

Reducing Dental Disease

A Canadian Oral Health Framework

This Framework was produced by and reflects the views of the F/P/T dental directors and dental consultants. It is meant to serve as a guide to improve oral health care delivery and to develop more standard approaches within oral health programming. This Framework builds on the Canadian Oral Health Strategy (2005-2010), the initial guiding document produced by the dental directors and consultants. This Framework was finalized in July 2013.

Acknowledgements

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On behalf of the FPTDWG and the OCDO, I thank Dr. Barry Maze for coordinating this project and the many individuals and organizations who contributed to it.

Dr. Sandra Bennett
Chair, Federal, Provincial and Territorial Dental
Working Group, 2012

¹ The Government of Quebec

Quebec has contributed to this report by providing information on its initiatives to improve the oral health of Quebec and has similar objectives as those covered in this report, however it does not subscribe to the idea of a Pan-Canadian oral health framework. Quebec wishes to remain solely responsible for the development and implementation of policies, programs, guidelines and healthy living initiatives in its territory. Quebec will continue to share information and best practices with other provinces and territories in Canada.

Abbreviations

AB: Alberta

BC: British Columbia

dmft: decayed, missing, filled primary teeth

DMFT: decayed, missing, filled permanent teeth

CAPHD: Canadian Association of Public Health Dentistry

CCHS: Canadian Community Health Survey

CDA: Canadian Dental Association

CDAA: Canadian Dental Assistants Association

CDHA: Canadian Dental Hygienists Association

CHMS: Canadian Health Measures Survey

CIHI: Canadian Institute for Health Information

CIHR: Canadian Institutes of Health Research

COHI: Children's Oral Health Initiative

COHS: The Canadian Oral Health Strategy: 2005-10

COHF: Canadian Oral Health Framework: 2013-18

DH: Dental hygienist

FN: First Nations

FNIHB: First Nations & Inuit Health Branch

FNOHS: First Nations Oral Health Survey

FPTDWG: Federal, Provincial and Territorial Dental Working Group

FTE: Full-time equivalent

IFH: Interim Federal Health

IST: Interim Stabilization Therapy

IOHS: Inuit Oral Health Survey

LICO: Low income cut-off

LTC: Long Term Care

MB: Manitoba

n/a: Not available

NIHB: Non-insured health benefits

NB: New Brunswick

NL: Newfoundland and Labrador

N.S.: Nova Scotia

NSDT: National School for Dental Therapy

NU: Nunavut

NWT: Northwest Territories

OCDO: Office of the Chief Dental Officer

ON: Ontario

PEI: Prince Edward Island

QC: Quebec

RCMP: Royal Canadian Mounted Police

SK: Saskatchewan

tba: to be announced

TOHAP: Towards the Oral Health of an Aging Population

YK: Yukon

y.o.: year old

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Executive Summary

The Canadian Oral Health Framework 2013-18 (COHF) is the second national oral health Framework produced by the Federal, Provincial and Territorial Dental Working Group. It follows The Canadian Oral Health Strategy (COHS), 2005-10 during which time considerable progress was made and significant goals accomplished – most notably the creation of the Office of the Chief Dental Officer, a national report on oral health status (Canadian Health Measures Survey) and coordination of national recommendations for preventive interventions (e.g. water fluoridation, toothpaste use, fluoride rinses).

In Canada 94% of oral health care is delivered via the private practice, fee-for-service system. This serves the majority quite well and there has been an overall improvement of oral health over the last four decades. However less-advantaged Canadians, including Aboriginal Peoples, have a significantly higher burden of dental disease and limited access to oral health care.

The challenges exist in seven categories:

- Improve Oral Health;
- Access to Care;
- Oral Health Policy;
- Surveillance;
- Health Protection;
- Oral Health Promotion and Disease Prevention; and
- Leadership and Workforce.

To address those challenges COHF was developed using a collaborative formal strategic planning process.¹

Canada requires courageous leadership, foresight and commitment from all levels of government to improve the oral health of the minority of people who are marginalized and vulnerable.

The way forward involves addressing the structural issues, proposing new approaches, encouraging change, following best practices and enhancing public services. It is written from a public health perspective which allows the document to focus on valuable interventions (e.g. methodologies to discourage use of sugar; accessing government-funded and/or university outreach clinics) which will require discussion with appropriate stakeholders.

¹ Process included identification of: mission, vision and purpose statements; the problems (based on needs assessment); recognizing the current measures, priorities and resources; measurable goals; strategies that can be used to help to attain the goals; and methods of monitoring and evaluation.

