

ORAL ABSTRACT PRESENTATIONS

#1 **Reconceptualizing Early Childbearing Among American Indian Women**
*Janelle F. Palacios**

Purpose: Early childbearing (having a child before age 18) is a common and poorly understood event among American Indian women. Early childbearing (ECB) rates are higher for American Indian women (53.8:1,000 live births) when compared to the total U.S. average (42.9) and other minority groups. Despite the high prevalence of identified risk factors (e.g. low income, low education attainment, and minority status) associated with ECB among this population, little is known about American Indian women's ECB experience. Currently there are no culturally specific frameworks that unify important historical American Indian events and the current contextual milieu situating American Indian women. This presentation aims to present a framework for understanding ECB among this population.

Methods: This proposed conceptual framework to understand American Indian women's ECB experiences blends Historical Trauma Theory with the Weathering Concept.

Results: Historical Trauma Theory enables us to understand intergenerational ramifications of the American Indian history. The Weathering Concept provides a framework for understanding American Indian women's individual experiences of early childbearing within the sociological context of their environment and manifestations of their experience as it relates to health disparities.

Conclusions: By recognizing underlying historical legacies, and the context of American Indian women's experience, we can develop knowledge to assist us in providing the best and most comprehensive care for this population aimed at eliminating health disparities and enhancing optimal health outcomes and life opportunities.

#2 **Child Abuse and Neglect Data in Indian Country: What are the Real Numbers?**
Kathleen Earle Fox, Amanda Cross*

Background: Despite high reported rates of abuse and neglect of American Indian/Alaska Native (AI/AN) children, accurate statistics on abuse and neglect in Indian Country do not exist.

Methods: This study documented who investigates abuse and neglect and who collects data, and compared existing databases of information on tribal abuse and neglect. During the first year (Earle, 2000) interviews were conducted with a stratified random sample of 57 tribal child protective workers and 21 state workers. During the second year (Earle & Cross, 2001; Fox, 2003) secondary sources of data on tribal child abuse and neglect were compared and data from the National Child Abuse and Neglect Data System (NCANDS) were analyzed.

Results: Only 60% of cases collected from Indian Country appear in the NCANDS, which is the primary source of information on abuse and neglect of AI/AN children. An analysis of existing reports and data found conflicting results, overlaps, and possible under or over reporting of abuse and neglect in Indian Country. The analysis of NCANDS data showed possible bias by state workers in the assessment and treatment of Indian children who are reported to be neglected.

Conclusion: A coordinated effort is needed to provide a clear, consistent child abuse and neglect reporting system for tribes, with the necessary technical and monetary support included.

#3 **Sexual Abuse Incidence Among First Nations of Quebec: A Unique Study Revealing Perceptions and Reality**
*Mélanie Vincent**

Background: Associations have been made by psychologist that sexual abuse is the confounding cause of social problems (suicide, drug and alcohol addictions, violence, etc.) that exist in First Nation communities. In order to disclose myths regarding potential impacts and to further understand the incidence of sexual abuse in First Nation's communities, the Aboriginal Psychosocial Interventions Research Group and the Quebec Native Women Association developed a unique study that provides a better understanding of the root causes of sexual abuse. This is the first comprehensive study ever done on sexual abuse incidence and perceptions in First Nations communities of Quebec.

Methods: A survey was developed in collaboration with the Social Services Coordinator of the First Nations of Quebec and Labrador Health and Social Services Commission, the Health Coordinator of the Quebec Native Women Association and with two behavioral and methodology researchers from the Aboriginal Psychosocial Interventions Research Group. It was pre-tested with ten First Nations sexual abuse community workers and treatment centers coordinators for cultural competency and native applicability. The survey was distributed by mail to 125 people from the 28 First Nations communities of Quebec; seven Native Friendship Centers; six Tribal Councils and six First Nations Treatment Centers. The people surveyed were sexual abuse workers, social services directors, and treatment center coordinators. Of the 125 people surveyed, 81 responded by mail and fax for a response rate of 65%. The results were compiled in the SPSS 12 program for analysis.

Results: The findings show that the sexual abuse perceptions rate is much higher than the reported sexual abuses cases in the Quebec First Nations communities. In fact, 60% of the respondents feel that more than 50% of their community members have been sexually abused in their life time.

Conclusions: Specific socio-environmental issues such as confidentiality and taboo in First Nation communities greatly influence the reporting of sexual abuse problems to authorities. The presentation will focus on these specific issues.

#4 **Strategies for FASD Resources and Technical Assistance: A Paradigm Shift. 2005**
Mary Rogers, Kathryn Langwell*

Background: Development of strategies to increase early diagnosis and treatment of FASD can reduce and manage the high risks for speech and language disorders, learning disabilities, hearing impairments, attention deficit disorders, depression, delinquent/criminal behavior.

Methods: Development of culturally-appropriate training materials for K-8 teachers, juvenile justice agencies; conducted pilot trainings; evaluation of the effectiveness of the trainings focused on increased knowledge of FASD and effective strategies for working with children with FASD through pre-post survey and 3 month follow up interviews with training participants.

Results: Measured by the analysis of the participant's responses, training was effective in providing most current information on FASD, provided strategies specific to better methods of information gathering and sharing within the education and juvenile justice communities. Follow-up interviews reported success when strategies were implemented consistently with children with FASD. Success is discussed in the qualitative section of the study.

Conclusions: The dissemination of information and training on effective intervention strategies to educators, social workers, juvenile/criminal justice workers, and medical providers offers the potential to increase the availability and provision of services and support to people living with FASD.

#5 **Improved Compliance with Palivizumab Prophylaxis of Respiratory Syncytial Virus Disease in High Risk Alaska Native Infants Through Village-Based Administration**
Rosalyn Singleton, Dana Bruden, Lisa Brooks, Jenni DeLeon, Anna Vercelline, Vincent Haynes, Jay Butler*

Background: Alaska Native children from the Yukon Kuskokwim (YK) Delta experience extremely high rates of hospitalization for respiratory syncytial virus (RSV). Palivizumab (Synagis®) prophylaxis has been administered to high risk YK infants since 1998; however, compliance with monthly injections was low. In summer 2003 we trained Community Health Aides (CHAs) in 20 of 52 villages to administer palivizumab in the village instead of transporting infants to the regional medical center for injections.

Methods: We monitored palivizumab administration in high risk children in the YK Delta. We compared overall palivizumab compliance in the pre-project period 1998-2001 with the project period 2003-2004, and compared the increase in compliance between these periods in project villages vs. non-project villages. We defined compliance by the % of days protected during the RSV season. Children were classified as protected within 32 days after palivizumab injection between Oct 1 and May 31. We also compared the actual number of palivizumab injections administered with the projected number.

Results: 85.1% of days between Oct 1 and May 31 were protected during 2003-2004, compared with 67.3% during 1998-2001. The increase in compliance was larger in pilot project villages (63.9% to 86.4%) than non-pilot villages (70.5% to 82.2%, $p < .01$). During the 2003-2004 season 90.4% of projected palivizumab doses were administered compared with 74.0% during 1998-2001.

Conclusions: Village-based palivizumab administration by CHAs improved compliance with RSV prophylaxis compared with transporting infants to the regional medical center. A targeted training program was effective in changing practice, reducing patient travel, and improving compliance.

#6 **Respiratory Syncytial Virus Hospitalization in Alaska Native Children: High Rates and Extended Seasonality**
Rosalyn Singleton, Dana Bruden, Lisa Bulkow, Joseph Klejka, Jay Butler*

Background: Using active laboratory surveillance during 1993-1996 we showed that Alaska Native children from the Yukon Kuskokwim (YK) Delta experienced the highest reported rate of respiratory syncytial virus (RSV) hospitalization. We describe RSV hospitalization rates and seasonality in YK Delta from 1994-2004.

Methods: We conducted active laboratory surveillance for RSV-positive hospitalizations in YK children aged < 3 years in 1993-96 and passive surveillance for RSV-positive hospitalizations through the computerized hospital record in 1997-2004. Season onset and offset were defined as the first and last of two consecutive weeks, respectively, with RSV detected in > 2 specimens and >10% of all submitted specimens. The peak was the week with the highest % RSV positive tests.

Results: The yearly rate of first RSV hospitalization ranged from 38:1000 births in 2002-3 to 247:1000 births in 1994-5 (mean: 145:1000, p -value for trend over time $< .01$, 1994-2004). During 1994-2003 the RSV season onset week ranged from July 8-14 to March 17-23 (median Oct 15-21). The median peak RSV week was March 25-31. The RSV season offset week ranged from Feb 17-23 to June 23-30 (median May 19-25). This compares with published data for the U.S. showing median onset in late Dec, peak in early Feb, and offset in end Mar.

Conclusions: While the rate has decreased since 1993-96, Alaska Native infants in YK Delta still experience RSV hospitalization rates 4-fold higher than the U.S. all races. The extended RSV season and marked seasonal variability have implications for the duration of RSV prophylaxis in this population.

#7 **Hospital Admission Rates for Acute Bronchiolitis in the Northwest Territories and Kitikmeot Region, 2000-2004**
Michael Young, Kami Kandola, Ryan Mitchell*

Background: Bronchiolitis is a viral respiratory syndrome that results in blockage of the smaller airways of the lung. Respiratory syncytial virus (RSV) is the leading viral pathogen in all geographic areas. Spread of the virus occurs through large droplets (coughing or sneezing), usually by direct contact with the patient. The virus in secretions remains viable for several hours on surfaces, making the disease easily transmitted in the home or health care setting.

Purpose: Health care workers in the North have long observed that aboriginal infants suffer significant morbidity from this respiratory illnesses at levels well above that seen in more southern populations. Crowded homes, low breast-feeding, a high prevalence of smoking and long winters spent indoors by a predominantly youthful population are suspected environmental contributors but have yet to be documented.

Methods: This review is intended to describe some of the underlying risk factors for severe bronchiolitis in the Northwest Territories and the Kitikmeot region of Nunavut from 2000 to 2004 based on hospital admissions. Results will be compared among the four major ethnic categories (Non-aboriginal, Dene, Inuit and Metis) as well as geographical location.

Results: Hospital data has been obtained for respiratory illness in all children under 12 months of age from 2000-2004 (~750 charts). Annual birth cohorts will be used to establish relative risk. Environmental factors or external identifiable risk factors will be matched in terms of smoking, housing and income status to a control population.

Conclusion: Results show that aboriginal infants have higher rates of admission for bronchiolitis but data also shows that they have disproportionate environmental risks in terms of higher prevalence of smoking, higher housing densities and decreased breastfeeding. Inuit babies in particular have the highest admission rates, even when adjusted for these risks suggesting a possible genetic predisposition. Public health implications of this study points to targeted health promotion activities and passive immunization campaigns.

#8 **A Prospective Study to Determine the Prevalence and Incidence of Serious Sequelae of Chronic Infection of Hepatitis B Virus in Alaska Natives**
*Brian J. McMahon**

Background: High rates of hepatitis B virus (HBV) are found among indigenous populations in the Arctic. Up to 25% of those chronically infected with HBV will develop serious complications of HBV, mainly hepatocellular carcinoma (HCC) and cirrhosis during their lifetimes and may need treatment with antiviral therapy.

