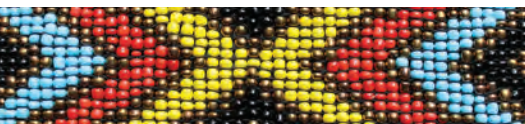




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Le Centre de gouvernance de l'information des Premières Nations



FIRST NATIONS ORAL HEALTH SURVEY (FNOHS) 2009-2010 SUMMARY REPORT



This report presents a number of highlights from the report entitled the First Nations Oral Health Survey 2009-10. For more details please refer to the complete report at www.fnigc.ca.

We wish to thank the office of the Chief Dental Officer of Health Canada for their support and contribution to this report.

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ACKNOWLEDGEMENTS

In 2008 the First Nations Information Governance Committee (FNIGC) embarked on a new journey and agreed to participate in a First Nations oral health measurement survey. Due to the limited data available on First Nations' oral health and the limited access to services, it was recommended that a First Nations Oral Health Survey (FNOHS) be conducted on reserve and in northern First Nations communities. This survey collected information about the dental health of First Nations from eight randomly selected communities across the country and provides a national portrait of oral health among First Nations in Canada.

Dental disease and limited access to dental services is a major concern for First Nations. It was important for First Nations to define their oral health needs so that the appropriate programs and strategies can be implemented to address these needs. This survey provides a picture of the First Nations oral health status on reserve populations and allows for comparison with the Inuit Oral Health Survey and the rest of Canada through the Canadian Health Measures Survey (CHMS).

The data collected through this survey is owned and controlled by First Nations and are compliant with the First Nations Principles of OCAP (Ownership, Control, Access and Possession). This project was developed in collaboration with the Office of the Chief Dental Officer of Health Canada through a Memorandum of Understanding. The FNOHS took advantage of the opportunities and built upon the First Nations Regional Health Survey (RHS) infrastructure and processes to conduct the survey.

The FNOHS also utilized the experience and work conducted by the CHMS, by using the CHMS oral health survey content, both the interview and clinical examination, as the core of the FNOHS survey. At the same time, the FNOHS was tailored to address additional areas of specific interest to the First Nations population which were not covered in the CHMS.

This survey was an arduous process for all as it required a great deal of coordination to send the equipment to the selected sites across Canada, and hire and train local individuals to conduct the survey. We also experienced a number of delays in the survey process, however, despite these delays; we have now completed the final analysis of the report. The FNOHS also underwent a transition process and was formally transferred from the Assembly of First Nations to the newly created First Nations Information Governance Centre (FNIGC) in April 2010 (www.fnigc.ca).

We wish to thank all of the communities that agreed to participate in the survey process, the Assembly of First Nations – Health and Social Secretariat, the staff at the Office of the Chief Dental Officer-Health Canada and Dr. Herenia P. Lawrence of the Faculty of Dentistry at the University of Toronto for her contribution in the writing of this report. Without your assistance the data gaps and realities and burdens of First Nations oral disease would continue to be undocumented. We look forward to positive outcomes in future programming and policy development based on the evidence contained in the FNOHS report.



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BACKGROUND

The Canadian Health Measures Survey (CHMS) Cycle 1 has an oral health component. However, there were four notable populations excluded from the CHMS sampling frame: First Nations living on reserves, the North, Canadian Forces Bases, and those living in institutions.

The First Nations Oral Health Survey (FNOHS) will fill the important information gap on the oral health status of First Nations population living on reserves. The FNOHS built on the work and experience of the CHMS, by using the CHMS oral health survey content, both the interview and clinical examination, as the core of the FNOHS survey and, at the same time, it will be tailored to address additional areas of specific interest to the First Nations population and which are not covered in the CHMS. The FNOHS utilized the established infrastructure of the First Nations Regional Health Survey (RHS) to conduct the FNOHS.

This survey is relevant and timely as the FNOHS will establish national level data for the First Nations population living on reserves that will be directly comparable to Canadians as established by the CHMS. The First Nations Information Governance Committee and, Health Canada's Office of the Chief Dental Officer (OCDO), which has allocated funding for this survey, have recognized the importance of collecting this information which will shape public/population health and health promotion initiatives aimed at improving the oral health status of the First Nations population of Canada.

First Nations have higher rates of dental decay and oral disease than Canadians in general. This may be related to a diet higher in sugary foods, lack of water fluoridation, and poor access to dental treatment and prevention services, especially in more remote communities. Type II diabetes, which is nearly four times more common among First Nations than Canadians overall, has also been connected to periodontal disease and tooth loss. There have been only a handful of clinic-based oral health surveys among First Nations in the last two decades – all among children and youth.

RATIONALE

Prior to 2009, there lacked a complete picture of the oral health of the First Nations in Canada. Data tended to be limited to particular communities or geographic regions and oral health information had not been systematically collected through periodic epidemiologic surveys conducted either by First Nations, and/or federal or provincial/territorial health departments as part of their vital statistics or disease surveillance systems. This is unfortunate because oral



health surveys, regardless of their scope, provide essential information on the extent and severity of oral health conditions in their target populations so that appropriate efforts can be taken to reduce the burden of illness. Results from these surveys also can be used to monitor population trends, particularly when data from several survey years are compared.

The data that are available for First Nations in Canada consistently present a picture of oral health that is poorer than that of the non-First Nations population. Current research indicates that the First Nations of Canada have higher prevalence and severity of dental caries and periodontal diseases and more unmet dental treatment needs than their non-First Nations counterparts. For example, a significant portion of research on First Nations oral health has focused on the chronic disease known as early childhood caries or “baby bottle tooth decay”, a term reflecting the association of the disease with infant feeding practices. In some First Nations communities, the prevalence of early childhood caries exceeds 90%, well above the prevalence rates of the general population which average 30% or less. Dental caries among children in Canadian provinces has been declining since the 1970s; however, no national data existed upon which to estimate the extent of dental disease among First Nations children. Thus not only is information needed to estimate the current oral health status and treatment needs of First Nations children, but also to measure the rates of dental caries, periodontal diseases and the general oral health status of First Nations adolescents and adults.

The extent and distribution of current oral health conditions for the Canadian population as a whole was also largely unknown until 2007. Although decades of Canadian health surveys have included a handful of questions about dental services utilization, oral health behaviours, and/or dentate status, until recently there were little data to reflect nation-wide, clinical information on the oral health of Canadians. Statistics Canada recently completed the Canadian Health Measures Survey (CHMS), a national health status survey that included an oral health component.¹

As indicated earlier, the CHMS was not designed to assess the oral health status of First Nations in Canada. The CHMS, under the direction of Statistics Canada in partnership with Health Canada, the Public Health Agency of Canada and the Canadian Forces went to the field in 2007 and covered the majority of Canadians, but did not include persons living on Indian Reserves or Crown lands, residents of institutions, full-time members of the Canadian Forces, and residents of certain remote regions.

Although it seems that Canada has finally placed priority on measuring the oral health status of its population, information on the prevalence, extent and severity of dental diseases and conditions in the First Nations in Canada are still unknown because of a lack of national health surveys that have included an oral health examination component.

The oral health of First Nations has never been fully assessed, prompting the rationale for this report on the first, nation-wide survey of the oral health of on-reserve First Nations. This survey provides baseline information on the oral health needs and current levels of care necessary for planning the best services to improve the oral health of Canadian First Nations. A clear understanding of baseline oral health status and treatment needs is essential to es-



establish oral health priorities that will contribute positively to the health and quality of life of all First Nations peoples. Without these basic data, it is difficult to answer complex research questions, to determine how and where to direct oral health promotion, preventative and treatment interventions, or to affect policy changes that will benefit the First Nations and communities.

The First Nations Regional Health Survey (commonly referred to as RHS) is the only First Nations governed national health survey in Canada. It collects information based on both Western and traditional understandings of health and well-being. The First Nations Information Governance Committee provides oversight and governance over the RHS, related research projects, and other related issues concerning First Nations data. The FNIGC is composed of members from First Nations regional organizations, representing the regions across Canada.

The RHS, while producing a wealth of scientifically credible and culturally valid data that will continue to inform health policy and programming in the years to come, does not, however, include a clinical examination component to assess the oral health status and the extent of dental treatment needs of survey participants. According to the RHS 2002/03, one in ten First Nations adults (10.0%) had not received dental care in the previous five years. A further 0.7% had never received dental care. About four in ten adults (40.2%) received no dental care in the previous year compared with one in five (21.4%) youth aged 12-17 and almost one in three (30.9%) children under 12. Despite the burden of oral health problems and dental care needs among First Nations, there is no national clinical survey (direct measures) data available for First Nations adults, while the child/youth studies are dated. A First Nations oral health survey comparable to the CHMS's oral health component would serve to fill that gap.

Because of the perceived relevance and interest of the First Nations partners, there was an opportunities to build on the RHS infrastructure and processes for a new independent stand-alone surveys. In 2008, the RHS Team entered into a partnership with the Office of the Chief Dental Officer (OCDO) of Health Canada to conduct the First Nations Oral Health Survey (FNOHS). The FNOHS began data collection in February 2009 and ending in February 2010 and provides national level data on the clinical oral health status of First Nations. The survey, coordinated by the RHS Team, was implemented in First Nations communities with the assistance of the OCDO, which supplied examiners and expert advice to the survey. The FNOHS used the same oral health measures in the clinical examination and interview components as those used in the Canadian Health Measures Survey (CHMS) of 2007–2009, with additional questions specific to the needs of the First Nations populations added so as to allow for comparisons between the national estimates and the First Nations estimates. The FNOHS also included children ages 3–5 in addition to the priority age groups included in the CHMS (6-11, 12-19, 20-39, 40-59 and 60-79). The survey has gathered information on risk factors and health determinants that affect First Nations communities, as well as essential baseline data for future oral health surveys of this population. The data collected will allow for wider comparisons with national and international oral health survey data and it is hoped



that the findings will help in filling some of the data gaps in our understanding of the burden of oral disease in First Nations communities across the country.

