

Housing as a Determinant of Health 2010 Annotated Bibliography

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Inuit Tuttarvingat





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Inuit Tuttarvingat (formerly known as the Ajunginiq Centre):

Inuit Tuttarvingat of the National Aboriginal Health Organization will advance and promote the health and well-being of Inuit individuals, families and communities by working in strong partnerships to collect information and share knowledge.

Inuit Tuttarvingat's six main goals are:

1. Conduct and promote research to enhance the health and well-being of Inuit.
2. Increase understanding and awareness of the health issues affecting Inuit.
3. Facilitate and promote research that is ethical, balanced, relevant and useful to Inuit.
4. Support and promote Inuit in pursuing health careers.
5. Preserve and promote Inuit traditional knowledge and healing practices.
6. Provide Inuit with knowledge of environmental health risks.

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National Aboriginal Health Organization (NAHO)
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Introduction

Inuit Tuttarvingat's annotated bibliography on housing and health aims to provide readers with a listing of research, journal articles, studies, and public health information that exists on housing conditions for Inuit in Canada and its relation to Inuit health. This bibliography is part of the "Health and Housing Realities for Inuit" series that originated from recommendations made during the *Homelessness and Housing Realities for Inuit* workshop¹ held in Ottawa in 2008 by the Ajungniq Centre² of the National Aboriginal Health Organization.

Inuit regions are experiencing a serious housing crisis. Housing shortages and poor quality housing are a public health priority for all Inuit regions in Canada. Insufficient housing can lead to overcrowding, poor sanitation and ventilation, the spread of infectious diseases, stress on people's social and mental well-being, and violence. Among Inuit, housing problems have been associated with low achievement levels in school, spousal abuse, respiratory tract infections among infants, depression, and substance abuse.

Many of the housing issues above were discussed at the 2008 *Homelessness and Housing Realities for Inuit* workshop³. The participants – which included housing officials, service providers, government officials, and representatives from organizations in the four Inuit regions of Canada and urban areas – noted there is a lack of information on housing and homelessness for Inuit. Participants also said that the existing information on this issue is not easily accessible and Inuit would like to have better access to all research and information on this topic. To this end, Inuit Tuttarvingat published an annotated bibliography in November 2008.

In order to keep this annotated bibliography up to date, a second literature search was conducted in May 2010. Several new resources were found as a result. Here, we present the combined results of the first and second systematic literature search. Literature that has been added to this updated version is indicated by this icon before the author(s)' name:



¹ For more details about the workshop discussions, please see *Homelessness and Housing Realities for Inuit: Report for Participants of the Workshop*. It is available at: www.naho.ca/inuit/e/documents/HomelessnessWorkshop.pdf

² At the time of the *Homelessness and Housing Realities for Inuit* workshop, the Inuit-specific unit at NAHO was known as the Ajungniq Centre. In October 2008, it changed its name to Inuit Tuttarvingat.

³ For more details about the workshop discussions, please see *Homelessness and Housing Realities for Inuit: Report for Participants of the Workshop*. It is available at: www.naho.ca/inuit/e/documents/HomelessnessWorkshop.pdf

Inuit Tuttarvingat searched the following databases and sources of information:

- EBSCOHost subscription “Academic Source Premier”.
- EBSCOHost subscription which included: America: History & Life, American Bibliography of Slavic and East European Studies, ATLA Religion Database, Bibliography of Native North Americans, Canadian Reference Centre, CINAHL, Historical Abstracts, Mental Measurements Yearbook; and for 2008-2010 also Pre-CINAHL, The Music Index Online, and EJS E-Journals.
- CSA Illumina for 1990-2010.
- Google Scholar.
- Selected Canadian and American Web sites (non-profit and non-governmental organizations and associations, health agencies, private organizations, governments, etc.).

Publications that reported medical findings specifically around health related to housing were found in the following databases:

- U.S. National Library of Medicine - National Institute of Health’s database Pub Med.gov.
- International Journal of Circumpolar Health.

Some of the searches produced very few results, therefore the search was not restricted to certain years or timeframes. When searches returned a significant number of results, a restriction was defined for 1990 to 2010. None of the searches were restricted based on countries. However, the majority of literature came from Canada, United States, Britain, Australia, and northern European countries. Concerning languages, the search focused on English-only documents.

Each resource listing contains bibliographic information and a brief description of its contents. If the resource is available online, the web address is provided. In some cases only the abstract, rather than the full article or report, is available online. Many of these documents can be found by searching databases in community, college or university libraries.

The literature and Web site search was first conducted in August 2008, and updated in May 2010.

Annotated Bibliography

Acheson, D. (1991). Health and housing – Annual lecture. *The Journal for the Royal Society for the Promotion of Health*, 111(6), 236-243.

This is a speech about the relationship between housing and health in the United Kingdom. The speech begins with early work on housing and health in the Victorian era and leads to a discussion of current literature. Acheson suggests that housing is more than a physical dwelling; it consists of washrooms and laundry facilities, space for preparing food, storage areas, personal space, a safe place for children to play, and access to vital services. Common housing issues related to health are falls, accidents, fires, temperature, ventilation (dampness), sanitation, and overcrowding.

Abstract online at: http://rsh.sagepub.com/cgi/pdf_extract/111/6/236

Alaghebandan, R., Gates, K., & MacDonald, D. (2007). Hospitalization due to pneumonia among Innu, Inuit and non-Aboriginal communities, Newfoundland and Labrador, Canada. *International Journal of Infectious Diseases*, 11, 23-28.

This study compares Innu, Inuit and non-Aboriginal hospitalization rates for pneumonia in Labrador and Newfoundland. Provincial hospital data from April 1, 1995 to March 31, 2001 were used to obtain results. Researchers found that hospitalization rates were higher for Innu and Inuit than for non-Aboriginals. While nearly 12 out of 1,000 people were hospitalized among Inuit and Innu, only three out of 1,000 people were hospitalized among the non-Aboriginal population. Inuit communities had higher hospitalization rates among females, whereas Innu communities had higher rates among males. The highest rates of pneumonia for Innu and Inuit populations was found among infants (age 0-1), with over 93 infants out of every 1,000 having been hospitalized with pneumonia. Among the non-Aboriginal population, the people with the highest rate of pneumonia are those over 55 years of age, with every 10 out of 1,000 people being hospitalized because of pneumonia.

Full article online at: [www.ijidonline.com/article/S1201-9712\(06\)00006-3/fulltext](http://www.ijidonline.com/article/S1201-9712(06)00006-3/fulltext)

Bailie, R., & Wayte, K. (2006). Housing and health in Indigenous communities: Key issues for housing and health improvement in remote Aboriginal and Torres Strait Islander communities. *Australian Journal of Rural Health*, 14, 178-183.