Purpose: To follow Alaska Natives (1350) infected with HBV prospectively to determine risk factors for complications and identify persons who would benefit from antiviral therapy.

Methods: Every 6 months, letters are sent to all Alaska Native hepatitis B carriers and to providers reminding them to have blood drawn. Sera is sent to the Alaska Native Medical Center in Anchorage, AK and tested for ALT, AST, HBeAg, and anti-HBe, HBV DNA and HBV genotype.

Results: Since October 1, 2001, 1069 carriers have been enrolled. Five HBV genotypes have been found in this population (A, B, C, D, and F). HCC, especially in children and young adults, has been associated with genotype F and HBV vasculitis genotype D. One or more elevations of ALT or AST were found in 358 (33%) persons. In 21 (15%) the cause of elevated ALT was due to hepatitis B and occurred more commonly in persons infected with Genotype C and D while in most, elevated ALT/AST levels were due to other causes (alcohol use, fatty liver, medications).

Conclusions: Preliminary results from this population-based prospective study suggest that genotypes C, D and F appeared to be associated with more hepatitis B related complications than genotypes A and B.

#9 **Outbreak of Invasive Haemophilus Influenzae (HI) Serotype A Disease in Rural Alaska**
Laura L. Hammit, Susanna Block, Thomas W. Hennessy,Carolynn DeByle, Helen Peters, Rosalyn Singleton, Jay C. Butler*

Background: Hi type b (Hib) can cause severe infection in nonimmune children; other serotypes rarely cause invasive disease. During the last half of 2003, five cases of invasive Hi type a (Hia) disease occurred in Alaska Native infants living in two rural Alaska villages. This was remarkable because: a) the five cases occurred in three infants (two infants developed recurrent invasive Hia 4 months after initial infection), b) from 1991-2002, only one Alaskan infant developed invasive Hia, and c) a 2001 study of 720 residents from the outbreak region found no oropharyngeal (OP) Hia carriage. We describe the clinical and molecular epidemiologic features of the five cases.

Methods: We collected OP swabs on close contacts of the two recurrent cases. Hi serotypes were confirmed by latex agglutination and PCR. Strains of Hia from outbreak cases, close contacts, and cases reported through statewide surveillance were examined by pulsed-field gel electrophoresis (PFGE).

Results: Case-patients were aged 4-11 months; disease included bacteremic pneumonia (2), septic arthritis (2), and meningitis (1). OP swabs were obtained on all close contacts; 5 (16%) of 31 carried Hia. PFGE identified a single outbreak strain among cases and close contacts. Pulse-types of four historic invasive Hia isolates from non-infants were each unique and different from the outbreak strain.

Conclusions: The outbreak invasive Hia, the occurrence of recurrent disease, and the finding of colonization among close contacts suggests changing patterns of colonization and disease and raises concern about whether to provide chemoprophylaxis to close contacts of cases.

#10 **Experience with Haemophilus Influenzae Type B Vaccine in Alaska Natives, 1991-2004**
Rosalyn Singleton, Lisa Bulkow, Thomas Hennessy, Laura Hammitt, Alan Parkinson, Tammy Cottle, Jay Butler*

Background: Prior to 1991 Alaska Native (AN) children aged < 5 years experienced rates of Haemophilus influenzae type b (Hib) disease 6 times higher than other U.S. children. We describe the effect of statewide Hib vaccine policy on invasive Hib disease in AN children.

Methods: We reviewed all cases of Hib in Alaska during 1986-2004 to characterize Hib epidemiology and vaccine impact. H. influenzae isolates from sterile sites submitted through ongoing statewide surveillance were serotyped by slide agglutination. Serotyping was confirmed by PCR.

Results: Following universal infant Hib vaccination in 1991 with PRP-OMP (PedvaxHIB®) Hib disease decreased 95% in AN children < 5 years, from 332/100,000/year in 1980-91 to 16.9 in 1992-95. On 1/1/96 Alaska changed to DTP-HbOC (Tetramune®). During 1996-97, 16 cases occurred in AN children < 5 years, an increase from 16.9 to 57.9 cases/100,000/year. Despite a statewide switch to sequential PRP-OMP/HbOC schedule in 10/97, 9 Hib cases occurred in AN children < 5 years in 1998-99 (32.5/100,000/year) - 3 cases had received HbOC instead of PedvaxHIB for the first dose. On 1/1/2001 Alaska switched to PRP-OMP (COMVAX®) for all doses. During 2001-2004, 3 Hib cases occurred in vaccinated AN children < 5 years (5.6/100,000/year). This rate is still higher than the 2003 U.S. rate of 0.2/100,000.

Conclusions: The unique immunological properties of PRP-OMP, namely protective antibody levels after the first dose, appear critical in developing an effective vaccine policy for Hib disease control in AN children.

#11 **Reinfection After Successful Eradication of Helicobacter Pylori in Alaska Natives**
Michael G. Bruce, Brian J. McMahon, Thomas W. Hennessy, Alisa L. Reasonover, Julie M. Morris, Dana L. Bruden, Frank Sacco, Debbie Hurlburt, Helen Peters, Jim Gove, Alan Parkinson*

Introduction: H. pylori infection is common (75% antibody positive) among Alaska Natives, is a major cause of peptic ulcer disease, and may be associated with high gastric cancer rates. Scant information is available on the rates of, and risk factors for reinfection after cure of H. pylori infection. The goal of this study is to determine rates of reinfection in urban Alaska Natives followed for two years.

Methods: We enrolled adults diagnosed with H. pylori infection based on a positive urea breath test (UBT) and one or more of the following: culture, CLO test or histology. After successful treatment, we test each patient for reinfection with UBT at 4, 6, 12 and 24 months. At each visit, the participants are asked about medication use, illnesses and risk factors for reinfection.

Results: Among 104 persons enrolled, 95 (91%) were followed for 2 years (or until they became reinfected). H. pylori reinfection occurred in 14 persons; the cumulative reinfection rate was 14.5% at 2 years. Risk of reinfection was associated with a history of peptic ulcer disease (PUD) or PUD at the time of enrollment (OR 4.9, p=0.03).

Conclusions: Among urban Alaska Natives, reinfection after successful treatment for H. pylori occurred in approximately one out of seven persons followed for two years. This rate is higher than reported for other US populations. A history of PUD was found to be a risk factor for reinfection.

#12 **United States and Canada Indigenous People's Health Research Priorities, Indian Health Services, Health Canada, Canadian Institutes of Health Research**
Ian Potter, Heather McCormack, Jeff Reading*

Background: In September 2004, the Indigenous Health Research Priorities Roundtable was held in Washington DC and attended by health experts and leading Indigenous health researchers from both the United States and Canada. Roundtable participants identified guiding principles and recommendations regarding the collaboration needed between the two countries in order to advance the health research priorities for Indigenous communities.

This presentation will provide an overview of areas that were discussed at the Roundtable including: Indigenous Health Status, Health Systems, Principles Guiding Research Ethics, and Vision, Mission and Strategic Directives. The second part of this presentation will summarize recommendations emerging from the two-day Roundtable that fall under the following key areas: (1) Development of a Research Agenda; (2) Self-Determination and Capacity Building; and (3) Processes and Structures of Collaborative Research. This presentation will conclude by focussing on opportunities and challenges to moving forward on Indigenous health research and will also provide an opportunity to discuss potential collaborative research between the United States and Canada.

#13 **Health and Environmental Indicators for Children and Youth in the Circumpolar Arctic**
*Andy Gilman, Don Wigle, Ken J. McAllister, Tracy Gibbons, Margaret Moyston Cumming, Jay van Oostdam, Ian Potter**

Purpose: An Arctic Council initiative announced in the Iqaluit Declaration (1998) focused on the collection and analysis of biophysical and psychosocial indicator data for children and youth in eight Arctic countries -Russia, Norway, Sweden, Iceland, Greenland/Denmark, Alaska/USA, Finland and Canada. The draft report on the findings was presented to Arctic Council Ministers, November 2004 with a view to identifying areas for policy development that would improve the health and well-being of Arctic children and youth.

Method: An international expert group identified 16 biophysical and psychosocial indicators for children and youth. Canada organized the collection and led the analyses of the data with cooperation from member nations.

Results: Data availability and quality issues (variable definitions and reporting compliance) among countries for behavioural indicators led to major challenges in comparing data. Small Arctic population sample sizes made regional comparisons and gender and age stratification difficult. Large differences were observed between Arctic populations in Canada and Alaska versus other countries with respect to population youthfulness, breastfeeding rates, incidence of low birth weight, preterm birth rates, suicides, and unintentional injuries.

Conclusion: There have been significant improvements in the health status of children and youth in many regions of the Arctic. Although it is not useful to over-emphasize the health status disparities between countries, nor should the differences be ignored, there is an urgent need to improve data quality so that future reports on circumpolar populations and policy options for addressing disparities are based on more complete data of high quality.

#14 **Lessons from International Collaboration between Canada and the United States on Fetal Alcohol Spectrum Disorder (FASD) in Indigenous Communities**
Patricia Wiebe, Judith Thierry, Tamara Clay, Valerie Flynn, Selma Ford, Jonathan Thompson*

Purpose: The First Nations and Inuit Health Branch of Health Canada and the Indian Health Service, Department of Health and Human Services of the United States are focusing on three areas of mutual collaboration vis -à-vis Indigenous people: research, suicide prevention, and FASD. In relation to this last area, improving the health and well being of First Nations peoples and Inuit in Canada, and of American Indians and Alaska Natives in the United States, requires awareness of research and of promising FASD culturally relevant practices within each country.

Methods: Canada and the United States conducted national environmental scans of promising/best FASD practices. One environmental scan was done in the United States and three complementary scans were completed in Canada.

Results: The environmental scans show that there are similarities within approaches to FASD, by country. One similarity is that both the United States and Canada utilize community-oriented models. Best practices such as mentorship support programs, and multi-disciplinary diagnostic and support teams, are in various stages of development and implementation. In both countries, culturally specific, community developed FASD practices show great promise.

Conclusion: This analysis looks at areas of knowledge-sharing and joint collaboration, using promising best practices from each country and considering the cultural contexts in which each nation addresses the issue of FASD. Such knowledge should guide collaborative, practical action, and promote knowledge exchange.

#15 **“The Honouring Ourselves and Healing Our Past Approach”: Breaking Down Barriers to Care for Urban Aboriginal Mothers**
Trica M. McDiarmid, Amy Salmon, Marilyn VanBibber, Monica Stokl*

Background: Previous research has demonstrated that it is not their cultural origin, but the poverty, malnutrition, violence, and homelessness disproportionately experienced by Aboriginal women that increases their risk for having a child with Fetal Alcohol Spectrum Disorder (FASD). Women in Canada’s most impoverished neighbourhood, Vancouver’s Downtown Eastside, have developed a community-based, culturally specific approach to support urban Aboriginal mothers in improving their wellness and lowering the risk of FASD.

Method: This community-driven, participatory research project used extensive semi-structured working groups to generate data. These groups were comprised of urban Aboriginal mothers whose lives have included substance use and FASD, and the service providers who support them.

