The Health of Canada’s Indigenous Children

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First People in Canada

Population 1 million: 3.6% of all Canadians

- First Nations People
  - 50 distinct First Nations in 600 Bands
  - 32.6% of indigenous people

- Inuit People
  - 4.4% of indigenous people

- Metis
  - mixed heritage defined by self identification
  - 34% of indigenous people
Indigenous Peoples in Canada

CANADA
Total Aboriginal Identity Population by 2001 Census Subdivision

Population (Number of CSDs)
- 2000+ (12)
- 1000 to 1999 (119)
- 500 to 999 (262)
- 40 to 499 (1065)
- Not available (2469)

Disparities between Canadians

- Indigenous Canadians are younger
  - 27 years vs. 47 years

- Indigenous people face more economic hardship
  - 41% of Aboriginal people live in poverty compared to 11% of all Canadians

- Aboriginal Canadians are educationally disadvantaged
Health Insurance

- For all Canadians, basic health care is paid by the province or territory.
- Federal government takes responsibility for some expenses if you have a treaty number.
  - Medications, transportation, supplies, dental, vision, mental health services.
- Inuit people do not have treaties but receive similar benefits to First Nations peoples.
- Metis people not eligible for non-insured health benefits.
Housing for Indigenous Canadians

- 67% people report their houses are in need of repair
- 18% have no phone
- 3.5% have no flush toilets
- 3.7% have no hot running water
- 118 First Nations communities in Canada need to boil their water

Air Quality in Home of Indigenous Canadians

- Reduced ventilation, tobacco smoke exposure and crowding may contribute to observed excess of LRTI
- Exposure to tobacco smoke was universal in homes tested
- Association between LRTI and indoor carbon dioxide levels
  - Kovesi (2007); CMAJ 177:155-159
- Youth smoking high (>30% in those <14 and 76% in 15-19 year olds (compared to 6% and 25%))
Inuit Peoples

- Infant mortality
  - 4x higher than for the general population in Inuit communities (20/100,000)*

- Life expectancy 20 years less than other Canadians*

- TB (120/100,000 vs 5/100,000 in all Canadians)

*Inuit in Canada: A statistical profile 2008
Top Health Conditions in Children of Indigenous Heritage

- Chronic ear infections
- “Chronic bronchitis”
- Learning disabilities
  - Overrepresentation of developmental disabilities in any marginalized population
  - High rates of FASD sometimes affecting 50% of children in a community
- Obesity and Type 2 Diabetes
Other conditions

- Injuries
- Iron deficiency anemia
- Vitamin D deficiency rickets
- Dental caries
Dental Health

- Though dental care is free only 22% of children with aboriginal status receive annual dental care
- Prevalence of early childhood caries exceeds 90% in some communities
- 50% children have untreated decay
Poor dental health impacts

- Subsequent malocclusion
- Caries of permanent teeth
- Speech and articulation problems *Leake (2008): J Can Dent Assoc. 74:519*
- Children with caries weigh less and may be shorter
Dental Health in Indigenous Children

- Early caries generally mean late caries
- Not just related to bottle feeding
  - Environmental factors, host factors, cultural practices, diet
- Rural, remote and urban problem
- NIHB spends only 10% on dental health promotion
Breastfeeding

- Low rates among First People
Respiratory Illness

- For all Canadians: pneumonia and influenza are the leading cause of death from infectious disease
- Inuit have the highest rate of hospitalization for LRTI in the world
  - Environmental?
  - Genetic predisposition?
Respiratory Illness
Population ≥15 y (1991)

Statistics Canada

Bronchitis
Asthma
Emphysema
TB

On reserve (102,075)
Off reserve (186,295)
Métis (84,155)
Inuit (20,805)
Asthma-like symptoms

Gao, Can Respir J. 2008;15:139–145
Factors associated with asthma-like symptoms

<table>
<thead>
<tr>
<th></th>
<th>Aboriginal O.R.</th>
<th>Aboriginal p</th>
<th>Non-Aboriginal O.R.</th>
<th>Non-Aboriginal p</th>
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</thead>
<tbody>
<tr>
<td>Infant/toddler</td>
<td>3.72</td>
<td>&lt;0.0001</td>
<td>1.15</td>
<td>0.64</td>
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<td>Preschool age</td>
<td>1.93</td>
<td>0.0004</td>
<td>1.41</td>
<td>0.08</td>
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<td>Childhood allergy</td>
<td>2.91</td>
<td>0.0009</td>
<td>3.77</td>
<td>&lt;0.0001</td>
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<td>Mom smoking daily</td>
<td>1.88</td>
<td>0.008</td>
<td>1.66</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Gao, Can Respir J. 2008;15:139–145
LRTI in Indigenous Canadian Children

- Streptococcus pneumoniae
- RSV
- Often children require mechanical ventilation
- High cost to health care system due to need for medical evacuation from home communities
- Disproportionately high rates of chronic lung disease
  - Hemmelgarn (1997); Am J Respir Crit Care Med; 156:1870-5
LRTI in Indigenous Canadian Children

- Newfoundland & Labrador:
  - Hospitalization was 11.6 vs 3/1000 in the Innu & Inuit communities
  - Infants 93.4/1000

  - Alaghehbanda (2007); Int J Infect Dis 11:23-8

- Nunavik (Northern Quebec)
  - LRTI 10x more frequent than in the rest of Canada
  - Hospitalization 198/1000 infants, 119/1000 toddlers, 31/1000 preschoolers

  - Dallaire (2006); Canadian J Public Health 97:362-369
LRTI in Indigenous Canadian Children

- Baffin Island
  - Bronchiolitis hospitalization 484/1000 infants less than 6 months (12% intubated)
  - RSV, adeno, rhino, influenza, parainfluenza 1&3, cytomegalovirus, enterovirus, bordetella pertussis
  - All were second hand smoke exposed in utero and at home, crowding

- Banerji (2001); CMAJ 164:1847-1850
Determinants of pneumonia hospitalization in Ontario

- Low education rates predict hospital admission in all ages and all genders (proxy for SES status)

- Aboriginal status

- Other correlates:
  - Behaviours: smoking, drinking
  - Environmental factors: passive smoking, poor housing, temperature

- Crighton et al (2007); Social Science and Medicine 64:1636-1650
Summary

- Despite advances in care, Indigenous Canadians continue to experience more respiratory illness, a higher infant mortality and shorter life expectancy than other Canadians.

- Though many factors that are correlated with illness have been identified, direct causal factors remain elusive.