

THE STATE OF KNOWLEDGE OF ABORIGINAL HEALTH  
*A Review of Aboriginal Public Health in Canada*

ANNOTATED BIBLIOGRAPHY (2000-2009)

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# INTRODUCTION



This document forms a companion to *The State of Knowledge on Aboriginal Health: A Review of Aboriginal Public Health in Canada* and comprises annotations of the literature collected and used as the basis for discussions on Aboriginal health issues contained in Chapter 1 of this report.

This literature was published between January 1, 2000 and December 31, 2009, and includes both peer and non-peer reviewed literature in the areas of maternal, fetal and infant health; child health; communicable diseases; chronic diseases; childhood abuse/neglect; mental health and wellness; unintentional injuries and disability; environmental health; and food security and nutrition. The populations of interest included all Aboriginal groups in Canada (i.e., First Nations with status and without status, living on- and off-reserve, Inuit, Métis) of all ages (i.e., children, youth and adults).

Our search strategy was three-pronged. First, peer reviewed literature was identified through a search of eight scientific databases, including:

- PubMed
- EMBASE
- HealthSTAR
- PsycINFO
- Science Direct
- MEDLINE
- CINAHL
- Applied Social Sciences Index

In addition, four journals were hand-searched:

- Pimatisiwin – A journal of Indigenous and Aboriginal Community Health

- International Journal of Circumpolar Health
- Journal of Aboriginal Health
- Journal of the Canadian Paediatrics Society

Second, non-peer reviewed literature was identified through a search of the websites of selected government agencies, international organizations, national Aboriginal organizations, universities, and research centres, including:

- Health Canada
- Statistics Canada
- Indian and Northern Affairs Canada
- Public Health Agency of Canada
- World Health Organization
- United Nations
- UN Permanent Forum on Indigenous Issues
- Canadian Aboriginal AIDS Network
- National Aboriginal Health Organization
- Native Women's Association of Canada
- Aboriginal Healing Foundation
- Métis National Council
- National Association of Friendship Centres
- University of Manitoba
- University of Northern British Columbia
- University of British Columbia
- University of Saskatchewan
- University of Western Ontario
- National Collaborating Centre for Aboriginal Health
- Indigenous Peoples Health Research Centre

Search terms for the literature review included “Aboriginal,” “First Nations,” “Inuit” and “Métis”; “health”; and “Canada,” together with appropriate

health terms for each of the theme areas identified earlier. Excluded from this review are data pertaining to health policies, clinical health practices, issues related to the health care system (e.g., hospital wait times), primary care provider education, health care in the media, and health care research methodologies. Also excluded were qualitative studies, dissertations and editorials/commentaries. This is not a systematic review but should represent a fairly comprehensive review of the literature over this period.

This annotated bibliography is designed to be used as a supplementary resource for individuals who may be interested in reading further on a topic that may be of interest to them. Literature has been broadly categorized by the general theme areas employed in Chapter 1, however we have further sub-categorized the literature here so that it can be a more useful tool for readers. These sub-categorizations were generated through identification of predominant themes and health focus areas rather than by utilizing a systematic approach. All literature has been listed under only one subject area despite the fact that topics covered may ‘straddle’ more than one. For example, an article on children’s diabetes may be found under Chronic Disease or it may be found under Children’s Health. Readers who are interested in literature on a particular subject will need to refer to all areas that may be relevant.

We would like to acknowledge the work of the research team affiliated with the Effective Public Health Practice Project at McMaster University for compiling this annotated bibliography on our behalf.

## 1.0 Maternal, Fetal and Infant Health

The literature within this theme area focuses on Women's Health and Healthy Babies, which includes a subcategory specifically related to Fetal Alcohol Spectrum Disorder. The category of Women's Health focuses primarily on the health and well-being of expectant mothers and the importance of this for healthy infant development. This category may also include items of interest for women's health generally.

### 1.1 Women's health

**Aboriginal Women's Health and Healing Research Group. (2005).** Annotated bibliography of Aboriginal women's health and healing research. Vancouver, BC: University of British Columbia.

Provides a comprehensive interdisciplinary overview of the Canadian research literature on Aboriginal women, health and healing, and identifies gaps between existing research and community concerns as expressed by Aboriginal women. Covers a wide array of disciplines and fields of study, including social work, nursing, education, law, history, psychology, sociology and political science, as well as ethnic, Aboriginal/Native and women studies. Based on an analysis of all materials that could be retrieved via online periodical indexes, library catalogues and website searches, including journal articles, books, reports, theses, and governmental documents, as well as unpublished manuscripts. Particular effort was made to include graduate-level work and, where possible, project reports from completed research initiatives. International research was incorporated only if it included a focus on Canada; otherwise the emphasis is clearly on the Canadian research.

**Bowen, A., Stewart, N., Baetz, M., & Muhajarine, N. (2009).** Antenatal depression in socially high-risk women in Canada. *Journal of Epidemiology and Community Health*, 63, 414–6.

Study aimed to determine the prevalence and correlates of depression in socially high-risk, mostly Aboriginal pregnant women. Approached Aboriginal and non-Aboriginal women in two prenatal outreach programs and compared depressive symptoms between the two groups, using the Edinburgh Postnatal Depression Scale (EPDS).

**Grace, S.L. (2003).** A review of Aboriginal women's physical and mental health status in Ontario. *Canadian Journal of Public Health*, 94, 173–5.

Review of Aboriginal women's health status in Ontario, with particular focus on causes of mortality and morbidity – namely the incidence and prevalence of heart disease, diabetes, suicide, cancer,

depression, substance use, and family violence in comparison to women of Ontario more generally.

**Healey, G.K., & Meadows, L.M. (2007).** Inuit women's health in Nunavut, Canada: A review of the literature. *International Journal of Circumpolar Health*, 66, 199–214.

Review of literature on Inuit women's health issues, including government reports and statistics, publications by Inuit organizations and publications available on MEDLINE. Provides a social determinants of health and historical context for Inuit women's health and summarizes current literature in the areas of: sexual health, pregnancy, childbirth and adoption; alcohol and substance abuse; contaminants, diet and nutrition; tobacco consumption and effects; mental health, suicide and stress; violence and trauma; and risk factors for cardiovascular diseases and diabetes.

**Hudspith, M., & Perry, A. (2009).** Out in the cold: Barriers to health care for lesbians. Prince George, BC: Women North Network/Northern FIRE.

Participatory research project undertaken by a group of women based in both the community and the university. As background for the project, research associates provided critical discussions on health care issues faced by lesbians generally and the social context for lesbians in the north, specifically in Prince George.

**Johnston, G.M., Boyd, C.J., & MacIsaac, M.A. (2004).** Community-based cultural predictors of Pap smear screening in Nova Scotia. *Canadian Journal of Public Health*, 95, 95–8.

Uses community- rather than person-based measures to overcome the problem of Canadian provincial health databases not containing data fields identifying ethnicity or language. Reports associations with having had a recent Pap smear by community income, language, ethnic group, and urban/rural status, as well as the woman's age. Linked the provincial Health Card Number and Cytology Registries to ascertain the screening status of women in mainland Nova Scotia and Cape Breton. Linked postal codes to census enumeration areas and then to Statistics Canada census data to create community-based cultural measures for each woman.

**Klomp, H., Dyck, R.F., & Sheppard, S. (2003).** Description and evaluation of a prenatal exercise program for urban Aboriginal women. *Canadian Journal of Diabetes*, 27, 231–8.

Exercise has been shown to prevent type 2 diabetes mellitus and could play a role in the prevention and treatment of gestational diabetes mellitus (GDM). Describes the process and outcome of a prenatal exercise program for urban Aboriginal women in

Saskatoon. Developed a weekly fitness program with incentives aimed at accommodating the needs of the target population. Fifty-one percent of participants completed a program evaluation questionnaire.

**Lavallee, C., & Bourgault, C. (2000).** The health of Cree, Inuit and southern Quebec women: Similarities and differences. *Canadian Journal of Public Health*, 91, 212–6.

Examines the health characteristics of two populations of Aboriginal women of northern Quebec in comparison with those of women in the rest of the province, using data from a number of surveys conducted over the last 10 years by Santé Québec.

**Leslie, W.D., Metge, C.J., Weiler, H.A., Doupe, M., Wood, S.P., & O'Neil, J.D. (2006).** Bone density and bone area in Canadian Aboriginal women: The First Nations Bone Health Study. *Osteoporosis International*, 17, 1755–62.

Canadian Aboriginal women have a higher risk of fracture than the general population. Study to determine whether there is disproportionately reduced bone density in Aboriginal women as compared to white females of similar age. Recruited a random age-stratified (25–39, 40–59 and 60–75) sample of Aboriginal women (n = 258) and white women (n = 181). Performed calcaneus and distal forearm bone density measurements on all subjects, and measurements of the lumbar spine, hip and total body on urban participants (n = 397).

**Lix, L.M., Metge, C., & Leslie, W.D. (2009).** Measurement equivalence of osteoporosis-specific and general quality-of-life instruments in Aboriginal and non-Aboriginal women. *Quality of Life Research*, 18, 619–27.

Tested the measurement equivalence (i.e., invariance) of osteoporosis-specific and general health-related quality-of-life instruments in Canadian Aboriginal and non-Aboriginal women. Recruited a total of 258 Aboriginal and 181 non-Aboriginal women to the First Nations Bone Health Study from rural and urban sites in Manitoba. Trained interviewers administered the Medical Outcomes Study Short Form-36 and the mini-Osteoporosis Quality of Life Questionnaire to study participants. Adopted confirmatory factor analysis techniques to test hypotheses about four forms of invariance for the two groups, using likelihood ratio tests and other goodness-of-fit indices.

**MacMillan, H.L., Jamieson, E., Walsh, C.A., Wong, M.Y.Y., Faries, E.J., McCue, H., et al. (2008).** First Nations women's mental health: Results from an Ontario survey. *Archives of Women's Mental Health*, 11, 109–15.

Describes the mental health of First Nations women living on reserve in Ontario and compares these findings with results from the National Population Health Survey (NPHS). Reserve communities were randomly selected within urban, rural, remote and special access regions. Depression is measured by the Composite International Diagnostic Interview. Alcohol use and health services utilization questions were identical to those used in the NPHS.

Marchessault, G. (2004). Body shape perceptions of Aboriginal and non-Aboriginal girls and women in Southern Manitoba, Canada. *Canadian Journal of Diabetes*, 28, 369–79.

Cross-sectional, descriptive study using individual interviews, body shape line drawings and questionnaires to compare body shape perceptions and preferences of urban and rural Aboriginal and non-Aboriginal girls and women. Selected random or population samples of female students in grade 8, extrapolated to include their mothers, from the class lists of four schools: two in Winnipeg (suburb and inner city) and two in southern Manitoba (rural and First Nations communities). The inner city school (urban Aboriginal group) was supplemented with a snowball sample. Used a series of nine line drawings of female body shapes to assess participants' perceived, desired, most attractive and healthiest body shapes and to derive their body shape dissatisfaction. Also evaluated desire for weight change, dieting frequency and scores on the Eating Attitudes Test-26.

Native Women's Association of Canada. (2002). *Aboriginal women and health care in Canada*. Ottawa, ON: Author.

Submission to the Commission on the Future of Health Care in Canada. Examines the current health status of Aboriginal women within a holistic framework that acknowledges the impact of colonization and resultant socio-economic and health determinants, such as poverty, violence and substance abuse.

Native Women's Association of Canada. (2004). *Background document on Aboriginal women's health for the health sectoral session, following up to the Canada-Aboriginal Peoples Roundtable*. Ottawa, ON: Author.

Focuses on the health of Aboriginal women in Canada, a critical perspective that must be considered by all as Aboriginal leaders and First Ministers of Canada work together to develop a blueprint to improve the health status of Aboriginal peoples and health services in Canada.

Native Women's Association of Canada. (2007). *Social determinants of health and Canada's*

*Aboriginal women: NWAC's submission to the World Health Organization's Commission on the Social Determinants of Health*. Ottawa, ON: Author.

Prepared as a result of the Native Women's Association of Canada's belief that the specific views of Aboriginal women in Canada about the social determinants of their health, and potential solutions, need to be heard by the World Health Organization's (WHO) Commission on the Social Determinants of Health. Provides an overview of Aboriginal women's key understanding and experience of the main social determinants of health affecting them.

Northern Secretariat of the BC Centre of Excellence for Women's Health. (nd). *The determinants of women's health in northern rural and remote regions: Examples and recommendations from northern British Columbia*. Prince George, BC: BC Centre of Excellence for Women's Health, University of Northern British Columbia. Accessed February 21, 2011 from <http://www.unbc.ca/assets/northernfire/WmNorth.PDF>

Discusses the health of women who live in northern, remote and rural regions, using a social determinants approach. Draws from the work of northern researchers and the experience of a variety of women, to synthesize and articulate a clear statement about what it means for women to maintain their health in northern British Columbia, and offers recommendations for action to improve the conditions that often undermine it.

Shannon, K., Rusch, M., Shoveller, J., Alexson, D., Gibson, K., Tyndall, M.W., et al. (2008). Mapping violence and policing as an environmental-structural barrier to health service and syringe availability among substance-using women in street-level sex work. *International Journal of Drug Policy*, 19, 140–7.

Uses social mapping to explore how health service and syringe availability may be impacted at the geographic level by avoidance of physical settings due to violence and policing among women in street-level sex work. Through a community-based research partnership and extensive peer-led outreach over a six-month period, women were invited to participate in interview-questionnaires and mapping of their community, working conditions, and access to resources. Results were compiled using ArcGIS software and GIS street maps. In secondary analysis, used logistic regression to model the geographic association and ran stratified models to assess differential patterns of avoidance based on age, ethnicity and drug use.

Stout, M.D., Kipling, G.D., Stout, R., & Centres of Excellence for Women's Health Research

Synthesis Group (2001). *Aboriginal women's health research synthesis project: Final report*. Vancouver, BC: British Columbia Centre of Excellence for Women's Health, BC Women's Hospital and Health Centre. Retrieved from [http://www.cewh-cesf.ca/PDF/cross\\_cex/synthesisEN.pdf](http://www.cewh-cesf.ca/PDF/cross_cex/synthesisEN.pdf)

Review of the Aboriginal women's health initiatives undertaken or supported by the Centres of Excellence for Women's Health which identifies five principal theme areas: Aboriginal women's health status, violence and sexual abuse, substance abuse and maternal health, health-seeking behaviour, and access to services. Recommends that steps be taken to ensure that research methodologies are clearly articulated and respectful of Aboriginal women's multiple burdens; that attention be focused on groups of Aboriginal women whose needs and concerns have been under-represented in previous research; and that research initiatives be reflective of Aboriginal women's linguistic and cultural diversity. Other issues identified include the lack of sufficient funding to pursue Aboriginal women's health research, the need to ensure adequate and appropriate follow-up, the importance of giving Aboriginal women control over research that affects them, the need to enhance training and networking opportunities for Aboriginal women researchers, and the need to foster partnerships and collaboration with both Aboriginal and non-Aboriginal organizations.

## 1.2 Healthy babies

Berti, P.R., Rula Soueida, R., & Kuhnlein, H.V. (2008). Dietary assessment of Indigenous Canadian Arctic women with a focus on pregnancy and lactation. *International Journal of Circumpolar Health*, 67, 349–62.

Assesses the diet of Indigenous women, including pregnant and lactating women, in the Canadian Arctic in terms of dietary adequacy and contribution of traditional food to the diet. Utilized population-based cross-sectional design with 24 hour dietary recalls. Study highlighted inadequacies in certain minerals and vitamins but iron intake adequately met without supplements for most pregnant and lactating women.

Black, R., Godwin, M., & Ponka, D. (2008). *Breastfeeding among the Ontario James Bay Cree: A retrospective study*. *Canadian Journal of Public Health*, 99, 98–101.

Retrospective medical chart review of women who gave birth at the Weeneebayko General Hospital in Moose Factory, Ontario, in the seven-year period 1997 to 2003, in an effort to determine the reasons for low breastfeeding rates among the James Bay Cree of Northern Ontario, shown in



previous unpublished research. Assesses a variety of demographic variables, overall breastfeeding initiation rates and yearly variations.

Bowen, A., Bowen, R., Maslany, G., & Muhajarine, N. (2008). Anxiety in a socially high-risk sample of pregnant women in Canada. *Canadian Journal of Psychiatry*, 53, 435–40.

Study aimed to determine whether an anxiety dimension in the Edinburgh Postnatal Depression Scale (EPDS) could be identified in a sample of pregnant women with high social risk factors. Four hundred women attending prenatal outreach programs, most of whom were single, low-income and Aboriginal, participated in a study of feelings in pregnancy. The primary outcome measure was the EPDS. Data were also collected on socio-demographic, obstetrical-biological, psychological and behavioural variables.

Claydon, J.E., Mitton, C., Sankaran, K., Lee, S.K., & Canadian, N.N. (2007). Ethnic differences in risk factors for neonatal mortality and morbidity in the neonatal intensive care unit. *Journal of Perinatology*, 27, 448–52.

Study aimed to identify the risk factors for neonatal intensive care unit (NICU) mortality among Canadian-born minority infants and to determine whether ethnicity was in itself an independent predictor of mortality or major morbidity in the NICU. Gathered data prospectively on 6,528 infants admitted to nine regionally located NICUs across Canada. Multiple logistic regressions are used to develop risk-adjusted models for NICU mortality and major morbidity.

Couchie, C., Sanderson, S., & Society of Obstetricians and Gynaecologists of Canada. (2007). A report on best practices for returning birth to rural and remote Aboriginal communities. *Journal of Obstetrics & Gynaecology Canada*, 29, 250–60.

Reviews policies currently in place in Aboriginal communities that recommend evacuation of all pregnant women at 36 to 37 weeks' gestation to deliver in a Level 2 hospital, as opposed to allowing Aboriginal women, their families and their communities to decide whether it is safe and practical for women to deliver close to home.

Dooley, J., Kelly, L., St Pierre-Hansen, N., Antone, I., Guilfoyle, J., & O'Driscoll, T. (2009). Rural and remote obstetric care close to home: Program description, evaluation and discussion of Sioux Lookout Meno Ya Win Health Centre obstetrics. *Canadian Journal of Rural Medicine*, 14, 75–9.

Aboriginal and non-Aboriginal women in rural and remote settings struggle to access obstetric care close to home. The Sioux Lookout Meno Ya Win Health Centre obstetrics program delivers a full range of modern and safe obstetric care to 28 remote Aboriginal communities served by rural-based health care. Rural family physicians provide intrapartum, cesarean delivery and anesthesia services to rural, primarily Aboriginal women in a collegial, supportive environment.

Douglas, V.K. (2006). Childbirth among the Canadian Inuit: A review of the clinical and cultural literature. *International Journal of Circumpolar Health*, 65, 117–32.

Reviews the historical, anthropological and biomedical literature on childbirth among Canadian Inuit residents. The modern period is characterized by increased tension as southern intervention has replaced traditional birthing with a biomedical model and evacuation to metropolitan hospitals for birth. Inuit concern over the erosion of traditional culture has confronted biomedical concern over perinatal outcomes. Community birthing centres have been established in Nunavik and Nunavut in order to integrate traditional birthing techniques with biomedical support.

Douglas, V.K. (2006). Converging epistemologies: Critical issues in Canadian Inuit childbirth and pregnancy. *Alaska Medicine*, 49, 209–14.

Literature-based comparative historical study relates cultural beliefs and environmental issues surrounding pregnancy and childbirth among the Canadian Inuit to the critical issues facing maternal and child health in the Inuit population. Analyzed anthropological, historical, biomedical and first-person narratives to determine Inuit beliefs concerning pregnancy and childbirth, and then compared them with risk factors for Inuit maternal and child health identified in the biomedical literature.

Dzakpasu, S., Kaczorowski, J., Chalmers, B., Heaman, M., Duggan, J., Neusy, E. et al. (2008). The Canadian maternity experiences survey: Design and methods. *Journal of Obstetrics & Gynaecology Canada*, 30, 207–16.

The Maternity Experiences Survey (MES), an initiative of the Canadian Perinatal Surveillance System, aims to provide representative, pan-Canadian data on women's experiences during pregnancy, birth, and the early postpartum period. Survey was developed with input from a multidisciplinary study group, an extensive consultation process and two pilot studies. MES population consisted of birth mothers 15 years of age and over who had a singleton live birth in Canada during a three-month period

preceding the 2006 Census and who lived with their infants at the time of data collection; sample was drawn from the 2006 Census. Experiences of teenage, immigrant, First Nations, Inuit, and Métis mothers were of particular interest. A 45-minute interview was conducted at five to 14 months postpartum, primarily by telephone by female professional Statistics Canada interviewers.

Heaman, M.I., Gupton, A.L., & Moffatt, M.E. (2005). Prevalence and predictors of inadequate prenatal care: A comparison of Aboriginal and non-Aboriginal women in Manitoba. *Journal of Obstetrics & Gynaecology Canada*, 27, 237–46.

Describes and compares the prevalence and predictors of inadequate prenatal care among Aboriginal and non-Aboriginal women giving birth in Manitoba. Obtained data from interviews with 652 postpartum women who delivered a live singleton infant in two tertiary hospitals in Winnipeg. Identified inadequate prenatal care using the Kessner Adequacy of Prenatal Care Index. Used stratified analysis to describe effect-measure modification for predictors of inadequate prenatal care among the Aboriginal and non-Aboriginal subgroups. Also undertook a multivariable logistic regression analysis for the total sample.

Luo, Z.C., Kierans, W.J., Wilkins, R., Liston, R.M., Uh, S.-H., & Kramer, M.S. (2004). Infant mortality among First Nations versus non-First Nations in British Columbia: Temporal trends in rural versus urban areas, 1981–2000. *International Journal of Epidemiology*, 33, 1252–9.

Birth cohort-based study of all 877,925 live births (56,771 First Nations and 821,154 non-First Nations) registered in British Columbia, 1981–2000, to examine how disparities in infant mortality among First Nations and non-First Nations women have changed over time in urban and rural areas. Main outcomes include rates, risk differences, and relative risks of neonatal, postneonatal and overall infant death.

Luo, Z.C., Wilkins, R., Platt, R.W., & Kramer, M.S. (for the Fetal and Infant Health Study Group of the Canadian Perinatal Surveillance System). (2004). Risks of adverse pregnancy outcomes among Inuit and North American Indian women in Quebec, 1985–97. *Paediatric and Perinatal Epidemiology*, 18, 40–50.

Used Statistics Canada's linked stillbirth, live birth and infant death files to assess the risks of adverse pregnancy outcomes among Inuit and North American Indian compared with other ethnic women in Quebec for the period 1985–97.

Martin, J.D., & Uh, S.H. (2002). A vital statistics system for determining births and mortality in the First Nations population of British Columbia, Canada. *International Journal of Circumpolar Health*, 61, 92-97.

Describes a unique method for producing province-wide and selected regional birth and death statistics for the First Nations population. Identified births and deaths of persons with Indian Status in British Columbia, using three databases: the Vital Statistics Agency's database of births and deaths, the Department of Indian Affairs' Indian Status Verification File and the provincial health insurance plan's Status Indian Entitlement file.

Muckle, G., Ayotte, P., Dewailly, E., Jacobson, S.W., & Jacobson, J.L. (2001). Prenatal exposure of the northern Quebec Inuit infants to environmental contaminants. *Environmental Health Perspectives*, 109, 1291-9.

Reports the magnitude of prenatal exposure to environmental contaminants, such as polychlorinated biphenyls, methylmercury and lead, and to selective nutrients, in Inuit mothers and their newborns on the eastern Hudson Bay coast (Nunavik). Conducted interviews during the women's pregnancies and at 1 and 11 months postpartum and collected biological samples for mercury, lead, polychlorinated biphenyls (PCBs) and chlorinated pesticides analyses, as well as selenium and N-3 polyunsaturated fatty acids (n3-PUFA).

Muggah, E., Way, D., Muirhead, M., & Baskerville, B. (2004). Preterm delivery among Inuit women in the Baffin Region of the Canadian Arctic. *International Journal of Circumpolar Health*, 63, 242-7.

Evaluates the rate and causes of preterm (before 37 weeks gestation) and very preterm (before 32 weeks gestation) delivery among a population of Inuit living in Canada. Three-year retrospective cross-sectional review of charts for patients delivering in the Baffin Region.

National Aboriginal Health Organization. (2004). *Midwifery and Aboriginal midwifery in Canada*. Ottawa, ON: National Aboriginal Health Organization.

Discusses midwifery and examines the history of the profession in relation to Aboriginal and non-Aboriginal communities, in addition to describing the current status of midwifery in all jurisdictions of Canada.

National Aboriginal Health Organization. (2006). *Exploring models for quality maternity care in First Nations and Inuit communities: A preliminary needs assessment*. Ottawa, ON: Author.

Needs assessment of maternity care in the North. Focus group of 10 Inuit women in June 2004 in Iqaluit, supplemented by a questionnaire distributed to those participants who had given birth within the last three years. Analysis based on five complete questionnaires and telephone interviews with nine health care professionals (doctors, midwives, nurses and a prenatal worker) who have experience working within Inuit communities.

National Aboriginal Health Organization. (2008). *Celebrating birth: Exploring the role of social support in labour and delivery for First Nations women and families*. Ottawa, ON: Author.

Explores doula care for First Nations families. (Doulas provide emotional and social support for women in labour and postpartum, and work with the non-medical aspects of pregnancy and childbirth.) Divided into five sections: defining labour support; labour support as an evidence-based practice; an overview of First Nations experiences of maternity care, with emphasis on evacuation from rural and remote communities; how some of the gaps in maternity care can be addressed through doula care; initiatives across Canada relating to doula care and possible models that have the potential to improve First Nations maternity care.

Van Wagner, V., Epoo, B., Nastapoka, J., & Harney, E. (2007). Reclaiming birth, health, and community: Midwifery in the Inuit villages of Nunavik, Canada. *Journal of Midwifery & Women's Health*, 52, 384-91.

Describes the Inuulitsivik midwifery service and education program, an internationally recognized approach to returning childbirth to the remote Hudson coast communities of Nunavik, the Inuit region of Quebec, Canada. The service is seen as a model of community-based education of Aboriginal midwives, integrating both traditional and modern approaches to care and education.

Verrall, T., Napash, L., Leclerc, L., Mercure, S., & Gray-Donald, K. (2006). Community-based communication strategies to promote infant iron nutrition in northern Canada. *International Journal of Circumpolar Health*, 65, 65-78.

Evaluates innovative communication strategies promoting iron nutrition for infants at risk for iron deficiency anemia in a northern Aboriginal community. Used a social marketing approach in the development, implementation and evaluation of the communication strategies. Administered a post-intervention questionnaire to a sample (n = 45) to evaluate reach and exposure of the strategies, and examined sales of iron-rich infant foods pre- and post-intervention.

Wagner, V., Epoo, B., Mastapoka, J., & Harney, E. (2007). Reclaiming birth, health, and community: Midwifery in the Inuit villages of Nunavik, Canada. *Journal of Midwifery & Women's Health*, 52, 384-91.

Describes the Inuulitsivik midwifery service and education program, an internationally recognized approach to returning childbirth to the remote Hudson coast communities of Nunavik. The service is seen as a model of community-based education of Aboriginal midwives, integrating both traditional and modern approaches to care and education.

Wenman, W.M., Joffres, M.R., Tataryn, I.V., & Edmonton Perinatal Infections Group. (2004). A prospective cohort study of pregnancy risk factors and birth outcomes in Aboriginal women. *Canadian Medical Association Journal*, 171, 585-9.

Compares prenatal risk factors and birth outcomes of First Nations and Métis women with those of other participants in a prospective study. During the 12-month period from July 1994 to June 1995, expectant mothers in all obstetric practices affiliated with a single teaching hospital in Edmonton were invited to participate. Women were recruited at their first prenatal visit and followed through delivery. Obtained socio-demographic and clinical data by means of a patient questionnaire, and collected microbiological data at three points during gestation: in the first and second trimesters and during labour.

Willows, N.D., & Gray-Donald, K. (2002). Blood lead concentrations and iron deficiency in Canadian Aboriginal infants. *Science of the Total Environment*, 289, 255-60.

Screened nine-month-old Aboriginal Cree infants living in northern Quebec for anemia, iron deficiency and elevated blood lead concentrations. The article also attempted to compare the blood lead, hemoglobin, and serum ferritin concentrations of infants who ate traditional foods with those that did not in order to identify if there were any correlations.

## 1.2.1 Fetal Alcohol Spectrum Disorder

Buell, M., Carry, C., Korhonen, M., & Anawak, R. (2006). *Fetal alcohol spectrum disorder: An environmental scan of services and gaps in Inuit communities*. Ottawa, ON: National Aboriginal Health Organization.

Environmental scan and two extensive literature reviews of mainstream and Inuit-specific resources on fetal alcohol spectrum disorder, conducted by the Ajuunginiq Centre. Presents a snapshot of services available in Inuit communities and gaps in services for Inuit at that time.

Chudley, A. E., Conry, J., Cook, J. L., Looock, C., Rosales, T., & Leblanc, N. (2005). Fetal alcohol spectrum disorder: Canadian guidelines for diagnosis. *Canadian Medical Association Journal*, 175, 1–21.

Reviews and clarifies the use of current diagnostic systems and makes recommendations on their application for diagnosis of FASD-related disabilities in people of all ages. Guidelines are based on widespread consultation with expert practitioners and partners in the field. Organized into seven categories: screening and referral; the physical examination and differential diagnosis; the neurobehavioural assessment; treatment and follow-up; maternal alcohol history in pregnancy; diagnostic criteria for fetal alcohol syndrome (FAS), partial FAS and alcohol-related neurodevelopmental disorder; and harmonization of Institute of Medicine and 4-Digit Diagnostic Code approaches. First Canadian guidelines for the diagnosis of FAS and its related disabilities, developed by broad-based consultation among experts in diagnosis.

Masotti, P., George, M.A., Szala-Meneok, K., Morton, A.M., Looock, C., Van Bibber, M., et al. (2006). Preventing fetal alcohol spectrum disorder in Aboriginal communities: A methods development project. *PLoS Medicine*, 3, 24–9.

Describes a three-year project working collaboratively with Aboriginal communities to prevent fetal alcohol spectrum disorder.