Results: The groups used their data to develop the Honouring Ourselves and Healing Our Past Approach, which combines cultural traditions, medicine wheel teachings, harm reduction, and empowerment models to build on each individual woman’s strengths. Individual wellness plans are then developed that look at specific triggers. Effective programs need to be grounded in the reality of the woman’s life, including flexible hours, non-judgmental attitudes, welcoming, build trusting relationships, and treating women as if they are deserving of first class care. In addition, Aboriginal women in our community identified an urgent need for accurate, accessible information on using substances while pregnant.

Conclusion: FASD prevention and education efforts that encompass all community members, including doctors, partners and friends, destigmatizes Aboriginal mothers, increases the effectiveness of interventions, and reduces barriers to accessing care.

#16 **Characteristics of Incarcerated Native American Youth in a State Juvenile Justice Facility**
Yolandra Gomez Toya, Tassy Parker, Gayle Dine Chacon*

Background: This project collected information about Native youth incarcerated in a New Mexico (NM) state-run facility. It also laid the foundation for a mentoring and advocacy program for these youth in need of mental and behavioral health services.

Methods: This was a systematic chart review-descriptive analysis of medical and social information of incarcerated Native youth (N=81) at a state-run facility in a one-year time period.

Results: Native females were twice as likely than other females to be incarcerated. Almost two-thirds came from one county in northwestern NM. All clients reported having used alcohol or drugs by an average age of 11 and 13 years of age. Approximately 82% had a diagnosable Axis I disorder, and of these, 73% had 3 or more diagnosable disorders. Almost 94% of the females and 8% of the males reported some type of sexual abuse history. Also, 53% of females and 67% of males reported alcoholism in the family.

Conclusion: This pilot project collected medical and social information on this little known population. Further investigation is warranted into the over-representation of Native females and relationships between incarceration and substance abuse, mental health and trauma history. In addition, we discuss how this information is used to support a mentoring and advocacy program for incarcerated Native youth.

#17 **Aboriginal Youth Health: Considering the Role of Education, Family and Cultural Identity**
*Kim A. van der Woerd**

Background: Aboriginal youth continue to face special challenges during the transition to adulthood, including geographic isolation, poor economic conditions, living in single parent families, and/or experience of physical or sexual abuse. Research has shown that many maladaptive behaviors such as early school departure, pregnancy and juvenile delinquency have overlapping risk factors. Some studies have shown that Aboriginal youth are more likely to engage in health compromising behaviors. Conversely, it has been suggested that increased levels of cultural attachment (protective factor) influences mental health, and has been shown to decrease involvement in aggressive behavior. Other protective factors include strong connection to family, school, and peers, good physical health, and feelings of self-worth.

Method: This paper will discuss the results from the Aboriginal Youth Health Survey (AYHS), a 127-item survey administered to 131 Aboriginal youth between the ages of 13 to 25 in a remote community in British Columbia.

Results: It was found that higher levels of school connectedness (not family connectedness) were associated with lower levels of delinquency, but not associated with health and well-being measures. Both participants in-school/graduated and youth who dropped out reported similar levels of health and well-being and cultural identity.

Conclusion: Engagement in health compromising behaviors has been determined to contribute to, and result from, early departure from school. Since school and family connectedness were not associated with delinquency and health and well-being items, community factors should be examined to decrease involvement in delinquent behaviors, and increase the overall health status of Aboriginal youth.

#18 **Native Teen Voices: Recommendations for Preventing Teen Pregnancy**
Kristine L. Rhodes, Ann Garwick, Wendy Hellerstedt, Justin Huenemann, Shawnee Hunt, Carrie Morris, Melanie Peterson-Hickey*

Background: Too often programs are developed without the input of potential participants. This community– university partnership looked to Native youth for their perspectives on how to prevent teen pregnancy in the Native community.

Methods: Participants were recruited through an advertisement in an American Indian newspaper and flyers in the community. Twenty focus group discussions were held with 149 Native teens between the ages 13-18 who had never been involved in a pregnancy and lived in an urban area in the Midwest. Focus groups were stratified by age (13-15 years and 16-18 years) and sex. Content analytic techniques were used to identify and categorize recommended strategies and types of programs by age and sex.

Results: Teens reported the need for more school and community-based pregnancy prevention programs and strategies for providing education that go beyond “stating the facts” to “showing the reality of teen pregnancy” (e.g., discussion groups, mechanical babies, presentations by teen parents). Improving access to birth control information and resources was emphasized.

Conclusions: Native teens’ recommendations provide a foundation for enhancing and developing programs that address unmet needs of urban Native teens. To achieve this, interventionists need to a) ensure that birth control information and resources reach the range of family and community members that Native teens rely on, b) partner with Native communities to address pregnancy prevention within the cultural and community context, c) eliminate barriers to birth control information and resources, and d) actively involve pre-teens, teens, their parents and other community members in educational efforts.

#19 The Experience of Pregnancy and Motherhood Among American Indian Adolescent Girls
Roxanne Struthers, Elizabeth M. Saewyc, Noya Woodridge*

Purpose: To explore the perceptions and experiences of pregnancy and parenting among American Indian teen mothers participating in an urban support program in Minnesota.

Methods: An Ojibwe nurse researcher conducted semi-structured, taped interviews with 7 Ojibwe and 3 Sioux teen mothers, ages 17-21, about their pregnancy and parenting experiences. Analyses focused on reasons for pregnancy, feelings about parenting, supports, relationships, and future goals.

Results: Most mothers described teen parenting as “hard,” but also identified positive aspects, including chances to reduce risky behaviors, to alter life paths, and to take on positive responsibilities. Most enjoyed nurturing their children. However, many identified financial struggles, isolation, and difficult relationships with family or partners that made motherhood harder. They described various family challenges in growing up that included: parental separation or death, family substance use issues, and running away or being kicked out. For many, the first pregnancy was unplanned, but had “good timing,” and often occurred in the context of a long-term relationship. All reported receiving some support during pregnancy or mothering. Even though they felt distress, all but one had a vision for themselves and their children’s future. They were proud of being American Indian, and most participated in traditional cultural life ways.

Conclusions: Although pregnancy and motherhood among American Indian teens is often unplanned and has many challenges, for some it appears to create opportunities for healthier life paths. Nurses may help foster this resilience by supporting teen mother’s strengths, relationships, and connections to positive cultural life ways.

#20 Adapting a Smoking Prevention/Cessation Web site for Young Urban American Indians and Alaska Natives: Results of Early Focus Groups
Maile Taulii, Nigel Bush, Jennifer Mas, Lucy Brown*

Background: Smoking is responsible for more premature morbidity and mortality than is any other known behavioral risk factor. Information from public school-based surveys show AI/AN youth smoking rates are higher than the state average for all grades. A focused program for tobacco control among AI/AN youth is sorely needed. Although web-based tools recently have shown promise in reducing smoking among teens, none have been developed for urban AI/AN youth.

Methods: We are conducting a pilot project to adapt a smoking prevention and cessation web-based tool for urban AI/AN youth. For the first phase we recently conducted focus groups with 16 urban AI/AN youth, ages 12-18. We gathered detailed information on the use of technology, internet, and tobacco exposure, and we also asked participants to review an existing website and recommend changes to make it more attractive and accessible to urban AI/AN youth.

Results: Urban AI/AN youth reported various levels of technology exposure. Use of the internet was common among all participants. Recommendations for website adaptation were creative and culturally based. Urban Indian populations associated with tribes and villages across the nation. Participants recommended adapting the website to meet regional differences.

Conclusions: Internet and web-based health education tools are a relatively untapped vehicle for health information delivery. Tailoring technology to meet the unique cultural differences of urban AI/AN may be beneficial in exporting health messages.

#21 Developing and Sustaining Collaborations to Address Cancer Health Disparities: Tribal Communities and NCI Comprehensive Cancer Centers
Cynthia Claus, Alisa Gilbert, Teresa Guthrie, Pattie King, Liling Sherry*

Background: Native American communities often face the challenge of accessing needed cancer control, education, clinical care and research programs that would successfully address cancer health disparities. The National Cancer Institute (NCI) provides funding to more than 40 comprehensive cancer centers (CCC) in the U.S. CCCs conduct programs in three areas of research— basic research, clinical research, and prevention and control research— as well as programs in community outreach and education.

Purpose: The purpose of the workshop is to provide a panel presentation/discussion of examples of the promising practice of developing and sustaining collaborative partnerships between tribal communities (Northwest Portland Indian Health Board and the Gila River Indian Community) and NCI Comprehensive Cancer Centers (Fred Hutchinson Cancer Research Center and the Mayo Clinic Cancer Center – Scottsdale). Enhancing strengths to sustain a productive partnership will be discussed, as well as the challenges to ensuring utilization of a community-based participatory research approach in developing joint collaborative projects.

Conclusions: 1) The research community must commit and support the development of innovative partnering strategies with tribal communities that emphasize trust, respect, reciprocity and reflect the cultural diversity of those served; 2) Partnerships between regional Indian Health Boards, CCCs and tribes help support tribal priorities, promote sovereignty and the sustainability of tribal data collection and research; and 3) Initiating and developing strong partnerships between tribal communities and CCCs may potentially provide the networking and organizational infrastructure required to conduct research to improve outreach, education and dissemination and, ultimately enhance the health of Native American populations.

#22 **Changes in Cancer Incidence Among Alaska Natives, 1969-2003**
Janet J. Kelly, Anne P. Lanier*

Purpose: To examine 35 years of cancer incidence data to determine changes over time in cancer patterns, and to compare 35 year trends in cancer incidence with US Whites.

Methods: Data from the Alaska Native Tumor Registry were used to identify all cancers among Alaska Natives diagnosed 1969-2003. Alaska Native race determination was made by self-report during registration at Indian Health Service facilities, or through notation on the medical record. Cancer incidence rates were age-adjusted to the 2000 US Standard population and are expressed as per 100,000.

Results: Cancer incidence among Alaska Natives has increased since 1969. Comparisons of incidence rates for years 1969-73 with rates of 1999-03 show a 25% increase for Alaska Native men and 35% for women for all cancer sites combined. For specific sites among Alaska Native men, lung cancer increased 92%, prostate, 69%, and colorectal cancer, 19%. Among Alaska Native women, lung cancer increased 322%, breast, 190%, and colorectal cancer, 28%. Current data for years 1999-03, for all cancer sites combined, show that Alaska Native women have an overall cancer incidence rate which is higher than US whites. Rates for years 1999-03 show that Alaska Native men have rates of lung and colorectal cancer which exceed rates for US White men. Rates for Alaska Native women for colorectal cancer exceed US white rates, but appear similar to US White rates for lung cancer.

Conclusions: Our results indicate that cancer incidence among Alaska Natives continues to rise. In addition, considerable differences exist between Alaska Natives and US Whites with respect to cancer incidence.

#23 **Survival After Cancer Diagnosis Among Northwest American Indians/Alaska Natives**
Thomas Becker, Lori Lambert, Emily Puukka, Paul Stehr-Green, Chris Johnson*

Background: Although published data are scant, survival after cancer diagnosis is poor among American Indians/Alaska Natives (AI/AN) compared to other US racial and ethnic groups. Little is known about the correlates of poor survival after cancer diagnosis.