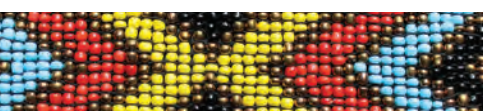
In summary, this report of the findings of the First Nations Oral Health Survey of 2009–10 provides national estimates of the clinically assessed oral health status of on-reserve First Nations children, youth and adults and presents comparison data for the general Canadian population derived from the Oral Health Module of the Canadian Health Measures Survey conducted from 2007 to 2009. In this report, we also examine national estimates for respondent-assessed oral health and perceived impact on quality of life, perceived dental treatment needs, preventive oral health behaviours, dental care access and utilization using the questionnaire component of the First Nations Oral Health Survey and compare the results with those found in the RHS of 2002–03. It is anticipated that the findings from the First Nations Oral Health Survey will address knowledge gaps in the critical areas of normative oral health status and treatment needs of First Nations peoples and will provide essential baseline data to measure progress towards preventing oral disease and eliminating oral health disparities across Canada.

FNOHS METHODOLOGY

The sampling plan for the FNOHS was based on the Indian Registry population data from Indian and Northern Affairs. All First Nation communities with a population of 500 or more were eligible for selection; a minimum community size had to be used to ensure that selected communities were adequately large enough to support the community-level sample size. The sampling frame was divided into four regions based on population size and similar characteristics: 1. Atlantic regions and Quebec; 2. Ontario; 3. Manitoba, Saskatchewan, Alberta and Northwest Territories; and 4. British Columbia and the Yukon. Within each region, there was a random selection of one urban/rural community and one remote/special access communities¹. If a community refused the invitation for participation in the survey, they were randomly replaced by the same type of community within the same region (i.e. Replace an urban/rural community from Ontario with a randomly selected community that is urban/rural from Ontario). The targeted sample number for each of the 8 sites was 158 with a total overall target sample of 1,264.



¹ Urban/Rural = INAC classification of G1 or G2. Remote/Special Access = INAC classification of G3 or G4



Below is the final list of the eight participating communities:

Table 1 Participating Communities for the FNOHS

COMMUNITY	REGION
Burnt Church First Nation	NB
Natasquan	QC
Fort William First Nation	ON
Moose Cree First Nation	ON
Fort Good Hope	NWT
Grand Rapids First Nation	MB
Chemanius First Nation	BC
Ulkatcho (Anahim Lake)	BC

Once a community was selected, they were sent an information package with an invitation to participate. They were also given copies of the questionnaire tools, methodology, brochures, and related survey documentation. Individual participants were randomly selected from the band membership list, by the five age categories presented below. Due to the small sample size and associated funding, there was no breakdown by sex and only national estimates can be made.

Table 2 Summary of sample plan by age group per community

AGE GROUP	SAMPLE TO COLLECT
3-5 years	20
6-11 years	20
12-19 years	20
20-39 years	64
40-79 years	34
Total	158



FNOHS SURVEY QUESTIONNAIRES

The First Nations Oral Health Survey had two complementary study components:

1. A household survey covering issues of access to oral health care, self-reported dental status, oral hygiene practices.
2. A clinical component which entails a ten minute exam of the teeth and mouth of participants.

The following is a description of the two survey tools and a 'for information' copy of the FNOHS Household survey. Both components were formatted to use in the Computer Assisted Personal Interview (CAPI) system, for data collection on the laptops in the field. The CAPI system was utilized by the RHS process for data collection activity. The questionnaires were available in both English and French.

FNOHS HOUSEHOLD SURVEY

The household questionnaire of the FNOHS was a self-report survey touching on themes of:

- General oral health;
- Health conditions and risk factors;
- Dental hygiene (i.e. frequency of brushing); and
- Access to dental care.

Much of the content overlaps with the CMHS household components², with some additional questions addressing First-Nation specific issues (i.e. Non-insured Health Benefits). The household survey content was reviewed and approved by the First Nations Information Governance Committee. The household questionnaire was conducted with the field worker and took an average of ten minutes to complete. If the selected participant was under the age of 12, the primary caregiver completed the household component.

² Health Canada (2010). Report on the findings of the oral health component of the Canadian Health Measures Survey 2007–2009. Ottawa: Office of the Chief Dental Officer, Health Canada, p. 111. Available at: www.fptdwg.ca/English/e-documents.html. Accessed June 30, 2010.



FNOHS CLINICAL COMPONENT

The clinical component recorded the oral health status of respondents, resulting from a physical oral exam conducted by a dentist. Before the oral examination, the dentist asked a number of questions seeking information on dental symptoms such as pain, bleeding or dry mouth. In addition, respondents were asked medical history questions to ensure they could undergo a complete clinical dental examination³. The rest of the clinical exam consisted of questions related to edentulism (toothless) and prosthesis (dentures) wearing, mucosal lesions, fluorosis (a condition caused by excessive exposure to fluorine), occlusion, debris, calculus (tartar), attachment loss, and caries status among others.

Field workers from each participating community underwent specialized training to support the collection of the FNOHS questionnaires. The FNOHS training covered material on interviewing techniques, informed consent, sampling, questionnaire content, and the data collection system. A FNOHS Field worker Training Manual guided the training sessions, which adapted materials from the First Nations Regional Health Survey (RHS) Training Manual as a foundation. Many of the field workers had been employed and trained with the RHS and, as a result, were familiar with the laptops and Computer Assisted Personal Interviews (CAPI) system, and field methodology. Field workers received additional training on data recording and room preparation by the Office of the Chief Dental Officer (OCDO) for supporting the collection of the clinical questionnaire.

All methodology and questionnaires were reviewed and approved by the First Nations Information Governance Committee, which has representatives from the ten First Nations regional organizations. The First Nations Oral Health Survey methodology and materials were reviewed and approved by the Health Canada's Research Ethics Board.

The FNOHS follows a model of informed consent. The consent forms had the following sections: Description of project purpose and partners; benefits and risks; privacy protections; right to refusal; and statement of consent. All participants under the age of 18 years required the consent of a primary caregiver. All data in the FNOHS dataset have a confirmed valid consent form on record; if no valid consent form could be located then the data were deleted. The consent forms are securely stored at the FNIGC/RHS national office.

The FNOHS report for publication will be reviewed by all partners involved in the study and will be made available to participating communities.

The final sample consists of 1188 respondents for the clinical component. However, only 1125 of those respondents have both a clinical and household component; this is due to the fact that not everyone completed both parts of the FNOHS. The FNOHS achieved 94% of the overall targeted sampled.

³ Participants who suffered from certain medical conditions such as hemophilia participated in the survey but were exempt from all probing related questions.



Table 3 Final counts of respondents in FNOHS Clinical Database by age group

AGE GROUP	TOTAL SAMPLE
3-5	140
6-11	172
12-19	176
20-39	411
40+	289
N	1188

INDICES USED IN THE FNOHS SUMMARY REPORT

Tooth decay (or what is commonly referred to as cavities) is a disease that damages the tooth. The decay starts by attacking the tooth's protective coating, also known as enamel, and causes a hole (cavity) to occur. If the cavity is not repaired, it can get bigger, may cause pain, and may also lead to the loss of the tooth. The First Nations Oral Health Survey collected information on cavities in two ways: First, it collected information on the average number of baby teeth that were either decayed (d), missing (m), or filled (f). This is known as the dmft count. The dmft is an indicator of the severity of the disease. For example, a dmft of 6 means that there are 6 teeth that are either decayed, missing or filled in the same mouth. Second, the survey looked at the percentage of First Nations who have a dmft of at least 1. A dmft score that is bigger than 1 means that active decay is, or was, present in the mouth.*

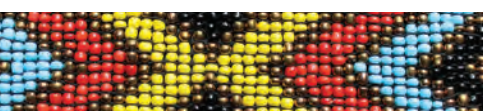
The clinical database included a variety of scores for the teeth and health status of the mouth, referred as indices. To better present the information, a number of indices were used for this report in line with the Canadian Health Measure Survey: Oral component.

Below are the main core indices used:

- **dmft (lower case letter):** An index of dental caries experience measured by counting the number of decayed (d), missing (m), and filled (f) baby (primary or deciduous) teeth (T).
- **DMFT (upper case letters):** An index of dental caries experience measured by counting the number of decayed (D), missing (M), and filled (F) adult (permanent) teeth (T).

LIMITATION OF THE STUDY

A major limitation of the study was the small size and restrictions around the sample. As the sample included only communities over a population of 500 people, populations living in communities of less than 500 are not represented by these results. Only eight communities



were funded for the study – the inclusion of more communities would have decreased the risk of a design effect. Due to the small sample only national estimates could be made and the sampling design could not support breakdowns by both age and gender. Another limitation is the fact the study was cross-sectional and therefore captures information at the time of the study; results are therefore bound by those timelines and inferences about causation cannot be made. Finally, the household survey was self-reported and therefore subject to the usual risks of bias associated with self-reported data (i.e. recall bias).

FNOHS TERMINOLOGY USED IN THE CLINICAL SURVEY INSTRUMENTS

Clinical Component

Examining dentists used objective clinical indices and criteria for measuring and recording oral health conditions such as:

Dentate Status

The dentist-examiners recorded whether natural teeth or implants were present in the maxilla, mandible or in both arches. The prevalence of complete tooth loss, also referred to as edentulism, was defined as the percent of adults who had no natural teeth (i.e., were edentulous).

Prosthetic Status

The use of full or partial removable dentures (in one or both arches) worn to the examination and the presence of fixed prostheses, such as bridges or implants, were recorded. The proportion of edentulous adults wearing dentures and dentate adults wearing dentures or bridges to replace missing teeth are captured in the report.

Oral Mucosal Lesions

The point prevalence of oral mucosal lesions, defined as the proportion of participants presenting with specific types of these soft tissue lesions at the time of the examination, were recorded.