The authors write about the relationship between housing and health for Aboriginals in Australia and Torres Strait. They also conducted a review of current initiatives to improve housing. Researchers conclude that housing has a direct as well as an indirect impact on health. Direct impacts on physical and mental health are caused by the quality of housing material, physical structure and inadequate housing. Indirect impacts are influenced by poor housing at the individual and neighbourhood level. Negative health outcomes associated with inadequate housing and rural/remote community living (which is often the case for Indigenous communities) include: (1) infectious disease, (2) lifestyle related illnesses resulting from poor nutrition, and (3) problems resulting from social issues and despair.

This article also touches on the impact of overcrowding and its relationship to infectious diseases, mental health and social issues; the quality of housing and importance of sanitary facilities; housing affordability, and homelessness.

Full article online at: <http://www3.interscience.wiley.com/cgi-bin/fulltext/118565499/PDFSTART>

Banerji, A., Bell, A., Mills, E., McDonald, J., Subbarao, K., Stark, G., et al. (2001). Lower respiratory tract infections in Inuit infants on Baffin Island. *Canadian Medical Association Journal*, 164(13), 1847-1850.

This study identifies the causes and factors that contribute to lower respiratory tract infections in Inuit infants (six months or younger) on Baffin Island. Information on infants was collected from October 15, 1997 to June 15, 1998 from the Baffin Regional Hospital. Infants were included in the study if they were less than six months old and had a diagnosis of lower respiratory tract infection (LRTI). During the study time frame, 42 infants were admitted to the hospital with the above mentioned qualities. The researchers calculated an annual rate of 484 infants for every 1,000 infants (that are six months or younger) to be admitted to the hospital for lung inflammation. This result suggests that Inuit infants have one of the highest rates of hospital admissions for lower respiratory tract infections in Canada.

The authors state that factors which may lead to high rates of lung infections include: substandard housing, crowding, poor ventilation, and tobacco smoke in the air. The study also looked at how many individuals shared one household and found that the average number of people per household was 6.4, and all infants had been exposed to tobacco smoke. A limitation of the study is the small number of participants and no control group.

Full article online at: www.cmaj.ca/cgi/reprint/164/13/1847



Banerji, A., Greenberg, D., White L., Macdonald, A., Saxton, A., Thomas, E., et al. (2009). Risk factors and viruses associated with hospitalization due to lower respiratory tract infections in Canadian Inuit children: A case-control study. *The Pediatric Infectious Disease Journal*, 28(8), 1-5.

This study provides information regarding the determinant factors of Inuit children (two years of age and under) with lower respiratory tract infections (LRTI). The following factors were measured as the independent variables: (1) smoking during pregnancy, (2) place of residence, (3) Inuit race, (4) lack of breast-feeding, and (5) overcrowding. Based on this study's outcomes, it was concluded that these variables increased the risk of hospital admission for Inuit children with LRTI. Lower respiratory tract infections are noted to be the leading cause of hospital admission, medical evacuation, and health-care spending.

Abstract online at: www.ncbi.nlm.nih.gov/pubmed/19461554

Barton, A., Basham, M., Foy, C., Buckingham, K., & Somerville, M. (2007). The Watcombe housing study: The short term effect of improving housing conditions on the health of residents. *Journal of Epidemiology and Community Health*, 61, 771-777.

This housing study wanted to find out how home improvements impact the health of its residents. At the time of this research, only one other study using the same methodology had looked at housing improvements and their impact on health. The study was situated in Torquay, England and had approximately 119 households take part. Fifty households were randomly selected to have housing improvements (re-roofing, full central heating, rewiring, ventilation systems, double glazed doors, cavity wall and roof insulation) take place in 1999, and the remaining 69 households had improvements done in 2000.

In this study, data was collected on health, health-care use, and energy usage/savings throughout the study, using various methods (questionnaires, interviews, review of health-care records, etc.). Upgrades in the 'intervention group' (the first 50 households) produced warmer, drier houses which were more energy efficient. The results did not show significant changes in the residents' physical health, however, this was likely caused by the short time between the housing upgrades in the two groups. However, residents in the intervention group perceived their health to have improved, and noted improved family relationships and greater self-esteem. Overall, this study may provide a basis for future studies on housing improvements.

Abstract online at: <http://jech.bmj.com/cgi/content/abstract/61/9/771>

Beavis, M.A., Klos, N., Carter, T., & Douchant, C. (1997). *Literature review: Aboriginal peoples and homelessness – Executive summary*. Winnipeg: University of Winnipeg.

This report is a literature overview that describes Aboriginal homelessness. It includes definitions of homelessness that go beyond not having shelter on a temporary basis, to being without a home on a long-term basis (chronic homelessness). There is also a discussion of homelessness risk factors specific to Aboriginal people. The literature suggests the following factors contribute to Aboriginal homelessness: socioeconomic factors (e.g. high unemployment), poor housing and not enough dwellings for the population (creating higher rates of migration to and from cities), discrimination, various forms of abuse, and physical/mental health problems. Particular sub-groups that are vulnerable include single-parent families, women, elders, youth, and ex-offenders. The authors recommend addressing Aboriginal homelessness by using a holistic perspective and suggest working on community development initiatives that target housing issues, along with education, employment and other social issues.

Abstract online at: www.ginsler.com/documents/f_aborig.html

Begin, P., Casavant, L., & Chenier, N.M. (1999). *Homelessness*. Political and Social Affairs Division, Jean Dupuis, Economics Division. PRB 99-1E. Ottawa: Library of Parliament, Parliamentary Research Branch.

This report discusses the key characteristics of the Canadian homeless population, and reviews factors that lead to them being homeless. There is a brief discussion of Aboriginal homelessness as Aboriginal people tend to be at an increased risk, along with other sub-groups in the population such as women

and single parents. The report states that Aboriginal homelessness is an issue in a number of large cities in Canada. Factors contributing to the homeless situation include: low levels of education and income, high unemployment, poverty, single-parent families, inadequate housing conditions, and discrimination (especially in large urban centres). This report does not differentiate between First Nations, Inuit and Métis.

Full article online at: <http://ir.lib.sfu.ca/retrieve/3855/chodarr0278.pdf>

Bjerregaard, P., Young, T.K., Dewailly, E., & Ebbesson, S. (2004). Review article: Indigenous health in the Arctic: An overview of the Circumpolar Inuit population. *Scandinavian Journal of Public Health, 32*, 390-395.

This report details the general health status of Inuit living in all Arctic regions. Information was collected for this article by searching databases and other electronic resources. When possible, census data from Canada, Russia, Greenland, and the United States was obtained and reviewed. Findings suggest that there has been a general reduction (in the past 50 years) of sickness and death among Inuit populations, however, there is still a gap in health status between Inuit and non-Inuit.

