Early childhood caries and Aboriginal children in Canada

James Irvine, MD  Univ. of Saskatchewan
Robert J Schroth, DMD  Univ. of Manitoba
Rosamund Harrison, DMD  Univ. of British Columbia
Aboriginal Populations in Canada 2006

- First Nations: 698,025
- Metis: 389,785
- Inuit: 50,485

USA AI/AN = 4.9 million
Inuit Identity Population by 2001 Census Subdivision

Population (Number of CSDs)

- 2000 + (1)
- 1000 to 1999 (16)
- 500 to 999 (14)
- 40 to 499 (52)
- Not available (5517)

Percentage of Aboriginal People in Canada, 2006

USA: 1%

Source: Statistics Canada 2006
Population Percentage as Aboriginal by Region
Median Annual Income
Age 15 years and Over, 2005

First Nation: 14,146
Canadian: 22,274
Infant Mortality Rates

<table>
<thead>
<tr>
<th></th>
<th>General Pop</th>
<th>AI / AN or FN</th>
</tr>
</thead>
<tbody>
<tr>
<td>US (2006)</td>
<td>6.9</td>
<td>8.3</td>
</tr>
<tr>
<td>Canada (2001)</td>
<td>5.2</td>
<td>7.2</td>
</tr>
</tbody>
</table>
Prevalence of ECC in Canada

Manitoba:
- 98% Garden Hill First Nation
- 59% Northern First Nation
- 23% City of Winnipeg

British Columbia:
- 31% Hartley Bay

Ontario:
- 67-78% District of Manitoulin
- 79-92% Sioux Lookout Zone

Quebec:
- 81% Cree Territory

Northwest Territories:
- 66% Inuvik Region
First Nations Regional Longitudinal Health Survey (2002/03)

- Directed & implemented by First Nations following principles of Ownership, Control, Access & Possession
- 238 communities; self-reports
- Provided information for planning, policy & advocacy
- Parents asked about child’s (n=6,657) experience of Baby Bottle Tooth Decay
  - 30% of 3-5 year old children affected

Figure n. Reported Baby Bottle Tooth Decay by Community Isolation Status

First Nation children living in isolated communities are twice as likely to report Baby Bottle Tooth Decay, compared to those living in a non-isolated community.

Source: First Nations Regional Longitudinal Health Survey 2002-03; First Nations Information Governance Committee - Assembly of First Nations.
Oral Health and the Aboriginal Child
Forum 2007

Welcome

This site provides a home for resources, teaching tools, program information and research articles on oral health and the Aboriginal child. This venture came about as a result of a forum that took place in Winnipeg, Canada in June 2007 called “Oral Health and the Aboriginal Child”. One of the outcomes of the forum was a compilation of resources related to improving oral health in Aboriginal children from various organizations and the development of a clearinghouse or knowledge transfer site to enable access to these specific resources; a “one-stop shop”.

Feel free to explore the site! We hope it will be helpful to you whether you are a parent, caregiver, health professional, and researcher or just interested in improving the health and well-being of Aboriginal children.

The resources are organized into the following categories:

- Articles and reports on Aboriginal child oral health from Australia, Canada, New Zealand/Aotearoa, and the United States.
- Community oral health promotion resources with Aboriginal content from Australia, Canada, New Zealand/Aotearoa, and the United States.
- Website links that contain oral health promotion with Aboriginal content from Australia, Canada, New Zealand/Aotearoa, and the United States.

Adobe Reader is required to view these documents. You can install Adobe Reader for free by clicking on get.adobe.com/reader.

For access to PubMed to order research articles online, click on the following link: www.ncbi.nlm.nih.gov

http://oralhealth.circumpolarhealth.org/
COHI Aides, dental therapists and hygienists

- First visits
- Counseling
- F-Varnish
- ART
- Sealants
- Xylitol

What is COHI?

COHI stands for Children’s Oral Health Initiative. COHI is a dental initiative designed to prevent and control tooth decay in young First Nations children and to set the stage for a lifetime of healthy teeth. Helping children avoid pain and infection from cavities gives them a better opportunity to learn and thrive.

Stó:lō Nation Health Services

Stó:lō Nation
7-7201 Vedder Rd
Chilliwack, BC
V2R 4G5
Telephone: 604-824-3200
Toll Free: 1-877-411-3200
Fax: 604-824-0276
Website: www.stolohealth.com

Children’s Oral Health Initiative Program
Dental Therapists in Canada’s Aboriginal communities

What is a Dental Therapist?