Dental Fluorosis

Dental fluorosis is a hypomineralization of the dental hard tissues (enamel, dentin, and cementum) caused by long-term, excessive ingestion of fluoride during the period of tooth development prior to eruption (first 8 years of life for most permanent teeth excluding third molars).



Orthodontic Conditions and Treatment Status

Occlusion refers to the alignment of teeth and the way that the upper and lower teeth fit together (bite), while malocclusion is a misalignment of opposing teeth and/or an incorrect relation between the teeth of the two dental arches. Data on the current orthodontic treatment status of participants also were collected.

Periodontal Conditions

Participants with teeth were examined in the FNOHS were also assessed for periodontal (gum) conditions provided they had no medical contraindications to periodontal probing. Probing was not conducted on children younger than 15 years of age. The types of conditions assessed were: gingivitis, oral hygiene (debris and calculus) and periodontitis.

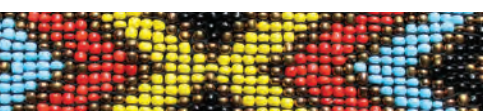
- **Gingivitis:** gingivitis, or inflammation of the gums, occurs in response to the bacteria in plaque that accumulates at the gum line. It is characterized by redness, swelling or bleeding of the gums.
- **Oral Hygiene:** gingivitis and periodontitis are principally caused by bacteria that accumulate in dental plaque, the sticky film that adheres to teeth. When plaque accumulates, often the result of infrequent or ineffective oral hygiene, the risk of both conditions increases. Dental calculus, commonly known as tartar, is a hardened yellow or brown mineral deposit on teeth that is caused by unremoved plaque.
- **Periodontitis:** is caused by a bacterial infection, is inflammation of the tissues surrounding the tooth that affects the gingiva (gum), the ligaments and the bone. The disease is asymptomatic, but in some cases, the infection can cause an abscess and become painful.

Coronal Caries

Coronal caries occurs on the crown – the visible portion of the tooth – that is covered in enamel and is recognized as one of the primary reasons why individuals seek dental care. In the FNOHS, coronal caries and its sequelae (missing teeth due to caries and filled teeth) were observed. Detailed observations and coding guidelines were included in the procedures manual for the dental examiners and recorders. Tooth-specific data points were used to calculate measures of caries prevalence and severity, based on the dmft and DMFT indices. Upper-case letters represent scores for permanent (adult) teeth and lower-case letters represent scores for primary or deciduous (baby) teeth.

Root Caries

Root caries, as the name implies, is the dental decay that attacks the root of the tooth which has become exposed due to gingival (gum) recession. Recession (receding gums) is caused by periodontal disease or results from the aging process.



Dental Sealants

A dental sealant is a clear and protective coating that is applied by a dental professional to the occlusal (chewing) surface of the back teeth (mainly molars) to seal pits and fissures where plaque, food, and bacteria can become trapped. Sealants serve as a means of preventing cavity formation in the decay-susceptible areas of the tooth.

Amalgam Count

At the end of the caries assessment, dentist-examiners counted and recorded the number of tooth surfaces with amalgam fillings.

Incisor Trauma

The proportion of participants with one or more front tooth (teeth) lost or fractured due to trauma.

Dental Treatment Needs

A clinical assessment was made of the participants' dental treatment needs and this was compared with the participants' perceived needs. Briefly summarized, upon completion of the clinical examination, the dentist-examiners recorded whether the participant needed care and, if so, what type, and whether care was needed urgently (i.e., within one week).

Other definitions used in the report:

Amalgam: Amalgam is a mixture of an alloy primarily silver also contains very small amounts of copper, zinc and tin mixed with mercury. The term is commonly used for the amalgam employed as material for dental fillings.

Debris Index (DI) and the Calculus Index (CI) components of the Oral Hygiene Index (OHI) were used to measure the coronal extension of plaque (Debris Index) and likewise, calculus (tartar) and/or the concurrent occurrence of sub and supra gingival calculus (Calculus Index) on preselected tooth surfaces of the indicator teeth.

- **Calculus Index (CI):** Calculus is the hard, stony, calcified deposit of inorganic material on the tooth surfaces. 0 = no calculus, 1 = calculus not covering more than 1/3rd of the tooth surface, 2 = calculus covering between 1/3rd to 2/3rd of the tooth surface, 3 = calculus covering more than 2/3rd of the tooth surface
- **Debris Index (DI):** For this index, debris is defined as soft, foreign matter consisting of bacterial plaque and food debris. The criteria include 0, no debris or stain present; 1, debris covering not more than one-third of the tooth surface or extrinsic stain without debris; 2, debris covering between one- and two-thirds of the tooth surface; and 3, debris covering more than two-thirds of the tooth surface.



Calculus/Tartar: Commonly known as tartar, it is a hardened yellow or brown mineral deposit on teeth that is caused by unremoved plaque. Calculus is composed of mineral salts, food, and other debris that has hardened over time which cannot be removed with a toothbrush. Because of its rough surface, calculus attracts more debris and food particles, causing a repeating cycle of formation and build-up until it is removed by a qualified oral health professional.

Dentate: Means having teeth.

Edentulism: Is defined as the absence or complete loss of all teeth.

Gingiva: Means the gum which is the area around the root of a tooth.

Malocclusion: A malocclusion is a misalignment of teeth or incorrect relation between the teeth of the two dental arches.

Mandibular: Pertains to the lower jaw.

Maxillary: Pertains to the upper jaw.

NIHB Program: The NIHB (Non-Insured Health Benefits) Program is administered by Health Canada (First Nations and Inuit Health) and provides health coverage to registered First Nations and Inuit. The benefits include, pharmacy benefits (including prescription and over-the-counter medications, as well as medical supplies and equipment); dental services; eye and vision care services; medical transportation; and crisis counseling.

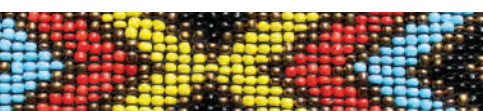
Periodontal: Surrounding or encasing a tooth, relating to or affecting tissues and structures surrounding and supporting the teeth. Periodontal disease is an infection of the tissues that support the teeth.

Periodontitis: Is inflammation and infection of the ligaments and bones that support the teeth. Periodontitis occurs when inflammation or infection of the gums is untreated or treatment is delayed. When gingivitis is not treated, it can advance to “periodontitis”.

Plaque: Is the soft and sticky substance that accumulates on the teeth from food debris and bacteria. Plaque can be removed by brushing and flossing. If plaque is not removed, it can lead to gum disease and cavities.

Subgingival: Occurring under the gums; especially, being or occurring in the crevice between the gum margin and the neck or root of a tooth.

Temporomandibular: The temporomandibular joint (TMJ) connects your jaw to the side of your head. When it works well, it enables you to talk, chew and yawn.



FIRST NATIONS ORAL HEALTH SURVEY RESULTS KEY HIGHLIGHTS

Self-Reported Outcomes

PERCEPTIONS AND IMPACT OF ORAL HEALTH ON QUALITY OF LIFE

This section adds to the examination findings by providing indicators of subjective oral health in the First Nations population. It reports on First Nations' perceptions of how they are affected by oral disease, including the experience of toothache, the impact of oral disease on quality of life, and the hours/days of work or school lost due to dental problems. Parents, guardians or other primary caregivers of children aged 3–11 years responded on behalf of their children whereas adolescents and adults responded for themselves.

Facts:

- 78.5% of children (ages 3–11) and 60.1% of adolescents and adults reported that their oral health was good, very good or excellent.
- At the other end of the scale, 21.5% of children and 39.9% of adolescents and adults stated that their oral health was fair or poor.
- 27.6% of children and 44.1% of adolescents and adults rated their satisfaction with their mouth appearance as “indifferent”, “dissatisfied” or “very dissatisfied”.
- Approximately 35% of children and 48.6% of adolescents and adults responded that they had found it uncomfortable to eat any food in the past 12 months because of problems with their mouth.
- 29.3% of child respondents and 39.7% of adolescent and adult respondents reported avoiding foods because of problems with their mouth in the past 12 months.
- The occurrence of ongoing or persistent pain in the mouth, reported as often or sometimes in the last 12 months, was higher in adolescents and adults (33.4%) than in children (20.4%).

ORAL HEALTH SYMPTOMS

Tooth, mouth, jaw and facial pain can have many causes, including dentine sensitivity to hot or cold food or drinks, pain resulting from trauma, fractured or decayed teeth, infections, periodontal diseases and temporomandibular joint disorders (TMD).



Facts:

- Among all children aged 3–11, the majority had not experienced any orofacial pain (pain in the mouth, jaws or face) in the last four weeks.
- The most frequently reported oral symptom among children was dental pain when consuming hot or cold food or drinks (14.8%), as perceived by their parents/guardians.
- The parents/guardians of those aged 3–11 were more likely to report that their child experienced chronic bad breath (23.6%) and/or bleeding gums when brushing their teeth (14.8%).
- Adolescents and adults tended to report more oral symptoms in the past month than children.
- Nearly thirty percent (29.6%) reported experiencing toothache when consuming hot or cold foods or drinks in the previous four weeks and 11.9% experienced a spontaneous and severe tooth or mouth pain at night.
- About one-third of adolescents and adults (34%) complained of bleeding gums when brushing their teeth, 21.1% had chronic bad breath and 19.3% experienced chronic dry mouth.

PREVENTIVE ORAL HEALTH CARE BEHAVIOURS

Two factors have been repeatedly shown to protect populations from dental caries and periodontal diseases: toothbrushing using fluoridated toothpaste and the regular use of oral health care services. The Canadian Dental Association recommends that adults and children brush their teeth twice a day with fluoride toothpaste and that they go for a dental exam every six months to a year, or more often, depending on an individual's oral health needs. The goal of regular dental visits is to catch problems early and to prevent new disease from occurring by educating patients on how best to take care of their teeth and gums.