There has been much improvement in the rate of tuberculosis (TB) from historical periods, although TB rates experienced by Inuit are approximately 10 times the national rate. Other infectious diseases of concern for Inuit include pneumonia, meningitis, hepatitis, and sexually transmitted diseases. Chronic diseases are often linked to rapid cultural changes and the uptake of Western practices. Inuit experience higher rates of rare forms of cancers, such as cancer of the salivary glands and esophagus (nasopharynx). There is some evidence to suggest that lung, breast, colon, and cervical cancer is on the rise. Cardiovascular deaths are higher among Inuit than non-Inuit populations, and injuries have increasingly become a concern as they potentially account for a third of all deaths. The authors highlight the rapid transition from traditional life to a modern or Western style of living and the effect this has had on health.

Abstract online at: <http://sjp.sagepub.com/cgi/content/abstract/32/5/390>

Bopp, J., Elliott, S., & van Bruggen, R. (2007). *Being homeless is getting to be normal: A study of women's homelessness in the Northwest Territories: Territorial report. Iqaluit: Qullit Nunavut Status of Women Council and Qimaavik Women's Shelter.*

This is one of three reports addressing homelessness in the three territories of Canada. This report speaks to issues in Iqaluit, Nunavut whereas the other reports discuss homelessness in Whitehorse, Yukon and Yellowknife, Northwest Territories. The purpose of this study was to understand homelessness among women in the territories and to identify factors that prevent action. Data for the study was collected through focus groups, individual interviews, surveys, and questionnaires with various stakeholder groups and was complimented by a review of literature.

Three working definitions of homelessness were used in order to obtain a more accurate picture of the situation: (1) visible or absolute homelessness, (2) relative homelessness – residing in spaces below basic health and safety standards, and (3) hidden homelessness – residing temporarily with family, friends or a person with some sort of shelter. In total, the study determined nine factors that lead to

homelessness for northern women. They are: (1) every woman is potentially at risk, (2) partner's behaviour and circumstance, (3) forced eviction and relocation to another community, (4) inadequate support systems, (5) personal wellness and capacity, (6) lack of community supports and structures, (7) high cost of living, (8) climate, and (9) lack of investment in transition services (including addiction services). The impacts of homelessness described in this study are vast, ranging from physical and mental health issues such as malnutrition and respiratory illness, to family separation resulting in traumatic experiences for children. The report concludes with a number of recommendations to target homelessness among women.

Full article online at: www.ywca.ca/Northern_Territories_Reports/NWT_PDFS/NWT_FinalReport.pdf

Brandon, K. (2002). *Health costs of poor housing - A review of the literature*. Silver Spring, Maryland: McAuley Institute.

This literature review discusses the health costs (financial and other) of inadequate housing. Highlighted topics include the asthma epidemic, lead poisoning, inadequate heating, and overcrowding. From 1980 to 1994, the prevalence of asthma increased 75 per cent in the American population and people in the lower income brackets had higher rates. It is estimated that approximately 14 million days of school are missed due to asthma each year. Lead poisoning from paint can lead to low birth-weight babies, risk of hypertension and potentially to breast cancer. Lead paint is still commonly found in homes, especially those that are substandard due to the expensive removal costs, which can be around \$7,700 per house. Heating during the winter season can be very costly and this can lead to many families having to choose between paying a heating bill and paying for adequate food. Additionally, many families resort to purchasing substandard heating devices, which can cause burns and potentially be a fire hazard. Due to the high cost of living, families often share accommodations, creating an overcrowded living environment. This has resulted in the spread of infectious disease and injuries, such as burns due to sleeping near uncovered radiators.

Report not available online.

Bruneau, S., Ayukawa, H., Proulx J.F., Baxter, J.D. & Kost, K. (2001). Longitudinal observations (1987-1997) on the prevalence of middle ear disease and associated risk factors among Inuit children of Inukjuak, Quebec, Canada. *International Journal of Circumpolar Health*, 60(4),632-639.

The prevalence of middle ear disease in 2-6 year old children in 1997 was compared with that observed in 1987 in the same Inuit community in northern Quebec. Results showed that there had been no change in the prevalence of chronic middle ear infection. Risk and protective factors associated with middle ear disease were also assessed. A total of 122 children participated. The assessments included a parent questionnaire about environmental and lifestyle factors. Factors found to be significantly associated with middle ear disease included: number of persons/bedroom; number of siblings with a history of ear disease; age at first, second and third visit to the nursing station for ear problems; and type of milk (formula versus non-formula) in bottle-fed children.

Article not available online.

Canada Mortgage and Housing Corporation. (2004). *Housing and population health – Research framework*. Socio-economic Series 04-016. Ottawa: CMHC.

This research provides a template for future research in the housing and health field using a population health approach. In addition to the framework, the document suggests that future research should: (1) fill in the knowledge gaps, (2) use housing indicators and assess them based on a health perspective, and (3) take concepts and theories that have established a link between health and another subject and apply it to housing, thereby developing new concepts. This framework divides housing into three categories, but recognizes they will have some overlap with each other. The categories are: (1) material dimension, (2) spatial dimension, and (3) psychological dimension. Within each there are multiple subcategories like indoor-air pollution, crowding and social networks.

Full article online at: www.cmhc-schl.gc.ca/odpub/pdf/63463.pdf

Carter, T., & Polevychok, C. (2004). *Housing is good social policy*. Ottawa: Canadian Policy Research Networks.

The authors examine how housing and housing policy contribute to social policy in Canada. This is done by reviewing how current housing policy impacts the delivery of social programs, specifically by examining the relations to health, education, income security, immigration, employment, and community development. The study finds that even though there is a lack of evidence proving poor housing actually causes poor health, there is a significant body of literature that links poor housing and ill health. Aspects of housing that potentially impact health include cold, dampness, mould, physical hazards, exposure to chemicals, housing location, physical design, financial aspect, and crowding.

Full article online at: <http://cprn.org/doc.cfm?doc=1131&l=en>

Clark, M., Riben, P., & Nowgesic, E. (2002). The association of housing density, isolation and tuberculosis in Canadian First Nations communities. *International Journal of Epidemiological*, 31, 940-945.

Researchers were interested in looking at the level of association between housing density, isolation and tuberculosis rates in First Nations communities. Data for the time period 1997-1999 was provided by seven tuberculosis programs delivered by the First Nations and Inuit Health Branch (FNIHB) of Health Canada. Results suggest that tuberculosis is more common in isolated or remote communities, which may be linked to community income. In addition, overcrowded housing has the potential to put more people at risk of acquiring the illness. There were some study limitations. Not all factors that could potentially contribute to tuberculosis were accounted for in the statistical analysis.