Methods: We conducted a data linkage between the Northwest Tribal Registry and a northwestern population-based cancer registry to obtain data for 272 AI/ANs diagnosed between 1983 and 2001. The statistical significance of potential prognostic factors was assessed using Kaplan-Meier estimates as related to survival.

Results: Poor 5-year survival was associated with advanced age at diagnosis, late stage at diagnosis, lack of treatment, male sex, and high Indian blood quantum. The proportion of northwestern AI/ANs who survived five years after the diagnosis of cancer is lower than published 5-year survival rates for AI/ANs in other regions of the US.

Conclusions: Despite potential limitations of this analysis, our data suggest that for all cancer sites combined among AI/ANs, survival is most strongly associated with advanced age at diagnosis, receipt of chemotherapy or surgery, male sex, stage of diagnosis, and Indian blood quantum. Other socioeconomic and cultural factors that may relate to survival after diagnosis of cancer will need to be further addressed with more comprehensive analytic studies.

#24 **California Indian Cancer Pain Perspectives and Palliative Care Strategies**
Diane Weiner, Deborah Wingard, Chris R. Gibson*

The California NARCH team used medical anthropology, public health, and nursing theories and methodologies to elicit rural and urban Southern California Indian views of palliative care. The long term-goal is to create culturally competent curriculum for lay and professional audiences. The immediate objectives are to delineate the experiences of cancer survivors and their family members. The central research questions are 1) what are the meanings of pain and palliative resources according to lay populations? 2) what are the needs associated with these views? And 3) what are the available resources? This presentation will examine the different qualitative and quantitative methods used to collect and assess information. Furthermore, we will discuss preliminary results from three group interviews with cancer survivors and their family members, interviews with CHRs, in-depth interviews with 12 cancer survivors and/or their companions, and 70 community member surveys. Pain, often described metaphorically, reportedly has physical, social, emotional, and spiritual aspects. Respondents tend to stage pain (pre- diagnosis, treatment, and post-diagnosis). Each of the stages may be associated with different kinds of pain due to cancer or to side-effects of treatments. Economic and socio-cultural challenges shape responses to pain by individuals and their support networks. A variety of Native, clinical, and popular health care treatments are utilized to ease pain. This data is enhancing the ability of providers, scholars, and community advocates to identify and address palliative care issues and resources for Southern California Indians including the development of a resource list based on community needs and concerns.

#25 Surveillance of Sex Ratios at Births Among Native American and White Infants in 17 Counties in Wisconsin, 1990-2001
Jeanne Beauchamp Hewitt, Jingnan Mao, Nancy Miller-Korth, Teresa Johnson*

Background: Environmental and workplace exposures have been associated with an altered ratio of males to females at birth, usually observed as a decrease in the proportion of males from the expected 1048 males per 1000 females (2002 data, all races). In the U.S., the highest sex ratio (SR) at birth occurs among Asian/Pacific Islanders (1065), followed by whites (1050), and the lowest among Native Americans (1023). This study described and compared the SR of Native American and white infants in 17 counties in Wisconsin to each other and the U.S. race-specific averages. The 17 non-urban counties correspond to areas in which three tribal communities reside.

Methods: Birth record data for the years 1990-2001 were obtained for all births of Native American infants and for white infants from one county and a 5% random sample of white infants from the remaining 16 counties. Due to relatively small numbers of Native American births, data were aggregated over the 12-year study period. When reporting on county-specific data, we aggregated data from several contiguous counties if an individual county had fewer than 50 Native births.

Results: The overall SR for the 17 counties was 1041. Sex ratios for Native infants varied between 678 and 1359 males per 1000 females; for white infants, the SR ranged between 873 and 1105 males. We report county- and race-specific SR findings in relation to existing data on environmental contaminants.

Conclusions: Sex ratios at birth can be used as a surveillance tool to monitor reproductive health vis-à-vis the environment.

#26 Examining the Role of Traditional Indian Medicine (TIM) in Research: Findings from a Talking Circle
The Native Research Network, Inc

Background: At the request of the Indian Health Service (IHS) Office of Planning, Evaluation and Legislation, the Native Research Network Inc. (NRN) conducted a Talking Circle at the IHS Research Conference on May 13, 2004, to seek input on issues related to Research and Traditional Indian Medicine from researchers who attended the conference.

Methods: NRN hired a professional American Indian facilitator to lead the session of 26 conference participants representing all regions of the U.S. and Canada. The Circle opened with an American Indian prayer. Following Talking Circle rules, questions were posed to the group, and each participant spoke in turn to provide input, both pros and cons, regarding TIM and research. The two-hour Circle was audiotaped and transcribed verbatim. The transcription and a summary were presented to the Board of the NRN for further discussion and planning.

Results: Participants considered the definition of TIM and the purpose of its role in research by asking, "How will research benefit Native communities and advance scientific knowledge?" They expressed concern that a consensus may not easily be reached due to the wide variation in tribes, customs, religions, languages and degree of acculturation represented. The Circle formulated 11 recommendations and agreed that future efforts to define TIM and its role in research will involve traditional healers as well as other scientific leaders. The Circle participants also agreed that any research approach involving TIM must respect and honor traditional practices and recognize the diversity of Indian cultures.

Conclusions: The Talking Circle is an effective and culturally-informed approach to discussing the sensitive issues of conducting research on TIM and including TIM research as part of the research agenda in Indian Country. Based on this discussion, NRN is developing an annotated bibliography, a report of the session and a literature review of pertinent literature.

#27 Assessment of Tribal Emergency Preparedness and Response Capabilities: Agency for Toxic Substances and Disease Registry (ATSDR), 2003-2004
Dean S. Seneca, Alan S. Crawford*

Background: Tribes are the primary responders to emergency situations but are often overlooked thus not prepared with the necessary tools to take action appropriately. ATSDR and USEPA conducted a pilot assessment of Tribal emergency preparedness and response needs centering on infrastructure, hazmat knowledge, response actions, equipment, training and needs.

Methods: In 2003 ATSDR assessed nine Tribes selected on their proximity to: major transportation routes, borders with Canada or Mexico, nuclear facilities, Department of Energy or Defense sites, and unregulated landfills. ATSDR conducted onsite interviews with tribal emergency response coordinators using a 64 question survey as an interview guide. Follow-up phone interviews were conducted to fill gaps in the information used in the assessment process.

Results: A range of emergency response capabilities were identified, from comprehensive response programs to fragmented programs without response capabilities. Tribes were aware of other emergency response plans, but did not know if the plans covered Tribal lands. Non-tribal local governments requesting funds used tribal populations as part of their population then did not share funding with Tribes. Many Tribes needed additional personnel, training, funding, improved emergency communication systems, technical assistance, equipment and software.

Conclusion: The assessment provided information on overall trends in Tribal emergency response capabilities. Identified were the strengths and weaknesses of Tribes in their ability for emergency response. Based on Tribal feedback, ATSDR should survey all 569 federally recognized Tribes.

#28 **Developing an Injury Prevention Strategy for First Nations in Manitoba**
Doug Mercer, John Spence, Shannon McDonald, Shawn Feely*

Purpose: Injury and poisoning are the leading cause of death for Manitoba First Nations people as a whole (on and off reserve). They are the second leading cause of death for Manitoba First Nations people on reserve, falling behind only disease of the circulatory system. Manitoba First Nation Children are nine times more likely to die from injury than non-First Nations Children. Research and documented international experience shows that most injuries are preventable through the application of a co-ordinated and systematic approach to injury prevention.

Methods: The strategy development process consisted of four phases: a literature review; identification of models ; two environmental scans of injury prevention activity; and an extensive consultation. The consultation included 63 interviews, 3 focus groups, two round table discussions and 8 written responses.

Results: The Manitoba First Nations Injury Prevention Strategy is based on a framework of four elements that include research, injury data and surveillance, capacity building and communication. The underling principals for this framework are to be flexible, holistic, community-based and community-paced as well as being sustainable and co-ordinated.

Conclusions: Over the past two years the existence of the strategy has led to more co-operation amongst agencies and the co-ordination of injury prevention activity. A more detailed work plan is now needed.

#29 **Using Chlorhexidine Varnish to Prevent Early Childhood Caries**
Craig Bruce, Frank Mendoza, Kathy Phipps, L. D. Robertson*

Background: Dental caries is the most prevalent chronic disease among Indian children. Early childhood caries (ECC) is a particularly virulent form of caries that affects young children. Despite decades of efforts, the burden of disease from ECC is high in almost all Indian communities. Research has shown that caries in children results from colonization of the teeth with bacteria (primarily *Streptococcus mutans*) usually acquired from the mother. Chlorhexidine is a highly effective antimicrobial against *S. mutans*—especially when applied in a varnish-like vehicle. Chlorhexidine dental varnish is approved in Canada and Europe, but not the U.S.

Methods: An FDA-approved, placebo-controlled, clinical trial to test the efficacy of chlorhexidine dental varnish in preventing ECC is underway in four U.S. tribal communities—two in the Northwest and two in Arizona. Multiple applications of the chlorhexidine varnish are applied to the teeth of mothers with young children to interrupt the vertical transmission of *S. mutans*, thereby reducing caries in their children. The study has received approval from the tribal council, tribal health board, facility director, dental staff, and IRB for each study site.

Results: The only major problem so far has been slow recruitment into the trial, with 56 mothers enrolled and four having completed the trial. The study is expected to conclude in 2008.

Conclusions: Clinical trials such as this one are needed in Indian communities to find solutions to health discrepancies refractory to current interventions. However, even with full approval and support by tribal communities, recruiting participants may be difficult.

#30 **Native Elder's Voices Give Direction for Health Care. Will We Listen?**
Kanaqlak (George P. Charles), Janell Smith, Kay Branch, Brian Saylor, Bernie Segal, Cheryl Easley*

Background: There are limited long-term health services for Alaska Native Elders and limited programs dealing with Elder mistreatment. Communities want information as to types of programs, and how possible programs incorporated traditional Tribal values and customs to assist them in their planning for long-term health care.

Methods: Discussions were held with Elders from 17 Alaskan locations. Comments were voice recorded, translated, transcribed and coded using qualitative software (AtlasTi). Statistical information was gathered from secondary sources appropriate to Native Elders in the area of health status, health disparities and Elder mistreatment. Criteria for “Best, promising and emerging practices” were established to examine the effectiveness of existing programs.

Results: Overwhelmingly, Elders want programs that are available in their home communities. They do not want to move. They want access to traditional food, friend and home communities. Communities feel that when Elders are removed to seek medical care, the process has adverse effects to the Elder, community and Tribe. The issue of Elder mistreatment is an immediate concern, and the Elders felt that this area needs immediate attention.

Conclusions: “The Voices of Our Elders” provides wisdom for communities as they establish plans for the long-term care of Native Elders.

#31 American Indian Caregiver Health Study
Leslie E. Korn, Rudolph C Ryser, Connie McCloud*, Rebecca Logsdon, Nayak Pollisar, Rollin McCraty*

Background: The American Indian Elder Caregiver Health Study is a pilot study (N=40) addressing the feasibility and efficacy of an alternative/complementary medicine touch therapy modality (Polarity Therapy) that is culturally congruent with Pacific Northwest traditional healing methods. The study, funded by the NIH National Center for Complementary and Alternative Medicine, is being conducted by the Center for Traditional Medicine and The Center for World Indigenous Studies in cooperation with two Northwest tribes.