Facts:

- Just over half of children (52.2%), adolescents and adults (54.7%) reported brushing their teeth or dentures twice a day or more frequently.
- Lower percentages of dentate First Nations reported flossing their teeth at least five times a week; 19.6% of children flossed that frequently, compared to 25.0% of adolescents and adults.
- Approximately three in four children (73.0%) aged 3–11 years reported visiting a dental professional for check-ups or treatment once a year or more than once a year, compared to 59.9% of adolescents and adults.
- Approximately one in three First Nations adolescents and adults (32.3%) reported seeing a dentist only for emergency care.



ACCESS TO DENTAL CARE

Access to dental care among First Nations focused on the time since the last dental visit and on the usual pattern of visits to a dentist, i.e., for check-ups and treatment or for emergency care. In addition, adult and youth participants were asked to describe their experience with geographic, financial and/or other barriers to obtaining dental care while primary caregivers provided answers to these questions for child respondents.

Facts:

- Over half (56.8%) of First Nations adults aged 20 years and over reported they had visited a dental professional within the last year.
- Young children aged 3–5 tended to have the highest rate of visits within the last year (78.5%), followed by children aged 6–11 (70.1%), then adolescents aged 12–19 (69.9%), young adults aged 20–39 (65.4%) and finally adults aged 40 years and older who had the lowest rate (46.8%).
- Nearly 15% of adults older than 39 years had seen a dentist five years ago or more.
- Of all the adult participants, 21.7% reported that they visited a dental provider for care between one and two years prior, showing that 78.5% of First Nations adults had had a dental visit for any reason within a two-year period.
- Among children who had not visited a dental professional in the last year, 64.2% of parents/primary caregivers reported that this was because they had “no access to dental care”, and 40.4% reported that this was because their child had “no need for care”.
- Among adolescents and adults, 39.0% reported a lack of access to dental care, 29.9% did not feel a need for care, 9.5% were afraid of the dentist and/or had a past traumatic experience during dental treatment, 5.6% wanted to avoid a potentially painful experience and 5.0% did not attend due to cost.

ACCESS TO DENTAL CARE AND GEOGRAPHY

Geography can limit access to dental care for many First Nations and can adversely influence the possibility of obtaining comprehensive and timely care.

Facts:

- A higher percentage of children (46.1%) who lived in urban (includes rural, non-remote communities) usually saw a dental professional more than once a year for check-ups or treatment as compared to 29.9% of those who lived in remote communities.



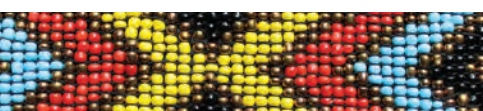
- Similarly, 35.0% of adolescents and adults living in urban areas reported they usually visited a dentist more than once a year for preventive care or for regular treatment compared to 22.8% of those living in remote First Nations communities.
- However, an unanticipated trend was observed with higher percentages of First Nations of all ages living in remote communities reporting they visited a dentist about once a year for check-ups or treatment.
- Also contrary to expectations, 36.6% of adolescents and adults from urban communities reported visiting for emergency dental care only as compared to 13.4% of those living in remote First Nations communities.

FINANCIAL BARRIERS TO ACCESS TO DENTAL CARE

The cost of dental care may also reduce the likelihood of dental visitation. Avoiding or delaying care due to costs is considered a barrier prior to seeking care, whereas foregoing treatment due to cost represents a barrier to the receipt of any recommended treatment.

Facts:

- Just 2.0% of children and 5.8% of adolescents and adults said they avoided going to a dental professional because of the costs involved and 2.1% of children and 5.4% of adolescents and adults said they declined recommended care because of the cost.
- A small percentage of respondents – 4.9% of children and 9.0% of adolescents and adults – reported that they had been asked by their regular dental provider to pay out-of-pocket for their dental care. However, this did not include those who choose to pay upfront and then seek reimbursement from the NIHB Program after treatment was received.
- An additional 4.4% of parents/primary caregivers and 4.2% of adolescents and adults had been asked to pay for their child's or their own, dental services when they were referred to a dental specialist by their regular dental provider.
- When the request for out-of-pocket payment for specialist dental services was made, it had happened only one time among approximately two-thirds of the respondents and in most instances payment was asked for before treatment was initiated.



PERCEIVED NEED AND ACCESS TO ORTHODONTIC CARE

Facts:

- For children aged 3–11 years just under 24% of their parents/primary caregivers considered their child needed orthodontic care (i.e., braces, retainer), and approximately 15% of adolescents and adults perceived themselves to be in need of orthodontic care.
- Those who perceived a need for orthodontic care were asked if the care was obtained. Most of the children (93.5%) did not receive orthodontic services which was an expected finding, as orthodontic treatment is usually initiated between ages 11 to 13.
- Of those aged 12 years and older, nearly three-quarters (73.6%) did not receive orthodontic care though they perceived a need for care.
- Among adolescents and adults, one-quarter of the cases of malocclusion did not meet NIHB criteria and 17.3% were denied costs, 22.9% did not want the service and 34.7% provided other reasons for not receiving orthodontic care that can be summarized by these following statements: “can’t afford the cost of the braces”, “dentist did not think it was needed”, “need other dental work done first”, “dentist said I was too old for braces”, “never been referred to a specialist”, “not certain about how to access orthodontic care services”, and “too costly to get to the out of town appointments”.
- Hardly anyone who was denied access to orthodontic treatment through the NIHB Program appealed the denial.
- When asked whether the lack of orthodontic care impacted on their self-esteem or mental health, 33.8% of adolescents and adults replied in the affirmative.



CLINICAL EXAMINATION FINDINGS

CORONAL CARIES

Children Aged 3–5 Years

Facts:

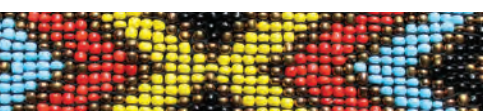
- Among preschool children aged 3–5 years, the majority, 85.9%, had experienced one or more cavities in their primary (baby) teeth at the time of the survey.
- Just over 61% of pre-school children had untreated tooth decay in their primary teeth.
- On average, children in this age group experienced 7.62 decayed, missing, or filled deciduous (baby) teeth (dmft).
- 45.5% of the overall dmft had been filled and 35.2% were still decayed, while the remaining 19.3%, had been extracted.
- A total of 22.5% of preschool children had one or more amalgam fillings and the average number of tooth surfaces with amalgam restorations was 0.79 per child.
- Children from families with household incomes less than \$20,000 per year had higher caries prevalence (98.6%), compared with preschoolers from families making more than \$20,000 per year (69.5%).
- Children who visited a dental professional in the last year and those whose primary caregiver had more than a high school education had approximately two teeth more with restorations than those who have not seen a dental care provider in the previous year, or whose parent/caregiver had a high school education or less.

Children Aged 6–11 Years

Children aged 6–11 have a mixture of primary/deciduous (baby) and permanent (adult) teeth. This dentition containing both primary and permanent teeth is known as the mixed-dentition. It usually occurs between 6 and 13 years of age. As permanent teeth erupt they replace the deciduous teeth resulting, by age 14, in the new permanent-tooth dentition.

Facts:

- The caries prevalence reached a level as high as 93.9% when combining the children's experience of dental caries on both primary and permanent teeth with 80.4% having at least one decayed, missing or filled primary teeth (dmft greater than zero) and 67.1% having a DMFT score of greater than zero.



- The mean total count of the primary and permanent teeth decayed, missing or filled was 5.28 dmft and 1.87 DMFT. The mean dmft plus DMFT was 6.58, of which 63.8% (4.20 ft+FT) were filled and 16.7% (1.10 dt+DT) were decayed (untreated); 19.5% (1.28 mt+MT) had been extracted.
- Amalgam restorations were present in 34.6% of children 6–11 years old and the mean amalgam count was 1.60 tooth surfaces filled per child.
- The prevalence and severity scores for primary and permanent teeth among 6 year-olds, 92.4% of 6 year-olds had one or more dmft plus DMFT, with a mean severity score of 7.79 dmft plus DMFT.
- The result of children (aged 6–11) experience of caries on both deciduous and permanent teeth was found to be extremely prevalent among this age group.
- Caries severity on both deciduous and permanent teeth (mean dmft+DMFT),
 - appeared somewhat higher among males than females (7.99 vs. 5.82),
 - Was higher among children from families with lower household incomes versus higher incomes (8.29 vs. 5.06),
 - Was higher among those who had not visited a dental professional in the past year compared to those who had visited in the past year (8.33 vs. 6.00).
- A trend for lower counts of untreated caries and missing/extracted teeth were observed among those who had received dental care within the last year.

Adolescents

Where adolescents are concerned, epidemiologic studies include only the permanent teeth, as most of the baby teeth (deciduous) have, by this point fallen out.

Facts:

- Nearly all (91.4%) adolescents, aged 12–19, had experienced coronal caries in one or more permanent teeth.
- The mean DMFT was 6.15 teeth, of which 22.9% (1.41 DT) were decayed, only 4.4% (0.27 MT) were missing and the majority, 72.7% (4.47 FT), were filled.
- Despite a high percentage of treatment, nearly half of adolescents (46.4%) had untreated tooth decay on an average of 3.04 teeth.
- Just over half (52.2%) had at least one amalgam filling and the average number of surfaces with amalgam restorations was 4.11.



- The prevalence of caries among 12 year-olds was 82.2% and a mean DMFT at age 12 of 3.88.
- In addition, 31.4% of 12 year-olds had untreated tooth decay in their permanent teeth.
- Among adolescents aged 12–17 years, 88.9% had experienced decay in one or more permanent teeth.
- 99.2% of adolescent females and 83.6% of males had one or more DMFT at the examination and females had, on average, 1.93 more DMFT than males (6.40 versus 4.47).
- Examiners found that 86.2% of adolescents in this age group who resided in non-remote rural/urban communities had experienced caries and had a mean DMFT of 4.58 teeth affected, compared to 100% of adolescents living in remote communities who had a DMFT of 8.05, largely due to a higher filled component of the DMFT index (mean FT = 6.16).
- Additionally, a trend was noted for adolescents who smoked to have about one more decayed tooth, hence a higher total DMFT score, than adolescent non-smokers.
- A slight trend for a lower DMFT score was also observed favoring adolescents whose mothers had higher education.