Full article online at: <http://ije.oxfordjournals.org/cgi/content/full/31/5/940>

Dales, R., Liu, L., Wheeler, A.J., & Gilbert, N.L. (2008). Quality of indoor residential air and health. *Canadian Medical Association Journal*, 179(2), 147-152.

This report examines the extent to which contaminated indoor air quality can contribute to poor health. Biological and chemical contaminants found in indoor air can contribute to respiratory and neurologic symptoms, allergies, asthma, and lung cancer. The study also points out that people tend to spend a greater portion of their time indoors in very hot or cold climates.

The researchers examine health effects and control strategies of indoor biological and chemical contaminants. Biological contaminants consist of: (1) allergens from dust mites or furry pets, (2) endotoxins, which are the outer layer of harmful bacteria, and (3) dampness and mould. These contaminants could potentially worsen someone's asthma and upper respiratory symptoms. Chemical contaminants consist of: (1) environmental tobacco smoke, (2) coal or biomass fuels that have harmful combustion products such as carbon monoxide, (3) carbon monoxide, for example from gas stoves or furnaces, and (4) nitrogen dioxide, which is produced when burning fossil fuels. Other chemical contaminants include off-gas emissions, which are gasses released from materials found indoors such as paints and floor finishes, and carcinogens, such as radon and asbestos. Health problems that may be linked to chemical contaminants include lung cancer, premature mortality, asthma, irritation of the airway, and respiratory illness.

Full article online at: www.cmaj.ca/cgi/content/full/179/2/147

Dawson, P.C. (2006). Seeing like an Inuit family: The relationship between house form and culture in northern Canada. *Inuit Studies*, 30(2), 113-135.

This study observes how Inuit families have adapted to living in 1960s, Euro-Canadian designed homes. This study also explores how often traditional practices are carried out in Inuit homes. Forty-seven families in the community of Arviat, Nunavut participated in this study. Information on the use of space within the home was collected through random visits to families during the day, over three months in the summer of 2002. Using a technique called space syntax analysis, researchers were able to explore how domestic practices were carried out in comparison to Inuit concepts of public and private space.

Findings suggest that Inuit families are attempting to continue traditional practices in homes designed with another culture's idea of homemaking in mind. Examples include: butchering of animals, preparation of some country foods, storage of large animals, repair and maintenance of mechanical equipment used for hunting, and communal sleeping areas. The main conclusion is that Inuit culture and home life should be incorporated into future housing policy and housing designs.

Abstract online at: [www.fss.ulaval.ca/etudes-inuit-studies/v30\(2\)Dawson.html](http://www.fss.ulaval.ca/etudes-inuit-studies/v30(2)Dawson.html)

Duhaime, G., Frechette, P., Langlais, J.F., & Strong, T.L. (2000). *Nunavik comparative price index*. Quebec City: University of Laval.

This report presents a comparison of prices for consumer goods. It was designed to highlight the economic realities in Nunavik, and serve as a point from which to compare communities within Nunavik

to each other and to communities in southern Québec. The need for such a report was expressed by the Kativik Regional Government. Points of comparison include: food, housing, hunting and fishing, household furniture and products, and personal care.

The price comparison found that the cost of living is higher in Nunavik than in the southern part of the province. Nunavik residents spent a higher portion of household income on food products, and when making home purchases (such as appliances) there was a limited variety of products and often no warranties for the products. Larger purchases had to be brought in by sea lift, meaning people often waited considerable time periods for appliances or other home furnishings. Additionally, if something broke it often had to be replaced, as little or no repair services are available in Nunavik. Most people reside in social housing (80 per cent), as the cost of owning a home are beyond the means of most families. The report examined price comparisons and not the cost of living comparisons, due to methodological complexities.

Full article online at: www.chaireconditionautochtone.fss.ulaval.ca/extranet/doc/124.pdf



Dunn, J. (2002). *The population health approach to housing: A framework for research*. Ottawa: Canada Mortgage and Housing Corporation.

This report, created for the National Housing Research Committee and the Canada Mortgage and Housing Corporation (CMHC), provides information on population health and its connection to housing. By first exploring past research done on housing and health, this report covers health care of homeless people; physical, biological, and chemical exposures and housing; and socio-economic dimensions of housing and health. The author then reviews a framework for housing and population health. To do so, he presents information on housing and social inequality, the materiality (design and materials) of housing, meaningful aspects of housing, and spatiality of housing. This framework is then placed in a 'life course perspective' with studies around housing and child health and development.

The author notes that First Nations, people with mental illnesses and addictions, seniors, people with disabilities, women and homeless persons and groups experience unique housing difficulties with health consequences. Overall, the need and opportunity to expand research on housing and health in Canada is examined. In closing, it is recommended that priorities be developed at a national level to conduct initial studies using the most appropriate methods and evidence in a policy-relevant manner to inform the development of new policies and programs to improve the health of Canadians.

Abstract online at: http://chic.cmhc-schl.gc.ca/ipac20/ipac.jsp?session=1HG148G713218.138588&profile=chic&uri=link=3100006@!82340@!3100001@!3100002&aspect=basic&menu=search&ri=1&source=192.197.69.98@!horizons_temp&term=The+population+health+approach+to+housing+%3A+a+framework+for+research+%2F&index=ALLTI

Evans, G.W., Saltzman, H., & Cooperman, J.L. (2001). Housing quality and children's socioemotional health. *Environment and Behavior*, 33(3), 389-399.

This article describes a study that looked at the link between housing quality and children's socioemotional health. Two-hundred and seventy-seven children in Grades three to five in upstate New

York were recruited for the study. Housing quality was measured using the instrument designed by Evans, Chan, Wells, and Saltzman, 2000. Socioemotional health/well-being was measured using: (1) a behavior questionnaire, and (2) task persistence as indicated by motivation. Study findings suggested that children residing in lower quality housing showed more symptoms of psychological distress, when household income was held constant. Additionally, findings suggest that housing quality may impact aspects of children's motivation, which potentially lead to helplessness.

Abstract online at: <http://eab.sagepub.com/cgi/content/abstract/33/3/389>

Evans, G.W., Chan, H.Y., Wells, N.M., & Saltzman, H. (2000). Housing quality and mental health. *Journal of Consulting and Clinical Psychology, 68*(3), 526-530.

The research presented in this article addresses some of the methodological complexities that arise with studying housing quality and mental health. The study has two purposes: (1) to create an instrument which assesses housing quality, and (2) to use the new instrument to examine the relationship between housing quality and mental health. A review of studies exploring the link between housing quality and mental health is presented in the article. Data was collected from two samples: a cross-sectional rural sample and a longitudinal urban sample. Study findings suggest that the Housing Quality Instrument designed by researchers was reliable and valid. Using the new instrument, researchers were able to provide support for the hypothesis that housing quality does affect mental health.