Methods: An innovative approach to research that integrates quantitative and qualitative methods that is informed by traditional knowledge and direct collaboration between tribes, independent Indian and non-Indian researchers, academics and a community advisory group. The theoretical, anatomical and cultural rationale for the design of the standardized touch therapy protocol reflects the Salish cultural environment.

Results: The measures and methods reflect criteria defined by tribal advisors for the conduct of a beneficial study. Measures are non-invasive, provide valuable health data for the participant and their physicians, measure the physical, mental, emotional and spiritual aspects of the whole person and have the potential to reduce current costs and morbidity associated with care giving.

Conclusions: The study's primary outcome measures stress, using the Perceived Stress Scale, 24-hour cortisol, DHEA and 24-hour heart rate variability and autonomic assessment. Triangulated analysis of qualitative personal narratives amplifies and contextualizes data about stress obtained in psychological, biological and physiological data giving voice to study participants.

#33 Native Vision Tobacco
Theda McPheron Keel, Joe Jose, Robert H. Feldman, Kim Russell, Harry Kwon*

Background: The Phoenix Native American Community Health Center, Wind Hollow Foundation, University of Maryland, University of Arizona with community and tribal organizations have conducted substantial research into the DUAL view of tobacco (ceremonial/sacred use versus commercial/daily use) among urban American Indians in Phoenix Arizona.

Methods: This collaborative effort includes grassroots participants, tribal leaders, and traditional practitioners and uses both quantitative and qualitative methods. Data has been combined into a single database for statistical analysis.

Results: While 52% of the respondents use ceremonial tobacco, only 22% of the users of ceremonial tobacco also report using commercial tobacco. 83% of users of commercial tobacco have thoughts of quitting smoking, chewing, or dipping with 59% of commercial tobacco users desiring more information about quitting programs. Also, 35% would like to use a traditional healer as part of health intervention programs. This project has documented the DUAL view of tobacco among tribal populations and explored ways in which spiritual views of tobacco can be incorporated into community based American Indian tobacco cessation/reduction programs. These "blended" approaches have allowed academic researchers to partner with community service providers and increased access to numerous resources necessary for the development of culturally appropriate tobacco cessation/reduction programs which incorporate traditional American Indian spirituality and healing practices.

Conclusion: Examples of culturally specific and population appropriate survey/data collection methods, data return and implementation in the community are essential in the development of instruments/tools, programs/interventions and efficient use of resources.

#33 Improved Survival Among American Indian And Alaska Native (AI/AN) Infants In The Pacific Northwest (NW), 1984-97: A Closer Look At An Uncommon Narrowing Of An AI/AN-White Child Health Disparity
*James A. Gaudino, Jr.**

Background: Most AI/AN infant mortality rates, IMRs, remain higher than white rates. The Northwest Portland Area Indian Health Board (NPAIHB), serving 42 tribes, CDC and the Washington, Oregon, and Idaho health departments investigated AI/AN infant survival.

Methods: NPAIHB completed linking computerized birth certificate and birth-death files. We used death and birth cohorts, StatXact and SAS to compare 3-state resident, single and multi-year IMRs, basing infant race on mother's race, regardless of Hispanic origin. CDC's National Infant Mortality Surveillance ICD-9 categories were used for cause-specific rates.

Results: Among 2.6 million records, there were 2100-2800 AI/AN births annually. From 1984-1990, AI/AN IMRs were 1.8-2.4 fold higher than white rates. AI/AN IMRs dropped significantly from 21.6 per 1000 births in 1990 to 6.0 in 1995, nearly crossing the 5.5 1995 white rate. Compared to the 1995-97 rate, the 1998 rate increased to 10.3, with borderline significance. AI/AN SIDS and respiratory distress syndrome rates significantly decreased, respectively, from 8.1 in 1984-87 to 2.3 in 1994-96 and from 1.8 in 1984-87 to 0.3 in 1991-93, then leveled off. "Other perinatal conditions" and "birth trauma, hypoxia and asphyxia" rates apparently, not significantly increased since 1997. Significant rate declines occurred among most demographic, risk behavior, birthweight, gestational-age, reproductive risk, birth spacing, labor/delivery and obstetrical procedure sub-groups. Some AI/AN sub-groups, e.g., Idaho residents, with no prenatal care and with 0-5 month spacing, experienced no improvements.

Conclusions: These uncommon rate declines imply multi-factorial improvements among Northwest AI/ANs. Community-level surveillance and interventions before conception through post-partum may further improve health.

#34 **Cotinine Levels in Northern Plains Indian Infants**
Leslie L. Randall, Elaine Gunter, Thomas K. Welty*

Background: Rates of tobacco use among American Indians and Alaska Natives are the highest of all racial groups in the United States. Studies have shown that prenatal and childhood environmental tobacco smoke (ETS) exposure can cause problems such as low birth weight, Sudden Infant Death Syndrome (SIDS), otitis media, childhood asthma, and other respiratory problems.

Methods: While conducting a case control study about infant mortality in the Northern Plains, we obtained blood specimens from 58 infants (seven deceased case infants and 51 living control infants). The reference range for ETS exposure is < 5 ng/ml, no exposure; 5-15 ng/ml exposed; > 15 ng/ml, equivalent to active smoker.

Results: The highest cotinine level was 38.76 ng/ml in a postmortem sample. Of the 58 infants, 29 (50.0%) had levels less than 5 ng/ml, 12 (20.7%) had levels between 5-15 ng/ml, and 9 (15.5%) had levels over 15 ng/ml. Levels were unavailable for 8 (13.8%) because of insufficient blood samples.

Conclusions: Over 1/3 of the infants studied had cotinine levels indicating significant exposure to cigarette smoke, and over 15 % of the infants had cotinine levels similar to those seen in active smokers. Public Health Implications: Cigarette smoke exposure for these infants could ultimately pose a risk for SIDS and impact their long-term health, resulting in respiratory ailments. Previous studies have shown that parents who reduce their infants' and children's exposure to smoke decrease their cotinine levels, educational efforts should be directed at eliminating or reducing smoke exposure to all infants and children.

#35 **Systematic Review of Grandmothers' Stories: Assessing The Impact Of Population-Based Interventions To Prevent Sudden Infant Death Syndrome Among Indigenous Peoples In Canada, United States, Australia, And New Zealand.**
Janet Kathleen Smylie, Laura Noack*

Background: Sudden infant death syndrome (SIDS) is a leading cause of postneonatal mortality among Indigenous populations in Canada, US, Australia, and New Zealand. Several modifiable risk factors for SIDS have been identified. Public health intervention programs target SIDS in all four countries. Objectives: 1. Review the literature evaluating population based programs targeting SIDS among Indigenous populations. 2. Evaluate the interface between epidemiologic study outcomes and the qualitative accounts of Indigenous women.

Methods: Systematic literature review supplemented by expert consultation and program materials. Thematic review of qualitative reports.

Results: There were no published epidemiologic studies examining the impact of population based programs targeting SIDS among Indigenous populations in Canada, US, Australia, and New Zealand. Population based SIDS rates were used as a proxy outcome measure in the US and New Zealand, however changing death registration practices challenge reliability. One qualitative consultation with Indigenous women regarding SIDS and several regarding maternal child health more generally were identified in Canada, New Zealand, and Australia. Outcomes of the published SIDS studies in non-Indigenous populations include rates of SIDS, sleep position, maternal smoking, and breastfeeding. Themes raised by Indigenous women did include safety/risk, however they also emphasized broader conceptualizations of family/community, cultural traditions, socioeconomic stressors, and access to health services close to home.

Conclusion: There is a need to develop evaluation of population based programs targeting SIDS and associated risk factors among Indigenous populations in Canada, US, Australia, and New Zealand. The dual criteria of scientific excellence and community relevance will present additional challenges.

#36 **Nutaqsiivik: Lessons Learned on the Path to Reduce Native Infant Mortality**
Kelly Clement-Murphy, Sherri Noonan, Suzanne Raelson*

Background: The issue of unacceptably high infant mortality has been a pervasive problem that has been the subject of national attention for many years. In 1993, post-neonatal infant mortality for Anchorage Natives was three times higher than for other Alaskan infant population groups. Alaska Native Medical Center (ANMC) participated in community wide learning collaborative using quality improvement principles to address public health problems.

Methods: Extensive review of 27 Anchorage Native death charts lead theories of how to address the problem. Flow charting techniques were used to identify gaps in the system of identifying high social risk clients.

Results: A standardized risk list was created to identify clients as high social risk during pregnancy. One third of the Anchorage Native prenatal population was identified. The Nutaqsiivik Program was formed with community health nurses who deliver services to clients on a scheduled, or as needed basis. The evaluation tool utilized is a Days Between Deaths run chart, which was developed for small number data sets. A chart of days between deaths moved from a baseline pre-program average of every 55 days to the current average of 114-135 days. Post-neonatal infant deaths are added and recalculated with new data.

Conclusions: Over the 10 years of the program, on-going analysis has provided the program, the agency, and our community partners with information about the clients we serve and how effectively we serve them.

- #37 **Baseline Assessments of Elementary School Children in Eastern Oklahoma: The ONARCH School-Based Intervention Project**
Kathleen S. Blevins, Martha L. Stoddart, Piers R. Blackett, Sohail I. Khan, Tina M. Cooper, Johnnie Brasuell, J. Neil Henderson*
- Background:** Baseline anthropometric measurements and fasting blood tests were performed on elementary school children at risk for type 2 diabetes.
- Methods:** Nine public elementary schools in eastern Oklahoma with large proportions of American Indian students were chosen in the Cherokee, Chickasaw, Creek and Choctaw Tribal Jurisdictional Service areas. A total of 224 fourth grade students in these schools, whose parents provided informed consent, received baseline assessments following a standardized protocol including height, weight, bioelectrical impedance, blood pressure, and fasting fingerstick blood glucose and lipid profiles on a Cholestech LDX analyzer. Percent body fat (%BF) and body mass index (BMI) were calculated. One school in each area was selected as an intervention school; the others were designated control schools
- Results:** Mean values for all measurements were in the normal range, except %BF which was above the normal ranges for both genders. For girls, mean %BF was 25.1 in control and 26.4 in intervention schools; for boys, mean %BF was 21.7 in control and 21.3 in intervention schools. Mean BMI percentiles were similar for students in both control and intervention schools and were barely within the normal ranges being in the 84th percentile for girls and the 82nd percentile for boys; however, 19% of girls and 20% of boys were at risk for overweight (BMI 85th-94th percentile) while 38% of girls and 31% of boys were overweight (BMI > 95th percentile).
- Conclusions:** The planned intervention is needed to help reverse the risks for overweight and diabetes in eastern Oklahoma school children.
- #38 **The Development of Overweight and Obesity Among Children in Nuuk, Greenland**
Christina Schnohr, Birgit V-L Niclasen*
- Background:** The purpose of the study was to determine the development of overweight and obesity among children in Nuuk, Greenland.
- Methods:** The study is a retrospective cohort-study of all children who have attended school in Nuuk since 1970. From records of school nurses more than 10,000 measurements on height and weight was computerized and used for statistical processing. With the use of internationally recommended cut off points for children and adolescents, proportions of overweight and obese individuals were determined.
- Results:** Mean BMI has risen with a total of 6% during the past 25 years for 6-7 year olds and with 4% for 14-15 year olds. The prevalence of overweight and obesity among 6-7 year olds was 6.6% and 0.8% respectively in the period 1980-84. These proportions rose steadily to 16.5% overweight and 5.2% obese in the period 2000-04. Similarly, 9.5% were classified overweight and 1.4% obese among the 14-15 year olds in 1985-89, and these proportions had risen to 13.2% and 4.7% respectively in 2000-04.
- Conclusions:** The proportion of overweight and obese children in Nuuk has increased during the past three decades. Mean BMI has increased significantly and there has been a 3-fold increase among inschooling children and a doubling among 15 year olds between 1980 and 2004. The study illustrates that the global epidemic of obesity has spread into the Greenlandic part of the Arctic region.
- #39 **Childhood Obesity Onset in an Urban American Indian Health Clinic**
Nicole G. Stern, James R. Barrett, Frank H. Lawler*
- Purpose:** To determine the relationship between gender and the age of onset of overweight and obesity for American Indian children between the ages of 2 and 12 years old.
- Methods:** Using a retrospective study design, medical charts were reviewed, recording the body mass index (BMI) at different ages of 100 American Indian children ages 2-12 (males and females) who were followed regularly (defined as having at least two visits within a 3 year period) at an urban Indian Clinic in Oklahoma City and seen at least once between the years 1995-2000.
- Results:** Male gender was associated with an earlier mean onset of overweight and obesity compared to females. Blood quantum and tribal affiliation were not statistically significant variables.
- Conclusions:** Health clinics treating American Indian children should begin targeting youth under age 9 for obesity prevention and physical fitness activities.