Premji, S., Benzies, K., Serrett, K., & Hayden, K.A. (2006). Research-based interventions for children and youth with a Fetal Alcohol Spectrum Disorder: Revealing the gap. *Child: Care, Health and Development*, 33, 389–97.

Systematic review to identify research-based interventions for children and youth with a fetal alcohol spectrum disorder and areas for future study. Identified the substantive literature by searching 40 peer-reviewed and 23 grey literature databases, as well as reference lists; hand-searched eight relevant journals; and undertook a systematic search of Internet sites and review of reports and documents received from key stakeholders. Two reviewers independently assessed eligibility and quality, and extracted data.

Public Health Agency of Canada. (2005). Fetal Alcohol Spectrum Disorder: Knowledge and attitudes of health professionals about fetal alcohol syndrome; Results of a national survey. Ottawa, ON: Author. Retrieved from [http://www.phac-aspc.gc.ca/publicat/fasd-surv-etcaf-enquete/pdf/fasd-surv-etcaf-enquete-2005\\_e.pdf](http://www.phac-aspc.gc.ca/publicat/fasd-surv-etcaf-enquete/pdf/fasd-surv-etcaf-enquete-2005_e.pdf)

Results from a survey of Canadian health care professionals (a random sample of 5,361

paediatricians, psychiatrists, obstetricians and gynaecologists, midwives and family physicians) to determine knowledge of and attitudes toward Fetal Alcohol Syndrome (FAS) and alcohol use during pregnancy. Study methodology and questionnaire were developed after consultation with stakeholder groups and clinical experts, including the Health Canada National Advisory Committee on FASD and representatives from the Canadian Paediatric Society, the Canadian Psychiatric Association, the Society of Obstetricians and Gynaecologists of Canada, the College of Family Physicians of Canada and the National Association of Midwives, as well as international experts.

Tait, C.L. (2003). Fetal Alcohol Syndrome among Aboriginal people in Canada: Review and analysis of the intergenerational links to residential schools. Ottawa, ON: Aboriginal Healing Foundation. Retrieved from [http://www.nfhs-pg.org/fasd-toolkit/For%20Service%20Providers/fetal\\_alcohol\\_syndrome.pdf](http://www.nfhs-pg.org/fasd-toolkit/For%20Service%20Providers/fetal_alcohol_syndrome.pdf)

Fetal alcohol syndrome and alcohol-related birth effects are examined in light of current discussions that identify intergenerational effects that are linked to, or are a result of, the residential school system.

## 2.0 Healthy Development of Children and Youth

The literature within this theme area has been organized into the following categories: Healthy Bodies, Childhood Illnesses, Early Childhood Development, Oral Health, Hearing, Child Welfare, and Youth Welfare. Healthy Bodies includes literature related to nutrition, physical activity, obesity, health promotion, and child health generally. Childhood Illnesses contains literature that relates to infectious diseases, respiratory illnesses, and immunization. Early Childhood Development focuses on early learning and care. Child and Youth Welfare contains literature which pertains to child hunger, homelessness and children in protective services.

### 2.1 Healthy bodies

Adams, A., Receveur, O., Mundt, M., Paradis, G., & Macaulay, A.C. (2005). Healthy lifestyle indicators in children (grades 4 to 6) from the Kahnawake Schools Diabetes Prevention Project. *Canadian Journal of Diabetes*, 29, 403–9.

Assesses the relationships among healthy lifestyle indicators in children (grades 4 to 6) participating in the Kahnawake Schools Diabetes Prevention Project.

Arbour, L., Christensen, B., Delormier, T., Platt, R., Gilfix, B., Forbes, P., et al. (2002). Spina bifida, folate metabolism, and dietary folate intake in

a Northern Canadian Aboriginal population. *International Journal of Circumpolar Health*, 61, 341–51.

Case-control study evaluates folate metabolism and the common 677C-T polymorphism of the gene for methylenetetrahydrofolate reductase (MTHFR) in mothers of children with spina bifida and controls (n = 23) of Cree descent from the Eastern James Bay region, comparing results to a similar Montreal cohort (n = 152) who were not of First Nations descent.

Christofides, A., Schauer, C., & Zlotkin, S.H. (2005). Iron deficiency anemia among children: Addressing a global public health problem within a Canadian context. *Journal of Paediatrics and Child Health*, 10, 597–601.

Discusses iron deficiency anemia (IDA) as a significant public health problem in Canadian Aboriginal communities. Whereas the prevalence of IDA in Canadian children is between 3.5% and 10.5% in the general population, in two Northern Ontario First Nations communities and one Inuit community, the anemia rate was 36%, with 56% having depleted iron stores. Traditional methods of preventing IDA, including targeted fortification, dietary diversification and supplementation, have not solved the problem. Sprinkles – single-dose sachets containing micronutrients in a powder form, which are easily sprinkled onto any foods prepared in the household – have been shown to be efficacious in the treatment of anemia in many developing countries. Article describes the use of Sprinkles in Aboriginal communities to treat and prevent anemia, and the potential benefits of incorporating Sprinkles into Health Canada's current distribution system, in combination with a social marketing strategy to encourage their use.

Conroy, S., Ellis, R., Murray, C., & Chaw-Kant, J. (2007). An integrative review of Canadian childhood obesity prevention programmes. *Obesity Reviews*, 8, 61–7.

Integrative review of the literature from 1980 to September 2005, to examine successful Canadian nursing and health promotion intervention programs for childhood obesity prevention during gestation and infancy. Used PubMed, Cochrane Database of Systematic Reviews, Cochrane Controlled Trials Register, Database of Abstracts of Reviews of Effects, ACP Journal Club, MEDLINE, EMBASE, CINAHL, Web of Science, Scopus, Sociological Abstracts, Sport Discus, PsycINFO, ERIC, and HealthStar databases. MeSH headings included infancy (0–24 months), gestation, gestational diabetes, nutrition, prenatal care, pregnancy, health education, pregnancy outcome, dietary services with limits of Canadian, and term birth.



Hanley, A.J.G., Harris, S.B., Gittelsohn, J., Wolever, T.M.S., Saksvig, B., & Zinman, B. (2000). Overweight among children and adolescents in a Native Canadian community: Prevalence and associated factors. *American Journal of Clinical Nutrition*, 71, 693–700.

Evaluates the prevalence of pediatric overweight and associated behavioural factors in a Native Canadian community with high rates of adult obesity and type 2 diabetes mellitus. Measured height and weight in 445 children and adolescents aged 2–19. Assessed fitness level, television viewing, body image concepts, and dietary intake in 242 subjects aged 10–19. Used multiple logistic regression to examine factors associated with overweight, with adjustment for age and sex.

Jenkins, A.L., Gyorkos, T.W., Culman, K.N., Ward, B.J., Pekles, G.S., & Mills, E.L. (2003). An overview of factors influencing the health of Canadian Inuit infants. *International Journal of Circumpolar Health*, 62, 17–39.

Examines the health status of Inuit infants, with a focus on Canadian Inuit communities and reference to other circumpolar regions, as appropriate. Based on a MEDLINE search (1965 to present), special analyses of the 1996 Canadian Census and various national surveys, and selected government reports and documents.

Levesque, L., Cargo, M., & Salsberg, J. (2004). Development of the physical activity interactive recall (PAIR) for Aboriginal children. *International Journal of Behavioral Nutrition and Physical Activity*, 1, 8.

Ancillary study of the ongoing Kahnawake Schools Diabetes Prevention Project (KSDPP). Developed a culturally appropriate interactive computer program to self-report physical activity for Kanien'keha:ka (Mohawk) children that could be administered in a group setting. During Phase I, conducted focus groups to understand how children describe and graphically depict type, intensity and duration of physical activity. Sixty-six students (40 girls, 26 boys, mean age = 8.8 years) from four elementary schools in three eastern Canadian Kanien'keha:ka communities participated in 15 focus groups. Children were asked to discuss and draw about physical activity. Content analysis of focus groups informed the development of a school-day and non-school-day version of the physical activity interactive recall (PAIR). In Phase II, conducted pilot tests in two waves with 17 and 28 children respectively to assess the content validity of PAIR. Used observation, videotaping, and interviews to obtain children's feedback on PAIR content and format.

National Council of Welfare. (2007). *First Nations, Métis and Inuit children and youth: Time to act*. Ottawa, ON: Author.

Provides a portrait of Aboriginal peoples from the perspective of the communities and social connections on which children and youth depend. Also provides examples of what is working and recommendations for the way forward.

Native Women's Association of Canada. (2003). *Aboriginal children living off-reserve: Ages 0–6 years*. Ohsweken, ON: Six Nations of Grand River.

Submission to the Subcommittee on Children and Youth at Risk of the Standing Committee on Human Resources Development and the Status of Persons with Disabilities, in Phase 2 of the ongoing study of Aboriginal children in Canada.

Reading, J., Ritchie, A.J., Victor, J.C., & Wilson, E. (2005). Implementing empowering health promotion programmes for Aboriginal youth in two distinct communities in British Columbia, Canada. *Promotion & Education*, 12, 62–5.

This article presents a method used in two Aboriginal communities to improve health among children aged six to ten. The programme spanned a three year period (1996-1999) and provided qualitative and quantitative measures of health indicators, as well as several non-measurable indicators of progress. The method is community-based and helps to strengthen the capacity of communities to identify health and well-being health promotion priorities.

Saksvig, B.I., Gittelsohn, J., Harris, S.B., Hanley, A.J., Valente, T.W., & Zinman, B. (2005). A pilot school-based healthy eating and physical activity intervention improves diet, food knowledge, and self-efficacy for native Canadian children. *Journal of Nutrition*, 135, 2392–8.

Reports the results of the Sandy Lake school-based diabetes prevention program, a culturally appropriate intervention for Ojibway-Cree students in grades 3, 4 and 5, in changing dietary intake behaviours and related psychosocial factors. Physical activity results are not included. Pretest/post-test, single-sample design conducted during the 1998/99 school year.

Saylor, K. (2005). Risk reduction for type 2 diabetes in Aboriginal children in Canada. *Journal of the Canadian Paediatric Society*, 10, 49–57.

Provides a brief summary of the issue of the rising rates of type 2 diabetes in Aboriginal children and some of the initiatives currently underway in Aboriginal communities, and offers recommendations.

Shephard, R.J. (2007). Fitness of Canadian children: Range from traditional Inuit to sedentary city dwellers, and assessment of secular changes. *Medicine and Sport Science*, 50, 91–103.

Large amounts of motor performance test data have been collected in Canada, as in Europe and other countries, but even where representative population samples have been selected, interpretation of the findings is difficult, and most conclusions remain tenuous. In 1970, the fitness levels of urban children were substantially inferior to that of Inuit students, living in the high arctic and practicing a traditional, physically active lifestyle. However, by 1990, Inuit children had adopted many of the sedentary habits typical of Canadian city dwellers, and had lost much of their previous advantage. At present, Canadian students seem to be somewhat more fit than those in the US, but less fit than their peers in some European countries. Nevertheless, international comparison of Canadian data is currently hampered by differences in measurement techniques and failure of many investigators to test representative population samples.

Smylie, J., Adomako, P., Crengle, S., Freemantle, J., Gallaheer, G., McAullay, D., et al. (2009). *Indigenous children's health report: Health assessment in action*. Ottawa, ON: First Nations and Inuit Health Branch, Health Canada.

Documents what we know about the health of Indigenous children (from birth to age 12) and evaluates the quality of Indigenous child health data collection in Canada, Australia, New Zealand and the United States.

Taylor, J.P., Timmons, V., Larsen, R., Walton, F., Bryanton, J., Critchley, K., et al. (2007). Nutritional concerns in Aboriginal children are similar to those in non-Aboriginal children in Prince Edward Island, Canada. *Journal of the American Dietetic Association*, 107, 951–5.

Assesses food consumption among Aboriginal children living on Mi'kmaq reserves in Prince Edward Island. Data were collected as part of a larger study of health perceptions and behaviours in Mi'kmaq children and youth ages 1-18 years. Assessed food consumption among 55 children aged 9-18 living on a reserve, using a self-administered food frequency questionnaire during an in-home interview. Calculated the number of servings of milk products, vegetables and fruit, and snack foods/beverages by adding the responses to the frequency of consumption of foods assessed in each group. Used chi-squared analysis to assess differences in food consumption according to sex and age.



Willows, N.D. (2005). Overweight in First Nations children: Prevalence, implications, and solutions. *Journal of Aboriginal Health*, 2, 76–86.

Reviews the research published since 1990 on the rate of overweight and obesity and associated risk factors in Aboriginal children living in Canada and the United States. Also outlines areas of research that are required to develop effective interventions against obesity in Aboriginal communities.

Young, T. K., Dean, H. J., Flett, B., & Wood-Steiman, P. (2000). Childhood obesity in a population at high risk for type 2 diabetes. *Journal of Pediatrics*, 136, 365–9.

Study to determine the prevalence of obesity and investigate its association with fasting glucose and insulin among children and adolescents in a population at high risk for type 2 diabetes. Cross-sectional screening survey involving anthropometry and fasting serum levels of glucose and insulin, in a remote Aboriginal (Ojibwa-Cree) community in northern Manitoba. All children aged 4–19 in the community were invited to participate, with a response rate of 82% (n = 719).

## 2.2 Childhood illnesses

Gao, Z., Rowe, B.H., Majaesic, C., O'Hara, C., & Senthilselvan, A. (2008). Prevalence of asthma and risk factors for asthma-like symptoms in Aboriginal and non-Aboriginal children in the northern territories of Canada. *Canadian Respiratory Journal*, 15, 139–45.

Study to determine the prevalence of asthma and asthma-like symptoms, as well as the risk factors for asthma-like symptoms, in Aboriginal and non-Aboriginal children living in the northern territories of Canada. Used data on 2,404 children, aged 0-11 years, who participated in the North component of the National Longitudinal Survey of Children and Youth. A child was considered to have an asthma-like symptom if there was a report of ever having had asthma, asthma attacks or wheeze in the previous 12 months.

Jenkins, A.L., Gyorkos, T.W., Joseph, L., Culman, K.N., Ward, B.J., Pekeles, G.S., et al. (2004). Risk factors for hospitalization and infection in Canadian Inuit infant over the first year of life: A pilot study. *International Journal of Circumpolar Health*, 63, 61–70.

Describes hospitalization and morbidity patterns in a cohort of 46 healthy Inuit infants from Iqaluit, Nunavut, over their first year of life. Assessed risk factors for hospitalization and infections using multiple linear regression.

Lemstra, M., Neudorf, C., Opondo, J., Toye, J., Kurji, A., Kunst, A., et al. (2007). Disparity in childhood immunizations. *Journal of Paediatrics and Child Health*, 12, 847–52.

Study to determine whether child immunization coverage rates at two years of age were lower in low-income neighbourhoods of Saskatoon. Contacted parents who were and were not behind in child immunization coverage to determine differences in knowledge, beliefs and opinions on barriers and solutions. Designed a multivariate regression model to determine whether Aboriginal cultural status was associated with being behind in childhood immunizations after controlling for low-income status.

Rempel, G.R., Borton, B.L., & Kumar, R. (2006). Aspiration during swallowing in typically developing children of the First Nations and Inuit in Canada. *Pediatric Pulmonology*, 41, 912–5.

Presents a retrospective case series of seven typically developing First Nations and Inuit children in whom aspiration during swallowing was detected in the course of investigating associations with recurrent lower respiratory tract infections. None of the children had any of the known risk factors for aspiration during swallowing such as developmental variation, prematurity, neuromotor problems, or anatomic abnormalities of the upper aerodigestive tract. Authors speculate that aspiration during swallowing in typically developing children may be an important, previously unrecognized co-factor in the occurrence of lower respiratory tract infections, particularly in First Nations and Inuit communities.

Sin, D.D., Sharpe, H.M., Cowie, R.L., Man, S.F.P., Andrews, E., Bell, N., et al. (2004). Spirometric findings among school-aged First Nations children on a reserve: A pilot study. *Canadian Respiratory Journal*, 11, 45–8.

Pilot study to determine the prevalence of impaired lung function in school-aged First Nations children. In a First Nations community in northern Alberta, consent forms and a school health survey were completed by parents or guardians, and children with consent completed spirometry at school. Results were compared with predicted values.

## 2.3 Early childhood development

Child and Youth Officer for British Columbia. (2005). Healthy early childhood development in British Columbia: From words to action. Highlights from the Healthy Child BC Forum, Richmond, BC, November 2004. Retrieved from [http://www.rcybc.ca/Groups/Archived%20Reports/cyo\\_edc\\_report.pdf](http://www.rcybc.ca/Groups/Archived%20Reports/cyo_edc_report.pdf)

Highlights the reflections arising from the Healthy Child BC Forum held in November 2004, which was attended by international experts on child health and early childhood development, and practitioners and policy-makers from across British Columbia. Report also includes the Child and Youth Officer's recommendations, based not only on those reflections, but also on numerous studies, plans and reports, as well as on discussions with policy-makers, service providers and advocates.

Greenwood, M. (2005). Children as citizens of First Nations: Linking Indigenous health to early childhood development. *Journal of Paediatrics and Child Health*, 10, 553–5.

Explores the link between the growth and development of Aboriginal children and Indigenous health and well-being, in the context of Shuswap Elder Mary Thomas's observation that "children are the future" of Aboriginal peoples. While deceptively straightforward, this observation has important health implications, particularly when Indigenous health is understood within the context of the Ottawa Charter for Health Promotion (1986) and of subsequent realizations both that health encompasses much more than biomedical concerns and that considering health holistically is a cost-effective practice.

Greenwood, M. (2006). Children are a gift to us: Aboriginal-specific early childhood programs and services in Canada. *Canadian Journal of Native Education*, 29, 12–28.

Examines the political and policy contexts of programs developed over several decades and looks at some recent initiatives.

Statistics Canada, Social and Aboriginal Statistics Division. (2008). *Aboriginal Children's Survey, 2006: Family, community and child care*. Ottawa, ON: Author.

Using data from the 2006 Aboriginal Children's Survey and the 2006 Census, report examines family, community and child care of Aboriginal (off-reserve First Nations, Métis and Inuit) children under six years of age. Explores issues such as family characteristics (size of families, age of parents, living with grandparents, persons involved in raising young Aboriginal children, Aboriginal children living in low-income economic families), feelings about community, cultural activities and child care arrangements. Divided into three parts – First Nations children living off reserve, Métis children, and Inuit children – the report is a starting point for understanding the social and living conditions in which young Aboriginal children are learning and growing.

### 2.3.1 Oral health

Brothwell, D. & Ghiabi, E. (2009). Periodontal health status of the Sandy Bay First Nation in Manitoba, Canada. *International Journal of Circumpolar Health*, 68, 23–33.

Cross-sectional study based on face-to-face interviews with and oral examinations of a convenience sample of 107 individuals, to determine the distribution and determinants of periodontal health in adult members of the Sandy Bay First Nation in Manitoba.

Lawrence, H.P., Romanetz, M., Rutherford, L., Cappel, L., Binguis, D., & Rogers, J.B. (2004). Effects of a community-based prenatal nutrition program on the oral health of Aboriginal preschool children in northern Ontario. *Probe*, 38, 172.

Evaluates the effectiveness of the dental hygiene-coordinated prenatal nutrition program, delivered by community-based nutrition educators on First Nations reserves located in the Sioux Lookout Zone (Northwestern Ontario), in terms of parents/caregivers' beliefs and behavioural decisions related to dental preventive practices and feeding habits of young children; oral health status and treatment needs of those children; and early childhood obesity. Cross-sectional oral health surveys of Anishnaabe 2-5-year-olds conducted in 2001 and 2002 in 16 communities, with eight communities classified as "high" intervention and eight as "low" intervention based on frequency of contact and content of contact between nutrition educators and prenatal women. Trained and calibrated dental hygienists examined children for dental caries and oral hygiene and measured height and weight. Used a questionnaire to assess caregiver knowledge, beliefs and practices in relation to the oral health of the child.

Lawrence, H.P., Binguis, D., Douglas, J., McKeown, L., Switzer, B., Figueiredo, R., et al. (2008). A 2-year community-randomized controlled trial of fluoride varnish to prevent early childhood caries in Aboriginal children. *Community Dentistry and Oral Epidemiology*, 36, 503–16.

Measured the effectiveness of fluoride varnish and caregiver counselling in preventing early childhood caries in Aboriginal children in a two-year community-randomized controlled trial. Twenty First Nations communities in the Sioux Lookout Zone, Northwest Ontario, were randomized to two study groups. All caregivers received oral health counselling, while children in one group received fluoride varnish twice per year and the controls received no varnish. A total of 1,275 children, aged 6 months to 5 years were enrolled. Recruited a

convenience sample of 150 primarily non-Aboriginal children of the same age from the neighbouring community of Thunder Bay to use as comparisons. Calibrated hygienists conducted longitudinal examinations for the dmft/s indices in 2003, 2004 and 2005.

Macnab, A.J., Rozmus, J., Benton, D., & Gagnon, F.A. (2008). 3-year results of a collaborative school-based oral health program in a remote First Nations community. *Rural and Remote Health*, 8, 882.

Cross-sectional study of all school-aged children in a small, remote First Nations community that requested assistance in addressing the oral health of their children. Program aimed to improve oral health and knowledge among school children, with the expectation that after three years there would be a significant decrease in dmft/DMFT (primary/permanent) score. Intervention consisted of a school-based program with daily brush-ins, fluoride application, educational presentations, and a recognition/incentive scheme. Pre- and post-intervention evaluation of oral health was conducted by a dentist not involved in the study.

Peressini, S., Leake, J.L., Mayhall, J.T., Maar, M., & Trudeau, R. (2004). Prevalence of dental caries among 7- and 13-year-old First Nations children, District of Manitoulin, Ontario. *Journal Canadian Dental Association*, 70, 382.

Identifies the prevalence of dental caries in children aged 7 and 13 years and compares these data with published data for the same age groups from other First Nations communities in Canada. All children 7 or 13 years of age who were in elementary schools on a reserve in seven First Nations communities were eligible for a dental health examination as part of the survey. Children attending school off the reserve in six of the communities were also eligible.

Peressini, S., Leake, J.L., Mayhall, J.T., Maar, M., & Trudeau, R. (2004). Prevalence of early childhood caries among First Nations children, District of Manitoulin, Ontario. *International Journal of Paediatric Dentistry*, 14, 101–10.

Study to determine the prevalence of early childhood caries (ECC) and dental caries in the First Nations population of 3- and 5-year-old children in the District of Manitoulin, Ontario, to assist in developing effective dental health promotion strategies. All 3- and 5-year-old children in elementary schools and day-care centres in seven First Nation communities were eligible for the survey examination. Three-year-old children at home and five-year-old children attending school off-reserve in six of the communities were also eligible for epidemiological survey examination of oral health

status, including caries, gingival and soft tissue conditions.

Schroth, R.J., Brothwell, D.J., & Moffatt, M.E. (2007). Caregiver knowledge and attitudes of preschool oral health and early childhood caries (ECC). *International Journal of Circumpolar Health*, 66, 153–67.

Reports caregiver knowledge and attitudes toward preschool oral health and early childhood caries from four communities in Manitoba. Cross-sectional study, with children and their main caregivers as the sample. Preschoolers underwent a comprehensive dental screening, while caregivers completed a questionnaire that explored knowledge and attitudes toward preschool dental health. Caregiver responses were matched with findings from each child's examination.

### 2.3.2 Hearing

Bowd, A.D. (2005). Otitis media: Health and social consequences for Aboriginal youth in Canada's north. *International Journal of Circumpolar Health*, 64, 5–15.

Otitis media is endemic among Inuit, First Nations and Métis children in northern Canada, with prevalence rates in some communities as high as 40 times that found in the urban south. Hearing impairment, much of it attributable to chronic otitis media, is the most common health problem in parts of the arctic, and conductive hearing loss among children may affect as many as two-thirds. Article reviews the literature on prevalence data, risk factors and treatment for otitis media in Aboriginal populations, and highlights the need for further research.

## 2.4 Child welfare

Bennett, M., Blackstock, C., & De La Ronde, R. (2005). A literature review and annotated bibliography of Aboriginal child welfare services in Canada (2nd ed.). Montreal, QC, and Ottawa, ON: First Nations Research Site of the Centre of Excellence for Child Welfare and First Nations Child and Family Caring Society of Canada.

Incorporates research and articles from all disciplines relevant to Aboriginal children and youth and the well-being of the Aboriginal family. Includes unpublished papers, program descriptions and reports produced by or for Aboriginal child welfare agencies; resources from various levels of government in Canada and the United States; and research conducted by masters and doctoral students in Canada on child welfare and/or social issues affecting the well-being of Aboriginal children, families and communities.

Canadian UNICEF Committee. (2009). *Aboriginal children's health: Leaving no child behind*. Toronto, ON: UNICEF Canada.

Canadian supplement to UNICEF's *The State of the World's Children 2009* report describes the status of First Nations, Inuit and Métis children's health in their communities, whether in rural, remote or urban areas, and highlights jurisdictional hurdles facing these children, in five articles by guest authors.

Letourneau, N.L., Hungler, K.M., & Fisher, K. (2005). Low-income Canadian Aboriginal and non-Aboriginal parent-child interactions. *Child: Care, Health and Development*, 31, 545–54.

Used the Nursing Child Assessment Teaching Scales (NCATS) measure to begin to develop a knowledge base that describes the parent-child interactions observed in Canadian low-income samples, and to explore the relationship between parent-infant interactions and ethnicity (Aboriginal or Non-Aboriginal) within a low-income Canadian sample. Secondary analysis of data collected as part of a larger study designed to examine the impact of low-income situations on pre-school children's health and development in Edmonton. Administered the NCATS measure of parent-child interaction to all children (1-36 months old) and their parents in the low-income non-probability sample. The sample derived for secondary analysis consisted of 12 Aboriginal parent-child pairs (11 mothers and 1 father) and 48 Non-Aboriginal parent-child pairs (47 mothers and 1 father).

McIntyre, L., Connor, S. K., & Warren, J. (2000). *Child hunger in Canada: Results of the 1994 National Longitudinal Survey of Children and Youth*. Canadian Medical Association Journal, 163, 961–5.

Examines the prevalence of hunger among Canadian children and the characteristics of, and coping strategies used by, families with children experiencing hunger. Data originated from the first wave of data collection for the National Longitudinal Survey of Children and Youth, conducted in 1994, which included 13,439 randomly selected Canadian families with children aged 11 years or less. Respondents were asked about the child's experience of hunger and consequent use of coping strategies. Performed multiple logistic regression analysis of socio-demographic and other risk factors for families experiencing hunger, use of food assistance programs and other coping strategies.

National Collaborating Centre for Aboriginal Health. (2009). *Aboriginal and non-Aboriginal children in child protection services (Fact sheet)*. Prince George, BC: Author.

Summarizes research findings from the 2003 Canadian Incidence Study of Reported Child Abuse and Neglect, focusing on differences in neglect and abuse experienced by First Nations, Inuit, Métis and non-Aboriginal children served by the child welfare system in Canada. The absence of a national child welfare data system makes it impossible to precisely quantify the over-representation of Aboriginal children receiving child protection services data. The 2003 Canadian Incidence Study of Reported Child Abuse and Neglect suggests that 'neglect' is the main reason for why Aboriginal children enter the child protection system, and that this neglect may in fact be an expression of structural factors, such as poverty, and beyond the control of parents. The Study also suggests that the overrepresentation of Aboriginal children in the child protection system increases at every stage of intervention.

National Collaborating Centre for Aboriginal Health. (2009). *Child welfare services in Canada: Aboriginal and mainstream (Fact sheet)*. Prince George, BC: Author.

Documents the evolution of the child welfare system in Canada and illustrates the most common models serving Aboriginal children. These models can include mainstream services as well as models administered by Aboriginal entities, whereby service delivery is either partially or fully delegated.

National Collaborating Centre for Aboriginal Health. (2009). *The importance of disaggregated data – (Fact sheet)*. Prince George, BC: Author.

Demonstrates the importance of collecting disaggregated data to capture the distinct experiences of First Nations, Métis and Inuit children. Disaggregated and aggregated data are defined, and current shortcomings in data collection are identified.

National Collaborating Centre for Aboriginal Health. (2009). *Reconciliation in Aboriginal child welfare and child health (Fact sheet)*. Prince George, BC: Author.

Illustrates the implications of colonization for the health and well-being of Aboriginal children and youth. These implications are complex and must be understood in many dimensions. The fact sheet defines what is meant by reconciliation, highlighting its importance for improving the health and well-being of Aboriginal children and youth. The fact sheet highlights Touchstone of Hope and Many Hands, One Dreams as two leaders in developing active reconciliation projects in child health and welfare.

National Collaborating Centre for Aboriginal Health. (2009). *Understanding neglect in First*

*Nations families (Fact sheet)*. Prince George, BC: Author.

Uses the 2003 Canadian Incidence Study on Child Abuse to investigate the most common types of neglect sustained amongst First Nation populations, as well as provides general category definitions of child neglect.

Trocmé, N., Knoke, D., & Blackstock, C. (2004). *Pathways to the overrepresentation of Aboriginal children in Canada's child welfare system*. *Social Service Review*, 78, 577–600.

Compares child welfare services provided for Aboriginal and Caucasian children in Canada. The findings suggest that child welfare reports involving Aboriginal children are more likely to be classified as suspected or substantiated than reports for Caucasian children. Aboriginal children also are twice as likely to be placed in foster care.

## 2.5 Youth welfare

Rachlis, B.S., Wood, E., Zhang, R., Montaner, J.S., & Kerr, T. (2009). *High rates of homelessness among a cohort of street-involved youth*. *Health & Place*, 15, 10–7.

Study used multivariate logistic regression to examine the prevalence and correlates of homelessness among youth enrolled in a community-recruited prospective cohort known as the At-Risk Youth Study, between September 2005 and October 2006. Of 478 individuals included in this analysis, 132 (27.6%) were female and 120 (25.1%) self-identified as Aboriginal.

Totten, M. (2009). *Preventing Aboriginal youth gang involvement in Canada: A gendered approach*. Ottawa, ON: Totten & Associates. Retrieved from <http://www.turtleisland.org/resources/gangsnwac09.pdf>

Paper prepared for the Aboriginal Policy Research Conference, March 2009, provides an overview of gendered pathways into gang involvement for Aboriginal youth and examines quality prevention approaches.