Article not available online.

Folger, M. (2006). Life on the not so mean streets. *Inuktitut Magazine, 100*, 27-32.

This article discusses how homelessness in the Arctic is not what is typically seen in the southern cities of Canada. Homelessness experienced in the Arctic is hidden or invisible whereas most homelessness in southern Canada is visible. Due to the extreme weather, and cultural practices, homeless individuals can always find a spare mattress with family and/or friends. It is speculated that approximately 54 per cent of Inuit live in overcrowded situations. The housing crisis, mixed with overcrowded living conditions, has caused many people to travel south in search of better accommodations. Unfortunately the conditions in the south are not much better and many remain homeless; however, people have more access to public shelters and meals in the south than are available in the North.

Full article online at: www.itk.ca/sites/default/files/InukMagazine100.pdf

Fuller-Thomson, E., Hulchanski, J.D., & Hwang, S. (2000). The housing/health relationship: What do we know? *Reviews on Environmental Health, 15*(1-2), 109-134.

This article presents an extensive review of literature that deals with the relationship between housing and health. A systematic literature review was conducted and approximately 639 articles were reviewed for the report. Findings suggest that there are numerous studies describing an association between housing and health, however, no studies exist that causally link the two.

The authors found many studies used a limited definition of housing, viewing it as just a physical structure, instead of a home where social and psychological attachments are formed, and there is a connection to the neighborhood and the community. Additionally, some studies didn't discuss the role of socioeconomic status in the relationship between housing and health. There is a large body of literature describing the impacts of low socioeconomic status on health, but that has only recently begun to be added into the discussion of housing and health.

The authors also found that discussions of the two-way relationship between housing and health were limited. The authors stress the importance of recognizing that housing impacts health, but that health can also impact the quality of housing one resides in. They discuss extensively the links between housing and health as they relate to lead, radon, asbestos, dust, cockroaches, electromagnetic fields, density/overcrowding, ventilation, indoor air quality, housing satisfaction, and others.

Article not available online.

Howden-Chapman, P. (2004). Housing standards: A glossary of housing and health. *Journal of Epidemiology and Community Health*, 58, 162-168.

This article presents some of the terms and issues that are important in understanding the relationship between housing and health from a public health viewpoint. The article begins with a review of housing and public health beliefs and initiatives in the 19th century. Since then, housing as a health concern has only recently begun to re-emerge as a priority area for public health specialists. Further, current reports are only beginning to explore how the social, psychological and physical side of housing impacts the health of residents. The author elaborates on how the following factors could have a negative impact on health: (1) physical structure of the house (building materials, ventilation), (2) indoor environment, (3) lead poisoning, (4) dampness and mould, (5) seasonal differences in temperature, (6) crowding, (7) noise pollution, (8) length of stay in the house, (9) social housing, (10) injuries, and (11) quality of the surrounding neighbourhoods. The author recommends that future research address both direct and indirect effects of housing on health, and if and how different age groups are impacted. The author also recommends that future research should use broader definitions of housing and health.

Abstract online at: <http://jech.bmj.com/cgi/content/abstract/58/3/162>

Hwang, S.W. (2001). Homelessness and health. *Canadian Medical Association Journal*, 164(2), 229-233.

This article addresses: (1) the demographics of the homeless population in large Canadian cities, (2) the common health problems experienced by homeless people, and (3) how the Canadian health-care system meets the needs of homeless people. This report defines homelessness as absolute homelessness, which means any person who does not have physical shelter.

Figures on the exact number of homeless people are difficult to obtain, however, it is believed that there are approximately 8,000 people in shelters each night in the nine largest cities in Canada. The homeless population is somewhat different from city to city, but in general single men, single women, street youth (or homeless youth), and Aboriginal people comprise a large majority of homeless people.

Due to the extreme conditions homeless people are exposed to, they often suffer from a number of health ailments and are at an increased risk of early death. Common health problems include: seizures, arthritis, musculoskeletal disorders, hypertension, diabetes, anemia, respiratory tract infections, poor oral and dental health, and numerous skin and foot problems. Research suggests that homeless people are admitted more frequently to hospitals than non-homeless people, and they fill prescriptions less, due to lack of insurance or lost/stolen identification. Health problems might not be a priority for some, as daily survival is critical and can take priority over disease prevention and treatment. Overall, there are numerous barriers that homeless people face when accessing health care.

Full article online at: www.cmaj.ca/cgi/content/full/164/2/229



Jenkins, A., Gyorkos, T., Culma, K., Ward, B., Pেকেles, G., & Mills, E., (2003). An overview of factors influencing the health of Canadian Inuit infants. *International Journal of Circumpolar Health*, 62 (1), 17-39.

The health status of Inuit infants in Canada is examined by reviewing the 1996 Census, national surveys, government reports and documents, with the goal of increasing knowledge of preventive strategies to improve health in northern communities. A number of inter-related indicators of health for Inuit children are examined: (1) their demographic, social, economic, and physical environment, (2) personal health practices, (3) availability of high quality and culturally appropriate health services, and (4) smoking. It was discovered that these factors impact Inuit infants who suffer from bacterial and viral infections and experience higher mortality and poorer health in comparison to non-Inuit.

A segment of the literature is dedicated to health determinants and includes information on social and economic environment, education, employment and income, physical environment, environmental contaminants, personal health practices, smoking and alcohol consumption, breast feeding, health services/utilization/satisfaction, and housing. The data reveals that inadequate housing and overcrowding harbours the transmission and multiplicity (the number and variety) of infectious diseases among Inuit children.

Abstract online at: www.ncbi.nlm.nih.gov/pubmed/12725339



Koch, A., Mølbak K., Homøe, P., Sørensen P., Hjuler, T., Ehmer, M. et al. (2003). Risk factors for acute respiratory tract infections in young Greenlandic children. *American Journal of Epidemiology*, 158 (4), 374-384.

To understand and create empirical evidence of respiratory infections of Inuit children in Greenland, the authors performed a prospective community-based study of acute respiratory infections in 288 children between zero and two years of age. The study was conducted in Sisimiut, Greenland between 1996 and 1998. The researchers used a standardized questionnaire that had been initially used to measure information on ethnicity, socioeconomic factors, birth history, smoking, child care, breastfeeding, housing and crowding. When housing and crowding was explored, it was noted that nighttime crowding

is a risk factor for upper and lower respiratory tract infections. Tables are used to display the interaction between the statistics of risk factors and infections.

Full article online: <http://aje.oxfordjournals.org/cgi/reprint/158/4/374.pdf>

Kovesi, T., Gilbert, N.L., Stocco, C., Fugler, D., Dales, R.E., Guay, M., et al. (2007). Indoor air quality and the risk of lower respiratory tract infections in young Canadian Inuit children. *Canadian Medical Association Journal*, 177 (2), 155-60.