#40 **Early Rapid Growth Predicts Overweight at Age 5 to 7 in Wisconsin American Indian Children**
Alexandra K. Adams, Ronald J. Prince*

Background: The Wisconsin Nutrition and Growth Study (WINGS) is a community-based participatory research project to understand determinants of overweight and develop interventions with three Wisconsin tribes. WINGS screenings of 445 American Indian children aged 5 -7 found a high prevalence of overweight; 27% overweight and 19% at risk. Objective: To determine significant predictors of overweight by modeling growth patterns in a sub-sample of WINGS children.

Methods: Records from the Women Infants and Children (WIC) Program were examined for gestational, birth, and early growth information. 270 children (137 female) had records that included birth and 3 or more height/weight assessments before age 5. Heights and weights were converted to weight-for-length Z-scores (WFLZ) using CDC LMS parameters. Difference scores were created to reflect growth rates between birth and 6-month and 1-year intervals from birth to 48 months.

Results: Although birthweight predicted later BMI ($r = .30, p < .001$), birth WFLZ did not ($r = -.03$). 51% of children experienced early rapid growth (increase of 1 or more WFLZ between birth and 1 year), which predicted overweight at age 5 -7 (OR 3.47, CI 1.83 – 6.56, $p < .001$). For each 1-year interval, overweight children had larger absolute increases in WFLZ relative to non-overweight children. Maternal smoking predicted less early rapid growth at 6 months but no difference in child BMI at age 5 - 7.

Conclusions: Children who were later overweight experienced more early rapid growth than non-overweight children and continued this pattern throughout early childhood. Understanding this growth pattern may be important in obesity prevention.

#41 **Influences on Children's Diet and Activity: Lessons Learned from Qualitative Research with American Indian Parents**
*Alexandra K. Adams, Heather Webert, David Brown**

Background: Conventional obesity prevention theory tends to focus on individual behavior change, moving towards healthier choices by individuals. Prevention efforts have had limited success in minority populations. Qualitative research methods might prove useful for rethinking approaches prevention by providing insights about social contexts and cultural frameworks.

Methods: Key informant interviews, observation and focus groups were employed to explore parental attitudes and perceptions as they relate to children's health, diet and physical activity. The study took place between November 2003 and September 2004 at three tribal sites in Wisconsin.

Results: Several key factors emerged from parent discussions about child health, ranging from to cultural factors (local ways of defining and understanding things) to structural factors (relatively concrete aspects of the local environment). The specific factors included extremely unique and complex definitions of health, dilemmas about responsible parenting, social support systems, the challenge of open households, safety concerns, and facilities and programs. Several important tensions were evident among these factors that were also important for understanding the context of parenting within these communities. Most notable were the difference between parental perspectives on child health and safety in the immediate versus longer time frame.

Conclusions: Prevention planning can benefit from carefully taking into account how individual behaviors are grounded in local ways of understanding health and safety as well as objective patterns of community life. It is recommended that practitioners explicitly relate professional messages about nutrition and activity to the realities of each community, including parents' definitions of health and safety.

#42 **Barriers to Physical Activity of Adolescent Native American Females, Ages 13-22**
Sonia R. Tinoco, J Kristin Olson-Garewal**

Age related focus groups generated information about barriers and triggers to adolescent girls' participation in regular physical activity in a Southwestern Native American Community. The project surveyed the focus groups participants and community member, about physical activity resources using a questionnaire inserted in tribal employees' paychecks. A total of 660 questionnaires were sent out to tribal employees. 61 were returned.

An advisory group of tribal adolescent girls reviewed the survey and focus group results and then assisted in development of a second survey. This instrument asked respondents to rate a list of barriers, resources and promoters to physical activity. The second survey was mailed to all adolescent girls in the tribal community.

Based on focus groups' data and the two survey results, the advisory group of adolescent girls' developed a hierarchy of barriers, proposed programs and / or means to address barriers to regular physical activity.

This presentation will review the findings of the various data gathering activities and the application of this project's conclusions.

#43 Factors that May Influence Body Weight Among Rural Alaska Native Women. Results from the WIC Healthy Moms Study
Janell Smith, Penelope Easton, Dian Weddle*

Background: Obesity is increasing in rural Alaska Native villages.

Methods: This study used an orally administered survey to establish baseline on lifestyle and diet of women living in five, rural, predominately Alaska Native communities. Communities were representative of major Alaska geographical areas: arctic, coastal and interior; and representative of major cultural groups: Aleut/Alutiiq, Athabaskan, Inupiat, Tlingit and Yup'ik. A participatory research model was implemented consistent with National Science Foundation Principles of Conduct of Research in the Arctic; Protocols were reviewed by IRB. Permission to survey was obtained from each village. An advisory committee of Native women reviewed all methods for culturally appropriateness.

Results: Ten percent of all women over 19 years of age participated in the survey. Average BMI was 30.0 + 7.0, but most women had positive lifestyle practices which may maintain good health: meals were prepared and eaten at home; meats were boiled without added salt; few desserts were reported. Use of local fish, game and berries was reported by 94% of rural respondents. Food costs ranged from 158% to 248% of similar food items priced in Portland, OR, Alaska's reference city. Food insecurity level was 37%, higher than in US populations. 89% of rural respondents reported that they followed Elder's advice to eat "Native" foods.

Conclusions: The causes of obesity are complex in Native communities dependent on subsistence foods. Educational interventions in Alaska Native communities should involve tribal leaders, especially Elders and work in combination with local customs and traditions. This study was partially funded by USDA.

#44 Vaccine Coverage for American Indian and Alaska Native Children During a National Vaccine Shortage: Inequitable Impact?
Amy V. Groom, Ralph T. Bryan, James E. Cheek*

Background: During 2001 and 2002 there were unprecedented shortages in five of the eight routinely recommended childhood vaccines. We sought to determine the impact of national vaccine shortages on coverage with four doses of DTaP for American Indian/Alaska Native (AI/AN) children.

Methods: Data on DTaP coverage for children aged 19 – 27 months were abstracted from Indian Health Service (IHS) immunization reports. Coverage with the 4th DTaP dose (DTaP4) was compared for different time periods to determine coverage trends before, during and after the shortage. Data were stratified geographically to determine regional variation.

Results: AI/AN children experienced a significant decline (15%) in DTaP4 coverage during the shortage. There was considerable variation among IHS regions, with declines ranging from 4.9% to 25.9%.

Conclusions: AI/AN children included in IHS immunization reports experienced a greater decline in DTaP4 coverage during the shortage than the decline reported nationally for children receiving vaccine at public clinics (15% versus 6%). Variations in the decline in coverage highlight possible inequities in vaccine supply and distribution, and in implementation of vaccine shortage recommendations. Identifying ways to ensure more equitable vaccine distribution and consistent implementation of vaccine recommendations are essential to protect all children from vaccine –preventable diseases.

#45 Trends in Invasive Pneumococcal Disease (IPD) Among White Mountain Apaches in the Prevnar Era
Francene Larzalere-Hinton, Katherine L. O'Brien, Alan Parkinson, Kathryn Eagle, Raymond Reid, Mathuram Santosham, Mariddie J. Craig*

Background: Streptococcus pneumonia (pneumococcus) is the primary bacterial cause of bacteremia, meningitis and pneumonia. White Mountain Apache infants and adults had rates of IPD 8-10 fold those of the general US population through the 1980's. Prevnar, a pneumococcal conjugate vaccine used in children, was routinely introduced in 2000; a randomized vaccine trial was ongoing among WMA children from 1997-2000. We aimed to characterize changes in the epidemiology of IPD among WMA since its routine introduction.

Methods: Active, laboratory, population-based surveillance is conducted for IPD among WMA tribal members of all ages. When cases are identified, the isolate is collected and serotyped, and demographic, clinical, medical risk factors and vaccine history documented. Annual IHS User Population statistics are used for denominators.

Results: From 2001-2004, a total of 56 IPD cases were detected compared with 62 between 1997-2000; among children < 5 yrs, there were 10 cases between '01-'04 vs. 19 between '97-'00; of these cases the proportion caused by the 7 vaccine serotypes decreased from 73% (8/11 in '97-'00) to 30% (3/10 in '01-'04). By contrast among those 18-<50 years the number of cases rose from 21 ('97-'00) to 32 ('01-'04); the proportion of these cases caused by the 7 vaccine serotypes also rose from 5% (1/18) to 26% (7/27). No changes in cases or serotype distribution were seen among those older than 50 years. Final rate data will be presented.

Conclusions: The introduction of Prevnar is having a significant effect of pediatric IPD disease burden, but no observed indirect effect among the adults.

- #46 **Impact of Heptavalent Pneumococcal Conjugate Vaccine on Invasive Disease, Antimicrobial Resistance and Colonization in Alaska Natives: Progress Towards Elimination of a Health Disparity**
Thomas W. Hennessy, Rosalyn Singleton, Lisa Bulkow, Dana S. Bruden, Deb Hurlburt, Deb Parks, Matt Moore, Alan Parkinson, Anne Schuchat, Jay Butler*

Background: Alaska Natives (AN) infants have had rates of invasive pneumococcal disease (IPD) 3.5 times higher than other infants in Alaska.