## 3.0 Communicable Disease

Literature within this theme area has been categorized into the following topic areas: Sexual Health, HIV/AIDS, Hepatitis, Respiratory Illness, Tuberculosis, Bacterial Infections, as well as a separate section on Immunizations, and a general category which houses information that does not readily fit within any of these other categories. Literature on Sexual Health focuses on information



about pregnancy and sexually transmitted diseases. A separate category was developed for HIV/AIDS because these diseases can be transmitted through injection drug use and other methods of fluid exchange. Respiratory Illness includes literature on asthma, pneumonia, bronchitis and influenza. A separate category was developed for Tuberculosis because of the importance of this health topic in the literature. Bacterial infections have been separated from other forms of infection as the research is tailored to a specific demographic in the Canadian Arctic. A section on Immunizations was developed to include research that investigated vaccines.

### 3.1 General

Dick, T. A., Nelson, P. A., & Choudhury, A. (2001). Diphyllobothriasis: Update on human cases, foci, patterns and sources of human infections and future considerations. *Southeast Asian Journal of Tropical Medicine & Public Health*, 32(Suppl 2), 59–76.

Reviews the history, sources and distribution routes of human cases of diphyllobothriasis, a parasite primarily associated with the consumption of the northern circumpolar–distributed pike and percid.

Russell, M.L., Schopflocher, D.P., & Svenson, L.W. (2008). Health disparities in chickenpox or shingles in Alberta? *Canadian Journal of Public Health*, 99, 41–5.

Looks for evidence of socio-economic health disparities in chickenpox and shingles in Alberta. Identified chickenpox and shingles cases in administrative data from Alberta's universal health care insurance system for 1994–2002. Incident cases were those with the earliest dated utilization of a health service. Estimated crude and age-specific rates for each year by an indicator of socio-demographic status based on the nature of the payer and eligibility for health care premium subsidy (SES-proxy) for the provincial health care insurance system.

Wong, S.G., Primi, D., Kojima, H., Sottini, A., Giulivi, A., Zhang, M., et al. (2002). Insights into SEN virus prevalence, transmission, and treatment in community-based persons and patients with liver disease referred to a liver disease unit. *Clinical Infectious Diseases*, 35, 789–95.

Documents the prevalence and routes of transmission of SEN virus (SEN-V) in community-based individuals and patients referred to a liver disease unit. Tested stored serum samples obtained from 160 Canadian Inuit and 140 patients with liver disease for SEN-V DNA by polymerase chain reaction.

### 3.2 Sexual health

Ajunnginiq Centre. (2008). *Sexual health: Resources for Inuit and Aboriginal peoples in Canada*. Ottawa, ON: National Aboriginal Health Organization.

Summarizes information on sexual and reproductive health and sexual health literacy among Inuit. Also includes a small amount of sexual health information about other Aboriginal peoples in Canada.

Cole, M. (2003). Youth sexual health in Nunavut: A needs based survey of knowledge, attitudes and behaviour. *International Journal of Circumpolar Health*, 63, 270–3.

Study attempts to address the need for culturally specific data on beliefs and behaviours in order to design and implement appropriate public health interventions. A health promotion booklet that followed the study gives youth a tool that will promote healthy choices and provide non-judgmental information about sexuality. Assessed knowledge gaps and beliefs about birth control, healthy sexuality and sexual health education through a written survey of young adults in three schools on Baffin Island. The four-page survey, written in simple language, was voluntary, consensual and confidential, and was administered by teachers.

Devries, K. M., Free, C. J., Morison, L., & Saewyc, E. (2009). Factors associated with pregnancy and STI among Aboriginal students in British Columbia. *Canadian Journal of Public Health*, 100, 226–30.

Provides some of the first data on factors associated with Aboriginal adolescents being more likely to become pregnant and contract an STI than other Canadian adolescents. Conducted a secondary analysis of 2003 data from a large cross-sectional survey of British Columbia secondary school students. Included 445 young women and 360 young men who identified as Aboriginal and reported ever having sex. Examined associations between self-reported pregnancy and STI and 11 exposure variables using logistic regression.

Devries, K. M., Free, C. J., Morison, L., & Saewyc, E. (2009). Factors associated with the sexual behavior of Canadian Aboriginal young people and their implications for health promotion. *American Journal of Public Health*, 99, 855–62.

Examines factors associated with having ever had sex, having more than one lifetime sexual partner, and condom non-use at last incident of sexual intercourse among Canadian Aboriginal young people. Conducted a secondary analysis of data from the

2003 British Columbia Adolescent Health Survey, a cross-sectional survey of young people in grades 7 through 12.

Healey, S.M., Aronson, K.J., Mao, Y., Schlecht, N.F., Mery, L.S., Ferenczy, A., et al. (2001). Oncogenic human papillomavirus infection and cervical lesions in Aboriginal women of Nunavut, Canada. *Sexually Transmitted Diseases*, 28, 694–700.

Study to determine the prevalence of oncogenic HPVs in Nunavut, and to assess the association between HPV and squamous intraepithelial lesions (SIL). Cross-sectional study conducted on the Pap-screened populations in 19 communities in Nunavut. Used liquid-based cytology to screen for SIL. Performed HPV testing using the Hybrid Capture II assay. Assessed correlates of HPV infection and SIL by logistic regression with control for potential confounders.

Jolly, A.M., Moffatt, M.E., Fast, M.V., & Brunham, R.C. (2005). Sexually transmitted disease thresholds in Manitoba, Canada. *Annals of Epidemiology*, 15, 781–8.

Persistence of sexually transmitted infections (STI) in a population is due to the activities of a small proportion of the population with STI, who transmit infection on average to one or more susceptible sex partners during an infectious period. Within these groups, the average number of transmissions by infectious people to susceptible people in a closed group is measured by the reproductive number, a threshold above which endemic infection is likely to occur and below which, in the rest of the population, it is unlikely to occur. Article hypothesizes that people with repeated bacterial STIs and their sex partners include the theoretical core group and that they differ from singly infected noncore individuals. Data was extracted on infected individuals and nominated sex partners for the years 1990–92 from the notifiable disease and health insurance registries in Manitoba. Compared individuals with repeated gonorrhoea, chlamydia and co-infected infections using logistic regression, and calculated reproductive numbers using sex partner data.

Martin, J.D., Mathias, R.G., Sarin, C., & Byrne, S.E. (2002). Human T-lymphotropic virus type I and II infections in First Nations alcohol and drug treatment centres in British Columbia, Canada, 1992–2000. *International Journal of Circumpolar Health*, 61, 98–103.

Prevalence data on HTLV-I and II have been collected as part of an ongoing viral seroprevalence study in clients of six First Nations alcohol and drug treatment centres in British Columbia since 1992. In 1993, the first cases of HTLV-I-associated



myelopathy or tropical spastic paraparesis were reported in four Aboriginal residents of British Columbia; these were the first reports of HTLV-I-linked disease among Aboriginal persons in Canada. All clients of the treatment centres involved in this study were offered confidential, voluntary testing following pre-test counselling, and the results are given to participants before the residential session is complete.

Shields, S.A., Wong, T., Mann, J., Jolly, A.M., Haase, D., Mahaffey, S., et al. (2004). Prevalence and correlates of Chlamydia infection in Canadian street youth. *Journal of Adolescent Health, 34*, 384–90.

Cross-sectional study of street youth aged 15–24 years over a nine-month period in seven large urban centers across Canada, to determine the prevalence and correlates of Chlamydia trachomatis in Canadian street youth. Recruited youth through drop-in centres, outreach work and mobile vans in each city, and collected information through a nurse-administered questionnaire. Youth were asked to provide urine to test for chlamydia trachomatis by polymerase chain reaction. Ran separate logistic regression models for males and females, controlling for age.

Steenbeek, A. (2004). Empowering health promotion: A holistic approach in preventing sexually transmitted infections among First Nations and Inuit adolescents in Canada. *Journal of Holistic Nursing, 22*, 254–66.

Sexually transmitted infections (STIs) such as gonorrhea and chlamydia are significant health concerns for Canadian Aboriginal adolescents. Structure and content of health service programs are crucial considerations in STI prevention, because even well-constructed and carefully implemented programs may have very little impact on Aboriginal youth if these programs are not culturally sensitive and specific to individual adolescent's needs. Furthermore, since components of sexual and reproductive health are inextricably linked to empowerment and equality between the sexes, holistic health nurses need to develop strategies that increase self-esteem, self-advocacy, and healthy choices among Aboriginal adolescents.

Steenbeek, A., Tyndall, M., Rothenberg, R., & Sheps, S. (2006). Determinants of sexually transmitted infections among Canadian Inuit adolescent populations. *Public Health Nursing, 23*, 531–4.

Case report provides an overview of the sexually transmitted infection (STI) crisis among Canadian Inuit, and is intended to assist public health nurses working in Inuit communities in understanding how

certain determinants (e.g., Westernization, culture) may influence STI transmission among Inuit youth and how to incorporate these determinants into nursing practice.

Steenbeek, A., Tyndall, M., Sheps, S., & Rothenberg, R. (2009). An epidemiological survey of chlamydial and gonococcal infections in a Canadian Arctic community. *Sexually Transmitted Diseases, 36*, 79–83.

Evaluates the efficacy of universal screening, treatment and contact tracing as a means of capturing a more accurate count of chlamydia and gonorrhea prevalence and limiting transmission among Inuit communities. Screened 181 participants for chlamydia and gonorrhea, and interviewed participants in a cross-sectional survey. Collected information on demographics, use of health services, sexual histories and STI knowledge. Selected a random sample (n = 100) from the cross-sectional group for the longitudinal cohort, and followed individuals every two months post-baseline for four visits (October 2003–May 2004), screening participants for chlamydia/gonorrhea at each visit. All positive cases and their partners were treated and contact tracing completed. Used logistic regression analysis and the McNemar Test of Correlated Proportions to analyze the data.

### 3.3 HIV/AIDS

Barlow, K. (2003). Examining HIV/AIDS among the Aboriginal population in Canada (in the post-residential school era). Ottawa, ON: Aboriginal Healing Foundation. Retrieved from [http://portal.usask.ca/docs/AHF\\_Research%20Series/Examining%20HIV\\_AIDS%20Among%20the%20Aboriginal%20Population.pdf](http://portal.usask.ca/docs/AHF_Research%20Series/Examining%20HIV_AIDS%20Among%20the%20Aboriginal%20Population.pdf)

Examines current literature to determine if there is a link between the legacy of residential schools and HIV/AIDS. Also illustrates how HIV/AIDS is affecting the Aboriginal population and identifies interventions, such as best practices and challenges that are being used.

Bowker, S.L., Soskolne, C.L., Houston, S.C., Newman, S.C., & Jhangri, G.S. (2004). Human immunodeficiency virus (HIV) and hepatitis C virus (HCV) in a Northern Alberta population. *Canadian Journal of Public Health, 95*, 188–92.

Cross-sectional (prevalence) study to describe the demographics and estimate the prevalence of hepatitis C virus in a cohort of HIV-positive patients in northern Alberta.

Canadian Aboriginal AIDS Network. (2000). *Understanding HIV/AIDS epidemiology: HIV/*

*AIDS surveillance among Canada's Aboriginal peoples.* Ottawa, ON: Blue Moon Consulting.

Manual aims to make available and accessible important information on HIV/AIDS epidemiology and surveillance for those working with Aboriginal people with HIV/AIDS, as well as health policy-makers, care-givers and program directors.

Canadian Aboriginal AIDS Network. (2005). *Addressing homophobia in relation to HIV/AIDS in Aboriginal communities: Final report of the environmental scan 2004–05.* Ottawa, ON: Author. Retrieved from [http://www.caan.ca/pdf/CAAN\\_homophobia\\_e.pdf](http://www.caan.ca/pdf/CAAN_homophobia_e.pdf)

Final report of the Addressing Homophobia in Relation to HIV/AIDS in Aboriginal Communities project. Summary of an environmental scan using two surveys, one for two-spirit people and another for organizations serving Aboriginal people. Provides recommendations for future directions for policy development.

Chan, A.C., Palepu, A., Guh, D.P., Sun, H., Schechter, M.T., O'Shaughnessy, M.V., et al. (2004). HIV-positive injection drug users who leave the hospital against medical advice: The mitigating role of methadone and social support. *Journal of Acquired Immune Deficiency Syndromes, 35*, 56–9.

Examines the clinical and social factors associated with patients who reported a history of injection drug use leaving a specialized HIV/AIDS ward in the hospital against medical advice. Retrospective review of all patients with a history of injection drug use admitted to the HIV/AIDS ward at St. Paul's Hospital in Vancouver, British Columbia (the largest specialized HIV/AIDS hospital ward in Canada), between April 1997 and October 2000. Used a multivariate logistic regression model utilizing a generalized estimating equation algorithm to identify factors associated with leaving the hospital against medical advice.

Craib, K.J., Spittal, P.M., Wood, E., Laliberte, N., Hogg, R.S., Li, K., et al. (2003). Risk factors for elevated HIV incidence among Aboriginal injection drug users in Vancouver. *Canadian Medical Association Journal, 168*, 19–24.

Compares HIV incidence rates among Aboriginal and non-Aboriginal injection drug users in Vancouver, and examines factors associated with HIV seroconversion among Aboriginal participants. Analysis based on 941 participants (230 Aboriginal people) recruited between May 1996 and December 2000 who were seronegative at enrollment and had completed at least one follow-up visit. Calculated

incidence rates using the Kaplan-Meier method. Used the Cox proportional hazards regression model to identify independent predictors of time to HIV seroconversion among female and male Aboriginal injection drug users.

Dixon, L., & Reimer, G. (2003). *Final report: The community based HIV/AIDS research environmental scan*. Ottawa, ON: Canadian Aboriginal Aids Network.

Documents the findings of the Community Based HIV/AIDS Research environmental scan (survey), conducted by the Canadian Aboriginal AIDS Network (CAAN) and funded by Health Canada. Defines community-based research (CBR) and summarizes feedback from survey participants related to research priorities, obstacles to CBR, priorities for research capacity building, research strengths and obstacles, quality of research partnerships, and funding.

Hogg, R.S., Strathdee, S.A., Kerr, T., Wood, E., & Remis, R. (2005). Prevalence of HIV/AIDS among Aboriginal British Columbians. *Harm Reduction Journal*, 2.

Estimates the number of Aboriginal British Columbians infected with HIV, through population-based analysis of Aboriginal men and women in British Columbia from 1980 to 2001. Epidemic curves were fit for gay and bisexual men, injection drug users, men and women aged 15–49 and persons over 50. Modelled HIV prevalence for the total Aboriginal population using the UNAIDS/WHO Estimation and Projection Package (EPP). Used Monte Carlo simulation to estimate potential number infected for select transmission group in 2001.

Lerat, G. (2005). *Traditional healing practices and services: Needs of Aboriginal people living with HIV/AIDS*. Ottawa, ON: Canadian Aboriginal AIDS Network.

Examines why there is a need for traditional Aboriginal healing practices in the treatment of HIV/AIDS for Aboriginal people living with HIV/AIDS. Highlights findings of a literature review.

Mehrabadi, A., Craib, K.J., Patterson, K., Adam, W., Moniruzzaman, A., Ward-Burkitt, B., et al. (2008). The Cedar Project: A comparison of HIV-related vulnerabilities amongst young Aboriginal women surviving drug use and sex work in two Canadian cities. *International Journal of Drug Policy*, 19, 159–68.

Study to determine HIV-related vulnerabilities associated with sex work among young Aboriginal women in two Canadian cities. Based on a community-based cohort of Aboriginal young people

(status and non-status First Nations, Inuit and Métis) aged 14–30 who used injection or non-injection illegal drugs (street drugs) in the previous month, in Vancouver or Prince George. Between October 2003 and July 2005, recruited 543 participants by word of mouth, posters and street outreach. Aboriginal interviewers administered a baseline questionnaire, and trained nurses drew blood samples for HIV and HCV antibodies and provided pre- and post-test counselling. Included 262 young women at baseline. Conducted analyses to compare socio-demographics, drug use patterns, injection practices, sexual experiences, and HIV and HCV prevalence in young women who reported being involved in sex work in the last six months (n = 154) and young women who did not (n = 108). Used logistic regression to identify factors independently associated with recent sex work involvement.

Mehrabadi, A., Paterson, K., Pearce, M., Patel, S., Craib, K.J., et al. (2008). Gender differences in HIV and hepatitis C related vulnerabilities among Aboriginal young people who use street drugs in two Canadian cities. *Women & Health*, 48, 235–60.

Cross-sectional study using a community-based sample of Aboriginal young people (Métis, Aboriginal, First Nations, Inuit and non-status Indians) aged 14–30 who had used injection or non-injection non-cannabis illegal drugs (street drugs) in the previous month. Between October 2003 and July 2005, 543 participants living in either Vancouver or Prince George were recruited by word of mouth, posters and street outreach. Participants completed a questionnaire administered by Aboriginal interviewers. Female participants (n = 262) were compared to male participants (n = 281) with respect to socio-demographics, trauma, sexual risk variables and drug use patterns. Trained nurses drew blood samples for HIV and HCV antibodies and provided pre- and post-test counselling.

Mill, J., Austin, W., Chaw-Kant, J., Dumont-Smith, C., Edwards, N., Groft, J., et al. (2007). *The influence of stigma on access to health services by persons with HIV illness*. Ottawa, ON, & Edmonton, AB: Stigma Project. Retrieved from <http://www.caan.ca/pdf/The%20Influence%20of%20Stigma%20on%20Access%20to%20Health%20Services%20by%20Persons%20with%20HIV%20Illness.pdf>

Presents key findings from the Canadian Institutes for a Health Research (CIHR)-funded research project on the influence of stigma on access to health services by persons with HIV illness.

Mill, J., Archibald, C., Wong, T., Jackson, R., Worthington, C., Myers, T., et al. (2008). *The*

*diagnosis and care of HIV infection in Canadian Aboriginal youth*. Vancouver, BC: Canadian Aboriginal AIDS Network.

While recent research has shown that HIV infection is a serious concern for Aboriginal youth, anecdotal evidence suggests that Aboriginal youth are less likely than non-Aboriginal youth to access HIV testing and treatment. To understand if and why this is happening, in 2002, CAAN agreed to partner with the University of Alberta and several other researchers and organizations to explore the testing and care decisions and experiences of Aboriginal youth in Canada.

Mill, J.E., Jackson, R.C., Worthington, C.A., Archibald, C.P., Wong, T., Myers, T., et al. (2008). HIV testing and care in Canadian Aboriginal youth: A community based mixed methods study. *BMC Infectious Diseases*, 8, 132.

National study to explore HIV testing and care decisions of Canadian Aboriginal youth. Community-based mixed-method design incorporating the Aboriginal research principles of Ownership, Control, Access and Possession. Collected data through surveys (n = 413) and qualitative interviews (n = 28). Eleven community-based organizations, including urban Aboriginal AIDS service organizations and health and friendship centres, in seven provinces and one territory assisted with the recruitment of youth (aged 15–30).

Miller, C.L., Wood, E., Spittal, P.M., Li, K., Frankish, J.C., Braitstein, P., et al. (2004). The future face of coinfection: Prevalence and incidence of HIV and hepatitis C virus coinfection among young injection drug users. *Journal of Acquired Immune Deficiency Syndromes*, 36, 743–9.

Study to determine the prevalence and incidence of HIV and hepatitis C virus (HCV) coinfection among young (aged 29 years or younger) injection drug users (IDUs) and to compare socio-demographic and risk characteristics between (HIV/HCV) coinfecting, mono-infected, or HIV- and HCV-negative youth. Data were collected through the Vancouver Injection Drug Users Study. To date, more than 1,400 IDUs have been enrolled and followed, of whom 479 were aged 29 years or younger. Semi-annually, participants have completed an interviewer-administered questionnaire and have undergone serologic testing for HIV and HCV. Used univariate and multivariate logistic regression analyses to investigate predictors of baseline coinfection; Cox regression models with time-dependent covariates to identify predictors of time to secondary infection seroconversion; and a Cochran-Armitage trend test to determine risk associations across three categories: no infection, mono-infection, and coinfection.

- Miller, C.A., Strathdee, S.A., Spittal, P.M., Kerr, T., Li, K., Schechter, M.T., et al. (2006). Elevated rates of HIV infection among young Aboriginal injection drug users in a Canadian setting. *Harm Reduction Journal*, 3, 9. doi:10.1186/1477-7517-3-9
- Compares socio-demographic and risk variables among Aboriginal and non-Aboriginal young (aged 13–24) injection drug users (IDUs) and characterizes the burden of HIV infection among young Aboriginal IDUs.
- Moyer, M.B., Silvestre, A.J., Lombardi, E.L., & Taylor, C.A. (2007). High-risk behaviors among youth and their reasons for not getting tested for HIV. *Journal of HIV/AIDS Prevention in Children & Youth*, 8, 59–73.
- Explores reasons why young people are not getting tested for HIV, while gathering data on their respective level of risk-taking behaviours. Collected a total of 580 surveys from youth aged 14–24. Overall, 17% of youth were found to be at high to some risk for HIV infection, while many of them agreed they were not at risk for HIV.
- Ogilvie, G.S., Palepu, A., Remple, V.P., Maan, E., Heath, K., MacDonald, G., et al. (2007). Fertility intentions of women of reproductive age living with HIV in British Columbia, Canada. *AIDS*, 21(Suppl 1), S83–S88.
- Examines the fertility intentions and reproductive health issues of women living with HIV in a broad-based sample in British Columbia. Between November 2003 and December 2004, invited women with HIV at all HIV clinics and AIDS service organizations in BC to complete the survey instrument “Contraceptive Decisions of HIV-positive Women.” Conducted logistic regression analysis to calculate adjusted odds ratios to identify factors that may be significant predictors of the intention of women living with HIV to have children.
- Portillo, C.J., Mendez, M.R., Holzemer, W.L., Corless, I.B., Nicholas, P.K., Coleman, C., et al. (2005). Quality of life of ethnic minority persons living with HIV/AIDS. *Journal of Multicultural Nursing & Health*, 11, 31–7.
- Tested the Wilson and Cleary (1995) model of quality of life in a sample of ethnic minority persons living with HIV/AIDS. Used data from an international study on self-care symptom management for HIV/AIDS. Total sample included 1,217 adults from the United States, the Commonwealth of Puerto Rico, Taiwan, Norway and Columbia; a subsample (n = 920) of ethnic minority participants was extracted. Conducted a six-step hierarchical multiple regression with quality of life as the dependent variable.
- Prior, J., Burdge, D., Maan, E., Milner, R., Hankins, C., Klein, M., et al. (2007). Fragility fractures and bone mineral density in HIV positive women: A case-control population-based study. *Osteoporosis International*, 18, 1345–53.
- Compared HIV-positive Canadian women with age- and region-matched control women (1:3) from a national population-based study of osteoporosis. Assessed osteoporosis risk factors and lifetime low-trauma (fragility) fracture history using a common interviewer-administered questionnaire and phantom-adjusted bone mineral density.
- Public Health Agency of Canada. (2004). Understanding the HIV/AIDS epidemic among Aboriginal peoples in Canada: The community at a glance. Ottawa, ON: Author. Retrieved from [http://www.phac-aspc.gc.ca/publicat/epiu-aeipi/epi-note/pdf/epi\\_notes\\_aboriginal\\_e.pdf](http://www.phac-aspc.gc.ca/publicat/epiu-aeipi/epi-note/pdf/epi_notes_aboriginal_e.pdf)
- Epi Note, prepared through collaboration between the Surveillance and Risk Assessment Division of the Centre for Infectious Disease Prevention and Control, Public Health Agency of Canada, and the National Aboriginal Council on HIV/AIDS. Compares the HIV/AIDS epidemic among Aboriginal peoples to that among non-Aboriginal peoples.
- Shannon, K., Bright, V., Gibson, K., & Tyndall, M.W.; MAKa Project Partnership. (2007). Sexual and drug-related vulnerabilities for HIV infection among women engaged in survival sex work in Vancouver, Canada. *Canadian Journal of Public Health*, 98, 465–9.
- Analysis to determine HIV prevalence among women engaged in survival sex work, and explore sexual and drug-related vulnerabilities associated with baseline infection. Used descriptive and univariate analysis to explore associations with baseline HIV infection. Variables found to be associated with baseline infection at the univariate level were entered into a fixed logistic regression model, adjusted for age.
- Silversides, A. (2006). Complex and unique HIV/AIDS epidemic among Aboriginal Canadians. *Canadian Medical Association Journal*, 175, 1359. doi:10.1503/cmaj.061351
- Brief article about the unique and complex nature of the HIV/AIDS epidemic among Aboriginal Canadians – and the potential for explosive outbreaks of HIV among young injection-drug-using Aboriginal Canadians – from the perspective of the Vancouver Native Health Society and researchers in Vancouver and Prince George.
- Spittal, P.M., Craib, K.J., Teegee, M., Baylis, C., Christian, W.M., Moniruzzaman, A.K., et al. (2007). The Cedar Project: Prevalence and correlates of HIV infection among young Aboriginal people who use drugs in two Canadian cities. *International Journal of Circumpolar Health*, 66, 226–40.
- Observational study of 512 Aboriginal youth living in Vancouver and Prince George, BC, between October 2003 and April 2005. Eligibility criteria included age (14–30 years) and self-reported use of non-injection or injection drugs at least once in the month before enrolment. Participants completed a questionnaire administered by an Aboriginal interviewer. Multivariable logistic regression analysis was used to model the independent association of demographic and behavioural variables of individuals with HIV infection.
- Wang, F.-L., Larke, B., Gabos, S., Hanrahan, A., & Schopflocher, D. (2005). Potential factors that may affect acceptance of routine prenatal HIV testing. *Canadian Journal of Public Health*, 96, 60–4.
- Examines factors that may affect acceptance of prenatal HIV testing. Included all pregnant women in Alberta who received prenatal care (n = 38,712) and their caregivers (n = 2,007) between January 1 and November 30, 2000. Assessed factors associated with non-acceptance of HIV testing in both pregnant women and their caregivers using multivariate logistic regression.
- Wardman, D., Quantz, D., & Clement, K. (2006). HIV/AIDS: Testing and risk behaviors among British Columbia's rural Aboriginal population. *International Journal of Circumpolar Health*, 65, 313–21.
- Investigates HIV testing patterns, perceptions and risk factors within seven community organizations, through the use of face-to-face interviews, to describe the prevalence of HIV testing, describe issues concerning confidentiality related to the HIV testing, identify the prevalence of risk factors for HIV transmission, and build research capacity in the Aboriginal community.
- Wood, E., Montaner, J.S., Li, K., Zhang, R., Barney, L., Strathdee, S.A., et al. (2008). Burden of HIV infection among Aboriginal injection drug users in Vancouver, British Columbia. *American Journal of Public Health*, 98, 515–9.
- Study to determine whether there were differential rates of HIV incidence among Aboriginal and non-Aboriginal injection drug users in a Canadian setting. Derived data from two prospective cohort studies of injection drug users in Vancouver. Using



the Kaplan-Meier method and Cox proportional hazards regression, compared HIV incidence among Aboriginal and non-Aboriginal participants.

### 3.4 Hepatitis

Boulos, D., Goedhuis, N.J., Wu, J., Baptiste, B., Poliquin, D., Furse, J., et al. (2005). Enhanced surveillance for acute and likely acute hepatitis B in Canada: 1999 to 2002. *Canadian Journal of Infectious Diseases & Medical Microbiology*, 16, 275–81.

Assesses the incidence of clinically identified hepatitis B cases, as well as the demographic and risk behaviour profiles of these cases in a defined Canadian population. An enhanced hepatitis surveillance system was established in October 1998 to identify acute hepatitis B and C cases in Canada. Collected and analyzed data from 1999 to 2002 on incidence, demographic characteristics and risk behaviour characteristics.

Chung, H.V., Riley, M., Ho, J.K., Leung, B., Jevon, G.P., Arbour, L.T., et al. (2007). Retrospective review of pediatric and adult autoimmune hepatitis in two quaternary care centres in British Columbia: Increased prevalence seen in British Columbia's First Nations community. *Canadian Journal of Gastroenterology*, 21, 565–8.

Study aimed to show that in addition to having an increased risk of autoimmune diseases, including rheumatological conditions (rheumatoid arthritis, systemic lupus) and primary biliary cirrhosis, British Columbia's First Nations community may also be at increased risk for autoimmune hepatitis (AIH). Performed independent, retrospective reviews of the databases of two separate tertiary/quaternary British Columbia university-affiliated health care institutions: the Adult Liver Transplant Program of the BC Transplant Society and the Division of Pediatric Gastroenterology, BC Children's Hospital (Vancouver, BC). Reviewed all patients referred with a diagnosis of probable or definite AIH who identified themselves as being of First Nations descent from 1988 to 2004. The liver transplant database records of all adult patients in the province referred for transplant assessment and the pediatric database records all children referred to the BC Children's Hospital.

Cooper, C.L., Bailey, R.J., Bain, V.G., Anderson, F., Yoshida, E.M., Krajden, M., et al. (2008). Outcomes of peginterferon alpha-2a and ribavirin hepatitis C therapy in Aboriginal Canadians. *Canadian Journal of Gastroenterology*, 22, 677–80.

Adults with chronic hepatitis C virus (HCV) infection, quantifiable serum HCV-RNA levels

and compensated liver disease were assigned, at the physician's discretion, to either 24 or 48 weeks of treatment with peginterferon alpha-2a 180 mg/week plus ribavirin at a dose of 800 mg/day, or 1000 mg/day or 1200 mg/day in an open-label, expanded access program.

Jin, A., & Martin, J.D. (2003). Hepatitis A among residents of First Nations reserves in British Columbia, 1991–1996. *Canadian Journal of Public Health*, 94, 176–9.

Hypothesizes that Hepatitis A, which spreads by the fecal-oral route, is more common in Aboriginal communities because of poverty, crowded housing and inadequate or substandard water and sewage systems. Tabulated on-reserve cases reported to First Nations and Inuit Health Branch, Health Canada, and obtained information on community water supply, sewage disposal and mean population per housing unit, from site inspections in a 1994 survey.