Adults

Facts:

- Almost 100% of dentate adults aged 20 years and over had caries, with little difference between those aged 20–39 years and those aged 40 years and over.
- Severity scores (mean DMFT) increased with age, from 11.76 in 20–39 year-olds to 16.15 in those aged 40 years or older, largely due to an increase in the number of extractions (mean MT at age 20–39 was 1.82 versus 7.44 at age 40 and over).
- For adults overall, the mean DMFT was 13.72, of which 13.3% was untreated decay (1.83 DT), 31.6% were extracted (4.33 MT), and 55.1% were filled teeth (7.56 FT).
- More than half of the dentate adults, 56.5% had one or more teeth with untreated decay with the average being 3.24 teeth affected.
- Approximately 87% had one or more teeth restored with amalgam and the average number of tooth surfaces with amalgam fillings in this sub-group was 8.9.
- Caries experience among dentate adults aged 18 years and over was almost always present and the severity of caries, as expressed by the mean DMFT, was 13.41.



- The mean DMFT estimate tended to be lower for the younger age group of 18–39 year-olds (11.46) than the 40 and older age cohort (16.15) and was higher among those living in remote communities (15.26) than those in non-remote rural/urban communities (13.00).
- Adults with more than a high school education had the lowest mean number of decayed teeth (0.63) and the highest mean number of filled teeth (9.99) relative to the overall averages (1.82 DT and 7.53 FT).
- Being older and not visiting a dentist in the past year tended to be linked with higher counts of missing teeth.

DENTAL SEALANTS

Facts:

Children Aged 6–11 Years

- Among children aged 6–11 years, 21.2% had one or more surfaces sealed on their permanent molar teeth and the mean count was 2.15 teeth (out of 4 first molars) among those with at least one sealed tooth.
- Sealant applications in this age group were somewhat more common for females (25.9%), children who had seen a dental professional in the last year (30.6%), and those whose parent/caregiver had higher education (39.4%).

Adolescents

- Sealants were found in 27.4% of adolescents aged 12–19 and 28.2% of those aged 12–17.
- The mean number of sealants was 3.06 in 12–19 year-olds and 3.07 in 12–17 year-olds.
- This means that an average of 3 out of 8 permanent molars received the protective effects of sealant applications.
- Sealant use among adolescents (ages 12–17) was more common among males (45.9%), recent dental visitors (34.5%) and non-smokers (37.6%), and least common among those whose mother had more than a high school education (13.0%).
- While the average number of sealants among those with at least one sealed tooth was approximately 3, adolescents living in remote First Nations communities had the lowest mean number of sealed teeth at 1.36.



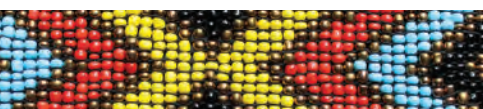
EDENTULISM AND RETENTION OF NATURAL TEETH

Edentulism is defined as the absence or complete loss of all natural dentition (teeth). Complete tooth loss (edentulism) is an indicator of impaired dental function and is a consequence of extensive past disease experience or a surgical approach to treatment. Edentulism is also the result of a lack of access to quality care or the provision of care in a timely manner. The retention of 21 or more natural teeth is generally used to define a minimum functional natural dentition. Conversely, having fewer than 21 teeth is indicative of a compromised dentition. Another measure that is used to give an indication of the adequacy of oral function is the mean (average) number of natural teeth present.

Facts:

- One in three (32.6%) First Nations adults aged 60 years and over had lost all of their natural teeth and nearly 46% had teeth only in the mandible.
- The proportion of adults who were dentate in the maxilla only cannot, however, be published because the results were not sufficiently stable.
- Although edentulism was virtually non-existent among adults younger than 40 years of age (98.2% dentate), 8.8% of middle-aged adults (40–59 years) are edentulous.
- 8.9% of First Nations adults who visited a dental professional more than one year ago were edentulous compared to only 2.0% of those who had seen a dental professional in the last year.
- Among the overall sample of dentate (with teeth) First Nations adults (93.7%), 21.7% had all 28 teeth⁴ while 20.6% had fewer than 21 teeth.
- Adult females, those aged 20–39 years or those who visited a dental professional in the previous year tended to have either a full complement of teeth or retained at least 21 teeth.
- In addition, level of education appears to have had an effect on the proportion of adults with a compromised natural dentition of fewer than 21 teeth with 22.5% of those with a high school education or less having a compromised dentition as compared to 9.7% of those with more than a high school education.
- First Nations dentate adults had a mean of 23.5 natural teeth per person.
- The mean number of natural teeth per person was higher in 20 to 39 year-olds (25.5) than in adults aged 40 years and older (20.5)

⁴ Note that only 28 teeth were counted; third molars (wisdom teeth) were ignored in the examination.



ROOT CARIES IN FIRST NATION ADULTS

Facts:

- Approximately 33% of dentate adults aged 20 years and over in the FNOHS had root caries (including untreated and restored lesions).
- The occurrence of root caries doubled with age: 22.3% among participants aged 20–39 years and 46.5% among those aged 40–59 years.
- The prevalence of root caries (untreated and treated) for those 40 years of age and older was 46.2%.
- Nearly 24% of all adults had one or more untreated carious lesions on an average of 3.33 roots, with untreated root caries rates increasing with age: 18.3% among participants aged 20–39 years and 32.3% among those aged 40–59 years.
- The prevalence and severity of root caries among dentate First Nations adults older than 18 years were similar to those of adults 20 years and older.
- First Nation women older than 18 had a 9.7% lower prevalence of root decayed or filled teeth (27.4%) than men (37.1%) in the same age group.
- The prevalence of root caries (untreated and treated) appeared to be influenced by the remoteness of the community, e.g., adults living in remote communities had 9.9% lower prevalence of root caries (23.9%) than residents of non-remote/urban communities (33.8%).

PERIODONTAL CONDITIONS

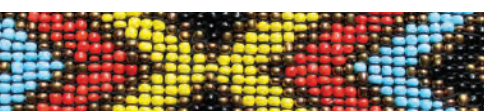
Poor general health can play a critical role in the onset and progression of periodontal disease. For example, people with diabetes are more likely to have periodontal disease than people without diabetes. In fact, periodontal disease is often considered a complication of diabetes. In turn, periodontal disease can affect the control of diabetes by increasing blood sugar levels which leads to diabetic complications. The 2002–03 First Nations Regional Health Survey (RHS) documented high rates of diabetes in First Nations communities that were well above the national average (First Nations Information Governance Committee, 2007e).

Facts:

- There was high prevalence rates of debris, calculus and gingivitis among dentate First Nations adults aged 20 and over.
- Approximately 45% of adults examined had more than one-third of the crown of at least one of the 10 indicator teeth covered with debris or stain.



- Worst scores (2 or 3) for calculus were found among 44.7% of First Nations adults, while a similar proportion of adults (43.9%) presented with the highest scores for gingivitis (2 or 3).
- On the other hand, the prevalence of periodontitis was concentrated in a limited number of adults. Indeed, 23.0% of those examined had at least one tooth with a periodontal pocket depth greater than or equal to 4 mm and 16.8% had attachment loss of 4 mm or more in at least one tooth.
- Among adults 20 years and older, diabetics had 1.6 times the prevalence of an attachment loss of 4 mm or more in at least one of the indicator teeth when compared to those who did not suffer from diabetes (23.7% versus 15.0%).
- The majority of participants had a very high prevalence of calculus, scores of 2 and 3 for calculus were combined and the information for calculus scores 0 and 1 were omitted. Males were twice as likely as females to have a debris score of 3 (13.2% versus 6.1%, respectively).
- Similarly for calculus, the percentages were 54.1% and 34.8%, for males and females, respectively.
- Somewhat higher proportions of the older age group (40 years and older) and those with more than a high school education had no soft debris or staining (debris score of 0).
- Worst scores (2 or 3) for calculus tended to be found among those aged 40 and older, those who had not visited a dental professional in the last year and those with less than a high school education.
- Only 10.8% of males, but 21.8% of females, had normal gums, with more than half (52.3%) of the examined males and 38.9% of the females having bleeding gums.
- Those with high school education or less (48.2%) had greater occurrence of gingivitis scores of 2 or 3 than those with a high school education or more (29.4%). Thus those having more than a high school education and not smoking showed fewer signs of gingivitis (GI score 0).
- The prevalence of moderate disease (at least one pocket of 4 or 5 mm) was found among 18.0% of the population and only 4.4% have, or had, severe disease based on a worst score of 6 mm or greater.
- There was a tendency for more males, older adults and infrequent dental attendees to have deeper pocketing.
- The findings on the distribution of the adult First Nations population according to the worst (greatest) loss of attachment (LOA) reveal that 83.9% had good periodontal health (LOA = 0–3 mm), 10.8% had a moderate level of disease (LOA = 4–5 mm) and 5.3% have, or had, severe periodontal disease (LOA ≥ 6 mm).



- Severe disease tended to be more prevalent among males (7.1%) compared to females (3.9%), older (10.9%) compared to younger (1.7%) and those who visited a dental professional more than one year previous (8.6%) compared to recent dental visitors (3.3%).
- Participants who lived in non-remote/urban communities (85.4%), compared to those living in remote communities (77.0%), tended to have good periodontal health (LOA = 0–3 mm).