Dental therapists are primary oral health care professionals who are trained to perform basic clinical dental treatment and preventive services within a variety of practice settings. As members of a multidisciplinary team, dental therapists provide restorative dental treatment services, disease prevention and oral health promotion programs to maintain and improve health. Dental therapists also advocate for the needs of clients, assist them in accessing care and refer them to other health professionals for services beyond the scope of the dental therapist’s practice.

In Saskatchewan, dental therapists are governed by the Dental Disciplines Act 1997 and the Saskatchewan Dental Therapists Association Bylaws. All dental therapists wishing to practice in the province of Saskatchewan are required to register and license with the Saskatchewan Dental Therapists Association.

Scope of Professional Practice/Competencies document is intended to define and describe the scope of professional practice of dental therapists and the competencies that all
Healthy Smile, Happy Child

• 3 Guiding Pillars:
  1. Community Development & Engagement
  2. Oral Health Promotion/ECC Prevention
  3. Evaluation/Research

• 4 Manitoba pilot First Nations communities:
  • 2 remote, rural
  • 2 urban


• Expanded throughout Manitoba in 2006

• Goal: Sustainable early childhood oral health promotion and ECC prevention initiatives
Healthy Smile Happy Child

- **Goal**: to reduce incidence/severity of ECC

- **Community development** principles to promote preschool oral health and prevent ECC

- Project staff built relationships with **existing programs** to enable community action

- Emphasis placed on **building capacity** to ensure **sustainability**
6-year follow-up: comparisons with baseline

- Follow-up (n=319); baseline (n=408)
- Significant improvements in parental knowledge, attitudes, and behaviors
- Reduced dt score: mn(SD)
  - 2.1 (3.4) follow-up vs. 1.6 (2.7) baseline, \( p = .017 \)
- Reduced age adjusted deft rate: mn(SD)
  - 4.2 (5.0) follow-up vs. 3.9 (5.0) baseline, \( p < .001 \)
- Age adjusted logistic regression for S-ECC
  - reduction in prevalence: 38.6% vs. 45.0%, \( p = .026 \)
A 2-year community-randomized controlled trial of fluoride varnish to prevent early childhood caries in Aboriginal children

Lawrence HP et al. Community Dent Oral Epidemiol 2008
CIHR Grant MOP #64215
Objective: to measure effectiveness of FV and caregiver counseling in preventing in ECC in Aboriginal children

Study design: cluster randomized trial
control: caregiver counseling
test: caregiver counseling plus FV
Sample size: \( n=1275 \) (6 mos.- 5 yrs.)

Treatment effect (primary outcomes):

- net reduction in caries increment = 18%
  - measured at \( d1 \) and \( d3 \) level
- **NNT = 26** to prevent one child from developing caries
Treatment effect: Secondary outcomes

- **GA tx:** “the proportion of children who had GA dental care 25% lower in test group”

- not yet reported:
  - oral health quality of life
  - cost
  - acceptability by parents

A clinical trial of the effectiveness of a dental caries prevention program for Cree mothers and their infants

CIHR Grant FRN 67817

Kimaa Miywaapitet Nitawaashiim: I wish my child would have beautiful teeth
Cree territory of Northern Quebec: **Eeyou Istchee**
Harrison RL, Veronneau J, Leroux B. Design and implementation of a dental caries prevention trial in remote Canadian Aboriginal communities. TRIALS 11. 1-9, 2010

• **Objective:** to test effectiveness of a counseling approach, Motivational Interviewing to control dental caries in young Aboriginal children.

• **Study design:** single-blind study with cluster randomization by community
  - 5 test/4 control

*Kimaa Miywaapitet Nitawaashiim: I wish my child would have beautiful teeth*
Study design: test moms

Pregnant woman recruited: enrolment; MI #1

MI #2 (2 mos.) - MI #6 (24 mos.)

Follow-up: dental exam of child @ 30 mos.

Kimaa Miywaapitet Nitawaashiim: I wish my child would have beautiful teeth
Preliminary results:
\[ n = \frac{272}{309} (87\%) \]

- **Outcomes assessed** for
  - 108/131 (82%) test children
  - 131/141 (93%) of control children

- **Ages similar** for
  - test (mean 37.1, SD 11.1, mos.)
  - control children (35.6, SD 8.6, mos).

*Kimaa Miywaapitet Nitawaashiim*: I wish my child would have beautiful teeth
“Preliminary” results

- Compared test and control group children for various “tooth-level” indices
- **Risk ratio (RR) significant** \((p<.05)\) for all indices, except \(d1-4eft\) and \(d4eft\).
  - intervention was associated with a certain % reduction in risk

*Kimaa Miywaapitet Nitawaashim*: I wish my child would have beautiful teeth
References