Moses, S., Mestery, K., Kaita, K.D., & Minuk, G.Y. (2002). Viral hepatitis in a Canadian street-involved population. *Canadian Journal of Public Health*, 93, 123–8.

Documented hepatitis A (HAV), B (HBV) and C (HCV) serology and compliance with HBV vaccination in 533 street-involved individuals. Associations were identified between HAV and Aboriginal/Métis identity and age over 25 years, between HBV and injection drug use, and between HCV with sex trade work and age over 25.

Pham, B., Duval, B., De, S.G., Gilca, V., Tricco, A.C., Ochnio, J., et al. (2005). Seroprevalence of hepatitis A infection in a low endemicity country: A systematic review. *BMC Infectious Diseases*, 5, 56. doi:10.1186/1471-2334-5-56.

Systematic review aimed to estimate age-specific prevalence of HAV antibody in Canada and evaluate infection-associated risk factors. Searched MEDLINE (1966–2005) and EMBASE (1980–2005) to identify relevant studies for the systematic review, and search archives of the Canada Diseases Weekly Report (1975–1991) and Canada Communicable Disease Report (1992–2005) for relevant public health reports. Data were abstracted for study of participants' characteristics, age-specific prevalence, and risk factors.

Wu, H.X., Wu, J., Wong, T., Andonov, A., Li, Q., Dinner, K., et al. (2007). Incidence and risk factors for newly acquired hepatitis C virus infection among Aboriginal versus non-Aboriginal Canadians in six regions, 1999–2004. *European Journal of Clinical Microbiology & Infectious Diseases*, 26, 167–74.

Compares hepatitis C virus (HCV) incidence and recent patterns of transmission within Aboriginal and non-Aboriginal Canadians. Analyzed cases of newly acquired HCV infection (in patients aged 15 and over) reported to the Enhanced Hepatitis Strain Surveillance System from six jurisdictions in Canada.

### 3.5 Respiratory illness

Alaghebandan, R., Gates, K.D., & MacDonald, D. (2007). Hospitalization due to pneumonia among Innu, Inuit and non-Aboriginal communities, Newfoundland and Labrador, Canada. *International Journal of Infectious Diseases*, 11, 23–8.

Compares hospitalization rates for pneumonia between Innu/Inuit communities in Labrador and non-Aboriginal communities on the Northern Peninsula of Newfoundland. Data obtained from provincial database and hospital rates compared by age, gender, and type of pneumonia.

Greenberg, D.P., Doemland, M., Bettinger, J.A., Scheifele, D.W., Halperin, S.A., et al. (2009). Epidemiology of pertussis and Haemophilus influenzae type b disease in Canada with exclusive use of a diphtheria-tetanus-acellular pertussis-inactivated poliovirus-Haemophilus influenzae type b pediatric combination vaccine and an adolescent-adult tetanus-diphtheria-acellular pertussis vaccine: Implications for disease prevention in the United States. *Pediatric Infectious Disease Journal*, 28, 521–8.

Used MEDLINE to search for publications during 1996–2008 related to the epidemiology and vaccine prevention of pertussis and invasive Hib disease in Canada. Reviewed related abstracts and presentations, when available, and obtained epidemiologic data since 1985 from the Public Health Agency of Canada public website.

Madden, S. & Kelly, L. (2009). Update on acute rheumatic fever: It still exists in remote communities. *Canadian Family Physician*, 55, 475–8.

Reminds physicians who work with Aboriginal populations of the ongoing prevalence of acute rheumatic fever and reviews the recent evidence on presentation, treatment and secondary prophylaxis. Searched the Cochrane Database of Systematic Reviews, MEDLINE and EMBASE from 1996 to 2007 with a focus on prevention, epidemiology and disease management. Also used case series data from medical records at the Sioux Lookout Meno Ya Win Health Centre in Ontario.



McConnell, A., Tan, B., Scheifele, D., Halperin, S., Vaudry, W., Law, B., et al. (2007). Invasive infections caused by haemophilus influenzae serotypes in twelve Canadian IMPACT centers, 1996–2001. *Pediatric Infectious Disease Journal*, 26, 1025–31.

Describes the epidemiology of H. influenzae invasive infections in 12 pediatric tertiary care [Immunization Monitoring Program, ACTive (IMPACT)] centres during the era of universal immunization against this pathogen. Identified children with positive cultures for H. influenzae serotypes a to f (Hia to Hif) and nontypable H. influenzae from sterile sites from the laboratory records at 12 IMPACT centres from January 1, 1996, to December 31, 2001. Retrospectively reviewed hospital records for demographic and clinical information.

### 3.6 Tuberculosis

Brassard, P., Anderson, K.K., Schwartzman, K., Macdonald, M.E., & Menzies, D. (2008). Challenges to tuberculin screening and follow-up in an urban Aboriginal sample in Montreal, Canada. *Journal of Health Care for the Poor and Underserved*, 19, 369–79.

Describes the prevalence and predictors of tuberculin skin test (TST) reactors in a high-risk sample of urban Aboriginal people, and evaluates adherence to medical evaluation and latent tuberculosis infection (LTBI) treatment among those with TST reactivity. Tuberculin screening in this population can be an effective strategy for identifying TST reactive individuals; however, screening efforts will have minimal impact without additional efforts in this high-risk group.

Clark, M., & Cameron, D.W. (2009). Tuberculosis elimination in the Canadian First Nations population: Assessment by a state-transfer, compartmental epidemic model. *International Journal of Infectious Diseases*, 13, 220–26.

Study aimed to predict future disease burden and set feasible targets for the elimination of TB in the First Nations population, using retrospective data and an epidemic model. Used reported TB incidence data (1974–2002), previously published TB meningitis data from the pre-chemotherapy era, and previous estimates of disease risk following infection to estimate a trend in the annual risk of infection from 1929 to 2002, and the age-specific prevalence of infection in 2002. A state-transfer, compartmental model was then developed to predict future disease burden. Simulated two scenarios, with different disease risk parameters.

Cook, V.J., Manfreda, J., & Hershfield, E.S. (2004). Tuberculous lymphadenitis in Manitoba: Incidence, clinical characteristics and treatment. *Canadian Respiratory Journal*, 11, 279–86.

Study aimed to determine the incidence of tuberculous lymphadenitis (TBL), an important form of extrapulmonary tuberculosis (TB), in Manitoba and to identify the characteristics associated with its presentation, diagnosis and treatment. Used population data from the Manitoba Health Population Registry, the First Nations and Inuit Health Branch of Health Canada, and Statistics Canada to calculate incidence. Determined case characteristics and outcomes by a systematic, retrospective review of all cases between January 1, 1990, and December 31, 2000.

Cook, V.J., Hernandez-Garduno, E., Kunimoto, D., Hershfield, E.S., Fanning, E.A., Hoepfner, V.H., et al. (2005). The lack of association between bacille Calmette-Guerin vaccination and clustering of Aboriginals with tuberculosis in western Canada. *Canadian Respiratory Journal*, 12, 134–8.

Study designed to determine if Bacille Calmette-Guerin (BCG) vaccination in Aboriginal people influenced recent tuberculosis (TB) transmission through an analysis of the clustering of TB cases. Performed a retrospective analysis of all culture-positive Mycobacterium tuberculosis cases in Aboriginal people in western Canada (1995 to 1997). Isolates were analyzed using standard methodology for restriction fragment length polymorphism and spoligotyping.

Hoepfner, V.H. (2000). Tuberculosis in Aboriginal Canadians. *Canadian Respiratory Journal*, 7, 141–6.

Endemic tuberculosis (TB) was almost certainly present in Canadian Aboriginal people before the Old World traders arrived. However, the social changes that resulted from contact with these traders created the conditions that converted endemic TB into epidemic TB. Treatment plans must account for socio-economic conditions and cultural characteristics of Aboriginal people, especially healing models and language. Prevention must account for community conditions, such as rates of suicide, which have exceeded the rate of TB. The control of TB requires a centralized program with specifically directed funding, and must include a program that works in partnership with Aboriginal communities.

Long, R., Whittaker, D., Russell, K., Kunimoto, D., Reid, R., Fanning, A., et al. (2004). Pediatric tuberculosis in Alberta First Nations (1991–2000): Outbreaks and the protective

effect of bacille Calmette-Guerin (BCG) vaccine. *Canadian Journal of Public Health*, 95, 249–55.

Identified potential source cases and pediatric cases of tuberculosis from Alberta First Nations over the 10 years 1991–2000, described the distribution of pediatric disease, and determined the effect of BCG on tuberculosis morbidity in two large outbreaks. Review could inform re-evaluation of the tuberculosis control strategy of vaccinating First Nations newborns with bacille Calmette-Guerin.

Phypers, M., Harris, T., & Power, C. (2006). CNS tuberculosis: A longitudinal analysis of epidemiological and clinical features. *International Journal of Tuberculosis and Lung Disease*, 10, 99–103.

Used the Canadian Tuberculosis Reporting System (1970–2000) to identify cases of central nervous system manifestations of TB (CNS-TB), which are the most serious complications of TB, resulting in high levels of morbidity and mortality despite the availability of effective treatments. Compared CNS-TB cases with cases of pulmonary/respiratory TB. Calculated age-standardized incidence rates, using the 1996 Canadian Census population.

Public Health Agency of Canada. (2008). Tuberculosis in Canadian-born Aboriginal peoples. Ottawa, ON: Author.

Highlights the current trends in the epidemiology of TB disease in Aboriginal peoples across Canada.

Smeja, C., & Brassard, P. (2000). Tuberculosis infection in an Aboriginal (First Nations) population of Canada. *International Journal of Tuberculosis and Lung Disease*, 4, 925–30.

Analyzed data from tuberculin skin test (TST) surveys to determine estimates of prevalence of infection and annual risk of infection in the Cree population. TST surveys targeting 12-year-old students were conducted annually from 1993 to 1998. Students with no record of previous positive TST were offered TST. Data collected included results of previous TST reading for all students, readings of TSTs performed and bacille Calmette-Guerin vaccination status for those positive on TST.

Yip, D., Bhargava, R., Yao, Y., Sutherland, K., Manfreda, J., & Long, R. (2007). Pediatric tuberculosis in Alberta: Epidemiology and case characteristics (1990–2004). *Canadian Journal of Public Health*, 98, 276–80.

Identified all cases of pediatric tuberculosis (TB) notified in Alberta between 1990 and 2004 in the TB Registry. Reviewed individual diagnostic criteria and related case patients to a population grid derived

from Statistics Canada censuses and population estimates of Status Indians from the Department of Indian and Northern Affairs, Canada. Determined incidence rates by ethnic group and gender, and compared clinical/mycobacteriologic case characteristics by ethnic group and birth country.

### 3.7 Bacterial infection

Cheung, J., Goodman, K., Munday, R., Heavner, K., Huntington, J., Morse, J., et al. (2008). *Helicobacter pylori* infection in Canada's Arctic: Searching for the solutions. *Canadian Journal of Gastroenterology*, 22, 912–6.

The Canadian North *Helicobacter pylori* (CANHelp) working group is composed of investigators, health officials and community leaders from Alberta and the Northwest Territories. The group is investigating the impact of *H pylori* infection on Canada's Arctic communities, and will then identify treatment strategies that are effective in this region and make recommendations for health policy aimed at management of *H pylori* infection. Investigations began with the Aklavik *H pylori* Project in the Aboriginal community of Aklavik, Northwest Territories.

Degani, N., Navarro, C., Deeks, S.L., & Lovgren, M. (2008). Invasive bacterial diseases in northern Canada. *Emerging Infectious Diseases*, 14, 34–40.

International Circumpolar Surveillance (ICS) is a population-based invasive bacterial disease surveillance network. Participating Canadian regions include Yukon, Northwest Territories, Nunavut, and northern regions of Quebec and Labrador. Study collected clinical and demographic information using standardized surveillance forms, and forwarded bacterial isolates to reference laboratories for confirmation and serotyping.

Goodman, K.J., Jacobson, K., & Veldhuyzen van Zanten, S. (2008). *Helicobacter pylori* infection in Canadian and related Arctic Aboriginal populations. *Canadian Journal of Gastroenterology*, 22, 289–95.

In 2006, the Canadian *Helicobacter* Study Group identified Aboriginal communities among Canadian population groups most at risk of *Helicobacter pylori*-associated disease. Systematic review summarizes what is known about the *H pylori*-associated disease burden in Canadian and related Arctic Aboriginal populations to identify gaps in knowledge. Systematically searched six health literature databases to identify reports on *H pylori* prevalence in Canadian population groups, or any topic related to *H pylori* in Canadian Aboriginal, Alaska Native or Aboriginal populations of other Arctic regions.

### 3.8 Immunization

Deeks, S. L., Clark, M., Scheifele, D. W., Law, B. J., Dawar, M., Ahmadipour, N., et al. (2005). Serious adverse events associated with Bacille Calmette-Guerin vaccine in Canada. *Pediatric Infectious Disease Journal*, 24, 538–41.

Reviews serious adverse events associated with Bacille Calmette-Guerin (BCG) vaccine, with which targeted vaccination is offered to neonates in some First Nations and Inuit (FNI) communities, to assess causality. Canadian Advisory Committee on Causality Assessment (ACCA) reviewed the reports of admissions for BCG-related adverse events between 1993 and April 2002 from the Immunization Monitoring Program Active (IMPACT), a pediatric hospital-based active surveillance network, and 1987–September 2002 data from the Vaccine-Associated Adverse Event Surveillance (VAAES) Program, a passive national reporting system.

## 4.0 Chronic Disease

The literature included under the theme of Chronic Disease was extensive. It has therefore been divided into numerous categories, including general information on chronic disease, Arthritis, Multiple Sclerosis, Obesity, Body Composition and Bone Density, Diabetes, Cardiovascular Disease and Cancer.

### 4.1 General

Blanchard, J.F., Bernstein, C.N., Wajda, A., & Rawsthorne, P. (2001). Small-area variations and socio-demographic correlates for the incidence of Crohn's disease and ulcerative colitis. *American Journal of Epidemiology*, 154, 328–35.

Describes variations in the incidence of inflammatory bowel disease (IBD) in Manitoba and analyzes socio-demographic factors associated with these variations. Used the Manitoba health insurance databases to measure incidence rates of Crohn's disease and ulcerative colitis for each of 52 postal areas in Manitoba, in 1987–1996, with socio-demographic characteristics of the postal areas based on data from the 1996 Canadian census.

Houghton, K.M., Page, J., Cabral, D.A., Petty, R.E., & Tucker, L.B. (2006). Systemic lupus erythematosus in the pediatric North American native population of British Columbia. *Journal of Rheumatology*, 33, 161–3.

Compares the estimated prevalence and the phenotype of pediatric systemic lupus erythematosus (SLE) in a North American Native population with other ethnic groups. Performed a retrospective chart

review of all patients with SLE currently followed at the single tertiary care pediatric rheumatology clinic in BC. Data collected included demographic characteristics, family history, classification criteria for SLE, laboratory tests at diagnosis, SLE Disease Activity Index (SLEDAI) at presentation, and Systemic Lupus International Collaborating Clinics (SLICC) damage index at six months.

Thommasen, H.V., & Zhang, W. (2006). Impact of chronic disease on quality of life in the Bella Coola Valley. *Rural and Remote Health*, 6, 528.

Reports on health-related quality of life in residents of the isolated, rural community of Bella Coola, British Columbia. Methods included a mailed health-related survey and a retrospective chart review. People aged 17 years and older living in the Bella Coola Valley and having a chart at the Bella Coola Medical Clinic as of September 2001 were asked to complete a detailed health-related quality of life survey during the period August–December 2001. Health-related quality of life was measured using the MOS 36-item Short Form Health Survey (SF-36) and the US Centers for Disease Control healthy day's items. Chronic diseases studied included diabetes mellitus, hypertension, chronic obstructive lung disease, coronary artery disease, hyperlipidemia, depression/anxiety, cancer, osteoarthritis, inflammatory arthritis and chronic back/neck pain.

### 4.2 Arthritis

Barnabe, C., Elias, B., Bartlett, J., Roos, L., & Peschken, C. (2008). Arthritis in Aboriginal Manitobans: Evidence for a high burden of disease. *Journal of Rheumatology*, 35, 1145–50.

Evaluates the relative burden of arthritis and patterns of care in Aboriginal Manitobans, using multiple data sets to ensure a representative picture.

Canizares, M., Power, J.D., Perruccio, A.V., & Badley, E.M. (2008). Association of regional racial/cultural context and socioeconomic status with arthritis in the population: A multilevel analysis. *Arthritis and Rheumatism*, 59, 399–407.

Examines the extent to which differences in individual- and regional-level socioeconomic status and racial/cultural origin account for geographic variations in the prevalence of self-reported arthritis, to determine whether regional characteristics modify the effect of individual characteristics associated with reporting arthritis. Analyses were based on the 2000–2001 Canadian Community Health Survey (>15 years, n = 127,513), with arthritis self-reported as a long-term condition diagnosed by a health professional. Used a two-level logistic regression model to identify predictors of reporting arthritis:

individual-level variables included age, sex, income, education, immigration status, racial/cultural origin, smoking, physical activity and body mass index; regional-level variables included the proportion of low-income families, low education, unemployment, recent immigrants, Aboriginal people and Asians.

### 4.3 Multiple sclerosis

Svenson, L.W., Warren, S., Warren, K.G., Metz, L.M., Patten, S.B., & Schopflocher, D.P. (2007). Prevalence of multiple sclerosis in First Nations people of Alberta. *Canadian Journal of Neurological Sciences*, 34, 175–80.

Study to determine the prevalence of multiple sclerosis (MS) among First Nations people in Alberta, compared to the general population. Extracted from Alberta government health databases all hospital in-patient and physician fee-for-service records between 1994 and 2002 where a diagnosis of MS was mentioned. Calculated MS prevalence per 100,000 population for both First Nations people and the general population of Alberta for each year during this period.

Warren, S., Svenson, L.W., Warren, K.G., Metz, L.M., Patten, S.B., & Schopflocher, D.P. (2007). Incidence of multiple sclerosis among First Nations people in Alberta, Canada. *Neuroepidemiology*, 28, 21–7.

Uses data from government health databases to describe the incidence of multiple sclerosis among First Nations people and the general population in Alberta, 1994–2002.

### 4.4 Obesity

Chateau-Degat, M.L., Dewailly, E., Poirier, P., Gingras, S., & Egeland, G. M. (2008). Comparison of diagnostic criteria of the metabolic syndrome in 3 ethnic groups of Canada. *Metabolism: Clinical and Experimental*, 57, 1526–32.

Compares the various definitions of metabolic syndrome, with a special focus on abdominal obesity, and explores sex and ethnic differences in the prevalence and nature of this syndrome in three ethnic groups (Cree, Inuit and non-Aboriginal) in Quebec. Study population included adult participants in three cross-sectional health surveys conducted in southern Quebec, James Bay and Nunavik between 1990 and 1992. A total of 2,613 adults (18–74 years old) were included.

Garriguet, D. (2008). Obesity and the eating habits of the Aboriginal population. *Health Reports*, 19 (1), 1–15.

Compares rates of overweight/obesity and obesity and food consumption patterns of off-reserve Aboriginal and non-Aboriginal people aged 19–50 in Ontario and the western provinces. Used data from the 2004 Canadian Community Health Survey: Nutrition (cycle 2.2).

Kaler, S.N., Ralph-Campbell, K., Pohar, S., King, M., Laboucan, R., & Toth, E.L. (2006). High rates of the metabolic syndrome in a First Nations Community in western Canada: Prevalence and determinants in adults and children. *International Journal of Circumpolar Health*, 65, 389–402.

Screened 60% of the eligible population of a single First Nation in Alberta for diabetes, pre-diabetes, cardiovascular risk and metabolic syndrome. Used NCEP/ATP III and IDF criteria to identify metabolic syndrome in participants aged 18 or over; used modified NCEP/ATP III criteria for participants under age 18. Logistic regression identified factors associated with the metabolic syndrome.

Lear, S.A., Humphries, K.H., Kohli, S., Chockalingam, A., Frohlich, J.J., & Birmingham, C. L. (2007). Visceral adipose tissue accumulation differs according to ethnic background: Results of the Multicultural Community Health Assessment Trial (M-CHAT). *American Journal of Clinical Nutrition*, 86, 353–9.

Compares the relation between abdominal adipose tissue and total body fat in people of Aboriginal, Chinese and South Asian origin with people of European origin, living in Canada. Matched healthy Aboriginal, Chinese, European and South Asian participants (n = 822) aged 30–65 by sex, ethnicity and body mass index range. Assessed total abdominal adipose tissue (TAT), subcutaneous abdominal adipose tissue (SAT), visceral adipose tissue (VAT), total body fat mass, lifestyle and demographics, and investigated relations between body mass index and total body fat, TAT, SAT and VAT and between total body fat and TAT, SAT and VAT.

Liu, J., Hanley, A.J., Young, T.K., Harris, S.B., & Zinman, B. (2006). Characteristics and prevalence of the metabolic syndrome among three ethnic groups in Canada. *International Journal of Obesity*, 30, 669–76.

Compares the characteristics and prevalence of the metabolic syndrome among Native Indians, Inuit and non-Aboriginal Canadians. Based on four cross-sectional studies conducted in the late 1980s and early 1990s involving three ethnic groups living in contiguous regions in central Canada: Oji-Cree Indians from several reserves in northern Ontario and Manitoba, Inuit from the Keewatin region of the Northwest Territories, and non-Aboriginal

Canadians (predominantly of European heritage) in Manitoba. Metabolic syndrome was identified among adult subjects according to the National Cholesterol Education Program (NCEP) definition, and prevalence rates were standardized to the 1991 Canadian national population.

Pollex, R.L., Hanley, A.J.G., Zinman, B., Harris, S.B., Khan, H.M.R., & Hegele, R.A. (2006). Metabolic syndrome in Aboriginal Canadians: Prevalence and genetic associations. *Atherosclerosis*, 184, 121–9.

Characterizes prevalence and putative genetic determinants of metabolic syndrome (MetS), which increases risk of type 2 diabetes (T2DM) and coronary heart disease (CHD), in Ontario Oji-Cree, who have rates of T2DM and CHD among the world's highest. Using the National Cholesterol Education Program Adult Treatment Panel III criteria, determined that 29.9% of Oji-Cree adults, 43.4% of adults aged 35 and older, and 33.9 and 8.7% of female Oji-Cree adults and adolescents, respectively, had MetS.

Razak, F., Anand, S., Vuksan, V., Davis, B., Jacobs, R., Teo, K. K., et al. (2005). Ethnic differences in the relationships between obesity and glucose-metabolic abnormalities: A cross-sectional population-based study. *International Journal of Obesity*, 29, 656–67.

Cross-sectional study to determine whether body mass index (BMI) and other anthropometric indices of visceral obesity vary by ethnic group in their distribution and their relationship to metabolic abnormalities. Recruited Canadian men and women, aged 35–75 years, of South Asian (n = 342), Chinese (n = 317), European (n = 326) and Aboriginal (n = 301) descent using stratified random sampling. Assessed anthropometric indices, metabolic markers and clinical markers.

Self, R.B., Birmingham, C.L., Elliott, R., Zhang, W., & Thommasen, H.V. (2005). The prevalence of overweight adults living in a rural and remote community. *Eating and Weight Disorders*, 10, 133–8.

Study to determine the prevalence of overweight adults living in the Bella Coola Valley. Retrospective chart review of all people attending the Bella Coola Medical Clinic, and residing in the Bella Coola Valley. Calculated weight (kilograms) and body mass index.

Tremblay, M.S., Perez, C.E., Ardern, C.I., Bryan, S.N., & Katzmarzyk, P.T. (2005). Obesity, overweight and ethnicity. *Health Reports*, 16(4), 23–34.

Describes the prevalence of self-reported overweight and obesity, based on body mass index, by ethnicity,

and examines the influence of time since immigration within and between ethnic groups. Results are based on data from two cycles of Statistics Canada's Canadian Community Health Survey, conducted in 2000/01 and 2003. Calculated weighted prevalences of overweight and obesity by sex and ethnicity for the population aged 20–64. Used multiple logistic regression models to examine associations between overweight/obesity and ethnicity, and within and between ethnic groups based on time since immigration, controlling for age, household income, education and physical activity.

Vanasse, A., Demers, M., Hemiari, A., & Courteau, J. (2006). Obesity in Canada: Where and how many? *International Journal of Obesity*, 30, 677–83.

Describes and compares regional obesity rates across Canada and assesses the ecological relationship between regional rates of obesity, low level of leisure-time physical activity, and low fruit and vegetable consumption. Cross-sectional population-based analysis from the 2003 Canadian Community Health Survey. Obtained Canadian population distributions of body mass index, leisure-time physical activity and daily fruit and vegetable consumption from Statistics Canada; all were based on self-reported answers to a computer-assisted personal or telephone interview. Obesity rates, rates of low level of leisure-time physical activity, and rates of low fruit and vegetable consumption for the 106 Canadian health regions were mapped to illustrate their geographical distribution. Used cartograms in addition to traditional mapping to take into account the differences in population density between these small areas.

Wahi, G Zorzi, A., Macnab, A., & Panagiotopoulos, C. (2009). Prevalence of type 2 diabetes, obesity and the metabolic syndrome among Canadian First Nations children in a remote Pacific coast community. *Journal of the Canadian Paediatric Society*, 14, 79–83.

Study to determine the prevalence of obesity, glucose intolerance and metabolic syndrome in children aged 6-18 living in the remote BC First Nations community of Hartley Bay. A medical history, a physical examination and a 2-hour oral glucose tolerance test were completed. Overweight was defined as a body mass index between the 85th and 95th percentiles, and obese was defined as a body mass index greater than or equal to the 95th percentile, which were standardized for age and sex.

Wortman, J. (2006). Health promotion when the 'vaccine' does not work. *Health Promotion Journal of Australia*, 17, 91–6.

Makes the case that obesity, metabolic syndrome and type 2 diabetes are inter-related and may be caused by a single underlying factor related to the carbohydrate content of diet. Aboriginal people suffer more acutely from these conditions, and their dietary history suggests that a sudden increase in carbohydrates is to blame. Recent studies and a case history demonstrate that carbohydrate consumption can drive appetite and over-eating, while carbohydrate restriction leads to weight loss and improvement in the markers for metabolic syndrome and type 2 diabetes.

Young, T.K., Chateau, D., & Zhang, M. (2002). Factor analysis of ethnic variation in the multiple metabolic (insulin resistance) syndrome in three Canadian populations. *American Journal of Human Biology*, 14, 649–58.

Describes and compares the pattern of risk factor clustering in multiple metabolic (insulin resistance) syndrome in three Canadian ethnic groups (Indians, Inuit, non-Aboriginal Canadians). Three cross-sectional, population-based sample surveys in three contiguous regions of Canada were conducted during the late 1980s and early 1990s (Ontario, Manitoba, Northwest Territories). Combined dataset consisted of 873 Cree-Ojibwa Indians from northern Ontario and Manitoba, 387 Inuit from the Northwest Territories, and 2,670 non-Aboriginal Canadians (predominantly of European origin) in Manitoba.

Young, T.K., Bjerregaard, P., Dewailly, E., Risica, P.M., Jorgensen, M.E., & Ebbesson, S.E.O. (2007). Prevalence of obesity and its metabolic correlates among the circumpolar Inuit in 3 countries. *American Journal of Public Health*, 97, 691–5.

Pooled data from four surveys of Inuit in Canada, Greenland and Alaska conducted during 1990–2001 is utilized to investigate the prevalence of obesity and the metabolic correlates of different levels of body mass index (BMI) and waist circumference among the Inuit in three countries. The total sample size is 2,545 participants. These data is compared with data from a Canadian population of predominantly European origin.

#### 4.5 Body composition and bone density

Leslie, W.D., Derksen, S., Prior, H.J., Lix, L.M., Metge, C., & O'Neil, J. (2006). The interaction of ethnicity and chronic disease as risk factors for osteoporotic fractures: A comparison in Canadian Aboriginals and non-Aboriginals. *Osteoporosis International*, 17, 1358–68.

Examines the interaction of ethnicity with diabetes mellitus, disease comorbidity and substance abuse as possible explanatory variables for higher

fracture rates among Aboriginal populations than among non-Aboriginal populations. Performed a retrospective, population-based matched cohort study of fracture rates using Manitoba administrative health data (1984–2003). Study cohort consisted of 27,952 registered Aboriginal adults (aged 20 or older) and 83,856 non-Aboriginal controls (matched three to one for year of birth and gender). Diabetes mellitus, number of ambulatory disease groups, substance abuse and incident fractures were based upon validated definitions. Poisson regression analyses of fracture rates modelled the explanatory variables as main effects and two-way interactions with ethnicity.

Leslie, W.D., Weiler, H.A., & Nyomba, B.L. (2007). Ethnic differences in adiposity and body composition: The First Nations Bone Health Study. *Applied Physiology, Nutrition, & Metabolism*, 32, 1065–72.

Population-based cross-sectional study compared patterns of adiposity and soft tissue composition in First Nations and white Canadian women. Recruited a random age-stratified sample of 206 urban First Nations women and 177 white women. Analyzed soft tissue composition with dual-energy X-ray absorptiometry. Used analysis of covariance models to assess ethnicity in models that adjusted for body mass, body mass index and socio-demographic factors.

Leslie, W.D., Weiler, H.A., Lix, L.M., & Nyomba, B.L. (2008). Body composition and bone density in Canadian white and Aboriginal women: The First Nations Bone Health Study. *Bone*, 42, 990–5.

Study to determine whether ethnic differences in body composition affect differences in bone mineral density between Canadian white and Aboriginal women. An age-stratified population-based sample of 206 Aboriginal women and 177 white women underwent multi-site bone density measurements and total body soft tissue composition analysis.

#### 4.6 Diabetes

Aboriginal Diabetes Initiative. (2000). *Métis, Off-reserve Aboriginal and Urban Inuit Prevention and Promotion*. Ottawa, ON: Health Canada.

Program framework document for the Métis, Off-reserve Aboriginal and Urban Inuit Prevention and Promotion component of the Aboriginal Diabetes Initiative, itself one of four main components of the Canadian Diabetes Strategy announced by the Government of Canada in 1999.