PERIODONTAL TREATMENT NEEDS

Facts:

- Of those surveyed, 37.2% of First Nations adolescents aged 15 to 19 years, 21.3% of adults aged 20 to 39 and 18.8% of those aged 40 years and over had no periodontal treatment needs.
- Only 13.5% of adolescents and 2.0% of young adults (ages 20–39) had at least one tooth with gingival bleeding as their worst condition (the percentage among those 40 and older could not be reported).
- The prevalence of periodontal care needs tended to be higher among males (85.8%) than females (73.9%), those with a high school education or less (82.7%) compared to those who had more than a high school education (65%) and those living in remote First Nations communities (83.5%) compared to those living in non-remote rural/urban communities (76.9%).

TRAUMA AFFECTING THE FRONT TEETH

Fact:

- Overall, 25.9% of dentate adults and 6.9% of adolescents had one or more lost or traumatized anterior teeth with a mean of 2.16 and 1.42 teeth affected, respectively.
- Most had signs of fractured teeth as opposed to teeth lost due to trauma.
- Evidence of avulsed teeth (tooth loss due to trauma) was found among 8.0% of adults on an average of two incisors, while the majority (22.7%) presented with evidence of incisor fractures on fewer than two teeth (1.82).
- Very few adolescents had lost a permanent tooth because of trauma to merit reporting and only 3.9% experienced fractures with a mean of 1.71 teeth affected.



- Dental trauma was more than 5.3 times more prevalent on maxillary (21.9%) than on mandibular incisors (4.1%). In all the age groups, the teeth most likely to be affected were the maxillary (upper) 2 front teeth.
- Trauma prevalence (teeth lost or traumatized) in adults aged 18 and over tended to be higher in males (30.0%) than in females (21.9%); higher in adults with a high school education or less (28.3%) than those with more than high school education (15.2%) and; higher in smokers (29.9%) than in non-smokers (18.3%).

DENTAL FLUOROSIS

Dental fluorosis is a condition caused by the ingestion, through food or drink, of too much fluoride during early tooth development, i.e., under the age of eight. In its mildest form, fluorosis may affect the look of a tooth, but will not affect its function. For example, mild fluorosis can lead to white stains on the teeth that are barely noticeable. Moderate fluorosis is the point at which a person could notice visible changes of a cosmetic concern on the surface of the tooth. Severe fluorosis, caused by excessive intake of fluoride, can be painful, and cause ugly brown stains with pitting and flaking of friable enamel that can lead to problems with chewing.

Facts:

- Among First Nations children aged 6–11, 61.9% were unaffected by dental fluorosis.
- The severity of fluorosis was low, with 6.6% classified as having ‘questionable’ dental fluorosis, 7.3% with ‘very mild’ and 7.4% having ‘mild’ fluorosis.
- No children exhibited signs of ‘severe’ dental fluorosis and the remaining 16.7% of children in this age group had all four maxillary anterior teeth absent.

ORTHODONTIC CONDITIONS AND TREATMENT STATUS

- The prevalence of malocclusion, or the proportion of participants who were judged to have less than acceptable occlusion, was found among 30.3% of dentate First Nations aged of 12 years and over.
- The most common malocclusion conditions in the population were severe crowding (14.9%) and crossbites, both anterior (9.6%) and posterior (6.9%).
- A negligible proportion of First Nations older than 12 (1.4%) were receiving orthodontic treatment at the time of the survey. Less than 1.0% (0.7%) had fixed appliances. The examiners found that 8.7% of First Nations had received orthodontic treatment prior to the survey.



- There was a noticeable decrease in the prevalence of less than acceptable occlusion with age; nearly half of adolescents aged 12–17 were judged to have deviations from the ideal occlusion (48.1%), followed by young adults aged 18–39 (31.2%) and adults aged 40–59 (15.4%).
- Among adolescents, malocclusion is more prevalent among smokers (47.7%) than non-smokers (37.5%) and appears to be strongly influenced by maternal level of education.
- Among young adults aged 18–39, males and those living in remote communities had the highest prevalence estimates of malocclusion, whereas the highest prevalence in adults aged 40–59 was found among those with more than a high school education.
- Overall, there was a strong trend for less than acceptable occlusion for those living in remote communities (32.7%), compared to those in non-remote or urban communities (24.1%).
- Orthodontic treatment currently, or in the past, was observed more frequently among young adults (ages 18–39) with higher incomes and education, who visited a dental professional in the previous year, or who lived in non-remote/urban communities.
- Only 3.5% of adolescents (ages 12–17) and 3.4% of adults (ages 40 or older) had received, or were receiving, orthodontic treatment.

PROSTHETIC STATUS

Removable dentures, also called ‘false teeth’ are worn to replace missing teeth, with the objective of improving oral function, such as eating and speaking, or improving appearance. Partially dentate people may wear a removable denture to replace one or more teeth, or wear a complete/full denture if they had all of their teeth extracted from one of their jaws. One, or a few teeth can be replaced with a ‘bridge’ that is fixed to adjacent natural teeth, or implants that are surgically inserted into the jaw.

Facts:

- Denture-wearing (fixed or removable) among the dentate was most common on the maxillary arch, with 6.2% wearing a chrome partial denture, 5.4% wearing an acrylic full denture, and 2.9% an acrylic partial denture, compared to 3.3% wearing a chrome partial denture in the mandible.
- The examiners found implants in only 1.8% of dentate First Nations and all the implants were located in the maxilla.
- The percent wearing maxillary dentures/bridges appears more common among those aged 40 years and older than those aged 18–39 years (12.3% vs. 2.6%, respectively). This finding is consistent with the fact that older adults have fewer numbers of teeth, particularly in the maxilla.



- Denture wearing by completely edentulous First Nations adults was more common on the upper arch (upper jaw) than on the lower (93.3% vs. 65.1%, respectively); of those, 6.7% were not wearing a maxillary denture at the time of the examination as compared to 34.9% not wearing a mandibular denture.
- The greatest differences in the proportion wearing dentures occurred between the household income groups, with denture wearing highest (85.5%) for those with higher incomes compared to 58.3% among those with lower incomes.
- At the same time, a higher proportion of edentulous adults who never smoked (82.7%) wore dentures compared to smokers (50.8%).

PROSTHETIC TREATMENT NEEDS

The FNOHS dental examinations recorded the prosthetic treatment needs of both dentate and edentulous adults aged 20 years and over.

Facts:

- Approximately 67.0% and 71.2% of dentate adults had no prosthetic needs in the upper and lower arches, respectively.
- 24.0% were clinically judged as needing a new partial denture in the upper arch and 24.8% needed one in the lower arch.
- All of the other types of prosthetic treatments were not sufficiently numerous and were required by less than 5% of the dentate adults, except for 5.5% of those who required a new full denture in the maxilla.
- Among edentulous adults, 61.2% required no prosthodontic care for the maxilla while 39.3% required no care for the mandible.
- 30% of edentulous adults needed a new full denture in the maxilla and 37.8% needed a new full mandibular denture.
- 15.6% and 29.7% of edentulous adults were clinically judged as needing denture repair or reline for the upper and lower arches, respectively. Denture relining is a procedure that involves “shaving away” the underside of the denture and filling the space with acrylic, silicone or other materials, to assure a proper fit to the gums. Since the mouth and the dental ridges change or shrink over time, a denture reline is necessary to keep the denture fitting well and to prevent the dental ridges from resorbing more rapidly.



CLINICALLY ASSESSED DENTAL NEEDS

There was a wide discrepancy between the normative needs (diagnosed assessments) and the perceived needs of the individual in this population. Consistent across all age groups, a smaller proportion of those who were clinically assessed as needing treatment felt that they required it. In other words, participants severely under-reported their dental care needs, if the dental examination findings are used as the gold standard.

Facts:

- A case in point is periodontics; 24.1% of adults were clinically judged as needing periodontal (gum) treatment, whereas only 2.7% felt that they needed such care. The same was true for all age groups and for most types of treatment, with a few exceptions such as orthodontic treatment needs, which tended to be over-reported by children (ages 6–11) and adolescents (ages 12–19), and the need for dental extractions, which also tended to be over-reported by adolescents and adults.
- The level of dental needs remained dependent on the age of the participant, in that adults required more prosthodontic, surgical, and periodontal services, while children and adolescents required more orthodontic treatment.
- Dental fillings were required by a large percentage of the population, regardless of the participant's age and there were no absolute differences by sex, income, education, or smoking status large enough to suggest any associations, except for recent dental care visits, which favoured those who visited a dental professional in the past year.
- Additionally, nearly 75% of First Nations living in remote communities had a need for restorations compared to 69% of those living in non-remote/urban communities.

COMPARISONS WITH NATIONAL ORAL HEALTH SURVEYS AND KEY FINDINGS

The 2009–10 First Nations Oral Health Survey (FNOHS) aimed to describe levels of oral disease, using both self-reported and clinical measures, within a representative sample of First Nations living in remote and non-remote communities in Canada. A further aim of the survey was to evaluate differences in the oral health status of First Nations and non-First Nations Canadians. To this end, this chapter presents comparisons of the self-reported and clinical oral health outcomes of participants in the FNOHS with those of participants in the oral health component of the 2007–09 Canadian Health Measures Survey (CHMS) and the 2008–09 Inuit Oral Health Survey (IOHS). The results can be reliably compared because these three national surveys shared the same standardised protocol originally developed for the CHMS. However, often the comparisons presented in this chapter had to allow for the differing age groups examined.