Methods: We used immunization data to determine pneumococcal conjugate vaccine (PCV7) uptake for AN. We used statewide laboratory-based surveillance to compare IPD rates and antimicrobial resistance before (1995-2000) and after (2001-2003) PCV7 introduction. We measured pneumococcal nasopharyngeal colonization before and after vaccine introduction in 3800 AN of all ages in eight rural Alaska villages and 603 urban children aged < 5 years.

Results: By 2003, 94% of AN 2 year-old children received >2 PCV7 doses. IPD rates due to PCV7 serotypes declined after vaccine introduction among children < 2 years for AN (91%, 275 to 25 per 100,000 per year, $P < 0.001$) and non-Natives (80%, 101 to 20 per 100,000 per year, $P < 0.001$). Among children aged < 2 years and all < 5 years, rates decreased for IPD nonsusceptible to penicillin, erythromycin, ceftriaxone and cotrimoxazole ($p < 0.001$ each). Colonization with vaccine serotypes decreased among AN children < 5 years for rural (prevaccine: 55% of colonized children, 2003: 11% of colonized) and urban children (prevaccine: 47%, 2003: 20%), ($P < 0.001$ for both).

Conclusions: Since PCV7 vaccine introduction there has been a dramatic decrease in vaccine-type IPD, antimicrobially-resistant IPD and vaccine-type pneumococcal colonization. This has eliminated a longstanding health disparity of vaccine-type IPD for AN children.

- #47 **Comparing Native American Leadership and Current Leadership Models in Nursing**
*Martha C. Baker**

Purpose: The purpose of this study was to compare Native American leadership and current leadership models in nursing. Native nurse leaders are most often taught from the dominant society leadership perspective in nursing schools and universities. Native nurses are not taught in nursing schools how to be a leader "in the Indian way"

Design: Qualitative design was used. Thirty interviews with Native American nurse leaders from different tribes were conducted over a one-year period. The data was analyzed utilizing content analysis to compare native nurse leadership with the dominant culture nurse leadership content.

Findings: Three concepts emerged from the data. The first concept is "being connected to the individual, family, and community as a native nurse leader." The second concept is "identifying what a native nurse leader is in Indian nursing." The third concept is "describing what a native nurse leader does to lead in Indian nursing." These are different than in current nursing leadership literature. Themes and stories from Indian nurse leaders are strikingly different than the dominant societal perspective

Discussion: Educating native nurses about native nurse leadership will assist them in understanding their unique leadership style and strengths which may lead to an increase in work effectiveness and therefore an improvement in the quality of patient care delivered to Native American nurses

- #48 **Acculturation & Cultural Adaptation Pain in Native American College Students and Alumni**
Alvina Cawston, Jacqueline Geddes, Theresa Martin, Gail Hicks*

Background: As part of a larger project on Native Americans in higher education, this portion of the project addresses the relationship between the acculturation process and mental health issues that result from experiences of racism. Using the Native American Acculturation Scale, we hypothesized that Native American students who are classified in the Traditional or Marginal categories of acculturation would demonstrate higher degrees of learned helplessness, cultural pain, and bigotry and lower levels of positive adaptation compared to students classified as Bi-cultural or Assimilated.

Methods: Data is collected through survey using the Native American Acculturation Scale, the Cultural Adaptation Pain Scale and a brief demographic survey. Additional demographic data is obtained by archival retrieval through the auspices of EWU Institutional Research.

Results: Correlations and t-tests are used to analyze data.

Conclusion: This data is beneficial in understanding the mental health of Native Americans in higher education, so that specialized strategies may be developed to improve the retention rate of Native American students.

#49 A Survey of the Aboriginal Health Specific Education in Paediatric Residency Programs in Canada
*David Goldfarb**

Background: Approximately 5% of Canadian children are of Aboriginal descent. This proportion is expected to rise over the next decade. Paediatricians must develop the skills, knowledge, and sensitivity to provide optimal care to this unique population. We describe the findings of a survey of Canadian Paediatric training programs to determine the formal education and research opportunities in Aboriginal specific health that currently exist.

Methods: A self-administered, 2-page electronic survey was developed. The survey included questions regarding direct and indirect educational opportunities about Aboriginal health as well as attitudes towards targeted Aboriginal health education. Content validity was achieved with review by experts in the area through the First Nations/Inuit Health Committee of the Canadian Paediatric Society. The survey was sent to program directors and resident representatives from the 16 Canadian Paediatric training programs. Data was analyzed using descriptive statistics.

Results: Responses came from > 80% of programs. More than 30 % of respondents reported that they had no Aboriginal health specific content as part of their formal education. More than 90 % of respondents reported that their programs would benefit from further formal education in Aboriginal health.

Conclusion: This survey identifies a marked deficit in Aboriginal health specific content in Paediatric education programs across Canada. Respondents identified this as an important area for further development. A formal Aboriginal health education curriculum should be developed, in partnership with Aboriginal communities, for use in Pediatric training programs.

#50 Pilot Trial of a Home-Based Intervention to Promote Parenting and Life Skills for American Indian Teen Parents
Allison Barlow, Elena Varipatis-Baker, Novalene Goklish, Pauline Fields, Brandi Cowboy, Kristen Speakman, Golda Ginsburg, John Walkup*

Background: This pilot study evaluated the feasibility and effectiveness of an empirically supported home-based intervention delivered by American Indian (AI) paraprofessionals to AI teen mothers. Outcomes included ratings of mother's parenting knowledge and skills; family conflict and cohesion; mother's access to community services; and mother's risks for emotional or behavioral problems.

Methods: Expectant mothers (n= 54) ages 12-20 were randomized to the intervention or a breast feeding education comparison group. The intervention condition included 42 sessions over the nine-month study period. Outcome assessments occurred at baseline (28 week gestation), and 2 and 6 months postpartum.

Results: The pilot intervention had a significant impact on parenting knowledge. Trends were noted for increased self-esteem and decreased depressive symptoms. No impact was identified on parenting skills, family conflict, access to community services and substance use.

Conclusions: AI paraprofessionals were successfully trained to deliver a structured educational intervention to high-risk expectant AI teen mothers targeting factors that predict better parenting and improved maternal and child outcomes. A larger randomized controlled trial of an enhanced version of this home visiting program is underway to determine short- and long-term impact of the intervention on maternal and child health and behavior outcomes.

#51 We Be Jammin' 4 Life: Using a Community Research-Service Approach to Make a Measurable Difference in Diabetes Risk Reduction
Thomas Siyuja, Jr., Laurie Crozier*, Helen J. Watahomigie*, Nicolette I. Teufel-Shone**

Community interventions oftentimes struggle to evaluate the impact of their efforts. Programs that lack evidence to demonstrate their effectiveness are often denied continued funding. In Indian Country, sustainability of effective health promotion programs should become as important as community ownership and cultural adaptation. The Youth Wellness Program, an intervention and research project of the Hualapai Tribal Nation, provides regular physical activity to youth in school and during school breaks. The program was designed and is implemented, evaluated and analyzed by a team of 3 community members and 1 university partner. The team combined their formative assessment of the community's perception of factors influencing youth wellness with their training in SPARK, Pathways and youth recreation to develop a program that fit the needs and perceptions of the youth, the school and the community. As a team, members formally and informally exchange their skills in social networking, political presentation, cultural integration, fitness and health assessment, and data analysis. This community research-service approach yields an intervention that serves the needs and interests of the community and produces scientifically credible results valuable for justifying the health impact of the program and requests for renewed funding. Using a pre/post-design, the YWP can demonstrate that youth participating their activities have significantly improved their fitness levels and have significantly improved their glucose/insulin index, reducing their risk of diabetes. Through cross training, this community-university team has demonstrated the contribution of that both community and science can make to the effectiveness and sustainability of health programs.

#52 **Diabetes and Current Smoking in Selected IHS Clinics, 1998-2003**
Deborah J. Morton, Mario D. Garrett, Deborah L. Wingard, Jennifer Reid*

Background: Smoking has been shown to complicate the management of Type II diabetes, is positively related to diabetic complications, and may be a cause of diabetes. In non-AI/AN groups, most studies have shown current smoking prevalence to be similar for those with or without diabetes. AI/AN data reporting diabetes status by current smoking are virtually non-existent.

Methods: Over 250 clinical variables were extracted from RPMS data (1998 to 2003) at eight IHS sites (total=5,257,086 visits). After consolidation into unique patient records, data cleanup, and exclusion for those under age 14, the final sample was 204,746 patients with information on both diabetes and current smoking.

Results: Cross-sectional results indicated those with diabetes were more likely to be current smokers than those without diabetes ($p < 0.05$ for overall total and all sites except White Earth). Moreover, at all sites combined a higher proportion of those with diabetes who currently smoked had hemoglobin A1c (HbA1c) values equal to or greater than 8.0, 46.4% ($p < 0.01$), compared with 42.7% of non-smokers. At each of the sites, except Sisseton, those with HbA1c values equal to or greater than 8.0 were more likely to be current smokers ($p < 0.05$ in Albuquerque, Cherokee, Hastings, and White Earth).

Conclusions: These results may partially reflect non-standardized clinical practices. Those with diabetes may simply be asked more often if they smoke. Nevertheless, these data indicate high rates of smoking among those with diabetes and among those with abnormal HbA1c. It is clear these results argue for an examination of the effect of this modifiable risk factor on the management of diabetes in AI/AN populations.

#53 **Health Knowledge and Behaviors of Elementary School Children in Eastern Oklahoma: The ONARCH School-Based Intervention Project**
Jennifer L. Witherspoon, Kathleen S. Blevins, Martha L. Stoddart, Wendy J. Jones, Sohail I. Khan, Tina M. Cooper, Johnnie M. Brasuell, J. Neil Henderson*

Background: This assessment determined the health knowledge and behaviors of elementary school children at risk for type 2 diabetes. **Methods:** Nine public elementary schools in eastern Oklahoma with large proportions of American Indian students were chosen in the Cherokee, Chickasaw, Creek and Choctaw Tribal Jurisdictional Service areas. A total of 224 students in these schools, whose parents provided informed consent, completed a student health questionnaire to measure their knowledge of diabetes risk factors, nutrition and food labels, and their exercise, dietary and health behaviors. One school in each area was selected as an intervention school; the others were designated control schools.

Results: While most (85%) students knew which foods were rich in vitamin C, protein and calcium, half were unable to interpret a food label or identify methods to reduce their risk of diabetes. More than half engaged in aerobic exercise 5 or more times a week, but most (around 70%) did strength and flexibility exercises no more than 3 to 4 times a week. Less than 12% reported eating fried foods five or more times during the week. However, less than half ate breakfast, less than 25% ate fruits and vegetables, and less than 40% consumed dairy products five or more times each week. No significant differences were seen in these behaviors between intervention and control school students.

Conclusions: Deficiencies in the students' health knowledge and behaviors support the need for a school health curriculum to teach the importance of healthy diets and lifestyles to reduce diabetes risk.

#54 **The Use of Alternative Medicine Approaches for the Treatment of Type 2 Diabetes Among Pascua Yaqui Community Members**
*Maria R. Garcia, J. Kristin Olson-Garewal, Christina E. Ore Giron, Mary C. Garcia, Candice Donald**

Background: The Pascua Yaqui Tribe research project for the American Indian Research Center for Health (AIRCH) represents a collaborative partnership between the Inter Tribal Council of Arizona, University of Arizona-Native American Research and Training Center. The purpose of this four year multiphase study is to investigate the role of alternative medicine approaches (including traditional healing practices) on diabetes management and quality of life for community members living with type 2 diabetes.