Aboriginal Diabetes Initiative. (2001). *Diabetes among Aboriginal (First Nations, Inuit, and*



- Métis) people in Canada: The evidence. Ottawa, ON: Health Canada.
- Provides an overview on diabetes in Inuit, Métis and First Nations populations; complications of diabetes in First Nations populations; and existing health services and programs.
- Booth, G.L., Hux, J.E., Fang, J., & Chan, B.T. (2005). Time trends and geographic disparities in acute complications of diabetes in Ontario, Canada. *Diabetes Care*, 28, 1045–50.
- Population-based time-trend analysis of acute complications of diabetes, using linked administrative and census data from Ontario. Study population included all adults identified through a province-wide electronic diabetes registry between 1994 and 1999 (n = 577,659). Primary outcome was hospitalizations for hyper- and hypoglycemia and emergency department visits for diabetes.
- Bruce, S.G. (2000). Prevalence and determinants of diabetes mellitus among the Métis of western Canada. *American Journal of Human Biology*, 12, 542–51.
- Study aimed to determine the prevalence of diabetes among the Métis and identify diabetes risk factors, using univariate and multivariate analyses, and to test hypotheses related to diabetes etiology, using multiple logistic regression. Data source was the Aboriginal Peoples Survey (APS), conducted by Statistics Canada in 1991. Study populations included the APS self-identified Métis and North American Indians of western Canada.
- Bruce, S.G. (2000). The impact of diabetes mellitus among the Métis of western Canada. *Ethnicity & Health*, 5, 47–57.
- Examined the impact of diabetes mellitus on the lives of the Métis in Manitoba, Saskatchewan and Alberta, and determined the extent of co-morbidity among Métis with diabetes. Data source was the Aboriginal Peoples Survey (APS), conducted by Statistics Canada in 1991 and administered to a representative sample of Aboriginal peoples throughout Canada.
- Charbonneau-Roberts, G., Young, T.K., & Egeland, G.M. (2007). Inuit anthropometry and insulin resistance. *International Journal of Circumpolar Health*, 66, 129–34.
- Evaluates the anthropometric correlates of indices of insulin resistance using the homeostasis model assessment index and the insulin sensitivity index. Data were collected as part of health screening of adults 18 years of age and over in an Inuit community in Nunavut. A total of 52 Inuit participated in the health screening, of which 46 completed both the fasting and the two-hour blood tests. Insulin sensitivity indices could be calculated on 45 participants.
- Cleary, E., Ludwig, S., Riese, N., & Grant, L. (2006). Educational strategies to improve screening for gestational diabetes mellitus in aboriginal women in a remote northern community. *Canadian Journal of Diabetes*, 30, 264–8.
- Examines the use of evidence-based standards that provide clinical practice guidelines for healthcare providers in screening for gestational diabetes mellitus (GDM) in Norway House, Manitoba, and evaluates the impact of educational reinforcement on changing practices. Performed a chart audit before and after an educational session on GDM was offered to physicians and nurses involved in prenatal care. In addition, provided flow charts designed to facilitate use of the recommended standards of care.
- Dannenbaum, D., Kuzmina, E., Lejeune, P., Torrie, J., & Gangbe, M. (2008). Prevalence of diabetes and diabetes-related complications in First Nations communities in Northern Quebec (Eyou Itchee), Canada. *Canadian Journal of Diabetes*, 32, 46–52.
- Presents an overview of the epidemiology and clinical management of diabetes in the Cree population of Eyou Itchee, Eastern James Bay, Quebec. Descriptive study based on data from the Cree Diabetes Information System, a unique diabetes management and surveillance system in the region that provides demographic and clinical data on physician-diagnosed cases of type 1 and 2 diabetes among the Cree of Eastern James Bay.
- Dyck, R., Klomp, H., Tan, L.K., Turnell, R.W., & Boctor, M.A. (2002). A comparison of rates, risk factors, and outcomes of gestational diabetes between Aboriginal and non-Aboriginal women in the Saskatoon health district. *Diabetes Care*, 25, 487–93.
- Study aims to determine possible differences in gestational diabetes mellitus between Aboriginal and non-Aboriginal women in the Saskatoon Health District. Prospective survey of all women admitted for childbirth to the Saskatoon Royal University Hospital between January and July 1998. Compares prevalence rates, risk factors, and outcomes of gestational diabetes for Aboriginal and non-Aboriginal women.
- Giles, B.G., Findlay, C.S., Haas, G., LaFrance, B., Laughing, W., & Pembleton, S. (2007). Integrating conventional science and Aboriginal perspectives on diabetes using fuzzy cognitive maps. *Social Science & Medicine*, 64, 562–76.
- Uses fuzzy cognitive mapping (FCM) as a technique to represent and compare Aboriginal and conventional science perspectives on the determinants of diabetes as contained in published articles drawn from a search of MEDLINE and PubMed (1966–2005). FCM allows for a detailed description of the complex system of culture, spirituality and balance at the root of the Aboriginal view; also highlights how, for these less tangible factors, it is possible to identify more concrete stressors and outcomes that are amenable to management and monitoring. Preliminary comparison of conventional and Aboriginal views demonstrates the potential for FCM as a technique to extract, compare and integrate perspectives of different knowledge systems into health management and policy development.
- Health Canada. (2000). *Aboriginal Diabetes Initiative: First Nations On-reserve and Inuit in Inuit Communities*. Ottawa, ON: Health Canada.
- Program framework document for the First Nations On-reserve and Inuit in Inuit Communities component of the Aboriginal Diabetes Initiative, itself one of four main components of the Canadian Diabetes Strategy announced by the Government of Canada in 1999.
- Hegele, R.A. (2007). Genes and environment in type 2 diabetes and atherosclerosis in Aboriginal Canadians. *Current Atherosclerosis Reports*, 3, 216–21.
- Proposes that the recent increase in coronary heart disease in the Oji-Cree of northern Ontario may be the result of the expression of diabetes susceptibility due to a mutation in the HNF1A gene (which is absent from other ethnic groups and Aboriginal populations), as a consequence of rapid changes in environment and lifestyle.
- Horn, O.K., Jacobs-Whyte, H., Ing, A., Bruegl, A., Paradis, G., & Macaulay, A.C. (2007). Incidence and prevalence of type 2 diabetes in the First Nation community of Kahnawa:ke, Quebec, Canada, 1986–2003. *Canadian Journal of Public Health*, 98, 438–43.
- Study to determine the incidence and prevalence of type 2 diabetes among adults living in a First Nation community (Kahnawa:ke, a Kanien'keha:ka [Mohawk] community in Quebec) from 1986 to 2003. Derived numerators for incident and prevalent cases from the community hospital Diabetes Registry. Derived denominators from population distributions provided to Kahnawa:ke by Indian and Northern Affairs Canada. Rates were standardized to 2000/01 Canadian population.

Johnson, S., Martin, D., & Sarin, C. (2002). Diabetes mellitus in the First Nations population of British Columbia, Canada: Part 3: Prevalence of diagnosed cases. *International Journal of Circumpolar Health*, 61, 260–4.

Describes the prevalence of diabetes mellitus in the on-reserve Status Indian population of British Columbia based on a survey conducted in 1997, and compares these rates with previous surveys carried out in 1987, 1992 and 1995. Distributed survey questionnaires to health centres, health stations and nursing stations providing health services for the 198 First Nations reserves in British Columbia.

Johnson, J.A., Vermeulen, S.U., Toth, E.L., Hemmelgarn, B.R., Ralph-Campbell, K., Hugel, G., et al. (2009). Increasing incidence and prevalence of diabetes among the Status Aboriginal population in urban and rural Alberta, 1995–2006. *Canadian Journal of Public Health*, 100, 231–6.

Compares trends in diagnosed diabetes prevalence and incidence from 1995 to 2006, based on diagnostic codes from Alberta Health and Wellness (AHW) administrative records for Status Aboriginal men and women, aged 20 years and older, living in urban and rural areas of Alberta. Used the AHW Registry file to determine registered Aboriginal status, as well as rural and urban residence (based on postal code). Used multivariable logistic regression to compare diabetes rates over time, by sex and location of residence.

Kaur, H., Maberley, D., Change, A., & Hay, D. (2004). The current status of diabetes care, diabetic retinopathy screening and eye-care in British Columbia's First Nations communities. *International Journal of Circumpolar Health*, 63, 277–85.

Evaluates the current status of primary diabetes care, diabetic retinopathy screening, and eye care for First Nations individuals with diabetes living on-reserve in British Columbia. Prospective cross-sectional observational survey, with a 26-item questionnaire mailed to all BC First Nations communities, asking a series of general questions concerning community populations, regional transportation options and the availability of local health-care providers, and specific questions about the frequency and source of eye and diabetic retinopathy care in each community.

Kelly, C., & Booth, G.L. (2004). Diabetes in Canadian women. *BMC Womens Health*, 4(Suppl 1), S16.

Diabetes mellitus (DM) in Canada appears to be more common among men than women; however, among Aboriginal Canadians, two-thirds of affected

individuals are women. Although obesity is more prevalent among men than women (35% vs. 27%), the DM risk associated with obesity is greater for women. Socio-economic status is inversely related to DM prevalence but the income-related disparities are greater among women. Polycystic ovarian syndrome affects 5–7% of reproductive-aged women and doubles their risk for DM. Women with gestational diabetes frequently develop DM over the next 10 years.

Ley, S.H., Harris, S.B., Connelly, P.W., Mamakeesick, M., Gittelsohn, J., Hegele, R.A., et al. (2008). Adipokines and incident type 2 diabetes in an Aboriginal Canadian population: The Sandy Lake Health and Diabetes Project. *Diabetes Care*, 31, 1410–15.

Investigates associations of adiponectin, leptin, C-reactive protein (CRP), interleukin (IL)-6, and serum amyloid A (SAA), individually or in combinations, with risk of incident type 2 diabetes in an Aboriginal Canadian population. Of the 606 Sandy Lake Health and Diabetes Project cohort subjects who were free of diabetes at baseline, 540 participated in 10-year follow-up assessments. Concentrations of fasting adiponectin, leptin, CRP, IL-6, SAA, and co-variates were measured at baseline. Obtained fasting glucose and a 75-g oral glucose tolerance test at baseline and follow-up to determine incident type 2 diabetes.

Ley, S.H., Harris, S.B., Mamakeesick, M., Noon, T., Fiddler, E., Gittelsohn, J., et al. (2009). Metabolic syndrome and its components as predictors of incident type 2 diabetes mellitus in an Aboriginal community. *Canadian Medical Association Journal*, 180, 617–24.

Study to determine the incidence of type 2 diabetes in an Aboriginal community and to evaluate prospective associations with metabolic syndrome and its components. Of 606 participants in the Sandy Lake Health and Diabetes Project from 1993 to 1995 who were free of diabetes at baseline, 540 participated in 10-year follow-up assessments. Measured baseline anthropometry, blood pressure, fasting insulin and serum lipid levels. Obtained fasting and 2-hour postload glucose levels at follow-up to determine incident cases of type 2 diabetes.

Martens, P.J., Martin, B.D., O'Neil, J.D., & MacKinnon, M. (2007). Diabetes and adverse outcomes in a First Nations population: Associations with healthcare access, and socioeconomic and geographical factors. *Canadian Journal of Diabetes*, 31, 223–32.

Explores diabetes and amputation patterns and their ecologic associations with geography, income and

access to healthcare for First Nations on-reserve populations of Manitoba.

Métis National Council. (2006). Preliminary assessment of diabetes programs for Métis peoples. Ottawa, ON: Métis National Council. Retrieved from [http://healthportal.metisnation.ca/pdf/Metis\\_Diabetes\\_Report.pdf](http://healthportal.metisnation.ca/pdf/Metis_Diabetes_Report.pdf)

Provides an inventory (as of March 2006) of diabetes-related programs that are or could be accessible to Métis peoples in British Columbia, Alberta, Saskatchewan, Manitoba and Ontario. Purpose of the project was to assemble information that would allow the Métis National Council to understand and examine options on how to best address the problem of type 2 diabetes among the Métis. Conceptual framework provides a common “mental model” to help understand the disease and to identify potential leverage points for intervention.

Oster, R., & Ellen, T. (2009). Differences in the prevalence of diabetes risk-factors among First Nation, Métis and non-Aboriginal adults attending screening clinics in rural Alberta, Canada. *Rural and Remote Health*, 9, 1–8.

Examines diabetes risk factors in First Nations, Métis and non-Aboriginal individuals residing in rural or remote locations, to investigate whether ethnicity contributes to any differences.

Oster, R.T., Virani, S., Strong, D., Shade, S., & Toth, E.L. (2009). Diabetes care and health status of First Nations individuals with type 2 diabetes in Alberta. *Canadian Family Physician*, 55, 386–93.

Describes the state of diabetes care among Alberta First Nations individuals with diabetes living on reserves. Screened First Nations individuals with diabetes for diabetes complications and had them complete a survey targeting self-reported health services utilization, clinical history, and satisfaction with and knowledge of diabetes care and services before the SLICK (Screening for Limb, I-eye, Cardiovascular, and Kidney complications of diabetes) program was implemented.

Rosecrans, A.M., Gittelsohn, J., Ho, L.S., Harris, S.B., Naqshbandi, M., & Sharma, S. (2008). Process evaluation of a multi-institutional community-based program for diabetes prevention among First Nations. *Health Education Research*, 23, 272–86.

Evaluation of implementation and impact of Zhiwaapenewin Akino'maagewin: Teaching to Prevent Diabetes, a community-based diabetes prevention program based in schools, food stores and health offices in seven First Nations in northwestern Ontario. Program interventions included

implementation of grades 3 and 4 healthy lifestyles curricula; stocking and labelling of healthier foods and healthy recipes, cooking demonstrations and taste tests; and mass media efforts and community events held by health agencies. Qualitative and quantitative process data collected through surveys, logs and interviews assessed fidelity, dose, reach and context of the intervention.

Silha, J.V., Nyomba, B.L., Leslie, W.D., & Murphy, L.J. (2007). Ethnicity, insulin resistance, and inflammatory adipokines in women at high and low risk for vascular disease. *Diabetes Care*, 30, 286–91.

Compares the relationship between body composition, insulin resistance and inflammatory adipokines in Aboriginal Canadian women, who are at high risk of vascular disease, with white women. Used a subgroup of the First Nations Bone Health Study population, consisting of 131 Aboriginal women and 132 matched white women. Determined body composition by whole-body dual X-ray absorptiometry, and measured blood analytes after an overnight fast.

Sunday, J., Eyles, J., & Upshur, R. (2001). Applying Aristotle's doctrine of causation to Aboriginal and biomedical understanding of diabetes. *Culture, Medicine and Psychiatry*, 25, 63–85.

Uses Aristotle's doctrine on causation to explore Aboriginal and biomedical perceptions of causal factors for non-insulin dependent diabetes mellitus (NIDDM) on Manitoulin Island, Ontario. Also outlines two divergent causal stories for NIDDM and the associated moral positions regarding the "righteous" pursuit of health.

Thommasen, H.V., Patenaude, J., Anderson, N., McArthur, A., & Tildesley, H. (2004). Differences in diabetic co-morbidity between Aboriginal and non-Aboriginal people living in Bella Coola, Canada. *Rural and Remote Health*, 4, 319.

Identifies medical disorders that are significantly associated with being a diabetic in the setting of an isolated, rural community, to determine whether there are differences between Aboriginal and non-Aboriginal diabetics.

Thommasen, H.V., Berkowitz, J., Thommasen, A.T., & Michalos, A.C. (2005). Understanding relationships between diabetes mellitus and health-related quality of life in a rural community. *Rural and Remote Health*, 5, 441.

Investigates health-related quality of life (HRQOL) among Aboriginal diabetics living in an isolated, rural community. Methods included a mailed health-related survey and a population-based retrospective

chart review. People aged 17 years and older living in the Bella Coola Valley, British Columbia, and having a chart at the Bella Coola Medical Clinic as of September 2001 were asked to complete a detailed HRQOL survey during the period August–December 2001. Health-related quality of life was measured using the MOS 36-item Short Form Health Survey and the US Centers for Disease Control healthy day's items.

Young, T.K., Martens, P.J., Taback, S.P., Sellers, E.A., Dean, H.J., Cheang, M., et al. (2002). Type 2 diabetes mellitus in children: Prenatal and early infancy risk factors among native Canadians. *Archives of Pediatrics & Adolescent Medicine*, 156, 651–5.

Case-control study to investigate prenatal and early infancy risk factors for type 2 diabetes mellitus. Recruited 46 patients under 18 years from the only clinical centre for the treatment of diabetes in Manitoba, and 92 age- and sex-matched controls from a pediatric ambulatory clinic serving a large Native population in Winnipeg. Obtained information on exposure to prenatal and early infancy risk factors through questionnaires administered by a Native nurse-interviewer.

#### 4.7 Cardiovascular disease

Anand, S.S., Yi, Q., Gerstein, H., Lonn, E., Jacobs, R., Vuksan, V., et al. (2003). Relationship of metabolic syndrome and fibrinolytic dysfunction to cardiovascular disease. *Circulation*, 108, 420–5.

Examines the relationship of metabolic syndrome (the clustering of impaired glucose metabolism, elevated triglycerides, low HDL cholesterol and abdominal obesity) and fibrinolytic dysfunction to cardiovascular disease in 1,276 randomly sampled adults of South Asian, Chinese, European and Native Indian ancestry from four communities in Canada.

Anand, S.S., Razak, F., Davis, A.D., Jacobs, R., Vuksan, V., Teo, K., et al. (2006). Social disadvantage and cardiovascular disease: Development of an index and analysis of age, sex, and ethnicity effects. *International Journal of Epidemiology*, 35, 1239–45.

Examines social disadvantage in relation to risk factors for cardiovascular disease (CVD), atherosclerosis and prevalent CVD among men and women from diverse ethno-racial backgrounds.

Bjerregaard, P., Dewailly, E., Young, T. K., Blanchet, C., Hegele, R.A., Ebbesson, S.E., et al. (2003). Blood pressure among the Inuit (Eskimo) populations in the Arctic. *Scandinavian Journal of Public Health*, 31, 92–9.

Compares blood pressure in 2,509 randomly selected Inuit adults from 31 villages in Alaska, Canada and Greenland with other populations and examines associations with factors like age, gender, obesity and smoking.

Bjerregaard, P., Young, K.T., & Hegele, R.A. (2003). Low incidence of cardiovascular disease among the Inuit: What is the evidence? *Atherosclerosis*, 166, 351–7.

Reviews the literature and re-analyzes Inuit mortality statistics from Greenland, Canada and Alaska to assess the widely held notion that the incidence of ischemic heart disease (IHD) is low among Inuit subsisting on a traditional marine diet, which is based on weak scientific evidence, early clinical evidence and uncertain mortality statistics.

Dewailly, E., Blanchet, C., Lemieux, S., Sauve, L., Gingras, S., Ayotte, P., et al. (2001). n-3 Fatty acids and cardiovascular disease risk factors among the Inuit of Nunavik. *American Journal of Clinical Nutrition*, 74, 464–73.

Inuit traditionally consume large amounts of marine foods rich in n-3 fatty acids. Evidence exists that n-3 fatty acids have beneficial effects on key risk factors for cardiovascular disease. Study aimed to verify the relation between plasma phospholipid concentrations of the n-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) and various cardiovascular disease risk factors among the Inuit of Nunavik. Study population consisted of 426 Inuit aged 18–74 who participated in a 1992 health survey. Obtained data through home interviews and clinical visits, and analyzed plasma samples for phospholipid fatty acid composition.

Dewailly, E., Blanchet, C., Gingras, S., Lemieux, S., & Holub, B.J. (2002). Cardiovascular disease risk factors and n-3 fatty acid status in the adult population of James Bay Cree. *American Journal of Clinical Nutrition*, 76, 85–92.

Examines the profile of plasma phospholipid concentrations of the n-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) among James Bay Cree, to verify the relation between these concentrations and CVD risk factors. Study population consisted of 917 subjects aged 18–74 who participated in the 1991 Santé Québec Health Survey. Obtained data through home interviews and clinic visits, and analyzed plasma samples for phospholipid fatty acid composition.

Grewal, J., Anand, S., Islam, S., & Lonn, E.; SHARE and SHARE-AP Investigators. (2008). Prevalence and predictors of subclinical atherosclerosis among asymptomatic "low risk" individuals in



- a multiethnic population. *Atherosclerosis*, 197, 435–42.
- Study to determine the prevalence and predictors of subclinical atherosclerosis in a multiethnic population classified as low risk for coronary heart disease events by the Framingham Risk Assessment Model. Conducted a cross-sectional population study in 1,015 Canadian adults of Caucasian European, South Asian, Chinese and Aboriginal ancestry.
- Harris, S.B., Zinman, B., Hanley, A., Gittelsohn, J., Hegele, R., Connelly, P.W., et al. (2002). The impact of diabetes on cardiovascular risk factors and outcomes in a native Canadian population. *Diabetes Research and Clinical Practice*, 55, 165–73.
- Measured cardiovascular disease risk factors and their relationship to glucose intolerance in a Native Canadian population with very high rates of type 2 diabetes mellitus.
- King, K.M., Khan, N.A., & Quan, H. (2009). Ethnic variation in acute myocardial infarction presentation and access to care. *American Journal of Cardiology*, 103, 1368–73.
- Examines ethnic variation in symptom presentation and access to care of patients presenting to the emergency department with acute myocardial infarction (AMI). Audited a random sample of 406 health records of Caucasian, Chinese, South Asian, Southeast Asian and First Nations patients discharged from hospitals in the Calgary Health Region. Compared measured variables across ethnic groups and examined associations with classic AMI symptom profile and timely presentation to a hospital.
- Kmetc, A., Reading, J., & Estey, E. (2008). Taking a life course perspective on cardiovascular disease and diabetes in First Nations peoples. *Canadian Journal of Nursing Research*, 40, 58–78.
- Uses a life course perspective to examine the long-term effects of risk factors (such as obesity, smoking, impaired glucose tolerance, hypertension, and dietary factors) that are prevalent during gestation, childhood, adolescence, young adulthood, and adult life on developmental health and later disease risk in First Nations people. The resultant broader perspective may generate innovative approaches to addressing chronic disease in Canada's Aboriginal population.
- Liu, J., Young, T.K., Zinman, B., Harris, S.B., Connelly, P.W., & Hanley, A.J. (2006). Lifestyle variables, non-traditional cardiovascular risk factors, and the metabolic syndrome in an Aboriginal Canadian population. *Obesity*, 14, 500–8.
- Examines lifestyle factors associated with metabolic syndrome (MetS) and explores the relationships between metabolic syndrome and non-traditional cardiovascular disease risk factors in an isolated Aboriginal Canadian community. Obtained data from 360 non-diabetic adults participating in a population-based study of Aboriginal Canadians. Fasting samples were drawn for glucose, insulin, lipids, adiponectin, leptin, CRP, IL-6, and SAA. Measured percentage body fat using bioelectrical impedance analysis. Assessed past year physical activity and fitness level. MetS was diagnosed according to the criteria of the National Cholesterol Education Program, the World Health Organization, and the International Diabetes Federation.
- Myers, K.A. (2002). Cardiovascular disease and risk in the Aboriginal population. *Canadian Medical Association Journal*, 166, 355.
- Joint study by members of the Six Nations Reserve in Ontario and investigators at McMaster University to compare the prevalence of cardiovascular disease (CVD) and CVD risk factors in a Canadian Aboriginal population and a Canadian population of European ancestry. Randomly selected potential Aboriginal participants from a comprehensive list of band members and telephoned to identify people aged 35–75 who had lived on the reserve for at least five years and did not have a history of cancer or of chronic liver or renal disease; used the same criteria to select subjects of European ancestry who lived in Hamilton, Toronto or Edmonton.
- Retnakaran, R., Hanley, A.J.G., Connelly, P.W., Harris, S.B., & Zinman, B. (2005). Cigarette smoking and cardiovascular risk factors among Aboriginal Canadian youths. *Canadian Medical Association Journal*, 173, 885–9.
- Examines the patterns of cigarette smoking among Aboriginal youths and assesses the associated accrual of cardiovascular risk factors at an early age. Population-based cross-sectional study involving 236 youths aged 10–19 years in the Oji-Cree community of Sandy Lake in northwestern Ontario. Participants underwent clinical and metabolic evaluation with assessment of cardiovascular risk factors.
- Shah, B.R., Hux, J.E., & Zinman, B. (2000). Increasing rates of ischemic heart disease in the native population of Ontario, Canada. *Archives of Internal Medicine*, 160, 1862–6.
- Assesses trends in admission rates for ischemic heart disease (IHD) in the Native population and general population of Ontario. Used a comprehensive administrative database of all hospital admissions in Ontario from 1981 to 1997. Determined age- and sex-adjusted rates of hospital admissions with IHD-related diagnostic or procedure codes in all residents of Ontario communities that had regular census participation and at least 95% of their population claiming Native origins (N = 16,874 in 1991). Compared with all residents of the surrounding northern Ontario region (N = 822,450) and of the whole province (N = 10,084,885).
- ## 4.8 Cancer
- First Nations Centre. (2006). *Cancer of the cervix in North American Indian women: A literature review*. Ottawa, ON: National Aboriginal Health Organization.
- Presents a general outline of cervical cancer, and three main themes that emerged in the literature review: rates of cervical cancer among Aboriginal women; correlates and determinants of cervical cancer; and effectiveness of, barriers to and strategies for screening. Summarizes findings.
- Kelly, J., Lanier, A., Santos, M., Healey, S., Louchini, R., et al. (2008). Cancer among the circumpolar Inuit, 1989–2003: I. Background and methods: *International Journal of Circumpolar Health*, 67, 396–407.
- First of two papers reporting the results of the Circumpolar Inuit Cancer Review, an international collaborative effort involving researchers and health officials from Alaska, Canada and Greenland. Covers 1989–2003, updating the last review (1969–1988), thereby providing an overview of the trends and patterns of cancer among the Inuit in three countries over a 35-year period. Obtained data on Inuit cancer cases by age-sex group and anatomic site from regional cancer registries.
- Kelly, J., Lanier, A., Santos, M., Healey, S., Louchini, R., et al. (2008). Cancer among the circumpolar Inuit, 1989–2003: II. Patterns and trends. *International Journal of Circumpolar Health*, 67, 408–20.
- Second of two papers reporting the results of the Circumpolar Inuit Cancer Review, an international collaborative effort involving researchers and health officials from Alaska, Canada and Greenland. Obtained data on Inuit cancer cases by age-sex group and anatomic site from regional cancer registries. Cancer in general is increasing among Inuit in all regions, and among both men and women. Inuit continue to be at extreme high risk for some cancers, have rapidly increasing rates in others, and have relatively low rates of cancers such as breast and prostate cancers.
- Liede, A., Jack, E., Hegele, R.A., & Narod, S.A. (2002). A BRCA1 mutation in Native North American families. *Human Mutation*, 19, 460.



Germline mutations in the BRCA1 (MIM 113705) and BRCA2 (MIM 600185) genes have been identified for breast and ovarian cancer families of diverse ethnic backgrounds. To date, there have been no reports of Native North American families with mutations in BRCA1 or BRCA2. Reports the first evidence of a BRCA1 mutation specific to Aboriginal peoples of North America: two families of Aboriginal descent both with the same BRCA1 alterations (1510insG, 1506A>G). The families represent two Aboriginal Canadian tribes (Cree and Ojibwe), although a common ancestral origin is likely.

Louchini, R., & Beaupré, M. (2008). Cancer incidence and mortality among Aboriginal people living on reserves and northern villages in Québec, 1988–2004. *International Journal of Circumpolar Health*, 67, 445–51.

Estimates incidence and mortality rates among Aboriginal people living on reserves and in northern villages in Québec during the period 1988–2004, and compares these estimates with those of the general population. Extracted incidence and mortality data from the provincial tumor registry and death file. Identified Aboriginal people based on geographic residence codes. Took population data from the 1991, 1996 and 2001 Canadian census. Calculated and age-standardized incidence and mortality rates according to the World Standard Population.

Young, T.K., Kliewer, E., Blanchard, J., & Mayer, T. (2000). Monitoring disease burden and preventive behavior with data linkage: Cervical cancer among Aboriginal people in Manitoba, Canada. *American Journal of Public Health*, 90, 1466–8.

Estimates rates of cervical cancer and Papanicolaou testing among Aboriginal and non-Aboriginal women in Manitoba. Data were derived through linking of administrative databases.

## 5.0 Diet, Nutrition and Physical Activity

Because of the inter-relationship between diet, nutrition, and physical activity, the literature included in this theme area has not been further sub-categorized. This section can include literature regarding traditional foods, hunger, and food insecurity as they relate to diet and nutrition.

Anand, S.S., Davis, A.D., Ahmed, R., Jacobs, R., Xie, C., Hill, A., et al. (2007). A family-based intervention to promote healthy lifestyles in an aboriginal community in Canada. *Canadian Journal of Public Health*, 98, 447–52.

Study aimed to determine whether a household-based lifestyle intervention is effective at reducing energy intake and increasing physical activity among Aboriginal families. Aboriginal health counsellors made regular home visits over six months to assist 57 families on the Six Nations Reserve in Ontario in setting dietary and physical activity goals. Additional interventions included provision of filtered water, a physical activity program for children, and educational events about healthy lifestyles.

Batal, M., Gray-Donald, K., Receveur, O., & Gray-Donald, K. (2005). Estimation of traditional food intake in indigenous communities in Denendeh and the Yukon. *International Journal of Circumpolar Health*, 64, 46–54.

Cross-sectional study aimed at assessing traditional food intake of Indigenous people in 18 communities in the McKenzie basin of the Northwest Territories (Denendeh and the Yukon). Used food frequency and 24-hour recall questionnaires to quantify traditional food intake, with a sample size of 1,356.

Boult, D.A. (2004). *Hunger in the Arctic: Food (in)security in Inuit communities*. Ottawa, ON: National Aboriginal Health Organization.

Provides an initial overview of Inuit food security issues, including a review of findings from a Food Mail Program in Kugaaruk, Nunavut report; health implications of food security; and factors impacting food security. Overview is based on a review of the literature and key informant interviews with individuals knowledgeable about issues impacting food security.