SELF-REPORTED ORAL HEALTH OUTCOMES

- More than two and a half times as many First Nations aged 12 years and older (39.9%) reported having fair/poor oral health as compared to non-Aboriginals aged 6–79 years (15.1%) in the CHMS, although this comparison should allow for the differing age groups.
- More than three times as many First Nations (39.7%) reported avoiding particular foods in the past 12 months because of problems with their mouth compared to 11.9% of non-Aboriginal Canadians.
- In addition, 33.4% of First Nations experienced chronic pain in their mouth in the past 12 months compared to 11.1% of non-Aboriginal Canadians. These findings indicate that First Nations clearly have worse perceptions of their oral health and the avoidance of some foods and the problem of chronic pain suggest more impacts on their oral health-related quality of life than non-Aboriginal Canadians.
- On average, 2.96 days per year were lost by First Nations due to dental treatment outside the community and 3.91 hours per year were lost to treatment in the community.
- The 3.91 hours per year clocked in the dental chair by First Nations was greater than the 3.55 hours per year lost due to oral disease and professional treatment among non-Aboriginal Canadians.
- Where day-to-day preventive oral health care practices are concerned, lower proportions of First Nations children (52.2%) and adolescents and adults (54.7%) compared to 73.2% of the CHMS population claimed to brush their teeth at least twice a day.
- Slightly lower percentages of dentate First Nations children (19.6%) and adolescents and adults (25.0%) claimed to floss at least five times per week when compared to other Canadians (28.3%).
- Approximately three-quarters of First Nations children reported usually using oral health services at least once per year for check-ups or treatment compared to 91.3% of non-Aboriginal Canadian children.
- The FNOHS revealed that 40% of First Nations adolescents and adults do not see a dentist at least once a year.

ACCESS TO DENTAL CARE

- Higher proportions of non-Aboriginal and Aboriginal Canadians living off reserve reported having visited a dentist in the last year compared to those First Nations surveyed in the FNOHS for the age groups 6–11, 12–19 and 40 and older.



- The sole exception was found for the 20–39 year olds, for whom rates of dental visits were comparable; 65.4% First Nations and 67.7% non-Aboriginals.
- Just under one-half (46.8%) of First Nations adults aged 40 years and older visited a dental care provider in the last year; approximately three-quarters (76.5%) of non-Aboriginal Canadians and 83.4% of Aboriginals living off reserve (ages 40–59) made such a visit.
- Even among the oldest age cohort (those aged 60–79 years), about 20% more non-Aboriginal Canadians (68.2%) reported having visited a dental provider in the last year than did First Nations.
- While the First Nations figures on dental visitation lag behind those of the general Canadian population, they are generally much better than those of the Canadian Inuit.
- About 31% more parents/caregivers of 3- to 5-year-old First Nations (78.5%) reported their child made a dental visit in the previous year than did those of Inuit preschoolers (47.7% “E”).

KEY FINDINGS

The key clinical and self-reported findings from this survey along with comparisons with the CHMS and IOHS include the following:

Preschool Children

- Almost four in five (78.5%) 3–5-year-old First Nations children had visited a dental professional in the past year, 30.8% more than Inuit preschool children aged 3–5 years (47.7%).
- The overall oral health of most preschool First Nations children (aged 3–5 years) was poor.
- 85.9% had experienced caries in the primary dentition.
- 61.3% had untreated coronal caries in at least one primary tooth.
- This age group had, on average, 7.62 decayed, missing (due to dental decay) or filled primary teeth (i.e., dmft = 7.62).
- 35.2% of the dmft were decayed teeth and 45.5% were filled teeth.
- From the assessments and evaluation of the dentist-examiners, 62.4% of preschool children required some type of dental treatment, and of those 90.3% needed fillings and 82.9% required prevention.



Relative to Inuit preschool children, First Nations preschoolers had:

- A similar prevalence of caries (85.9% for First Nations vs. 85.3% for Inuit);
- A lower dmft (7.62 for First Nations vs. 8.22 for Inuit);
- A 1.4 times lower percentage of the dmft index that was decayed (35.2% for First Nations vs. 49.4% for Inuit).

School-Age Children

- A lower proportion of First Nations school children aged 6–11 years (70.1%) had visited a dental professional in the past year, compared to non-Aboriginal and Aboriginal school children living off reserve (91.3% and 92.2%, respectively). Inuit children aged 6–11 were least likely to have visited a dentist in the last year (58.0%).

Children aged 6–11 years have a mix of primary and permanent teeth:

- Four in five (80.4%) had experienced caries in the primary dentition, 67.1% had caries experience in the permanent dentition and the majority (93.9%) had caries experience in either primary or permanent teeth.
- This age group had, on average, 5.28 decayed, missing (due to dental decay) or filled primary teeth (dmft), 1.87 Decayed, Missing (due to dental decay) or Filled permanent teeth (DMFT), and 6.58 combined dmft and DMFT.
- 16.7% of the combined dmft and DMFT were decayed teeth and 63.8% were filled teeth.
- Compared to non-Aboriginal Canadian children aged 6–11, First Nations children had 1.7 times higher prevalence of caries (93.9% vs. 55.2%) and 2.9 times higher caries severity (6.68 vs. 2.28 DMFT); the mean number of untreated decayed teeth was 3.3 times higher (1.10 vs. 0.33 DT).
- First Nations and Inuit children aged 6–11 had the same caries prevalence and somewhat similar DMFT, but Inuit children had 2.1 times more teeth that were decayed than First Nations (2.28 for Inuit vs. 1.10 for First Nations).
- 21.2% of school children, aged 6–11, had dental sealants and among those, 2.15 permanent molar teeth were sealed, compared to 31.9% of non-Aboriginal children, who had sealants placed on an average of 2.87 teeth.
- 14.8% of First Nations aged 6–11 had dental fluorosis (mostly very mild or mild levels) compared to a somewhat similar prevalence (about 17.1%) among non-Aboriginal children, aged 6–12. The Inuit children had the lowest prevalence of dental fluorosis at 7.0%, even including the 'questionable' category of the Dean's Fluorosis Index.



- Four in five (80.7%) school children required dental treatment as per clinical diagnoses, and of those 63.0% needed fillings, 90.2% required preventative care, 8.4% needed surgery (i.e., tooth extraction), and 11.8% needed orthodontic treatment (braces).
- Compared to non-Aboriginal children aged 6–11 years, more First Nations children aged 3–11 reported poor oral health and higher frequency of pain and food avoidance because of dental problems.
- About 52% of First Nations children brushed their teeth at least twice a day; 19.6% flossed at least 5 times per week. The equivalent rates of brushing and flossing for non-Aboriginal children were 72.4% and 11.9%, respectively.

TRENDS IN THE ORAL HEALTH OF FIRST NATIONS AND INUIT

Since the first oral health examination survey of Canada's Aboriginal children aged 6 and 12 twenty years ago, the 6-year-old prevalence and severity of caries experience have not seen any changes for the two largest Aboriginal groups in Canada (ref). Caries prevalence in 12-year-old Aboriginal children has decreased from 91.0% in 1990–91, to 82.2% in 2009–10. The severity of caries in permanent teeth among 12 year olds has declined by 0.6 of a tooth – from 4.5 DMFT in 1990–91 to a DMFT of 3.9 in 2009–10.

Adolescents

The proportion of First Nations adolescents, aged 12–19 years, who had visited a dental professional in the last year was lower than that for non-Aboriginal adolescents (69.9% vs. 84.5%), but higher than the proportion visiting a dentist in past year among Inuit adolescents (55.8%).

Adolescents aged 12–19 years, like their younger age cohorts, had poor oral health:

- 91.4% had experienced caries in their permanent teeth.
- 46.4% had untreated coronal decay in at least one permanent tooth.
- This age group had, on average, 6.15 decayed, missing or filled permanent teeth (DMFT).
- 22.9% of the DMFT were decayed teeth and 72.7% were filled teeth.
- Compared to non-Aboriginal Canadian adolescents, First Nations adolescents had 1.6 times higher prevalence of caries (91.4% vs. 57.7%) and 2.5 times higher caries severity (6.15 vs. 2.43 DMFT); the mean number of untreated decayed teeth was 4.3 times higher (1.41 vs. 0.33 DT).
- Inuit adolescents had 1.5 times higher DMFT count than First Nations adolescents (9.49 vs. 6.15, respectively), and 2.6 times higher mean number of decayed teeth (3.61 vs. 1.41, respectively).



- 27.4% of First Nations adolescents had received dental sealants with a mean count among those with a sealant of 3.06, compared to 50.0% of non-Aboriginal adolescents, who had sealants placed on an average of 3.59 teeth.
- 6.9% of First Nations adolescents had experienced trauma to one or more of their front teeth, compared to 15.5% of non-Aboriginal adolescents.
- Almost one in two (48.1%) First Nations aged 12–17 years were judged by the dentist-examiners to have less than acceptable occlusion. This estimate compares to 17.0% of non-Aboriginals aged 12–19 years.
- The FNOHS examiners found that more than three-quarters (77.5%) of adolescents had dental treatment needs, of whom 65.2% required fillings, 86.4% needed preventative care, 12.5% needed surgery (i.e., extractions), 19.0% were in need of orthodontic treatment, and 2.6% needed gum care.

Adults

Approximately three in five (56.8%) First Nations adults aged 20 years and over had visited a dental professional in the previous year, but rates of dental visitation were higher for younger adults aged 20–39 (65.4%) than older adults aged 40 and older (46.8%). In contrast, 67.7%, 76.5% and 68.2% of non-Aboriginal adults aged 20–39, 40–59 and 60 and older, respectively, had visited a dental professional in the year preceding the CHMS. Inuit adults were least likely to have visited a dental care provider in the past year.

The main reason reported by First Nations adults for not visiting a dental care provider in the past year was that dental services were not available in their communities. Very few reported that costs were a factor in avoiding visiting a dentist or accepting recommended treatment.

First Nations adults who usually attended the dentist for treatment for dental emergencies were more likely to report oral symptoms. About 19.5% had experienced toothache in the previous four weeks and 34.0% complained of bleeding gums.

Tooth retention among First Nations adults was generally good:

- Approximately 1 in 20 adults (6.3%) had lost all their natural teeth, 6.8% females and 6.0% males. These rates of edentulism are very similar to those of non-Aboriginal Canadian adults (6.4% overall; 6.5% females and 6.3% males).
- 13.1% of adults aged 40 years and older were edentulous.
- Among the 93.7% who were dentate, 20.6% had an inadequate dentition with fewer than 21 teeth; the mean number of teeth present was 23.5. Slightly fewer (14.7%) non-Aboriginal adults had an inadequate dentition, with an average of 24.5 teeth present, excluding the four third molars (wisdom teeth), which were not counted in the examinations.