The researchers looked at the relationship between poor housing ventilation and the risk of lower respiratory tract infections in Inuit children. Forty-nine homes, with Inuit children aged five and under from four communities in Nunavut (Cape Dorset, Igloolik, Clyde River, and Pond Inlet) participated in the study. Ventilation was measured by an inspector from the Nunavut Housing Corporation and over three to five day periods, the following indicators were measured: indoor relative humidity, temperature and carbon dioxide concentrations.

They found that most homes had an average of 6.1 occupants, 80 per cent of homes had ventilation rates below recommended levels, indoor carbon dioxide levels were higher than recommended, and smokers were found in 96 per cent of homes. It is possible that crowding and poor ventilation contribute to respiratory tract infections for Inuit children age five and under.

Full article online at: www.cmaj.ca/cgi/content/full/177/2/155



Kovesi, T., Zaloum, C., Stocco, C., Fugler, D., Dales, R., Ni, A. et al. (2009). Heat recovery ventilators prevent respiratory disorder in Inuit children. *Indoor Air*, 19, 489-499.

This study wanted to establish whether home heat recovery ventilators would positively affect and reduce the risk of respiratory illnesses in Inuit children under the age of six in several communities in Nunavut. The researchers used a randomized, double-blind, placebo controlled trial. Because it was known that overcrowding and reduced ventilation were indicators of high rates of reported hospitalization for respiratory infection, the authors studied respiratory systems, health centre encounters, and indoor quality for six months. Heat recovery ventilators were placed in 68 homes and it was concluded that improving ventilation significantly reduced the incidence of important respiratory symptoms in young Inuit children. In order to reduce the burden of lower respiratory tract infections and chronic disease in Inuit children, the authors propose the following: (1) reduce overcrowding by providing more housing stock, (2) improve indoor ventilation, (3) decrease exposure to environmental tobacco smoke, and (4) enhance immunization strategies.

Abstract online at: <http://www.ncbi.nlm.nih.gov/pubmed/19719534>

New

Krümmel, E. (2009). The circumpolar Inuit health summit: A summary. *International Journal of Circumpolar Health*, 68 (5), 509-518.

This paper summarizes the presentations given at the *Circumpolar Inuit Health Summit* (Yellowknife, July 9-10, 2009) by health experts from Alaska, United States, Canada, Greenland, and Chukotka, Russia. The main topics explored in this summary are health inequalities in the circumpolar Arctic which include: life expectancy, infant mortality rates, tuberculosis, leading causes of death, food security, and nutrition transition.

Health issues and concerns are generally similar for Inuit in all four countries and common problems discussed include: substance abuse, suicide and mental health, injury, infectious diseases, and non-communicable diseases which all stem from deeply rooted matters. These health issues are amplified due to the following factors: environmental contamination, the physical impact of climate change on communities, wildlife and the physical environment, inadequate dental hygiene, lack of access to health care, and substandard living conditions.

It was noted that living conditions are getting worse due to chronic housing shortages and overcrowding, which contribute to higher rates of infectious diseases like tuberculosis. In closing, best practices were mentioned on behalf of all countries as well as 'ways forward' – by addressing health issues. Recommendations include: more accessible health care that is culturally appropriate, health education and promotion in public and private institutions, a representative health workforce, and a vital need to have Inuit-specific data.

Full article online at: http://ijch.fi/issues/685/68_5_krummel.pdf

Laird, G. (2007). *Shelter: Homelessness in a growth economy: Canada's 21st century paradox. A report for the Sheldon Chumir Foundation for Ethics in Leadership*. Calgary: Sheldon Chumir Foundation for Ethics in Leadership.

This report discusses the homelessness situation across Canada, highlighting five cities in particular: Iqaluit, Ottawa, Toronto, Calgary, and Vancouver. The findings on homelessness in Iqaluit are summarized here. According to this report, one in seven residents of Iqaluit is without their own proper shelter, and approximately half of Inuit in Iqaluit reside in crowded conditions. With a rapidly growing population and aging housing units, the city is in very great need of more public housing. Hidden homelessness has increasingly become an issue since the federal government suspended funding of social housing programs across Canada in 1993. Some speculate that Nunavut needs to build 300 housing units each year to address this housing crisis. Shelters are unable to meet the demands and families can spend months on the waiting list for social housing. Some shelters and charities that provided services to those in need are only operational for a short period of time, due to short-lived grants and expensive operating costs. Many hunters can't afford to hunt, due to the high costs of equipment, however some communities have communal freezers, or promote the sharing of food caught from the land.

Full report online at: www.ccsd.ca/pubs/2007/upp/SHELTER.pdf

New

Lajoie, P., Levesque, B., & Rhainds, M. (2007). Respiratory health: Frequency of asthma, wheezing and allergies in Inuit children in relation to indoor air quality. *Nunavik Inuit Health Survey 2004/Qanuippitaa? How are we?* Quebec: Institut national de santé publique du Québec and Nunavik Regional Board of Health and Social Services.

A goal of the Nunavik Inuit Health Survey was to recommend developmental strategies for effective health prevention and promotion programs. In order to make recommendations, the survey had to effectively present an overall demographic picture of the health of the Inuit population of Nunavik, verify health trends, measure the different stages of health indicators, detect emerging problems, identify priority problems, and develop programming that suits the needs of communities. Using interviews and questionnaires, the Nunavik Inuit Health Survey studied 677 Inuit households. The survey collected information on environment, nutrition, housing, and other indicators of health, specifically in young children. In terms of housing and overcrowding, the authors state in their conclusion that “a substantial proportion of children with asthma or wheezing live in homes with overcrowding, defined as two persons per bedroom or more”. The authors also note that “a significant negative association was found between overcrowding and persistent wheezing; an association that requires further analysis to explain.”

Full report online at: www.inspq.qc.ca/pdf/publications/660_esi_sante_respiratoire.pdf

New

Lauster, N., & Tester, F. (2010). Culture as a problem in linking material inequality to health: On residential crowding in the Arctic. *Health and Place, 16*, 523-530.

This article notes that there are problems when measuring material inequality across cultural boundaries. The authors describe existing concepts of residential crowding and overcrowding. In particular, they discuss the principle of person per room (PPR) used to measure levels of residential overcrowding and the definition of crowding from a social perspective as applied in the Canadian National Occupancy Standards (CNOS).

The authors present historical background on living conditions of Inuit, based on imposed southern Canadian manners and cultural understandings of housing in the 1950s. The discussion section of this article outlines the importance of comparative analysis and measurement, reasoning that this type of measure draws attention to inequalities in resources. Social scientists and policy makers are encouraged to reflect on Inuit culture and history while implementing a comparative approach to measure health outcomes.

