluated to assess the impact of the intervention in each community and to find out what factors facilitate and hinder success, as well as the implementation process. The lessons learned from the intervention have the potential to influence policy decisions that will continue to encourage collaboration between Aboriginal and “mainstream” service providers, programs, and organizations across sectors. Reducing the risk of overweight and obesity for Aboriginal children will require efforts by a variety of these organizational actors and institutions, who work at different ecological levels of the local public health system.

#17  
**Trends in Obesity Prevalence among Low-income, Preschool Tribal Children in Oklahoma**  
Stephen Gillaspy, Arthur Owora, Michael Peercy, Bobby Saunkeah, Ashley Weedn*

**Purpose:** Childhood obesity is a leading public health concern that disproportionately affects low-income and minority children. Obese children are more likely to be obese in adolescence and adulthood; therefore, early identification of high-risk children is the first step in guiding the development of prevention and intervention programs. In Oklahoma, obesity prevalence among tribal American Indian children is unknown. The purpose of this project was for the University of Oklahoma Health Sciences Center (OUHSC) to partner with the Chickasaw Nation to determine the prevalence and trends of childhood obesity in American Indian preschool-aged children utilizing data from their tribal WIC program.

**Methods:** Subjects included 12,097 children 2-4 years of age who participated in the Chickasaw Nation Special Supplemental Nutrition Program for Women, Infants, and Children (CN WIC) from 2007 to 2012. CN WIC provides nutritional services for low-income, preschool-aged children living in the Chickasaw Nation Tribal Jurisdiction; 50% of the population is American Indian. Participants were seen annually; height and weight were measured at each visit. BMI percentiles were calculated in SAS 9.3 using the CDC’s program based on the 2000 gender-specific BMI-for-age growth charts. Bivariate and multivariate analyses examined obesity (BMI ≥ 95th percentile) by age, gender, race/ethnicity, and year.

**Results:** In 2012, 29% of low-income, preschool children participating in Chickasaw Nation WIC program were overweight, including 14% obese. Obesity prevalence increased as age increased with 4-year-olds more obese than 2-year-olds (OR 1.4; 95% CI: 1.2, 1.6). Disparities by race/ethnicity were greatest for obese children; 16.6% for Hispanics (OR 1.5; 95% CI:1.3, 1.9) and 16.4% for non-Hispanic American Indians (OR 1.5; 95% CI: 1.3, 1.8) vs. 11.5% for non-Hispanic whites (reference group). Trend analysis showed no significant increase or decrease in obesity prevalence over the years (OR 1.0; 95% CI 0.9-1.1).

**Conclusions:** Obesity prevalence in the Chickasaw Nation WIC program is high compared to national estimates (8.4%) but similar to the state WIC population (14%) and was stable over the study duration. Obesity is already evident in the youngest children and increases with age, indicating the importance of early prevention and intervention programs for tribal children. Further studies are needed to examine risk factors for obesity in early childhood among American Indians.

#18  
**Inferior Survival among Aboriginal Children with Cancer**  
Stacey Marjerrison*, Jason Pole, Lillian Sung

**Purpose:** Pediatric cancer distribution and outcomes have not been examined in Canadian Aboriginal children. Our objective was to describe the distribution, event-free survival and overall survival of Aboriginal children with malignancies that reside in Ontario compared with non-Aboriginal children.

**Methods:** This population-based study included 10,520 Ontario children (<18 years) with cancer diagnosed between 1985 and 2011. Cases were identified from the Pediatric Oncology Group of Ontario Networked Information System database. Aboriginal children were identified by self-reported ethnicity or postal code on Native reserve at diagnosis. Cases were presented with descriptive statistics and compared using the Fisher’s exact test. Event-free and overall survival probabilities were calculated for Aboriginal and non-Aboriginal children, described with Kaplan-Meier curves and compared with log-rank tests.
**Results:** We identified 65 Aboriginal and 10,364 non-Aboriginal children with malignancy. Distribution of malignancy type was similar. There were no significant differences in baseline characteristics, presence of metastatic disease, or treatment approach (clinical trial, standard of care or individualized protocol) between the groups. Five-year event-free survival (± standard error) was 56.3±6.2% among Aboriginal children vs. 72.8±0.4% among non-Aboriginal children (P=0.0042), and 5-year overall survival was 64.0±6.0% vs. 79.3±0.4% (P=0.0017) respectively. Cause of death did not vary by Aboriginal ethnicity.

**Conclusions:** Survival was significantly inferior among Aboriginal children with cancer as compared to non-Aboriginal children with cancer Ontario. Future studies are required to define the etiology of this disparity, evaluate the issue nationally, and create interventions to improve outcomes for Aboriginal children.