Brown, J., Isaak, C., Lengyel, C., Hanning, R., & Friel, J. (2008). Moving to the city from the reserve: Perceived changes in food choices. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health*, 6, 1–16.

Pilot study aimed to develop a community-university partnership and to explore the eating experiences and use of traditional foods of Aboriginal adults who had moved to an urban centre from a reserve community. Thirteen females and three males, ranging in age from 21 to 48 years, who had moved into Winnipeg, Manitoba, from First Nations communities in Manitoba, Ontario and Saskatchewan, filled out detailed questionnaires, participated in one of two focus groups, and generated 72 different responses to the question, How has moving to the city affected your eating? Eleven participants returned another meeting to group the responses into themes.

Chan, H. M., Fediuk, K., Hamilton, S., Rostas, L., Coughy, A., Kuhnlein, H., et al. (2006). *Food security in Nunavut, Canada: Barriers*

and recommendations. *International Journal of Circumpolar Health*, 65, 416–31.

The food supply of Inuit living in Nunavut is characterized by market food of relatively low nutritional value and nutrient-dense traditional food. Study assesses community perceptions about the availability and accessibility of traditional and market foods in Nunavut.

Che, J., & Chen, J. (2001). Food insecurity in Canadian households. *Statistics Canada, Health Reports*, 12 (4), 11–22.

Examines the prevalence of food insecurity in Canada, the characteristics of people most likely to live in households lacking sufficient funds for food, and several related health problems. Data are from the cross-sectional household component of the 1998/99 National Population Health Survey and the Food Insecurity Supplement to that survey.

Christofides, A., Schauer, C., & Zlotkin, S.H. (2005). Iron deficiency and anemia prevalence and associated etiologic risk factors in First Nations and Inuit communities in Northern Ontario and Nunavut. *Canadian Journal of Public Health*, 96, 304–7.

Study aimed to determine the prevalence of anemia and identify its associated risk factors among young children in Aboriginal communities in northern Ontario and Nunavut. One hundred and fifteen children from one Inuit and two Cree First Nations communities participated. Collected information on demographic and dietary factors and measured hemoglobin, ferritin, serum transferrin receptor and Helicobacter pylori IgG antibodies. Odds ratios and 95% confidence intervals were determined to examine risk factors associated with anemia and iron deficiency and further analyzed using stepwise regression procedures.

Christofides, A., Schauer, C., Sharieff, W., & Zlotkin, S. H. (2005). Acceptability of micronutrient sprinkles: A new food-based approach for delivering iron to First Nations and Inuit children in Northern Canada. *Chronic Diseases in Canada*, 26, 114–20.

Study aimed to determine the acceptability and safety of microencapsulated-iron sprinkles, a new powdered form of iron packaged in a single-serving sachet for prevention of iron deficiency anemia, a significant public health problem among Canadian Aboriginal children. A total of 102 non-anemic children aged 4 to 18 months from three communities were randomized to receive sprinkles containing 30 mg Fe/day (NR = 49) or placebo (NR = 53) for six months. To assess acceptability,

adherence and side effects were monitored bi-weekly. To assess safety, serum ferritin (SF) concentration and anthropometry were measured at baseline and end.

Coble, J.D., & Rhodes, R.E. (2006). Physical activity and Native Americans: A review. *American Journal of Preventive Medicine*, 31, 36–46.

Reviews the health literature on the physical activity behaviours of Native American populations in the United States and Canada.

Counil, E., Dewailly, E., Bjerregaard, P., & Julien, P. (2008). Trans-polar-fat: All Inuit are not equal. *British Journal of Nutrition*, 100, 703–6.

Presents original data derived from the baseline Inuit Health in Transition cohort study on biological levels of n-3 fatty acids and trans-fatty acids (TFA), with opposite health effects found respectively in traditional marine diets and recently introduced low-quality imported foods. A total of 524 Inuit from the Disko Bay area (Greenland) and 888 Inuit from the 14 communities of Northern Quebec (Nunavik) participated. Measured the fatty acid profile of erythrocyte membrane phospholipids as a surrogate for individual intakes. Assessed the contribution of store-bought foods to energy intakes through dietary questionnaires. TFA levels were on average nearly three times as high in Nunavik Inuit as in Greenlanders; younger Nunavik Inuit accumulated higher intakes of TFA and lower intakes of n-3 fatty acids; and the average proportion of energy derived from store-bought foods was high in both groups, especially in youth.

Duhaime, G., Chabot, M., Frechette, P., Robichaud, V., & Proulx, S. (2004). The impact of dietary changes among the Inuit of Nunavik (Canada): A socioeconomic assessment of possible public health recommendations dealing with food contamination. *Risk Analysis*, 24, 1007–18.

A risk determination process was established and several management options were developed to help regional health authorities in Nunavik deal with the health risks and health, social, economic and cultural benefits of Inuit populations meeting a large portion of their food needs by eating country food in which pollutants are concentrated. The management options aimed to reduce exposure to contaminants by either substituting certain foods with others that have lower contaminant content or by store-bought foods. Article assesses the potential economic impact of these risk management options before implementation, using relevant economic data (aggregate income and monetary outlays for the purchase of food and equipment required for food production by households) as a backdrop for the various replacement scenarios.

Egeland, G.M., Berti, P., Soueida, R., Arbour, L. T., Receveur, O., & Kuhnlein, H.V. (2004). Age differences in vitamin A intake among Canadian Inuit. *Canadian Journal of Public Health*, 95, 465–9.

Inuit traditional food provides ample amounts of preformed vitamin A. However, the dietary transition away from traditional food raises concerns regarding dietary adequacy. Study evaluates total dietary vitamin A intake for Canadian Inuit from market food and traditional food sources, and retinol concentrations in liver and blubber. Conducted dietary surveys in 18 communities representing five Inuit regions, and evaluated traditional food items for nutrient content.

Ho, L., Gittelsohn, J., Sharma, S., Cao, X., Treuth, M., Rimal, R., et al. (2008). Food-related behavior, physical activity, and dietary intake in First Nations: A population at high risk for diabetes. *Ethnicity & Health*, 13, 335–49.

Describes determinants of diet-related behaviour and physical activity in First Nations for development of culturally appropriate diabetes prevention programs. Assessed cross-sectional 24-hour dietary recalls (n = 129), random household risk factor surveys of primary food preparers/shoppers (n = 133), and accelerometry (n = 81) in adults in nine Anishinaabe (Ojibwe and Oji-Cree) First Nations in northwestern Ontario.

Indian and Northern Affairs Canada. (2008). Regional results of price surveys. Ottawa, ON: Indian and Northern Affairs Canada. Retrieved from <http://www.ainc-inac.gc.ca/nth/fon/fc/rgrs-eng.asp>

Indian and Northern Affairs Canada monitors the cost of a thrifty northern food basket, intended to provide a nutritious diet for a family of four, in isolated northern communities and in southern supply centres. Presents results of price surveys conducted in more than 75 communities across the country.

Katzmarzyk, P.T. (2008). Obesity and physical activity among Aboriginal Canadians. *Obesity*, 16, 184–90.

Investigates ethnic differences in obesity and physical activity among Aboriginal and non-Aboriginal Canadians. Sample included 24,279 Canadians (1,176 Aboriginal, 23,103 non-Aboriginal) aged 2–64 from the 2004 Canadian Community Health Survey. Adult participants were classified as underweight/normal weight, overweight or obese. Children and youth 2–17 years of age were classified as normal weight, overweight or obese based on the

International Obesity Task Force criteria. Obtained leisure-time physical activity levels over the previous three months by questionnaire in those aged 12–64.

Kirby, A.M., Levesque, L., Wabano, V., & Robertson-Wilson, J. (2007). Perceived community environment and physical activity involvement in a northern-rural Aboriginal community. *International Journal of Behavioral Nutrition and Physical Activity*, 4(63). doi:10.1186/1479-5868-4-63.

Investigates the relationship between perceptions of the environment and regular physical activity and walking patterns in Aboriginal adults in order to inform the planning and implementation of community-relevant physical activity interventions. Asked 263 residents of Moose Factory, Ontario about environmental factors related to walking and physical activity involvement. Survey items were drawn from standardized, validated questionnaires. Calculated descriptive statistics (means, standard deviations, percentages) and performed a series of hierarchical multiple regressions to determine associations between walking and overall physical activity with perceived environmental variables.

Ladouceur, L.L., & Hill, F. (2001). Results of the survey on food quality in six isolated communities in Labrador. Ottawa, ON: Department of Indian and Northern Affairs. Retrieved from <http://www.ainc-inac.gc.ca/nth/fon/pubs/survfoo2001/survfoo2001-eng.pdf>

Report on the first of two surveys conducted to assess the impact of guidelines developed to improve the quality of perishable foods transported to isolated communities through Indian and Northern Affairs Canada's Northern Air Stage Program, also known as the Food Mail Program. Survey findings showed that there was a lack of quality and of variety of fresh and frozen perishable foods in Labrador, and a gap between the views of customers and retailers about food quality.

Lambden, J., Receveur, O., Marshall, J., & Kuhnlein, H.V. (2006). Traditional and market food access in Arctic Canada is affected by economic factors. *International Journal of Circumpolar Health*, 64, 331–40.

Evaluates Indigenous women's access to traditional and market foods in 44 communities across Arctic Canada. Secondary data analysis used a cross-sectional survey of 1,771 Yukon First Nations, Dene/Métis and Inuit women stratified by age. Used socio-cultural questionnaires to investigate food access and used chi-square testing to ascertain the distribution of subject responses by age and region.

Lawn, J., & Harvey, D. (2009). *An update on nutrition surveys in isolated northern communities*. Ottawa, ON: Indian and Northern Affairs Canada.

Presents revised results from Indian and Northern Affairs Canada nutrition surveys of Inuit and First Nations women of childbearing age in 1992 and 1993 in five communities in Nunavut (Pond Inlet, Arctic Bay, Repulse Bay, Coral Harbour and Gjoa Haven), two communities in Labrador (Nain and Davis Inlet) and one in Ontario (Fort Severn), as well as data from nutrition surveys undertaken in Repulse Bay and Pond Inlet in 1997.

Merchant, A.T., Anand, S.S., Vuksan, V., Jacobs, R., Davis, B., Teo, K., et al. (2005). Protein intake is inversely associated with abdominal obesity in a multi-ethnic population. *Journal of Nutrition*, 135, 1196–201.

Evaluates the dietary and lifestyle determinants of abdominal obesity in a multi-ethnic population. Cross-sectional study among 617 Canadians of Aboriginal, South Asian, Chinese and European origins.

Merchant, A.T., Anand, S.S., Kelemen, L.E., Vuksan, V., Jacobs, R., Davis, B., et al. (2007). Carbohydrate intake and HDL in a multiethnic population. *American Journal of Clinical Nutrition*, 85, 225–30.

Evaluates the relation between carbohydrate intake and HDL and triacylglycerol concentrations in a multiethnic population. Population-based cross-sectional study of 619 Canadians of Aboriginal, South Asian, Chinese and European origin with no previously diagnosed medical conditions. Measured energy-adjusted carbohydrate intake by a validated food-frequency questionnaire.

Merchant, A.T., Kelemen, L.E., de Koning, L., Lonn, E., Vuksan, V., Jacobs, R., et al. (2008). Interrelation of saturated fat, trans fat, alcohol intake, and subclinical atherosclerosis. *American Journal of Clinical Nutrition*, 87, 168–74.

Examines and quantifies the interrelation of saturated fat, trans fat, alcohol intake, and mean carotid artery intimal medial thickness (IMT). Population-based, cross-sectional study among 620 persons of Aboriginal, South Asian, Chinese or European origin, aged 35–75, who had lived in Canada for five years or more. Calculated mean IMT from six well-defined segments of the right and left carotid arteries with standardized B-mode ultrasound, and measured saturated fat, trans fat, and alcohol intakes with validated food-frequency questionnaires.

Nakano, T., Fediuk, K., Kassi, N., Egeland, G.M., & Kuhnlein, H.V. (2005). Dietary nutrients and anthropometry of Dene/Métis and Yukon children. *International Journal of Circumpolar Health*, 64, 147–56.

Describes nutrient intakes and anthropometry of 10–12-year-old Dene/Métis and Yukon children in the Canadian Arctic. Conducted 24-hour recall interviews (n = 222 interviews) on Canadian Dene/Métis and Yukon children in five communities during two seasons in 2000/01; measured the children for height and weight (n = 216). Assessment of nutrient adequacy used Dietary Reference Intakes, including cut-point procedures. Assessed anthropometric measurements (height and weight) and compared body mass index to the 2000 CDC Growth Charts.

Nakano, T., Fediuk, K., Kassi, N., & Kuhnlein, H.V. (2005). Food use of Dene/Métis and Yukon children. *International Journal of Circumpolar Health*, 64, 137–46.

Describes food use of Dene/Métis and Yukon children with focus on food sources: traditional food and market food, season, gender and location.

Stroink, M.L., & Nelson, C.H. (2009). Aboriginal health learning in the forest and cultivated gardens: Building a nutritious and sustainable food system. *Journal of Agromedicine*, 14, 263–9.

The Learning Garden program was developed and run with two First Nation communities in northwestern Ontario, to begin rebuilding a knowledge base that would support a sustainable local food system. Article presents results of survey data collected from 20 Aboriginal participants in Learning Garden workshops, which reveal a moderate to low level of baseline knowledge of the traditional food system, and a reliance on the mainstream food system that is supported by food values that place convenience, ease and price above the localness or cultural connectedness of the food. Also presents preliminary findings from qualitative data on the process of learning that occurred in the program and some insights that are relevant to future adaptations of the program.

Willows, N.D., Veugelers, P., Raine, K., & Kuhle, S. (2009). Prevalence and sociodemographic risk factors related to household food security in Aboriginal peoples in Canada. *Public Health Nutrition*, 12, 1150–6.

Uses the Canadian Community Health Survey, Cycle 2.2 Nutrition, to compare the prevalence and socio-demographic correlates of food insecurity of non-Aboriginal and off-reserve Aboriginal households. Food insecurity status was based on

Health Canada's revised interpretation of responses to the US Household Food Security Survey Module. Used logistic regression to determine whether Aboriginal households were at higher risk for food insecurity than non-Aboriginal households, adjusting for household socio-demographic factors.

Yi, O., Jovel, E.M., Towers, G.H., Wahbe, T.R., & Cho, D. (2007). Antioxidant and antimicrobial activities of native *Rosa* sp. from British Columbia, Canada. *International Journal of Food Sciences and Nutrition*, 58, 178–89.

Indigenous traditional knowledge and western science have revealed the potential for significant nutritional and therapeutic benefits among natural antioxidants. Study investigates antioxidant and antimicrobial activity of rose hip extracts (*Rosa nutkana*, *Rosa pisocarpa* and *Rosa woodsii*) from wild British Columbia populations using liposome oxidation and disc diffusion assays.

Young, T.K., & Katzmarzyk, P.T. (2007). Physical activity of Aboriginal people in Canada. *Canadian Journal of Public Health*, 98(Suppl 2), S148–S160.

Summarizes available information on patterns of physical activity, their determinants and consequences, and the results of various interventions designed to increase the physical activity of Aboriginal peoples in Canada and the United States.

## 6.0 Violence, Injury and Abuse

The literature pertaining to Violence, Injury and Abuse has been grouped into a General category, which includes mortality data and background information on the impacts of intergenerational trauma, as well as a category on Family Violence, Child Abuse and Neglect, and Unintentional Injuries and Disabilities.

### 6.1 General

Farley, M., Lynne, J., & Cotton, A.J. (2005). Prostitution in Vancouver: Violence and the colonization of First Nations women. *Transcultural Psychiatry*, 42, 242–71.

Authors interviewed 100 women prostituting in Vancouver. Fifty-two percent of interviewees were women from Canada's First Nations, a significant overrepresentation in prostitution compared with their representation in Vancouver generally (1.7-7%). Eighty-two percent reported a history of childhood sexual abuse, by an average of four perpetrators. Seventy-two percent reported childhood physical abuse, 90% had been physically assaulted in



prostitution, 78% had been raped in prostitution. Seventy-two percent met DSM-IV criteria for PTSD. Ninety-five percent said that they wanted to leave prostitution. Eighty-six percent reported current or past homelessness with housing as one of their most urgent needs. Eighty-two percent expressed a need for treatment for drug or alcohol addictions. There was an extremely high prevalence of lifetime violence and posttraumatic stress disorder (PTSD). Findings are discussed in terms of the legacy of colonialism, the intrinsically traumatizing nature of prostitution and prostitution's violations of basic human rights.

Dumont-Smith, C. (2002). *Aboriginal elder abuse in Canada*. Ottawa, ON: Aboriginal Healing Foundation.

Examines and defines the issue of elder abuse in the Aboriginal population in Canada. (In this context, "elder" refers to Aboriginal persons who are 55 years of age or older – as opposed to 65 years of age, which is Canada's guideline to determine an older person or senior – and should not be mistaken with "Elder," which is often used in the Aboriginal milieu to describe cultural and spiritual guides.)

Karmali, S., Laupland, K., Harrop, A.R., Findlay, C., Kirkpatrick, A.W., Winston, B., et al. (2005). *Epidemiology of severe trauma among status Aboriginal Canadians: A population-based study*. *Canadian Medical Association Journal*, 172, 1007–11.

Measures the impact of ethnicity, as reflected by Aboriginal status, on the incidence of severe trauma and broadly defines the epidemiologic characteristics of severe trauma among status Aboriginal Canadians in a large health region. Population-based, observational study involved all adults (people 16 years and older) resident in the Calgary Health Region between April 1, 1999, and March 31, 2002. Alberta Health and Wellness performed stratification of the population into status Aboriginal Canadians and the reference population, using an alternate premium arrangement field within the personal health care number. Determined injury incidence by identifying all injuries with severity scores of 12 or greater in the Alberta Trauma Registry, regional corporate data and the Office of the Medical Examiner.

Martens, P.J., Sanderson, D., & Jebamani, L.S. (2005). *Mortality comparisons of First Nations to all other Manitobans. A provincial population-based look at health inequalities by region and gender*. *Canadian Journal of Public Health*, 96, S33–S38.

Examines inequalities in health status of Registered First Nations Manitobans compared to all other

Manitobans. Compares three mortality indicators – premature mortality rate defined as an age- and sex-adjusted rate of death before age 75 years; life expectancy from birth; and potential years of life lost – between Registered First Nations people and all other Manitobans by geographical areas of Manitoba. Data were derived from the Population Health Research Data Repository, linked to the federal Status Verification System files for 1995–1999.

Pearce, M.E., Christian, W.M., Patterson, K., Norris, K., Moniruzzaman, A., et al. (2008). *The Cedar Project: Historical trauma, sexual abuse and HIV risk among young Aboriginal people who use injection and non-injection drugs in two Canadian cities*. *Social Science & Medicine*, 66, 2185–94.

Study to determine factors associated with sexual abuse among participants in the Cedar Project, a cohort of young Aboriginal people between the ages of 14 and 30 years who use injection and non-injection drugs in two urban centres in British Columbia, and to locate findings through a lens of historical and intergenerational trauma. Applied post-colonial perspectives in research design, problem formulation and the interpretation of results. Used multivariate modelling to determine the extent to which a history of sexual abuse was predictive of negative health outcomes and vulnerability to HIV infection.

Wilkins, R., Tjepkema, M., Mustard, C., & Choiniere, R. (2008). *The Canadian census mortality follow-up study, 1991 through 2001*. *Health Reports*, 19(3), 25–43.

Describes the methods used to link census data from the long-form questionnaire to mortality data, and reports simple findings for the major groups. Tracked mortality among a 15% sample of the adult population of Canada, who completed the 1991 census long-form questionnaire (about 2.7 million, including 260,000 deaths), from June 4, 1991, to December 31, 2001. Calculated age-specific and age-standardized mortality rates across the various groups, as well as hazard ratios and period life tables.

## 6.2 Partner violence

Aboriginal Healing Foundation. (2003). *Aboriginal domestic violence in Canada*. Ottawa, ON: Aboriginal Healing Foundation.

Builds on many valuable contributions already made to the understanding of family violence and abuse in Aboriginal communities over the past 15 years, especially in terms of mapping the complex web of factors that create and sustain this critical issue at the level of individuals, extended families, community systems and the socio-environmental context within

which they exist. Articulates a comprehensive framework for intervention that addresses root causes and identifies a set of strategies for significantly reducing domestic violence and abuse.

Baker, C.R., & Stith, S.M. (2008). *Factors predicting dating violence perpetration among male and female college students*. *Journal of Aggression, Maltreatment & Trauma*, 17, 227–44.

Examines the importance of witnessing parental violence, experiencing childhood violence, problems with alcohol, length of relationship, relationship satisfaction, anger management skills, and partner's use of physical and psychological aggression for male and female perpetrators of dating violence in college. For males, partner's use of physical aggression, low anger management skills, and high relationship satisfaction were the strongest predictors of physical aggression. For females, partner's uses of physical and psychological aggression were the most important predictors of their use of physical aggression.

Brownridge, D.A. (2003). *Male partner violence against Aboriginal women in Canada: An empirical analysis*. *Journal of Interpersonal Violence*, 18, 65–83.

Empirical investigation of male partner violence against Aboriginal women in Canada, using a large-scale representative sample of Canadian women. Shows Aboriginal women to have a significantly higher prevalence of violence by their partner than non-Aboriginal women, with violence against Aboriginal women more likely at all levels of severity, and the greatest disparity in the most severe forms of violence.

Brownridge, D.A. (2008). *Understanding the elevated risk of partner violence against Aboriginal women: A comparison of two nationally representative surveys of Canada*. *Journal of Family Violence*, 23, 353–67.

Examines Aboriginal women's elevated risk for violent victimization relative to non-Aboriginal women, using two large-scale representative samples collected in 1999 and 2004. Aboriginal women's odds of experiencing violence were about four times those of non-Aboriginal women in both surveys. In both the 1999 and 2004 surveys, controlling for all available risk factors did not fully account for Aboriginal women's elevated odds of experiencing violence. Results were consistent with the theory that much of Aboriginal women's elevated odds of violent victimization may be linked to colonization.

Cohen, M.M., Forte, T., Du, M.J., Hyman, I., & Romans, S. (2005). *Intimate partner violence among Canadian women with activity limitations*. *Journal of Epidemiology and Community Health*, 59, 834–9.



Study aimed to determine the prevalence of intimate partner violence in the previous five years among women reporting activity limitations. Used a community-based, representative telephone survey of Canadians aged 15 and over. Activity limitation was assessed by the question, Does a long term physical or mental condition or health problem reduce the amount or the kind of activity that you can do at home, at school, at work or in other activities?

Cox, J., Bota, G.W., Carter, M., Bretzlaff-Michaud, J.A., Sahai, V., & Rowe, B.H. (2004). Domestic violence: Incidence and prevalence in a northern emergency department. *Canadian Family Physician, 50*, 90–7.

Examines the incidence and prevalence of domestic violence against women presenting to emergency departments. Prospective cohort study in a hospital emergency department in urban northern Canada to determine health status and exposure to domestic violence. Used a random sample of women older than 16 presenting to the emergency department for any reason.

Duplantis, A.D., Romans, J.S.C., & Bear, T.M. (2006). Persistence in domestic violence treatment and self-esteem, locus of control, risk of alcoholism, level of abuse, and beliefs about abuse. *Journal of Aggression, Maltreatment & Trauma, 13*, 1–18.

Examines the relationship between the number of hours domestic batterers attended treatment and the following variables: self-esteem, locus of control, risk of alcoholism, self-reported levels of abuse, and six beliefs about domestic violence. Participants in the study were 313 male clients from one domestic violence agency in a Midwestern city. Each participant completed the Index of Self-Esteem, the Adult Nowicki-Strickland Locus of Control Scale, the MacAndrew Alcoholism Scale, the Center of Social Research Abuse Index, and the Inventory of Beliefs About Wife Beating.

### 6.3 Child abuse and neglect

Arata, C.M., Langhinrichsen-Rohling, J., Bowers, D., & O'Farril-Swails, L. (2005). Single versus multi-type maltreatment: An examination of the long-term effects of child abuse. *Journal of Aggression, Maltreatment & Trauma, 11*, 29–52.

Identifies the long-term impacts of different types of child abuse and assesses differential effects of single versus multi-type maltreatment. Three hundred and eighty-four college students completed measures of child abuse history (neglect, emotional, physical and sexual abuse), depression, suicidality, self-esteem, sexual behaviour, drug and alcohol use, and delinquent behaviour.

Blackstock, C., Trocmé, N., & Bennett, M. (2004). Child maltreatment investigations among Aboriginal and non-Aboriginal families in Canada. *Violence Against Women, 10*, 901–16.

Uses a 1998 Canadian study of child maltreatment cases to identify important differences between Aboriginal and non-Aboriginal families: Aboriginal families face poorer socioeconomic conditions, are more often investigated because of neglect, are less often reported for physical or sexual abuse, and report higher rates of substance abuse. At every decision point in the cases, Aboriginal children are over-represented: investigations are more likely to be substantiated, cases are more likely to be kept open for ongoing services, and children are more likely to be placed in out-of-home care.

Public Health Agency of Canada. (2003). *Canadian Incidence Study of Reported Child Abuse and Neglect, 2003: Major findings*. Ottawa, ON: Author.

Presents the major findings of the second cycle of the Canadian Incidence Study of Reported Child Abuse and Neglect (CIS-2003). Data on child maltreatment, reported to and investigated by child welfare agencies in Canada, are collected every five years.

### 6.4 Unintentional injuries and disabilities

Allard, Y. E., Wilkins, R., & Berthelot, J.M. (2004). Premature mortality in health regions with high Aboriginal populations. *Canadian Centre for Health Information, Health Reports, 15* (1), 51–60.

Compares potential years of life lost (PYLL) before age 75 in health regions with a relatively high proportion of Aboriginal residents, by cause of death, with all other health regions. Findings are based on 1995–1997 mortality data from the Canadian Vital Statistics Database, and on population estimates for 1995, 1996 and 1997 at the health region level.

Auer, A.M., & Andersson, R. (2001). Canadian Aboriginal communities: A framework for injury surveillance. *Health Promotion International, 16*, 169–77.

Conceptual design for an injury surveillance framework that would be culturally relevant for Aboriginal populations and “acceptable and owned by the target population,” and that would meet the specific requirements for injury data collection methods for the study population.

Bridges, S.F. & Kunselman, J.C. (2005). Premature mortality due to suicide, homicide, and motor vehicle accidents in health service delivery areas: Comparison of status Indians in British

Columbia, Canada, with all other residents. *Psychological Reports, 97*, 739–49.

Compares potential years of life lost (PYLL) before age 75 for Status Indians for select causes of death with all other residents of each of 15 health regions in British Columbia. Mortality data from 1991 to 2001 for rates of PYLL (standardized to the 1991 population) are from tables of the British Columbia Vital Statistics Agency and First Nations and Inuit Health Branch in 2002. Overall, the rates of PYLL for suicide, homicide, and deaths due to motor vehicle accidents were about 224%, 340% and 248%, respectively, higher among Status Indians than all other residents. Rates of PYLL for homicide and deaths from motor vehicle accidents among Status Indian women exceeded those of other residents who were men. For suicide, Status Indian men ranked first and all other male residents ranked second.

Cameron, C.M., Purdie, D.M., Kliever, E.V., & McClure, R.J. (2005). Differences in prevalence of pre-existing morbidity between injured and non-injured populations. *Bulletin of the World Health Organization, 83*, 345–52.

Identifies and examines differences in pre-existing morbidity between injured and non-injured population-based cohorts. Used administrative health data from Manitoba to select a population-based cohort of injured people and a sample of non-injured people matched on age, gender, aboriginal status and geographic location of residence at the date of injury. Identified all individuals aged 18–64 years who had been hospitalized for injury (International Classification of Diseases, Ninth Edition, Clinical Modification code 800-995) (n = 21,032) between 1988 and 1991 from the Manitoba discharge database. The matched non-injured comparison group comprised individuals randomly selected 1:1 from the Manitoba population registry. Obtained morbidity data for the 12 months prior to the date of the injury by linking the two cohorts with all hospital discharge records and physician claims.

Elias, B., Demas, D., & Assembly of Manitoba Chiefs. (2001). *First Nations People with a Disability Needs Assessment Survey findings: A profile of Manitoba First Nations people with a disability*. Winnipeg, MB: Centre for Aboriginal Health Research, University of Manitoba. Retrieved from [http://www.umanitoba.ca/centres/centre\\_aboriginal\\_health\\_research/researchreports/Disability\\_Report.pdf](http://www.umanitoba.ca/centres/centre_aboriginal_health_research/researchreports/Disability_Report.pdf)

Report commissioned by the Assembly of Manitoba Chiefs in partnership with the Manitoba First Nation Employment and Training Centres to provide information on Manitoba First Nations people with a disability for planning purposes under the Aboriginal Human Resources Development Strategy.

Reports the findings of needs assessments conducted in all Manitoba First Nations communities.

Gilbert, M., Dawar, M., & Armour, R. (2006). Fire-related deaths among Aboriginal people in British Columbia, 1991–2001. *Canadian Journal of Public Health*, 97, 300–4.

Describes the epidemiology and context of fire-related deaths in the Aboriginal population of British Columbia. BC Vital Statistics Agency identified all death registrations attributable to fires in the province, 1991–2001. Calculated age-specific death rates and age-standardized mortality rates for Status Indians and other residents. Used data from coroner's reports from the BC Coroners' Service (1997–2001) to describe the context of Aboriginal fire-related deaths.

Harrop, A.R., Brant, R.F., Ghali, W.A., & Macarthur, C. (2007). Injury mortality rates in native and non-native children: A population-based study. *Public Health Reports*, 122, 339–46.

Observational, population-based study examined injury mortality rates in Native and non-Native children in Alberta over a 10-year period by calculating temporal trends in injury mortality rates, and relative risks of injury mortality by injury mechanism and intent. Obtained mortality data from provincial vital statistics, with injury deaths identified using external injury codes (E-codes).

Leslie, W.D., Derksen, S.A., Metge, C., Lix, L.M., Salamon, E.A., Wood, S.P., et al. (2005). Demographic risk factors for fracture in First Nations people. *Canadian Journal of Public Health*, 96, S45–S50.