Abstract online at: www.ncbi.nlm.nih.gov/pubmed/20096621

New

Law, S., & Hutton, E. (2007). Community psychiatry in the Canadian Arctic – Reflections from a 1-year continuous consultation series in Iqaluit, Nunavut. *Canadian Journal of Community Mental Health, 26* (2), 123-140.

The clinical and social characteristics of 110 Inuit residing in the community of Iqaluit, Nunavut were studied over a one-year period. The purpose of this study was to bridge the gap of limited epidemiological research on mental health and provide up-to-date information on the needs of the community with respect to mental health issues. The study gathered data on the characteristics of clients, referral patterns, diagnostic trends, associated risk factors and stressors, and treatment-related issues. Homelessness and housing are reflected as realities for a percentage of the clients studied. Both are stressors of dangerous situations such as mental health issues including suicide, domestic violence, substance abuse, etc. In conclusion, it is recommended that a multidisciplinary approach be taken by the following services and sectors to promote positive health in the community: (1) clinical, (2) social, (3) educational, (4) judicial, (5) policy, (6) vocational, and (7) cultural sector.

Abstract online at:

<http://cjmh.metapress.com/app/home/contribution.asp?referrer=parent&backto=issue,10,15;journal,5,58;linkingpublicationresults,1:120150,1>

Martin, D., Bélanger, D., Gosselin, P., Brazeau, J., Furgal, C., & Déry, S. (2007). Drinking water and potential threats to human health in Nunavik: Adaptation strategies under climate change conditions. *Arctic, 60*(2), 195-202.

The purpose of this research was to investigate water-drinking habits that lead to increased risk of disease, and what impact climate change may have on water quality and disease outcomes. The study had five objectives: (1) learn from science/traditional knowledge about climate/environmental changes, (2) record existing drinking water/wastewater initiatives in villages, (3) understand regions' water drinking behaviour, (4) assess bacteria levels in household tanks and raw water supply sites, establishing a baseline for future studies and, (5) make recommendations to improve climate change adaptation strategies that in turn would help improve Inuit health.

The research was carried out from 2003-2004, in four communities in Nunavik: Ivujivik, Puvirnituk, Umiujaq, and Kangiqsujuaq. Data was collected using semi-structured interviews, water samples and other information pertaining to drinking water collected from treatment centers or Quebec Government reports. Community residents had a number of comments regarding climate/environmental changes, a selection is as follows: spring comes earlier, less precipitation, thinner ice covering lakes and rivers, decreased river flows, and lower lake levels. The majority of residents got their water from household tanks, and results for bacteria presence in tanks varied between communities. Many people harvested water from frozen lakes, rivers and icebergs for drinking water in winter and spring, as it does not contain chlorine and reportedly tastes fresher. The authors recommend environmental monitoring as a means of maintaining water quality and community health.

Full article online at: <http://pubs.aina.ucalgary.ca/arctic/Arctic60-2-195.pdf>

Matte, T.D., & Jacobs, D.E. (2000). Housing and health – Current issues and implications for research and programs. *Journal of Urban Health*, 77(1), 7-25.

In this article, the authors present a review of housing and health concerns, explore how they are associated with each other and conclude with a review of research recommendations and potential interventions. Previous literature has highlighted a link between housing quality and adverse health outcomes, however, establishing a causal link between the two has been difficult. Common health hazards related to housing include: unintentional injuries (from fires, burns, falls); lead poisoning; allergens and asthma (from dust mites, pets, cockroaches); mould and moisture; and indoor air pollutants such as tobacco smoke.

There are a number of opportunities for future research related to housing and health. Suggestions include a need for more controlled studies to assess the effectiveness of interventions; a mix of structured interventions should take place which target primary prevention (stop poor health outcomes before they begin) or secondary prevention (prevent people who are already sick from becoming worse); and lastly, further research exploring/understanding exposure pathways is necessary. To conclude, the authors recommend that interventions should address multiple hazards at a variety of levels (community, individual) and that many stakeholders need to work together.

Article not available online.

Moloughney, B. (2004). *Housing and population health – The state of current research knowledge*. Ottawa: Canadian Population Health Initiative and Canada Mortgage and Housing Corporation.

This report is a summary of current information on the link between housing and health, with a particular look at policy development. Results suggest that there is a strong body of literature linking health and housing in terms of biological, chemical and physical exposures. Also, factors such as home safety and protection from cold and heat also have been linked. The literature is not as strong in linking psychosocial factors such as home ownership, housing satisfaction, and overcrowding to health effects. However, there is acknowledgement of a potential link between psychosocial factors and adverse health outcomes. Studies tackling the issue have had weak and inconclusive results. Research used to inform policy needs to clearly state links between inadequate housing and poor health, including documentation and measurements of psychosocial factors.

Full article online at: http://secure.cihi.ca/cihiweb/products/HousingPopHealth_e.pdf

O’Neil, J.D. (2000). *Housing conditions and health: A review of literature. Report prepared for the Grand Council of the Crees (Eeyou Istchee)*. Winnipeg: University of Manitoba.

The author was tasked with summarizing literature that addresses the link between housing and health. The review finds that the relationship between housing and health has been studied for a significant period of time and that the evidence points toward a direct causal link between the two. The literature reviewed the potential negative impacts on health: increase in infectious disease, non-infectious respiratory disease, and social and psychological problems. The literature was separated into three

categories which comprise the focus of the report. The categories are: (1) overcrowding, dampness, moulds, (2) sanitation, and (3) basic housing quality. Conclusions suggest that inadequate housing consisting of either one or some of the following factors – crowding, dampness, moulds, poor sanitary facilities and level of repairs needed – creates an unhealthy environment. Furthermore, findings suggest that children are at an increased risk of health illnesses as they are still developing and growing.

Full article online at: www.creepublichealth.org/public/files/Housing%20Conditions%20and%20Health-%20A%20lit%20review.pdf



Richmond, C. (2009). The social determinants of Inuit health: A focus on social support in the Canadian Arctic. *International Journal of Circumpolar Health*, 68(5), 471-487.

It is acknowledged that socially supportive networks produce healthier populations and positively influence the health of a person or community. This principle has extensive empirical evidence, however little is known about the distinctiveness of this principle to Inuit. This study explores four types of social support: (1) positive social interaction, (2) emotional support, (3) tangible support, and (4) intimacy, and measures their relationship to the determinants of Inuit health. The study does this by drawing from analyses (using exploratory and multivariable logistic regression analyses) of the 2001 Aboriginal Peoples Survey. With the lack of Inuit-specific information on social support, it is suggested that more research is needed in order to set priorities for policy and programming efforts to improve the social determinants of Inuit health.