Methods: A community health survey was implemented to collect health status, access and utilization of health service data for users and non-users of the Alternative Medicine and Traditional Healing program. Interviews were conducted at randomly selected households within each of the tribal communities, rural and urban, from 2003 - 2004. Research assistants were trained to conduct the interviews and data analysis. SPSS© was used for the analysis.

Results: 206 surveys were collected and analyzed. The demographic make up of our sample consisted in more women than men, an age range of 24-46 and an understanding of their native language. Alternative Medicine and Traditional Healing program use ranged between traditional Yaqui healing, chiropractic care, naturopathic care, home remedies and acupuncture. Approximately one third of the sample used the program services.

Conclusions: The survey provided a characterization of our sample; the frequency, type, and reasons for the use and non-use of the Alternative Medicine and Traditional Healing Programs. Diabetes management and reasons for use and non use among community members with type 2 diabetes will be explored using chart audits and focus group methodology.

#55 **Barriers to Research Subject Recruitment in Salish Populations**
Rudolph C. Ryser, Leslie E. Korn, Connie McCloud*

Background: Salish peoples with territories in Canada and the United States share similar culture, recent history with non-Indian encounters and epistemology. These shared qualities directly influence individual and community responses to subject recruitment where individual health response is the focus of the inquiry. Polarity Therapy is a treatment modality that may contribute to the reduction of stress that is culturally similar to Salish healing methods. This two-year pilot study funded by the NIH National Center for Complementary and Alternative Medicine is recruiting up to 50 American Indian subjects living in south Puget Sound on and off Indian Reservations. During studies like this researchers encounter social resistance, cultural mismatches with research methods, historical research trauma, limited organizational and institutional knowledge of subject relationships, and other obstacles to recruitment.

Methods: Approaches to recruitment include direct informant recruitment, word-of-mouth, advertised (radio, television and newspaper) and institutionally aided recruitment. Careful choices of “community-based” terms of reference are employed to ensure accurate communications and to clearly state benefits to individuals and the community.

Results: Barriers to recruitment are based in historical, social, organizational, cultural and economic conditions. Direct informant and word-of-mouth methods increase levels of recruitment success by one-third.

Conclusions: The reduction or elimination of barriers to the recruitment of subjects depends on sustained and direct communications as an essential element to forming trusting relationships. Understanding appropriate subject recruitment approaches in Salish territories can improve the quality of tribally directed research and research initiated by outside institutions.

#56 **Recruitment For EARTH – A Longitudinal Study of Alaska Natives and American Indians**
*Vanessa Hiratsuka**

Purpose: Education and Research Towards Health (EARTH) is a prospective cohort study that is gathering information regarding diet, lifestyle, physical activity and other factors that influence Alaska Native and American Indian health. The purpose of this presentation is to describe the best methods for recruitment of Alaska Natives and American Indians living in the Anchorage area. Anchorage is an urban setting with a population of 277,000, 10% of whom are Alaska Native or American Indian.

Methods: To inform potential participants about the study, Southcentral Foundation has launched a variety of recruitment efforts within the Anchorage Native community. Radio and newspaper advertisements, informational booths and various other in-person efforts were initiated. At the first screening visit, each participant was asked how they heard about the study.

Results: This abstract includes results from the 450 participants who have enrolled since April 2004. Three hundred forty one (76%) of the participants are female. Forty-six percent of the participants said they found out about the study from study team members at a health fair or recruitment table at a community event; 32% by word of mouth; 9% by e-mail; 5% from a letter sent by the study program; 4% from a newspaper advertisement; 3% from a poster or flyer; and 2% from a radio advertisement.

Conclusion: Direct person-to-person contact is the most commonly reported way that participants learned of the study. Electronic mail, newspaper advertisements, posters or flyers, and radio advertisements were each mentioned by less than 10% of the participants. Tracking recruitment methods will help Southcentral Foundation focus future recruitment activities, as well as enhance the overall success of the study.

#57 **Community Consultation in Planning a Randomized Controlled Trial: Experience from Eeyou Istchee**
Rosamund Harrison, Jacques Veronneau, Juliana Snowboy-Matoush, Jill Torrie*

Background: The extent and severity of early childhood dental caries in First Nation children is alarming. A randomized controlled trial involving mothers and infants has begun in Eeyou Istchee, the Cree territory of James Bay, Quebec. This project will test the effectiveness of intensive, one-on-one preventive counseling. We will describe the community consultation undertaken prior to beginning the trial.

Methods: Over 2½ years, a series of consultations with community members occurred which included: a community-wide oral health survey of preschool children; meetings with parents, health care workers, and community committees; brochures distributed to residents to seek suggestions for a dental health intervention; community-wide radio programs explaining the implications of a controlled trial and a teleconference with 33 mothers about the intervention.

Results: 1079 Cree children were examined. Of 518 4 and 5 year-old children, 447(86.3%) had caries [defs, mean(S.D.), 18.7(19.3)]. The 9 Cree communities approved the trial which was understood to be a “learning experience”: some communities would be “test,” others would be “control.” The proposal was finally submitted for funding with 93 signed letters from community members. The designation of communities to “test” or “control” condition was decided in a raffle that was broadcast “live” over community radio. Our 5-year project has been funded by the Canadian Institute of Health Research (CIHR). The Project Manager from Eeyou Istchee has been hired; recruitment has begun.

Conclusions: Undertaking a lengthy consultation process that gives First Nations communities sufficient time for input is crucial to the successful funding and implementation of a randomized controlled trial.

#58 An Evaluation of Influenza and Pneumococcal Vaccination Coverage Data for American Indian/Alaska Native Adults 65 Years and Older

Amy Groom , Melissa Jim, James Cheek*

Background: Coverage data with influenza and pneumococcal vaccination for adults 65 years and older provide important information on prevention services. Most IHS and tribal sites use the Resource and Patient Management System (RPMS) to collect immunization information. Select information is then exported to the National Patient Information and Registration System (NPIRS). As IHS moves towards a more complete, centralized electronic data warehouse and incorporates the use of computer-generated reports to measure its performance, identifying issues that lead to incomplete and/or inaccurate electronic data is increasingly important.

Methods: A random sample of 623 patients 65 years and older was selected from 5 IHS Areas. Data contained in NPIRS, the local RPMS, and the patient medical chart on influenza and pneumococcal vaccine were examined for these patients. We also contacted patients who had no record of influenza and/or pneumococcal vaccination.

Results: We describe and quantify influenza and pneumococcal vaccination data not captured in the RPMS and NPIRS. We then compare coverage for influenza and pneumococcal vaccination using different data sources as follows: NPIRS only, NPIRS + local RPMS data, NPIRS + local RPMS + chart data, and NPIRS + local RPMS + chart + patient contact data. In addition, we examine codes used in RPMS and where influenza/pneumococcal vaccinations were recorded in the chart. Receipt of vaccinations outside the health care system is also quantified.

Conclusion: As IHS moves to a centralized electronic data warehouse and computer-generated performance reporting, ensuring that complete and accurate data is captured is essential to provide good patient care and improve preventive services.

#59 Beliefs Among White Mountain Apache People About Prevention Of Pneumococcal Disease Through Vaccination

Felicia Frizzell , Francene Larzalere-Hinton, Mariddie Craig, Lori Leonard, Raymond Reid, Mathuram Santosham, Katherine L. O'Brien*

Background: White Mountain Apache (WMA) adults suffer high rates of invasive pneumococcal disease in spite of a licensed vaccine (polysaccharide pneumococcal vaccine, PS23) for its prevention. This study aimed to learn about the barriers to vaccination among adult WMA who are at risk for pneumococcal infections due to their age (> 65 years) or because they have one or more chronic underlying conditions (e.g. chronic lung disease, diabetes, alcoholism). The study also aimed to provide information for developing interventions to promote PS23 vaccination among WMA adults.

Methods: We conducted ethnographic interviews with WMA adults who had an indication to receive PS23 vaccine. As part of a PS23 vaccine coverage study we reviewed their recorded PS23 vaccine status.

Results: We interviewed 40 individuals. 20.5% (8/39) of individuals had heard about PS23 vaccine. However, among 19 people asked about their actual vaccination status, 8 (42%) stated they had not received PS23 vaccine when their medical record showed that they had been vaccinated. The interviews also revealed little knowledge about PS23 vaccine recommendations.

Conclusions: A major barrier to effectively vaccinating adults at high risk for pneumococcal disease with PS23 is a lack of awareness of the vaccine and the disease. Most people do not accurately know their vaccine status with PS23, when the medical record is used as the gold standard. Interventions to improve the public knowledge about pneumococcal disease and its prevention may result in improved vaccine coverage, especially among the non-elderly at risk individuals.

#60 The International Circumpolar Surveillance System For Population-Based Surveillance Of Invasive Pneumococcal Disease, 1999-2003

Michael Bruce , Tammy Cottle, Debbie Parks, Shelley Deeks, Teresa Tam, Marguerite Lovgren, Louise Jette, Karl Kristinsson, Gudrun Sigmundsdottir, Knud Brinkløv Jensen, Oistein Lovoll, Pekka Nuorti, Elja Herva, Anders Koch, Tom Hennessy, Alan Parkinson*

Background: The International Circumpolar Surveillance (ICS) Project is a population-based surveillance network for invasive bacterial disease in Alaska, Northern Canada, Greenland, Iceland, Norway and Finland. Among circumpolar countries, the 7-valent conjugate vaccine (pcv7) has been used for routine infant immunization in Alaska since 2001 and in selected areas in Northern Canada since 2002.

Methods: We analyzed data on invasive pneumococcal disease (IPD) from Alaska and Northern Canada (1/99-12/03), and from Greenland, Iceland, Norway, Finland (1/00-12/03) to determine: 1) Common clinical syndromes, 2) Rates of disease by country, 3) Serotype distribution and 4) Antimicrobial susceptibility patterns.

Results: A total of 7,196 cases of laboratory-confirmed IPD were reported. Pneumonia (46%), septicemia (28%), and meningitis (8%) were the most common clinical presentations. Annualized rates of IPD (1999-2003) in indigenous peoples of Alaska and Northern Canada were 42 and 38 cases per 100,000 persons, respectively. Rates of IPD in children <2 years of age and persons >2 years of age ranged from 35-144 and 8-24 cases per 100,000 persons, respectively. In Alaska, the rate of IPD in children <2 with pcv7 serotypes declined by 85% after routine vaccination (vaccine coverage estimate: 86%). Rates of non-pcv7 serotypes in Alaska increased in children < 2 years of age (p=.06). The proportion of isolates fully-resistant to penicillin varied by country from <1% in Finland to 7.5% in Alaska.

Conclusions: Rates of IPD are high in aboriginals and children < 2 years of age residing in Arctic countries. After introduction of pcv7 in Alaska, rates of disease in children < 2 years of age with pcv7 serotypes rapidly declined; however, increasing rates of non pcv7 serotypes are concerning and merit further surveillance.