Analysis focuses on geographic area of residence, income level and diabetes mellitus as possible explanatory variables for the high fracture risk among First Nations people compared to the general population, since these factors have been implicated in the fracture rates observed in other populations. Performed a retrospective, population-based matched cohort study of fracture rates using Manitoba administrative health data (1987–1999). First Nations cohort included all Registered First Nations adults (20 years or older) as indicated in either federal and/or provincial files ( $n = 32,692$ ). Controls (up to three for each First Nations subject) were matched by year of birth, sex and geographic area of residence. After exclusion of unmatched subjects, analysis was based on 31,557 First Nations subjects and 79,720 controls.

Mo, D. (2001). Injury mortality risk assessment and targeting the subpopulations for prevention in the Northwest Territories, Canada. *International Journal of Circumpolar Health*, 60, 391–9.

Population-based case-control study consisting of 197 cases to quantify the relative risks of injury mortality for variables age, sex, ethnicity, geographic location and remoteness in the Northwest Territories.

Mwachofi, A.K., & Broyles, R. (2008). Is minority status a more consistent predictor of disability than socioeconomic status? *Journal of Disability Policy Studies*, 19, 34–43.

Examines three binary variables identifying individuals who required assistive devices or experienced at least one day of limited activity because of physical, emotional or mental problems or because of only physical problems, using the responses of 260,062 individuals to the 2003 Behavioral Risk Factor Surveillance System. Examined variation in the number of disability days among 55,026 respondents who experienced at least one day of limited activity.

National Aboriginal Health Organization. (2006). *Resources for First Nations on injury prevention: Annotated bibliography*. Ottawa, ON: Author.

List of injury prevention resources and literature relevant to First Nations and Aboriginal peoples, categorized by provincial/territorial, national, international and global relevance.

Spady, D.W., Saunders, D.L., Schopflocher, D.P., & Svenson, L.W. (2004). Patterns of injury in children: A population-based approach. *Pediatrics*, 113, 522–9.

Population-based longitudinal study involving children born in the three fiscal years of April 1, 1985 to March 31, 1988, recruited before age 1, and who remained in the study until at least age 5. Obtained health care administrative data for the period from all fee-for-service health care venues in Alberta providing services for children registered with the Alberta Health Care Insurance Plan and otherwise meeting entrance criteria. Measurement was based on the International Classification of Diseases, Ninth Revision, Clinical Modification chapter-17 diagnostic codes provided by physicians. Codes were grouped into 17 categories; injury episodes were calculated, and age- and gender-specific incidence rates for each category were calculated. Determined the age, pattern, times of greatest risk, and effect of gender on the type and incidence of injury.

## 7.0 Mental Health

Literature on mental health has been sub-divided into three categories. The first category lists literature that relates to mental health among Aboriginal populations generally. The second category focuses

exclusively on the problem of suicide within Aboriginal communities, while the third category focuses on literature related to substance abuse.

### 7.1 General

Burack, J., Blidner, A., Flores, H., & Fitch, T. (2007). Constructions and deconstructions of risk, resilience and wellbeing: A model for understanding the development of Aboriginal adolescents. *Australasian Psychiatry*, 15(Suppl 1), S18–S23.

Presents a developmental framework for understanding issues of risk, resilience and wellness among Aboriginal adolescents in Canada and elsewhere. Conceptual focus is on ideal constructions of competence within the context of continually ongoing transactions in which the adolescents affect and are affected by the various layers and components of the environment. Competence and wellness are viewed across domains of academic success, behavioural competence and appropriateness, social adaptation, and emotional health within the context of the specific community. Although Aboriginal communities in Quebec, across Canada and the United States, and elsewhere differ considerably with regard to history, culture, language and priorities for their youth, this approach allows for the universal application of a framework, in which specifics can be modified in relation to the unique and changing aspects of societies, communities, and the individuals within them.

Daniel, M., Cargo, M.D., Lifshay, J., & Green, L.W. (2004). Cigarette smoking, mental health and social support: Data from a northwestern First Nation. *Canadian Journal of Public Health*, 95, 45–9.

Study aimed to determine whether mental health or affective measures are related to smoking for any of Canada's First Nations. Obtained smoking status and psychosocial measures including depression, mastery, affect balance and social support in a community-based chronic disease survey for a rural Interior Salishan First Nation in British Columbia. Persons surveyed were on-reserve residents ( $n = 187$ ), overweight (body mass index  $> \text{or} = 25 \text{ kg/m}^2$ ), with mean age of 44.1 years (standard deviation 15.0).

First Nations Centre. (2006). *An annotated bibliography: Cultural intervention models in mental health*. Ottawa, ON: National Aboriginal Health Organization.

Annotated bibliography of scholarly literature addressing cultural models of intervention in mental health.

**Indigenous populations. (2003). *Australasian Psychiatry*, 11, S13–S14.**

Discusses the relationship between historical factors – policy and legislation – and the contemporary mental health status of Canadian Aboriginal peoples in order to guide mental health promotion strategies. Describes a resurgence of healing traditions that has been central to the Aboriginal healing project in Canada, emphasizing that land, legislation and governance are crucial to re-asserting cultural tradition.

**Korhonen, M. (2004). *Helping Inuit clients: Cultural relevance and effective counseling*. Ottawa, ON: National Aboriginal Health Organization.**

Investigates the fit between Inuit conceptions of effective helping and Western counselling. Identified the essential components and value foundations of effective Western counselling, including multicultural counselling, in primary and secondary counselling texts. Identified Inuit traditional values and helping practices from transcripts of interviews with Inuit elders. Interviews with five younger Inuit provided information about the counselling needs of contemporary Inuit. Used grounded theory analysis of all texts and interview transcripts to determine each informant group's conceptions of the elements of effective counselling. Constructed a comparative chart of the important relationship factors, strategies and processes, and effective interventions identified by each informant group.

**Kirmayer, L.J., Brass, G.M., & Tait, C.L. (2000). *The mental health of Aboriginal peoples: Transformations of identity and community*. *Canadian Journal of Psychiatry*, 45, 607–16.**

Reviews recent research on the mental health of the First Nations, Inuit and Métis of Canada. Summarizes evidence for the social origins of mental health problems and illustrates the ongoing responses of individuals and communities to the legacy of colonization. Cultural discontinuity and oppression have been linked to high rates of depression, alcoholism, suicide and violence in many communities, with the greatest impact on youth. Despite these challenges, many communities have done well, and research is needed to identify the factors that promote wellness. Cultural psychiatry can contribute to rethinking mental health services and health promotion for indigenous populations and communities.

**Kirmayer, L., Simpson, C., & Cargo, M. (2003). *Healing traditions: Culture, community and mental health promotion with Canadian Aboriginal peoples*. *Australasian Psychiatry*, 11, S15–S23.**

Identifies issues and concepts to guide the development of culturally appropriate mental health promotion strategies with Aboriginal populations and communities in Canada. Reviewed recent literature examining the links between the history of colonialism and government interventions (including the residential school system, out-adoption, and centralized bureaucratic control) and the mental health of Canadian Aboriginal peoples.

**Mignon, J., O'Neil, J.D., & Wilkie, C. (2003). *Mental health services review: First Nations and Inuit Health Branch, Manitoba region*. Winnipeg, MB: University of Manitoba.**

Examines all aspects of mental health programming and services undertaken by the First Nations and Inuit Health Branch, Manitoba Region, and provides recommendations for changes in programs, based on best available evidence, and in other areas, including effective use of available resources (funding and personnel), interdisciplinary program planning and delivery at both management and field levels, and professional support systems for field workers.

**Public Health Agency of Canada. (2006). *The human face of mental health and mental illness in Canada, 2006*. Ottawa, ON: Government of Canada. Retrieved from [http://www.phac-aspc.gc.ca/publicat/human-humain06/pdf/human\\_face\\_e.pdf](http://www.phac-aspc.gc.ca/publicat/human-humain06/pdf/human_face_e.pdf)**

Report intended to raise awareness and increase knowledge and understanding of mental health and mental illness in Canada. Includes chapters on mental health and mental illness generally, as well as mood disorders, schizophrenia, anxiety disorders, personality disorders, eating disorders, suicidal behaviour, problematic substance abuse, gambling, hospitalization, and Aboriginal people's mental health and well-being.

**Schiff, J.W., & Moore, K. (2006). *The impact of the sweat lodge ceremony on dimensions of well-being*. *American Indian and Alaska Native Mental Health Research (Online)*, 13, 48–69.**

Results of a pilot study that measured the impact of the sweat lodge ceremony on the physical, mental, emotional and spiritual domains of individual participants. Indicates that an increase in spiritual and emotional well-being of participants was directly attributable to the ceremony.

## 7.2 Suicide

**Advisory Group on Suicide Prevention. (2009). *Acting on what we know: Preventing youth suicide in First Nations; The report of the Advisory Group on Suicide Prevention*. Ottawa, ON: Health Canada.**

Examines the issue of Aboriginal youth suicide, presenting basic suicide data and specific factors affecting First Nations, and presents recommendations for action. Sets out a concrete series of steps, some of which can be immediately initiated by government and Aboriginal organizations.

**Alaghebandan, R., Gates, K.D., & MacDonald, D. (2005). *Suicide attempts and associated factors in Newfoundland and Labrador, 1998–2000*. *Canadian Journal of Psychiatry*, 50, 762–8.**

Examines the epidemiology of and associated factors in suicide attempts requiring hospitalization in Newfoundland and Labrador. Data extracted from provincial hospital separation database. Examined incidence rates of suicide attempts by age, sex, and geographic region, and analyzed socio-demographic data to determine associated factors.

**Boothroyd, L.J., Kirmayer, L.J., Spreng, S., Malus, M., & Hodgins, S. (2001). *Completed suicides among the Inuit of northern Quebec, 1982–1996: A case-control study*. *Canadian Medical Association Journal*, 165, 749–755.**

Describes the characteristics of Inuit people who died by suicide in Nunavik, and identifies the antecedents and correlates of completed suicide. Case-control study of 71 people who died by suicide between 1982 and 1996 and 71 population-based living control subjects matched for sex, community of residence and age within one year. Reviewed comprehensive medical charts for data on socio-demographic characteristics, medical and psychiatric history, childhood separations and family history, and use of health care services.

**Edwards, N., Alaghebandan, R., MacDonald, D., Sikdar, K., Collins, K., & Avis, S. (2008). *Suicide in Newfoundland and Labrador: A linkage study using medical examiner and vital statistics data*. *Canadian Journal of Psychiatry*, 53, 252–9.**

Examines suicide epidemiology in Newfoundland and Labrador from 1997 to 2001. Linked data from the Office of the Chief Medical Examiner with data derived from the Canadian Vital Statistics Death Database. Calculated 95% confidence intervals to assess variation of rates, and used the chi-square test to compare categorical data.

**Hunter, E., & Harvey, D. (2002). *Indigenous suicide in Australia, New Zealand, Canada, and the United States*. *Emergency Medicine*, 14, 14–23.**

Reviews literature on self-harm and suicide among Indigenous populations in four nations with histories of British colonization, with a more detailed exploration of patterns and primary care



considerations in Australian Aboriginal and Torres Strait Islander populations.

Isaac, M., Elias, B., Katz, L.Y., Belik, S.L., Deane, F.P., Enns, M.W., et al. (2009). Gatekeeper training as a preventative intervention for suicide: A systematic review. *Canadian Journal of Psychiatry*, 54, 260-8.

Examines gatekeeper training, a widely used suicide prevention effort. Reviews the evidence on gatekeeper training for suicide prevention, and proposes directions for further research. Identified studies by searching MEDLINE (PubMed) and PsycINFO from inception to the present for the key words suicide, suicide prevention, and gatekeeper. Undertook a manual scan of relevant articles' bibliographies.

Kirmayer, L.J., Brass, G.B., Holton, T., Paul, K., Simpson, C., Tait, C., et al. (2007). *Suicide among Aboriginal people in Canada*. Ottawa, ON: Aboriginal Healing Foundation.

Literature review on suicide and suicide issues for Aboriginal people in Canada.

Moniruzzaman, A., Pearce, M.E., Patel, S.H., Chavoshi, N., Teegee, M., Adam, W., et al. (2009). The Cedar Project: Correlates of attempted suicide among young Aboriginal people who use injection and non-injection drugs in two Canadian cities. *International Journal of Circumpolar Health*, 68, 261-73.

Describes the prevalence of suicide attempts and correlates of vulnerability to suicide attempts within a cohort of young Aboriginal people who use drugs in two Canadian cities. Findings situated within the context of historical and lifetime trauma. The Cedar Project is a prospective cohort study involving 605 young Aboriginal people aged 14-30 who use drugs in Vancouver and Prince George.

### 7.3 Substance abuse

Callaghan, R.C. (2003). Risk factors associated with dropout and readmission among First Nations individuals admitted to an inpatient alcohol and drug detoxification program. *Canadian Medical Association Journal*, 169, 23-7.

Provides a predictive model of dropout from and readmission to an inpatient detoxification program in a large treatment sample of Aboriginal patients. Reviewed the medical charts of all self-reported First Nations people (n = 877) admitted to an inpatient detoxification centre in British Columbia between Jan. 4, 1999, and Jan. 30, 2002, and used binary logistic regression models (validated using an independent subset of the treatment sample) to identify predictors of dropout from and readmission to the program.

Callaghan, R.C., Cull, R., Vettore, L.C., & Taylor, L. (2006). A gendered analysis of Canadian Aboriginal individuals admitted to inpatient substance abuse detoxification: A three-year medical chart review. *American Journal on Addictions*, 15, 380-6.

Examines gender differences within a sample of Canadian Aboriginal individuals admitted to an inpatient, hospital-based substance abuse detoxification program.

Callaghan, R.C., Tavares, J., & Taylor, L. (2007). Mobility patterns of Aboriginal injection drug users between on- and off-reserve settings in northern British Columbia, Canada. *International Journal of Circumpolar Health*, 66, 241-7.

Describes the mobility patterns of Aboriginal injection drug users between on- and off-reserve locations in northern British Columbia, in light of warnings from public health policy-makers and Aboriginal health service leaders that the reciprocal movement of Aboriginal injection drug users (IDUs) between urban and rural settings may serve as a critical vector for the continuing spread of HIV among Aboriginal peoples in Canada.

Callon, C., Wood, E., Marsh, D., Li, K., Montaner, J., & Kerr, T. (2006). Barriers and facilitators to methadone maintenance therapy use among illicit opiate injection drug users in Vancouver. *Journal of Opioid Management*, 2, 35-41.

Examines barriers to and facilitators of methadone maintenance therapy (MMT) access among opiate users enrolled in a prospective cohort study of injection drug users. Identified individuals who had initiated MMT during follow-up interviews; used generalized estimating equations to identify socio-demographic and drug-related variables associated with MMT access. The findings indicate the need for additional interventions aimed at maximizing coverage of MMT and other treatments for opiate-addicted individuals.

Chansonneuve, D. (2007). *Addictive behaviours among Aboriginal people in Canada*. Ottawa, ON: Aboriginal Healing Foundation.

Explores five aspects of an Aboriginal approach to addictions, which frames addictive behaviours within a wider context of Aboriginal history and culture: historical injustices and impacts on collective health of Aboriginal people; types of addictive behaviours, prevalence and impacts; types of healing models and role of cultural teachings and practices in addictions prevention and recovery; personal stories of hope to demonstrate uniqueness of an Aboriginal cultural approach; and promising practices in an Aboriginal approach to addictions prevention and intervention.

Coleman, H., Charles, G., & Collins, J. (2001). Inhalant use by Canadian Aboriginal youth. *Journal of Child & Adolescent Substance Abuse*, 10, 1-20.

Study followed 78 Aboriginal young people who received treatment for inhalant abuse in a program established by the federal government. Data were based on a secondary analysis of case files as well as follow-up information from community workers.

Erickson, P.G., & Butters, J.E. (2005). How does the Canadian juvenile justice system respond to detained youth with substance use associated problems? Gaps, challenges, and emerging issues. *Substance Use & Misuse*, 40, 953-73.

Provides an overview of programs for Aboriginal youth in custodial facilities that offer innovative approaches to particular drug use problems, and elaborates features of some programs, particularly Multisystemic Therapy, mainly in the province of Ontario. Few programs have received adequate evaluation, however, and the need for systematic assessment is crucial for the development of future effective interventions for youth with multiple drug and other problems.

Gliksmann, L., Rylett, M., & Douglas, R.R. (2007). Aboriginal community alcohol harm reduction policy (ACAHRP) project: A vision for the future. *Substance Use & Misuse*, 42, 1851-66.

Survey results indicate that decreases in alcohol use-related problems related to intoxication, nuisance behaviours, criminal activity, liquor license violations, and personal harm were perceived to have occurred as a result of alcohol management policies (local control options to manage alcohol use in recreation and leisure areas) implemented in four First Nation communities in Ontario between 1992 and 1994. Having policy regulations in place did not have an adverse effect on facility rentals, and band administrators and facility staff in each community felt the policy had had a positive effect on events at which alcohol was sold or served.

Hayward, L.M., Campbell, H.S., & Sutherland-Brown, C. (2007). Aboriginal users of Canadian quitlines: An exploratory analysis. *Tobacco Control*, 16(Suppl 1), i60-i64.

Exploratory, comparative study of the utilization and effectiveness of tobacco cessation quitlines (providing free cessation information, advice and counselling) among Aboriginal and non-Aboriginal Canadian smokers. Study population included first-time quitline callers, age 18 years of age and over, who called the quitline between August 2001 and December 2005 and who completed the evaluation



and provided data on their ethnic status (n = 7,082). Measured demographic characteristics and tobacco behaviours of participants at intake and follow-up, reasons for calling, actions taken toward quitting, and six-month follow-up quit rates.

Hutchinson, P.J., Richardson, C.G., & Bottorff, J.L. (2008). Emergent cigarette smoking, correlations with depression and interest in cessation among Aboriginal adolescents in British Columbia. *Canadian Journal of Public Health*, 99, 418–22.

Describes smoking rates, age of initiation, and smoking cessation efforts among Aboriginal adolescent girls and boys in British Columbia, and examines the relationships between cigarette smoking and socio-demographic characteristics, depression and domains of life satisfaction. Conducted a secondary analysis of data collected from the British Columbia Youth Survey on Smoking and Health II, measuring demographic and social factors, previous smoking experience, life satisfaction and depression. Analyzed data from respondents who self-identified as Aboriginal, and by gender. Used logistic regression models to identify risk factors for current cigarette smoking.

Irvine, J., Onyett, H., Saylor, K., Wong, S., Young, M., Carson, J., et al. (2006). Use and misuse of tobacco among Aboriginal peoples: Update 2006. *Journal of Paediatrics and Child Health*, 11, 681–92.

Revision of a 1999 Canadian Paediatric Society statement on smoking, looking at the consequences of tobacco use and possible reasons for its high prevalence, and exploring some attempts at a solution.

Jiwa, A., Kelly, L., & Pierre-Hansen, N. (2008). Healing the community to heal the individual: Literature review of Aboriginal community-based alcohol and substance abuse programs. *Canadian Family Physician*, 54, 1000.

Examines the development of culturally based and community-based alcohol and substance abuse treatment programs for Aboriginal patients in an international context.

Kerr, T., Marsh, D., Li, K., Montaner, J., & Wood, E. (2005). Factors associated with methadone maintenance therapy use among a cohort of polysubstance using injection drug users in Vancouver. *Drug and Alcohol Dependence*, 80, 329–35.

Identified methadone maintenance therapy (MMT) use during follow-up interviews and examined associations between MMT use and socio-demographic and drug-related variables using generalized estimating equations.

Korhonen, M. (2004). Alcohol problems and approaches: Theories, evidence, and northern practice. Ottawa, ON: National Aboriginal Health Organization.

Provides information about alcohol problems, theories about causes and evidence-based best practices in alcohol problem treatment and prevention. Also examines treatment practice in Inuit communities in order to identify gaps in service. Intended to be of some practical use by providing basic information about the process and content of effective alcohol services.

Lemstra, M., Mackenbach, J., Neudorf, C., Nannapaneni, U., & Kunst, A. (2009). Daily smoking in Saskatoon: The independent effect of income and cultural status. *Canadian Journal of Public Health*, 100, 51–4.

Study to determine the independent effects of Aboriginal cultural status and income status on daily smoking status. Merged data from three cycles of the Canadian Community Health Survey (2001, 2003, 2005) with identical data collected by the Saskatoon Health Region in 2007. All four cycles were random telephone survey samples.

Muckle, G., Boucher, O., Leflamme, D., Chevalier, S., & Rochette, L. (2007). Alcohol, drug use and gambling among the Inuit of Nunavik: Epidemiological profile. Quebec City, QC: Institut national de santé publique du Québec, Nunavik Regional Board of Health and Social Services.

Results from two components of the 2004 Nunavik Inuit Health Survey: alcohol and illicit drug use, and gambling. Presents prevalence rates and frequency of alcohol consumption and various illicit drugs, and compares these to rates in southern Quebec and Canada. Also examines prevalence and frequency of various types of gambling which are compared to southern Quebec.

Ritchie, A.J., & Reading, J.L. (2004). Tobacco smoking status among Aboriginal youth. *International Journal of Circumpolar Health*, 63(Suppl 2), 405–9.

Cross-sectional study to determine what factors are associated with smoking status among some of the spectators and participants of the 2002 North American Indigenous Games in Winnipeg. Surveyed Aboriginal youth aged 12–22 years on tobacco use and lifestyle behaviours.

Stockburger, J. (2003). Substance abuse related special needs in Canada: Best practices for prevention. Prince George, BC: Task Force on Substance Abuse, Centre of Excellence for Children & Adolescents with Special Needs,

University of Northern British Columbia. Retrieved from <http://www.coespecialneeds.ca/PDF/SubstanceAbuse.pdf>

Provides an overview of the research and findings regarding substance abuse-related special needs. Includes a synopsis of the physical and developmental effects of prenatal consumption of illicit drugs and alcohol, and discusses three levels of “best practices” for the prevention of substance abuse-related special needs: population health (primary prevention), indicated prevention for at risk individuals (secondary prevention), and high-risk pregnant and not yet pregnant women (tertiary prevention). Review of research and findings related to these best practices is framed by a critical examination of the cultural and societal factors that can influence perceptions of women who use substances.

Thommasen, H.V., Hanlon, N., Thommasen, C., & Zhang, W. (2006). Alcohol drinking habits and community perspectives on alcohol abuse in the Bella Coola Valley. *Canadian Journal of Rural Medicine*, 11, 15–22.

Survey of the residents of the rural and remote communities in the Bella Coola Valley, British Columbia, on their alcohol drinking habits and on their opinions as to which of a list of health issues (including alcohol abuse, drug abuse, family violence, unemployment, sexual abuse and racial discrimination) were the most important considerations for the well-being of the community. People aged 17 years and older living in the Bella Coola Valley were asked to complete a detailed Health and Quality of Life Survey during the period August 2001–May 2002.

Wardman, D., el-Guebaly, N., & Hodgins, D. (2001). Problem and pathological gambling in North American Aboriginal populations: A review of the empirical literature. *Journal of Gambling Studies*, 17, 81–100.

Literature review attempts to estimate Aboriginal population prevalence rates for problem and pathological gambling and compare these rates to the general population; determine factors associated with the Aboriginal population problem gambling behaviour; and identify other salient findings and issues. Materials used in the review were drawn from available research literature and bibliographies. Eleven descriptive studies were identified.

Wardman, D., Khan, N., & el-Guebaly, N. (2002). Prescription medication use among an Aboriginal population accessing addiction treatment. *Canadian Journal of Psychiatry*, 47, 355–60.

Results from a survey of Aboriginal clients who accessed addiction treatment in Calgary for

prescription medication use in the previous year, frequency of medication use, and medication source(s), if inappropriately used.

Wardman, D.A.E., & Khan, N.A. (2004). Smoking-attributable mortality among British Columbia's First Nations populations. *International Journal of Circumpolar Health*, 63, 81–92.

Smoking-attributable fractions and smoking-attributable mortality rates for the First Nations and British Columbia populations, 1997 and 2001. Rates calculated using mortality statistics for neoplastic, cardiovascular and respiratory conditions among adults 34+ and four diseases among children less than one, and smoking prevalence rates (as self-reported).

Wardman, D., Quantz, D., Tootoosis, J., & Khan, N. (2007). Tobacco cessation drug therapy among Canada's Aboriginal people. *Nicotine & Tobacco Research*, 9, 607–11.

Results of a cross-sectional questionnaire administered to Aboriginal and non-Aboriginal smokers or recent ex-smokers in 12 First Nations communities in two Canadian provinces, September–December 2004. Participants were asked about smoking cessation advice and perceptions of three drug therapy agents.

Weber, A.E., Tyndall, M.W., Spittal, P.M., Li, K., Coulter, S., O'Shaughnessy, M.V., et al. (2003). High pregnancy rates and reproductive health indicators among female injection-drug users in Vancouver, Canada. *European Journal of Contraception and Reproductive Health Care*, 8, 52–8.

Study to determine the incidence of pregnancy among active injection-drug users and to identify factors associated with becoming pregnant. The Vancouver Injection Drug User Study is a prospective cohort study that began in 1996. Women who had completed a baseline and at least one follow-up questionnaire between June 1996 and January 2002 were included in this study. Used parametric and non-parametric methods to compare characteristics of women who reported pregnancy over the study period with those who did not.

Yakiwchuk, C.A., Stasiuk, H., Wiltshire, W., & Brothwell, D.J. (2005). Tobacco use among young North American Aboriginal athletes. *Journal of the Canadian Dental Association*, 71, 403.

As part of an oral health promotion project, a convenience sample of 163 Aboriginal athletes (mean age 19.6 years, mostly male and Canadian citizens) participating in the 2002 North American Indigenous Games completed a self-administered questionnaire addressing tobacco use and knowledge of tobacco effects.

## 8.0 Environmental Health

Literature pertaining to environmental health has been separated into two subcategories, indoor and outdoor environmental health. Indoor environmental health literature generally relates to housing quality, while outdoor environmental health literature may include exposure to toxins in the environment, degradation of natural resources, climate change, and water and wastewater management issues.

### 8.1 Indoor environmental health

Berghout, J., Miller, D., Mazerolle, R., O'Neill, L., Wakelin, G., Mackinnon, B., et al. (2005). Indoor environmental quality in homes of asthmatic children on the Elsipogtog Reserve (NB), Canada. *International Journal of Circumpolar Health*, 64, 77–85.

Pilot observational study conducted in order to enable larger research into housing and health in Aboriginal communities. Inspected 26 homes with asthmatic children on the Elsipogtog reserve, New Brunswick, and analyzed settled dust for contaminants known to be associated with respiratory symptoms (endotoxin, house dust mite and fungal glucan concentrations, and building-associated fungi).

Lawrence, R., & Martin, D. (2001). Moulds, moisture and microbial contamination of First Nations housing in British Columbia, Canada. *International Journal of Circumpolar Health*, 60, 150–6.

Reviews the difficulties experienced with mould growth in First Nations homes in British Columbia, describes the team approach used in dealing with this problem, and suggests that substandard housing is a major contributor to poor health in First Nations communities. Humid, damp conditions promote the growth of bacteria, moulds and dust mites, which contribute to poor air quality and cause serious health problems. There is increasing evidence indicating an association between mould, particularly toxigenic moulds, and some diseases, notably asthma. Those particularly at risk include atopic, immunocompromised, very young and elderly individuals and those with chronic health conditions.

### 8.2 Outdoor environmental health

Auger, N., Kofman, O., Kosatsky, T., & Armstrong, B. (2005). Low-level methylmercury exposure as a risk factor for neurologic abnormalities in adults. *Neurotoxicology*, 26, 149–57.

Study aimed to determine whether there is a dose-response relationship between long-term

methylmercury exposure and neurological abnormalities in Aboriginal Quebec Cree adults for whom fish is a dietary staple. Re-analyzed data from a 1977 cross-sectional study conducted by Kofman and collaborators on a group of Quebec Cree individuals claiming ill health from local fish consumption. In the original 1977 study, 306 adult participants aged 18–82 years were assessed for methylmercury exposure. Tremor and other neurologic outcomes were assessed with a clinical examination.

Bidleman, T., Macdonald, R., & Stow, J. (Eds.). (2003). *Canadian arctic contaminants assessment report II: Sources, occurrence, trends and pathways in the physical environment*. Ottawa, ON: Department of Indian and Northern Affairs Canada.

One of four technical reports documenting the findings of the second phase of the Northern Contaminants Program (NCP-II). Reviews research in three priority areas – temporal atmospheric trends, physicochemical processes and modeling, and identification of additional substances of concern – and assesses the current state of knowledge on contaminants in the Arctic abiotic environment.

Bjerregaard, P., Dewailly, E., Ayotte, P., Pars, T., Ferron, L., & Mulvad, G. (2001). Exposure of Inuit in Greenland to organochlorines through the marine diet. *Journal of Toxicology & Environmental Health: Part A*, 62, 69–81.

Assesses exposure to organochlorines in relation to age, sex, and diet in a general population sample of Inuit from Greenland. Recorded plasma concentrations of 14 polychlorinated biphenyl (PCB) congeners and 16 pesticides, including 5 toxaphene congeners, in a random population survey of 408 adult indigenous Greenlanders.

Buell, M., & Ajunnginiq Centre. (2006). *Resource extraction development and well-being in the north: A scan of the unique challenges of development in Inuit communities*. Ottawa, ON: National Aboriginal Health Organization.

The North is becoming an attractive destination for resource extraction development, from oil and gas to diamonds and nickel. Inuit people are looking for opportunities for greater autonomy and self-sufficiency to accompany traditional practices such as hunting and fishing. Although development brings money, work and the potential for Inuit to become more economically self-reliant, development also has the potential to have many negative social impacts on community well-being. There is a desire among the Inuit to develop a wage-earner economy; however, it must not come at the expense of the traditional economy.