Full article online at: http://ijch.fi/FB657F01-4BFB-4A01-8578-5D81A4B08553/FinalDownload/DownloadId-7F131EA39EDF01D3CA998E510D78746A/FB657F01-4BFB-4A01-8578-5D81A4B08553/issues/685/68_5_richmond.pdf

Saegert, S., Klitzman, S., Freudenberg, N., Cooperman-Mroczek, J., & Nassar, S. (2003). Healthy housing: A structured review of published evaluations of US interventions to improve health by modifying housing in the United States, 1990-2001. *American Journal of Public Health*, 93(9), 1471-1477.

The purpose of this article was to present findings on a review of housing intervention studies conducted in the United States. Two researchers analyzed 72 peer reviewed articles that were published between January 1990 and December 2001. The majority of studies targeted a single condition, such as injury, asthma or lead poisoning and the intervention treatment tended to be a one-time event, targeting behavior, environment, and/or knowledge. Researchers observed a lack of studies using a broader view which the authors call an ecological paradigm. Such a paradigm would recognize an interaction between various factors such as the individual, the family, the social network, and the community and would look at how the interactions impact health outcomes. Using this paradigm would promote the use of holistic interventions that understand and address the complex interaction between housing quality and health.

Full article online at: www.ajph.org/cgi/content/full/93/9/1471

New

Singleton, R., Holve, S., Groom, A., McMahon, B., Santosham, M., Brenneman, G., & O'Brien, K. (2009). Impact of immunizations on the disease burden of American Indian and Alaska Native Children. *Archives of Pediatrics & Adolescent Medicine*, 163(5), 446-453.

This report provides a thorough demographic profile of the Alaska Native and American Indian population. The health status of Alaska Natives and American Indian population is lower than the rest of the population in the United States. The difference is particularly visible in infectious diseases due to the unequal living conditions such as household crowding, lack of indoor plumbing, poverty, and poor indoor air quality. The report also includes medical profiles on the rates of Hepatitis A virus, Hepatitis B virus, measles, pertussis, diphtheria, haemophilus influenzae Type b, Streptococcus pneumoniae, Rotavirus, vaccine coverage, and respiratory syncytial virus. It identifies transmission as the reason for these gaps and the higher rates of infection. Transmissions occur in adverse living conditions like overcrowding and lower quality household conditions, which include lack of in-home water service, compared to the general United States population. It is concluded that during the time period examined for this study, vaccinations were very successful in reducing these rates.

Full article online at: <http://archpedi.ama-assn.org/cgi/reprint/163/5/446>

New

Singleton, R., Peterson, K., Berner, J., Schulte, E., Chiu, K., Lilly, C., et al. (1995). Hospitalizations for respiratory syncytial virus infection in Alaska Native children. *The Pediatric Infectious Disease Journal*, 14(1), 26-30.

To discuss the epidemiology of Alaskan Native children hospitalized for respiratory virus infections (RSV), this study reviews hospitalization records between 1991 and 1993 in hospitals in Anchorage and Yukon Kuskokwim Delta (YKD) regions. This study reports high hospitalization rates for Alaska Native children with RSV illnesses (33 per 1,000 in Anchorage and 100 per 1,000 in YKD Alaska Natives) compared to 0.05 per 1,000 in the United States total population. This disparity may result from lower socioeconomic status, environmental factors, day-care attendance, and overcrowded housing. In YKD villages, housing is a serious determinant to ill health as three or four children may share the same bed. This paper recommends preventive immunization to decrease the number of hospitalizations of young Alaska children as well as further research, like a controlled study, to clarify the strength of the variables identified as determining health factors.

Abstract online at: www.ncbi.nlm.nih.gov/pubmed/7715985

New

Walker, R. (2008). Social housing and the role of Aboriginal organizations in Canadian cities. *IRPP Choices*, 14(4), 1-18.

The author provides information on Aboriginal housing circumstances in urban areas and reviews the policy context within which Aboriginal social housing is implemented in Canadian cities. Case studies of program innovations in urban Aboriginal housing are provided: Kinew Housing in Winnipeg, Lu'ma Native Housing Society in Vancouver, Corporation Waskahegan in Quebec, and the Métis Urban Housing

Association of Saskatchewan. These case studies offer insight into the desired change in the social welfare or well-being of Aboriginal populations. It is suggested that significant government investment is required to increase the housing stock to close the gap between need and availability for these communities, and that the organizations working on social housing require government support in order to meet their goals.

Full report online at: www.irpp.org/choices/archive/vol14no4.pdf



Williamson, I.J., Martin, C.J., McGill, G., Monie, R.D., & Fennerty, A.G. (1997). Damp housing and asthma: A case-control study. *Thorax*, 52, 229-234.

The purpose of this study was to investigate the link between damp housing and asthma. One hundred and two asthma patients (aged 5-44) were recruited from an asthma clinic in Britain, between November 1992 and February 1993. Two control subjects were selected based on age and sex for every asthma patient. Information was collected through structured interviews, spirometric (lung) tests, and household visits. Findings suggest that asthma patients were more likely than the control group to reside in a damp house, therefore allowing researchers to conclude that asthma is associated with damp housing.

Article not available online.

Young, M., Kandola, K., Mitchell, R., & Leannon, A. (2007). Hospital admission rates for lower respiratory tract infections in infants in the Northwest Territories and the Kitikmeot region of Nunavut between 2000 and 2004. *Pediatrics and Child Health*, 12(7), 563-566.

Hospital admissions for lower respiratory tract infection (LRTI) in northern Canada are known to be quite high. This study compares Inuit and non-Inuit infants (up to one year of age) hospital rates of admission for this type of infection in the Kitikmeot region of Nunavut and the Northwest Territories. Hospital records dating from January 2000 to December 2004 from the regions were searched. Findings suggest that hospital admissions in the Northwest Territories and Kitikmeot region are higher than the overall Canadian rate, with the highest incidence of LRTIs experienced in the Kitikmeot region (590 admissions per 1,000 live births) followed by Tlicheo region in NWT (371 admissions per 1,000 live births).

Abstract online at:

www.pulsus.com/journals/abstract.jsp?sCurrPg=abstract&jnlKy=5&atlKy=7510&isuKy=739&isArt=t&frolmfold=

Young, T.K., & Mollins, C.J. (1996). The impact of housing on health: An ecologic study from the Canadian Arctic. *Arctic Medical Research*, 55, 52-61.

This study examines the link between housing and health at the community level. Looking at 49 communities in the Northwest Territories, the researchers analyze data from the 1992 Northwest

Territories Housing Needs Survey and health data from various sources, supplied by the Government of the Northwest Territories. Study findings suggest that there is a stronger relationship between housing and socio-economic status, than between housing and health. However, there were some significant study limitations.

Article not available online.