- Only 65.1% of edentulous First Nations wore dentures on the lower arch and 93.3% wore dentures on the upper arch, while 93.3% of edentulous adults surveyed in the CHMS wore full dentures on both upper and lower arches.
- Inuit adults aged 40 years and older were 1.6 times more likely to be edentulous than First Nations adults (21.3% vs. 13.1%).
- Moreover, a huge disparity was observed in denture use by edentulous adults when the FNOHS and CHMS results are compared. The FNOHS revealed that 65.1% of the edentulous First Nations wear both maxillary and mandibular dentures as compared to 93.2% of non-Aboriginal edentulous adults in the CHMS (Health Canada, 2010).

However, within this picture of good tooth retention among First Nations adults, concerns about high levels of coronal and root caries remain. Among dentate adults:

- Nearly all (99.9%) First Nations adults aged 20 years and over had experienced coronal caries.
- Three in five (56.5%) had untreated coronal decay in at least one permanent tooth (mean of 3.24 decayed crowns among those with decayed teeth), compared to only 19.3% of non-Aboriginal adults.
- This age group had, on average, 13.72 decayed, missing or filled permanent teeth (DMFT) – three more teeth with caries experience than non-Aboriginal adults (DMFT = 10.64). Inuit adults had six more teeth affected than non-Aboriginal adults (DMFT = 16.77).
- 13.3% of the DMFT were decayed teeth, 31.6% were missing teeth and 55.1% were filled teeth.
- One in three (32.9%) had one or more root decayed or filled teeth, compared to one in five (20.5%) non-Aboriginal adults.

One in four (23.8%) had untreated root caries in at least one permanent tooth (mean of 3.33 decayed roots among those with decayed teeth), compared to 1 in 20 (6.6%) non-Aboriginal adults.

- This age group had, on average, 1.10 root decayed or filled permanent teeth (RDFT) – 1.7 times the average for non-Aboriginal adults (0.33).
- 71.8% of the RDFT were decayed roots and 28.2% were filled roots.
- Root caries among Inuit adults was more prevalent (44.3%) than in First Nations and more caries was untreated (33.4%).
- One in four (25.9%) First Nations adults had evidence of trauma to one or more incisor teeth, a rate comparable to that of non-Aboriginal adults (23.9%) examined in the CHMS.





A small proportion of dentate First Nations adults were affected by periodontal disease:

- One in four (23.0%) had periodontal pocketing of 4 mm or more on at least one tooth.
- Only 16.8% had loss of attachment of 4 mm or more at one or more sites, compared to 21.2% of non-Aboriginal adults and to 17.0 “E” Inuit adults.
- Despite low evidence of periodontitis, there was an abundance of debris and calculus accumulation found among 45.4% and 44.7% of First Nations adults, respectively, and moderate or severe gingivitis among 43.9%. This may be explained by the fact that just over half of adolescents and adults (54.7%) reported brushing their teeth at least two times per day and a quarter of dentate First Nations flossed their teeth at least five times per week.
- FNOHS examiners also found that 31.2% of adults, aged 18–39, and 15.4% of those aged 40–59 had less than acceptable occlusion compared to somewhat fewer, 24.1% and 26.3%, of non-Aboriginal Canadians aged 20–39 and 40–59 years, respectively.

There was clear evidence of unmet need for dental care from the survey:

- The examiners found that 8.2% of adults were in need of urgent treatment, 83.1% had dental treatment needs, of whom 70.3% required fillings, 87.2% needed preventative care; 28.6% needed surgery, 24.1% needed periodontic (gum) treatment, and 6.8% needed endodontic (root canal) treatment.
- Also, there was a mismatch between perceived (by the respondent) and normative (determined by the dentist-examiner) needs that occurred among all age groups. For example, 46.8% of First Nations adults had no perceived dental problems, whereas the dentist-examiner found that, in actuality, First Nations were under-reporting their dental needs and the number was closer to 17%.



HOW DO FIRST NATIONS FEEL ABOUT THEIR ORAL HEALTH?

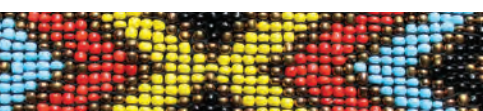
Clinical examinations cannot assess things like the pain, functioning and quality of life, so it is important to ask people how they feel about their oral health.

Feelings about oral health	Children (3 – 11 yrs)	Adolescents (12 - 19 yrs)	Adults (20+ yrs)
Rate their oral health as fair or poor	21.5%	44.0%	38.7%
Feel dissatisfied or very dissatisfied with the appearance of their mouth	27.6%	26.2%	28.4%
Always or often find it uncomfortable to eat any food because of problems with their mouths in the past 12 months	21.2%	28.0%	30.1%
Always or often experience pain in their mouth in the past 12 months	16.5%	15.3%	26.7%
Report time-lost from school or normal activities for oral health reasons in the past 12 months	21.3%	19.6%	16.6%
Have chronic bad breath	23.6%	25.3%	19.8%
Experience bleeding gums when brushing teeth	14.8%	44.9%	30.9%



REPORT CARD ON THE STATUS OF FIRST NATIONS ORAL HYGIENE

- The Canadian Dental Association recommends that adults and children brush their teeth twice a day with fluoride toothpaste and that they go for a dental exam every six months to a year (or more often).
- Approximately half of the First Nation population brush their teeth (or dentures) twice a day or more [52.2% of First Nations children (6 to 11 years), 55.5% of First Nation adolescents (12 to 19 years), and 54.7% of First Nation adults (20+ years)].
- Approximately one-quarter of the First Nation population floss their teeth five times a week or more [19.6% of First Nations children (6 to 11 years), 18.5% of First Nations adolescents (12 to 19 years), and 27% of First Nation adults (20+ years)].
- Younger First Nations are more likely to visit a dental professional; 73.0% of First Nations children (6 to 11 years) go for check-ups or treatment once a year (or more), compared to 65.5% of First Nations adolescents (12 to 19 years) and 58.2% of First Nation adults (20+ years).
- The two most common reasons cited for not visiting the dentist in the year previous to the survey were not having access to dental care (64.2% of First Nations children and 39% of First Nations adolescents/adults gave this reason) or not perceiving a need for care (40.4% of First Nations children and 29.9% of First Nation adolescents/adults gave this reason). Less than 5% of First Nations avoided going to the dentist because of cost.



WHERE DO FIRST NATIONS STAND IN COMPARISON TO OTHERS?

Indicator	Canadian Health Measures Survey (2007-2009) %	First Nations Oral Health Survey (2009-2010) %	Inuit Oral Health Survey (2008-2009) %
Visited an oral health professional in the past year (6 to 11 years)	91.3	70.1	58.0(E)
Untreated dental caries (3 to 5 years)	NA	35.2 (2.68 teeth)	49.4 (4.06 teeth E)
Untreated dental caries (6 to 11 years)	14.5 (0.33 teeth)	16.7 (2.28 teeth)	32.2 (1.10 teeth E)
Untreated dental caries (12 to 19 years)	13.6 (0.33 teeth E)	22.9 (1.41 teeth)	38.0 (3.61 teeth E)
Untreated coronal decay (20 + years)	19.3 (2.68 teeth)	56.5 (3.24 teeth)	59.0 (3.86 teeth E)
Root caries (20 + years)	20.5	32.9	44.3
Malocclusion	17.0	48.1 (12-17 years)	43.1 (E)
Edentulous (40 + years)	NA	13.1	21.3
21+ teeth (40 + years)	NA	31.0	55.2
High score calculus (20 + years)	10.7	44.7	19.9
High score for gingivitis (20 + years)	32.2	43.9	30.6 (E)
Loss of attachment, 4mm or more (20+ years)	21.2	16.8	17.0 (E)

Sources:

CHMS = Oral Health Component of the Canadian Health Measures Survey 2007-09 (Health Canada, 2010) IOHS = Inuit Oral Health Survey 2008-09 (Health Canada et al., 2011)

FNOHS = First Nations Oral Health Survey 2009-10

E = interpret with caution (high sampling variability)



CONCLUSION

The First Nations Oral Health Survey provides much needed information on the oral health of First Nations living on reserve and in northern First Nation communities. The FNOHS also identifies oral health disparities between First Nation Canadians, the general Canadian population, and Inuit.

Results suggest a number of avenues for bringing about positive change in the oral health of First Nations. Greater emphasis must be placed on health-promotion/prevention behaviours, such as brushing, flossing and visits to dental care providers. The reduction of barriers to accessing dental care, such as the cost of transportation, is likely to facilitate increases in check-ups and treatment. Basic cleaning, early detection of disease, and efficient but effective treatment is paramount to reducing risk for more severe outcomes.

It must be noted that despite prevention efforts, change must also occur on a much larger social scale. Disparity with respect to broad health determinants (e.g., education, poverty, over-crowding, substance use, and provision of care) is highly linked with poor oral health. Smaller-scale prevention efforts are only so effective without the recognition and improvement on these societal-level disparities. To this end, the information resulting from the FNOHS may be used to develop/improve oral health program funding, to inform the development of public policy, and to initiate conversation and partnerships.

In summary, First Nations in Canada face unique challenges to their oral health, including exceedingly high rates of dental decay for all ages, especially among very young children (Parker et al., 2010), and high rates of tooth loss and other oral conditions that place undue stress on the dental care delivery systems in their respective countries at a time when governments are cutting, rather than adding services. Thus it is all the more important to find cost-effective interventions that address the oral health disparities between Indigenous and non-Indigenous populations and that aid in the delivery of timely and adequate oral health care for First Nations communities.

This report provides important information to increase the understanding of the oral health needs of First Nations. It will serve as a baseline for future national oral surveys to monitor oral health-related outcomes and to assist in the implementation of programs that promote, maintain, and restore oral health. Survey results will also help in charting the progress of communities as they work to close the oral health divide that exists between First Nations and non-Aboriginal Canadians.