- Butler-Walker, J., Houseman, J., Seddon, L., McMullen, E., Tofflemire, K., Mills, C., et al. (2006). Maternal and umbilical cord blood levels of mercury, lead, cadmium, and essential trace elements in Arctic Canada. *Environmental Research*, 100, 295–318.
- Reports maternal and umbilical cord blood levels of mercury, lead, cadmium, and the trace elements copper, zinc, and selenium for Inuit, Dene/Métis, Caucasian and other non-Aboriginal participants from Arctic Canada. First human tissue monitoring program covering the entire Northwest Territories and Nunavut for multiple contaminants; establishes a baseline upon which future comparisons can be made.
- Chiu, A., Beaubier, J., Chiu, J., Chan, L., & Gerstenberger, S. (2004). Epidemiologic studies of PCB congener profiles in North American fish consuming populations. *Journal of Environmental Science and Health (Part C: Environmental Health Sciences)*, 22, 13–36.
- Summarizes two research approaches to PCB congeners, with potential to associate specific adverse human health effects with PCB concentrations in indigenous small populations: the field epidemiological approach (includes giving questionnaires to target population groups in conjunction with sampling for PCBs and selected persistent organic pollutants and metals in foods purchased or hunted and collected by Inuit peoples), and direct determination of contaminant levels in food sources and among individuals in selected comparative subpopulations.
- Fisk, A.T., Hobbs, K., & Muir, D.C.G. (Eds.). (2003). *Canadian Arctic contaminants assessment report II: Contaminant levels, trends and effects in the biological environment*. Ottawa, ON: Department of Indian and Northern Affairs.
- One of four technical reports documenting the findings of the second phase of the Northern Contaminants Program (NCP-II). Describes levels, geographic extent, probable duration, and source of contaminants in the northern atmosphere, environment and people.
- Fontaine, J., Dewailly, E., Benedetti, J.-L., Pereg, D., Ayotte, P., & Dery, S. (2008). Re-evaluation of blood mercury, lead and cadmium concentrations in the Inuit population of Nunavik (Quebec): A cross-sectional study. *Environmental Health*, 7, 25. doi:10.1186/1476-069X-7-25.
- Study examines trends in mercury, lead and cadmium exposure between 1992 and 2004 in the Inuit population of Nunavik (Northern Quebec) using data obtained from two broad-scale health surveys, and identifies sources of exposure in 2004.
- recruited 917 adults aged between 18 and 74 in the 14 communities of Nunavik to participate in a broad-scale health survey; collected and analyzed blood samples for metals by inductively coupled plasma mass spectrometry; documented dietary and lifestyle characteristics through questionnaires. Compared results with data obtained in 1992, when 492 people were recruited for a similar survey in the same population.
- Guyot, M., Dickson, C., Paci, C., Furgal, C., & Chan, H.M. (2006). Local observations of climate change and impacts on traditional food security in two northern Aboriginal communities. *International Journal of Circumpolar Health*, 65, 403–15.
- Participatory study with two northern Canadian Aboriginal communities records participant observations of changes in the local environment, harvesting situations and traditional food species, and explores what impact these may have on traditional food. Conducted focus groups in both communities, asking both specific and open-ended questions to gather information about the traditional food harvest, and conducted a qualitative analysis.
- Indian and Northern Affairs Canada. (2003). *Highlights of the Canadian Arctic contaminants assessment report II*. Ottawa, ON: Author.
- Conveys in plain language the main results or “highlights” of the four Canadian Arctic Contaminants Assessment reports, with research results presented in ways that are meaningful to those who live and work in the Canadian North, particularly with regard to the question, Is my food safe to eat?
- Indian and Northern Affairs Canada. (2003). *National assessment of water and wastewater systems in First Nations communities: Summary report*. Ottawa, ON: Author.
- Summarizes the results of an on-site assessment of all on-reserve water and wastewater systems to determine conditions in terms of system performance, associated risk levels and operating practices. Assessed system performance in terms of meeting the Guidelines for Canadian Drinking Water Quality and the Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments. Used recent drinking water sampling results and available wastewater effluent sampling results as well as other operational data in examining drinking water and wastewater effluent quality.
- Messier, V., Levesque, B., Proulx, J.-F., Rochette, L., Libman, M.D., Ward, B.J., et al. (2009). Seroprevalence of toxoplasma gondii among Nunavik Inuit (Canada). *Zoonoses and Public Health*, 56, 188–97.
- Results of a serosurvey conducted in September 2004 to better understand the risk factors for Toxoplasma gondii infection among the Inuit of Nunavik. Representative sample of the Inuit adult population of Nunavik participated in this cross-sectional study (n = 917).
- Nickels, S., Furgal, C., Buell, M., & Moquin, H. (2005). *Unikkaaqatigiit: Putting the human face on climate change*. Ottawa, ON: National Aboriginal Health Organization.
- Presents the results from a series of workshops on environmental change and what it means for communities in the four Inuit regions of the Canadian Arctic, conducted by the Inuit Tapiriit Kanatami, the Nasivvik Centre for Inuit Health and Changing Environments at Laval University, and the Ajunnginiq Centre at the National Aboriginal Health Organization, in co-operation with the regional Inuit organizations and communities and other partners, from 2002 to 2005, following an International Institute for Sustainable Development research initiative in Sachs Harbour, Northwest Territories, in 2001.
- Valera, B., Dewailly, E., & Poirier, P. (2008). Cardiac autonomic activity and blood pressure among Nunavik Inuit adults exposed to environmental mercury: A cross-sectional study. *Environmental Health*, 7, 29.
- Assesses the impact of methylmercury (MeHg) levels on heart rate variability (HRV) and blood pressure in Inuit adults from Nunavik. The Nunavik Inuit Health Survey, 2004, collected information on HRV among 280 adults aged 40 years and older. Indicators of the time and frequency domains of HRV were derived from a two-hour Holter recording. Blood pressure was measured according to the Canadian Coalition for High Blood Pressure technique. Blood mercury concentration was used as exposure biomarker. Conducted statistical analysis through linear regression and used multivariable linear regression to control for confounders.
- Van, O.J., Donaldson, S.G., Feeley, M., Arnold, D., Ayotte, P., Bondy, G., et al. (2005). Human health implications of environmental contaminants in Arctic Canada: A review. *Science of the Total Environment*, 351/352, 165–246.
- Assesses the impact of exposure to current levels of environmental contaminants in the Canadian Arctic on human health, identifies the data and knowledge gaps that need to be filled by future human health research and monitoring, and examines how these issues have changed since the first assessment.



Van Oostdam, J., Donaldson, S., Feeley, M., & Tremblay, N. (2003). *Canadian Arctic contaminants assessment report II: Human health*. Ottawa, ON: Indian and Northern Affairs Canada.

One of four technical reports documenting the findings of the second phase of the Northern Contaminants Program (NCP-II). NCP-II focused on questions about the impacts and risks to human health that may result from current levels of contamination in key Arctic food species, as well as determining the temporal trends of contaminants of concern in key indicator Arctic species and air. Human health technical report focuses on exposure assessment, toxicology, epidemiology, and risk and benefit characterization.

Van Oostdam, J.C., Dewailly, E., Gilman, A., Hansen, J.C., Odland, J.O., Chashchin, V., et al. (2004). Circumpolar maternal blood contaminant survey, 1994–1997 organochlorine compounds. *Science of the Total Environment*, 330, 55–70.

To address concerns arising from possible increased human exposure in the Arctic and possible effects of POPs, all circumpolar countries agreed in 1994 to monitoring of specific human tissues for contaminants in the Arctic, under the Arctic Monitoring and Assessment Program. Mothers in eight circumpolar countries contributed blood samples that were analyzed at a single laboratory for 14 PCB congeners and 13 organochlorine pesticides.

## 9.0 General Literature on Health Status and Indicators

The literature included under this theme does not focus on any particular health issue, but rather, provides general health statistics, explores the health of Aboriginal peoples through a broad determinants of health lens, or highlights the role of health policy or improving access to health services as mechanisms for improving Aboriginal health generally. We have also included in this section literature that focuses specifically on the health of the urban Aboriginal population since much of this literature broadly encompasses multiple health issues.

### 9.1 Social determinants of health literature

Adelson, N. (2005). *The embodiment of inequity: Health disparities in aboriginal Canada*. *Canadian Journal of Public Health*, 96(Suppl 2), S45–S61.

The literature reviewed for this article indicates that time and again health disparities are directly and indirectly associated with social, economic, cultural and political inequities, the end result of which is a disproportionate burden of ill health and social suffering on the Aboriginal populations of Canada.

Anderson, I., Baum, F., & Bentley, M. (Eds.) (2007). *Beyond band-aids: Exploring the underlying social determinants of Aboriginal health*. Darwin, Australia: Cooperative Research Centre for Aboriginal Health.

Papers from the Social Determinants of Aboriginal Health Workshop, Adelaide, Australia, July 2004. Authors reviewed literature on Koori perspectives on social determinants of health as well as on the impact of a number of social and economic factors on Indigenous health including education, income, poverty, employment, the physical environment, social and emotional wellbeing, community development, governance, the value of social capital, law and justice (including an overview of constitutional rights issues), and aspects of culture.

Ajunnginiq Centre. (2003). *Identity and needs in the modern world: Roles of orality and literacy*. Ottawa, ON: National Aboriginal Health Organization.

Emphasizes the importance of orality and literacy in maintaining Inuit traditional culture.

Curtis, L.J., & Pennock, M. (2006). Social assistance, lone parents and health: What do we know, where do we go? *Canadian Journal of Public Health*, 97(Suppl 3), S4–10.

Presents an analysis of the state of research on lone parents, social assistance and health, and recommendations that will move the research forward. Conducted reviews of the relevant literature and social policies to identify trends in social assistance policy and the extent of interprovincial variation in policy, and research gaps. Conducted a series of interviews with key informants in government, non-governmental organizations and academia to gather information regarding research obstacles, opportunities and priorities. Held a consensus-building workshop to form research recommendations.

Frohlich, K.L., Ross, N., & Richmond, C. (2006). Health disparities in Canada today: Some evidence and a theoretical framework. *Health Policy*, 79, 132–43.

Documents contemporary evidence on patterns of health disparities in Canada and suggests theoretical mechanisms that give rise to these patterns. Focuses on three social determinants and their effects on disparities in health: Aboriginal status, income and place.

Health Canada. (2009). *A statistical profile on the health of First Nations in Canada: Determinants of health, 1999 to 2003*. Ottawa, ON: Author.

Presents a national description of the non-medical determinants of health among First Nations people on-reserve in Canada, including education, labour force characteristics, personal health practices, culture and physical environment. These determinants of health are in keeping with the health determinants model that is complementary to Aboriginal perspectives of wellness, one that encompasses physical, social, emotional and spiritual domains.

Inuit Tapiriit Kanatami. (2009). *Determinants of Inuit health In Canada: A discussion paper*. Ottawa, ON: Author.

Identifies 11 non-medical determinants of health as having a significant influence on Inuit health, including acculturation, productivity, income distribution, housing, education, food security, health care services, quality of early life, addictions, social safety nets and the environment. Positive action in any one of these areas would result in improvement in Inuit health, but should be addressed holistically.

Loppie Reading, C., & Wien, F. (2009). *Health inequalities and social determinants of Aboriginal peoples' health*. Prince George, BC: National Collaborating Centre for Aboriginal Health, University of Northern British Columbia.

Uses available data to describe health inequalities experienced by Aboriginal peoples in Canada. Data are organized around social determinants of health and across the life course, and provide evidence that not only demonstrates important health disparities within Aboriginal groups and compared to non-Aboriginal people, but also links social determinants, at proximal, intermediate and distal levels, to health inequalities. Introduces the Integrated Life Course and Social Determinants Model of Aboriginal Health as a promising conceptual framework for understanding the relationships between social determinants and various health dimensions, as well as examining potential trajectories of health across the life course.

National Aboriginal Health Organization. (2006). *Literacy and health: The importance of higher-level literacy*. Ottawa, ON: Author.

Discusses the importance of high-level reading skills in health decisions, healthy lifestyles and healthy communities. Highlights the foundations, process and effects of good literacy skills so as to provide Inuit communities and decision-makers with information for improving literacy and education, leading to holistic health.

Native Women's Association of Canada. (2010). *Aboriginal solutions toward stimulating Canada's economy* (NWAC submission prepared for the



First Ministers' meeting with national Aboriginal Leaders, January 15, 2009). Ohsweken, ON: Six Nations of Grand River.

Presents five short- to medium-term measures that align with the economic stimulus approaches already under consideration, and that will aid in the development of Aboriginal women's capacity to engage in economic opportunities.

Richmond, C.A., Ross, N.A., & Egeland, G.M. (2007). *Social support and thriving health: A new approach to understanding the health of indigenous Canadians*. *American Journal of Public Health*, 97, 1827–33.

Examines the importance of social support in promoting thriving health among indigenous Canadians. Based on self-reported health status of 31,625 adult indigenous Canadians as thriving (excellent, very good) or non-thriving (good, fair, poor). Measured social support with indices of positive interaction, emotional support, tangible support, and affection and intimacy. Used multivariable logistic regression analyses to estimate odds of reporting thriving health, using social support as the key independent variable, and controlled for educational attainment and labour force status.

Senate Subcommittee on Population Health. (2009). *A healthy, productive Canada: A determinant of health approach*. Ottawa, ON: Senate Canada. Retrieved from <http://senate-senat.ca/health-e.asp>

Final report of the Senate Subcommittee on Population Health, and culmination of a two-year study, during which the subcommittee heard the views of over 117 witnesses, received hundreds of written submissions and visited six Canadian communities. Provides recommendations in four categories: a new style of governance; the foundation; building healthy communities; and a priority focus on First Nations, Inuit and Métis peoples.

Wilson, K., & Young, T.K. (2008). *An overview of Aboriginal health research in the social sciences: Current trends and future directions*. *International Journal of Circumpolar Health*, 67, 179–89.

Review of Aboriginal health research conducted within the field of social sciences to determine whether it reflects the population and geographic diversity of the Aboriginal population. Searched the Web of Science Social Science Citation Index, the Arts and Humanities Citation Index and Scholars Portal for 1995–2005 using search terms to reflect different names used to refer to Canada's Aboriginal peoples. Citations that did not focus on health or Canada were eliminated.

Young, T.K. (2003). Review of research on Aboriginal populations in Canada: Relevance to their health needs. *BMJ (Clinical Research)*, 327, 419–22. doi:10.1136/bmj.327.7412.419

Review to determine whether research has adequately examined the health needs of the Aboriginal population of Canada. MEDLINE search of journal articles published 1992–2001, using search terms “Canada” and various synonyms and categories for Canadian Aboriginal people. Categorized each paper according to the Aboriginal group, age-sex group, comparison group, geographic location and type of research topic (health determinant, health status or health care).

## 9.2 Improving access to health programs and services

First Nations Centre. (2005). *First Nations tele-health: A primer for strategic planners*. Ottawa, ON: National Aboriginal Health Organization.

Discussion and reference document for strategic planners, fulfilling the First Nations Centre of the National Aboriginal Health Organization commitment, made at the First Nations and Inuit Tele-health Conference, held September 22–23, 2005, in Winnipeg, to produce a list of tele-health applications for use by First Nations planners engaged in developing regional tele-health strategic plans. Objective is to support tele-health implementation planning.

First Nations, Inuit and Aboriginal Health. (2007). *First Nations and Inuit health program compendium*. Ottawa, ON: Author. Retrieved from [http://www.hc-sc.gc.ca/fniiah-spnia/pubs/aborig-autoch/2007\\_compendium/index-eng.php](http://www.hc-sc.gc.ca/fniiah-spnia/pubs/aborig-autoch/2007_compendium/index-eng.php)

Description of First Nations and Inuit health programs, including community programs, health protection and public health, primary care, supplementary health benefits, and health governance and infrastructure support.

Hollander Analytical Services & Nunavik Regional Board of Health and Social Services. (2008). *An examination of continuing care requirements in First Nations and Inuit communities*. Ottawa, ON: Health Canada. Retrieved from [http://www.hc-sc.gc.ca/fniiah-spnia/alt\\_formats/fnihb-dgspni/pdf/pubs/services/2008\\_assess-eval-exam-eng.pdf](http://www.hc-sc.gc.ca/fniiah-spnia/alt_formats/fnihb-dgspni/pdf/pubs/services/2008_assess-eval-exam-eng.pdf)

Presents findings from interviews with Inuit individuals who are receiving continuing care services and their caregivers in the Nunavik region, as part of the Continuing Care Research and Costing Project, which was intended to provide a better understanding

of the gaps in the continuing care services available in both First Nations and Inuit communities.

Indian and Northern Affairs Canada, Departmental Audit and Evaluation Branch. (2007). *Evaluation of the First Nations Child and Family Services Program*. Ottawa, ON: Indian and Northern Affairs.

Evaluation of the First Nations Child and Family Services (FNCFS) Program, which supports culturally appropriate prevention and protection services for Indian children and families residing on reserve, in accordance with the legislation and standards of the province or territory of residence.

Kulig, J.C., Stewart, N.J., Morgan, D., Andrews, M.E., MacLeod, M.L., & Pitblado, J.R. (2006). *Insights from a national study*. *Canadian Nurse*, 102, 16–20.

Aboriginal registered nurses have been identified as an essential group in the delivery of health services in First Nations communities. Despite this, there is a lack of information about this group of nurses in Canada. Presents information about Aboriginal registered nurses taken from two components of a national study, *The Nature of Nursing Practice in Rural and Remote Canada: documentary analysis and a national survey of nurses*.

MacKinnon, M. (2005). *A First Nations voice in the present creates healing in the future*. *Canadian Journal of Public Health*, 96(Suppl 1), S13-S16.

Discusses the urgent need for change and improvements in health policy resulting from the exploding demographics and inequities in the health status of First Nation people.

Minore, B., Boone, M., & Hill, M.E. (2004). *Finding temporary relief: Strategy for nursing recruitment in northern Aboriginal communities*. *Canadian Journal of Nursing Research*, 36, 148–63.

Study commissioned by the First Nations and Inuit Health Branch, Health Canada, to explore the viability of establishing a relief pool among nurses from nearby small industrial towns, to address a recurring shortage of nurses in the Aboriginal communities in northwestern Ontario. An open/close-ended survey completed by a random sample of 237 nurses from the target population documented levels of awareness, willingness, and preparedness for northern practice, as well as recruitment incentives and disincentives.

National Aboriginal Health Organization. (2003). *Analysis of Aboriginal health careers, education and training opportunities*. Ottawa, ON: Author.

Discussion paper presents 180 listings of education and training programs and initiatives aimed at increasing the participation of Aboriginal people in the delivery of health care in Canada, as well as an analysis of the problem of low educational attainment among Aboriginal populations.

Telehealth Research Project. (2001). *First Nations & Inuit telehealth*. Ottawa, ON: Health Canada.

Presents experiences of and lessons learned by participants in the \$2-million National First Nations Telehealth Research Project (September 1998–March 2001), mainly in five isolated First Nations communities. Also presents evaluation outcomes collected and analyzed by an independent evaluation team.

Wardman, D., Clement, K., & Quantz, D. (2005). Access and utilization of health services by British Columbia's rural Aboriginal population. *International Journal of Health Care Quality Assurance Incorporating Leadership in Health*, 18, xxvi–xxxi.

Describes access to and use of health services by Aboriginal British Columbians living in both reserve and off-reserve communities. Conducted 267 face-to-face interviews with Aboriginal persons in seven rural community organizations across the province, June–November 2003. Collaborative effort between the University of British Columbia and multiple Aboriginal community partners.

### 9.3 Health policy

First Nations of Quebec & Labrador Health and Social Services Commission. (2007). *Quebec First Nations health and social services blueprint 2007–2017: The condensed version*. Wendake, QC: Author.

Provides a condensed version of a Blueprint developed by the First Nations of Quebec & Labrador Health and Social Services Commission mapping out a vision for addressing the glaring health disparities of Quebec First Nations individuals compared with other Canadians. Based on consultations with health and social services experts, First Nations communities and others involved in the delivery of health and social services. Sets out a ten-year operating framework for addressing issues related to governance and the development of strategies for health and social services, health determinants, and human resources and research development.

First Nations Leadership Council & Government of British Columbia. (2005). *The Transformative Change Accord: First Nations health plan*;

*Supporting the health and wellness of First Nations in British Columbia*. BC Assembly of First Nations, First Nations Summit, Union of BC Indian Chiefs, and Government of British Columbia. Vancouver, BC: Authors. Retrieved from [http://www.fns.bc.ca/pdf/FirstNationsHealthImplementationPlan\\_Combo\\_LowResolution.pdf](http://www.fns.bc.ca/pdf/FirstNationsHealthImplementationPlan_Combo_LowResolution.pdf)

First Nations Health Plan, jointly released by the First Nations Leadership Council (which consists of the British Columbia Assembly of First Nations, First Nations Summit and Union of BC Indian Chiefs) and the government of British Columbia, implementing the First Nations Health Plan Memorandum of Understanding (MOU), signed by the Leadership Council and the federal and provincial governments. The purpose of these documents is to close the gaps in health outcomes between First Nations and other British Columbians, through increasing collaboration and joint decision-making.

Health Council of Canada. (2005). *Health care renewal in Canada: Accelerating change*. Toronto, ON: Health Council of Canada. Retrieved from [http://www.healthcouncilcanada.ca/docs/rpts/2005/Accelerating\\_Change\\_HCC\\_2005.pdf](http://www.healthcouncilcanada.ca/docs/rpts/2005/Accelerating_Change_HCC_2005.pdf)

First report of the Health Council of Canada, which was established to monitor and report on the 2003 First Ministers' Accord on Health Care Renewal. Covers activity across Canada launched or being planned under the 2003 Accord. Priority areas are the health of Canadians, primary health care, health human resources, and infrastructure to support renewal.

### 9.4 Urban Aboriginal people's health

Hanselman, C. (2001). *Urban Aboriginal people in Western Canada: Realities and policies*. Calgary, AB: Canada West Foundation.

Examines the realities and policy landscapes for urban Aboriginal people in six major cities in western Canada: Calgary, Edmonton, Regina, Saskatoon, Vancouver, and Winnipeg. Compiled and analyzed socio-economic data; reviewed existing public policy research studies; reviewed policy documents from the federal, provincial, and municipal governments; conducted telephone interviews with government officials; and verified policy findings by each government. Principal source of demographic data was Aboriginal identity population data from the 1996 Census.

Prodan-Bhalla, N. (2001). Understanding the broader context: The health of the urban native Canadian. *Canadian Journal of Nursing Leadership*, 14, 20–5.

Provides an overview of the historical oppression of Native Canadians, a discussion on the effects of marginalization and the subsequent adaptation process, an overview of the current health status of the urban Native Canadian, and a practical assessment tool for nursing leaders.

### 9.5 Health indicators

Anderson, M., Smylie, J., Anderson, I., Sinclair, R., & Crengle, S. (2006). *First Nations, Métis, and Inuit health indicators in Canada. A background paper for the project 'Action-oriented indicators of health and health systems development for Indigenous peoples in Australia, Canada and New Zealand*. Melbourne, AU: Onemda VicHealth Koori Health Unit, Discussion Paper. No. 18. Retrieved from <http://www.iphrc.ca/Upload/canadian.pdf>

Background paper for the project "Action Oriented Indicators of Health and Health Systems Development for Indigenous Peoples in Australia, Canada, and New Zealand." Reviews Indigenous health measurement systems in Canada and challenges associated with using these measurement systems at the national, provincial/territorial, regional and community levels. Draws on published and unpublished literature, expert consultation and key informant interview data.

First Nations Centre. (2005). *First Nations Regional Longitudinal Health Survey (RHS) 2002/03: Results for adults, youth and children living in First Nations Communities*. Ottawa, ON: First Nations Information Governance Committee. Retrieved from <http://www.fnigc.ca/node/37>

Results from the only First Nations–governed national health survey in Canada. Collects information based on both Western and traditional understandings of health and well-being. RHS Phase 1 (data collected 2002/03), the baseline study of a longitudinal design, collected 22,602 surveys from 238 First Nations communities in 10 regions.

First Nations and Inuit Health Branch, Health Canada. (2005). *First Nations comparable health indicators*. Author. Retrieved from [http://www.hc-sc.gc.ca/fniiah-spnia/diseases-maladies/2005-01\\_health-sante\\_indicat-eng.php](http://www.hc-sc.gc.ca/fniiah-spnia/diseases-maladies/2005-01_health-sante_indicat-eng.php)

First Nations data for 10 health indicators not included in the Federal Comparable Indicators Report. First Nations data for these indicators were obtained from a variety of sources, and details of data sources and limitations are included with each indicator.

Gionet, L. (2009). First Nations people: Selected findings of the 2006 Census. *Canadian Social Trends – Statistics Canada Catalogue no. 11-008*, 51-58.

Highlights some of the social trends observed for First Nations people from the 2006 Census, including location of residence, age demographics, living arrangements, ability to speak an Aboriginal language, education levels, employment rates, median income, home ownership, housing conditions and overcrowding, and housing affordability.

Gionet, L. (2009). Métis in Canada: Selected findings of the 2006 Census. *Canadian Social Trends – Statistics Canada Catalogue no. 11-008*, 19-24.

Highlights some of the social trends observed for Métis people from the 2006 Census, including location of residence, age demographics, ability to speak an Aboriginal language, education levels, employment rates, and median income.

Janz, T., Seto, J., & Turner, A. (2009). *Aboriginal Peoples Survey, 2006: An overview of the health of the Métis population*. Ottawa, ON: Statistics Canada, Catalogue no. 89-637-X – No. 004.

Reports Aboriginal Peoples Survey results for Métis on self-rated health, chronic conditions (prevalence among adults and children, and by gender and age), health care utilization and satisfaction with services, physical activity levels and conceptions of ways to improve health.

MacMillan, H.L., Walsh, C.A., Jamieson, E., Wong, M.Y.Y., Faries, E.J., McCue, H., et al. (2003). The health of Ontario First Nations people: Results from the Ontario First Nations Regional Health Survey. *Canadian Journal of Public Health*, 94, 168–72.

Describes the health of First Nations adults residing on Ontario reserves, using data from the Ontario First Nations Regional Health Survey. Communities were randomly selected; individuals were systematically selected based on gender and age. Health questions were parallel to those used in the National Population Health Survey and included general health, chronic conditions, substance use and health service utilization.

National Collaborating Centre for Aboriginal Health. (2007). *Landscapes of indigenous health: An environmental scan by the NCCAHA*. Prince George, BC: Author.

Explores work currently underway in the field of Aboriginal health in Canada. Provides a comprehensive picture of existing knowledge and current directions in Indigenous peoples' health research and priorities in Canada. Also identifies gaps and shortfalls in research and data that might require attention.

O'Donnell, V. & Tait, H. (2003). *Aboriginal Peoples Survey 2001 – initial findings: Well-being of the non-reserve Aboriginal population*. Ottawa, ON: Statistics Canada Housing, Family and Social Statistics Division, Catalogue no. 89-589-XIE.

Reports on Aboriginal Peoples Survey 2001 findings for the non-reserve Aboriginal population, including age demographics, self-rated health status, chronic conditions, contact with health professionals, education levels, reasons for not completing post-secondary studies, access to preschool programs, residential school attendance, quality of housing, overcrowding, and water quality.

O'Sullivan, E. (2006). *The Community Well-Being (CWB) Index: Well-being in First Nations communities 1981–2001 and into the future*. Ottawa, ON: Indian and Northern Affairs Canada.

Builds on two previous analyses by the Strategic Research and Analysis Directorate, Indian and Northern Affairs Canada, and uses patterns of Community Well-Being progress to project how well-being in First Nations and other Canadian communities may evolve in the future.

Sibbald, B. (2002). Off-reserve Aboriginal people face daunting health problems: *StatsCan*. *Canadian Medical Association Journal*, 167, 912.

Brief article summarizing findings of Statistics Canada's 2000/01 Canadian Community Health Survey, The Health of the Off-reserve Aboriginal Population.

Sinclair, R., Smith, R., & Stevenson, N. (2006). *Miyo-Mahcihowin: A report on indigenous health in Saskatchewan*. Regina, SK: Indigenous Peoples Health Research Centre.

Validates the findings of studies such as the First Nations Regional Longitudinal Health Survey (2002/3), the Statistical Profile on the Health of First Nations in Canada (2003), and the Saskatchewan Health Research Strategy (2004), which reflect poor conditions of Indigenous health in Canada and Saskatchewan, and the need for immediate and focused attention.

Statistics Canada (2008). *Aboriginal peoples in Canada in 2006: Inuit, Métis and First Nations, 2006 Census*. Ottawa, ON: Ministry of Industry, Catalogue no. 97-558-XIE.

Provides highlights from the 2006 Census for Aboriginal people generally, and for Inuit, Métis, and First Nations specifically regarding population growth, location of residence, age, living arrangements, condition of housing, overcrowding, and ability to speak an Aboriginal language

Statistics Canada, Social and Aboriginal Statistics Division. (2008). *Aboriginal Peoples Survey, 2006: Inuit health and social conditions*. Ottawa, ON: Author.

First findings from the 2006 Aboriginal Peoples Survey for Inuit children aged 6–14 and Inuit adults aged 15 and over. Focuses on selected social determinants of Inuit health, including access to health care, education, housing, harvesting and country food consumption. Information on health status is provided through data on self-reported health and chronic conditions.

Veenstra, G. (2009). Racialized identity and health in Canada: Results from a nationally representative survey. *Social Science & Medicine*, 69, 538–42.

Uses survey data to investigate health effects of racialization in Canada. Sample was 91,123 Canadians aged 25 and older who completed the 2003 Canadian Community Health Survey. A "racial and cultural background" survey question contributed a variable that differentiated respondents who identified with Aboriginal, Black, Chinese, Filipino, Latin American, South Asian, White, or jointly Aboriginal and White racial/cultural backgrounds. Used indicators of diabetes, hypertension and self-rated health to assess health.

Tjepkema, M. (2002). The health of the off-reserve Aboriginal population. *Supplement to Health Reports – Statistics Canada Catalogue 82-003*, 13: 1-17.

Used age-standardized cross-tabulations to compare off-reserve Aboriginal population with the rest of Canadian population in terms of health status, health behaviours and health care utilization using Statistics Canada's 2000/01 Canadian Community Health Survey results. Performed multiple logistic regression, adjusting for socio-demographic and health behavior factors, to determine if Aboriginal population had greater odds of reporting selected health outcomes.