COHF does not address all of Canada's oral health problems. Nonetheless, accomplishing the goals in this document will establish a foundation for system equity and accountability, and measurably raise the level of oral health and quality of life of all Canadians.

Introduction

Health services and programs are a shared responsibility of the federal and provincial/territorial governments. The Federal Government funds health transfers to the provinces and territories via the Canada Health Act. It also has main responsibility for providing health benefits for First Nations and Inuit, the military, RCMP, war veterans, and inmates of federal penitentiaries.

The provinces and territories are responsible for health care services for their populations. Because oral health (for the most part) falls outside the Canada Health Act, there is considerable variation in services, continuity of programming and portability of benefits from one province or territory to another. Each government decides what public programs it will fund and for whom, with no national structure, standards, principles or guidelines for the provision of oral health. Infection control standards vary by province.

A common national agenda based on the endorsement of provincial, territorial and federal governments² in implementing basic oral health promotion, prevention and treatment would improve the oral health status of Canadians. Achieving this would depend on the work done by all stakeholders: orders of government, health regions, dental organizations, dental training institutions and volunteer groups. COHF provides the outline of targets and strategies and encouragement for programs.

The initial "Canadian Oral Health Strategy: 2005-10" (COHS) was developed by the Federal, Provincial and Territorial Dental Directors³ listing the challenges, possible strategies, and some measurable goals for improving oral health. When the strategy was developed, Canada had no federal government position devoted to oral health; only three of the ten provinces had full time dental public health officers; and there were no recent baseline data that could be used for developing goals or for monitoring progress. Since then, some significant successes have been achieved:

- Office of the Chief Dental Officer (OCDO) created and a Chief Dental Officer (CDO) appointed
- National survey of Canadians' oral health via Canadian Health Measures Survey (CHMS) completed
- Inuit Oral Health Survey (IOHS) and the First Nations Oral Health Survey (FNOHS) completed
- *Towards the Oral Health of an Aging Population (TOHAP)*- a survey of seniors' oral health in Nova Scotia completed
- Two additional full-time provincial dental officer positions created (Alberta and Nova Scotia; the Nova Scotia position not yet filled)
- Children's Oral Health Initiative (COHI) - an approach to oral disease prevention among young First Nations and Inuit (FN/I) children aged 0-7, their parents, and pregnant women developed
- Preventive guidelines adopted (Use of Fluoride Guidelines) An Oral Health Section in Canadian Best Practices Portal Initiative established; and
- Online resources and webinars (e.g. CHNET-WORKS Fireside Chats) made available.

² For simplicity this document refers to provincial and territorial governments as 'provinces and territories'.

⁴ The Federal, Provincial and Territorial Dental Directors Committee has become the Federal, Provincial and Territorial Dental Working Group, with representatives of each provinces and territory, the First Nations and Inuit Health Branch, and the Office of the Chief Dental Officer. <http://www.fptdwg.ca>.

COHS oral health status goals were set after reviewing limited baseline data; Appendix 1 of this document summarizes the results (also <http://www.fptdwg.ca/English/e-cohs.html>). COHS laid the foundation for the collaborative strategic planning process and the resulting COHF focusing on:

- Less-advantaged populations with a different set of problems and challenges, requires targeted strategies.
- Priority groups (Aboriginal Peoples, low-income families, seniors, people with disabilities, and recent immigrants and refugees) who require alternatives such as public or community oral health care.
- The Oral Health Component of the CHMS, which has become the Canadian gold standard for oral health measurements, and reinforces the need for future surveys using similar methodology for comparable results.

Mission, Vision and Purpose

Vision: Steady improvement in the oral health of Canadians, especially the more disadvantaged members of society, through effective health promotion, disease prevention interventions and improved access to oral health care.

Mission: To develop goals and strategies to improve the oral health status of Canadians and methods to monitor progress.

Purpose: To provide a framework and leadership to review the oral health gaps and to address opportunities in Canada's health care system in order to prevent and control oral diseases and conditions, and to promote oral health.

Background and Current Situation

Private and Public Care⁴

Private dental/denturist practices and, where permitted, independent dental hygiene practices, deliver the majority of oral health care services to Canadians on a fee-for-service basis. CHMS results show that a high percentage of the population reports their oral health as good or excellent with 75% of Canadians having received services in the last year⁵. This is a large increase from the last national survey conducted in 1972, where only 50% of Canadians had visited a dental professional in the last year.

Most people are served well by the current system as employment and dental insurance are closely linked; however the working poor, those on social assistance and lower middle-income families, those in remote and isolated areas and those with special circumstances (ability, age, and ethnicity) have fewer opportunities for accessing care, having higher rates of disease and less insurance coverage.

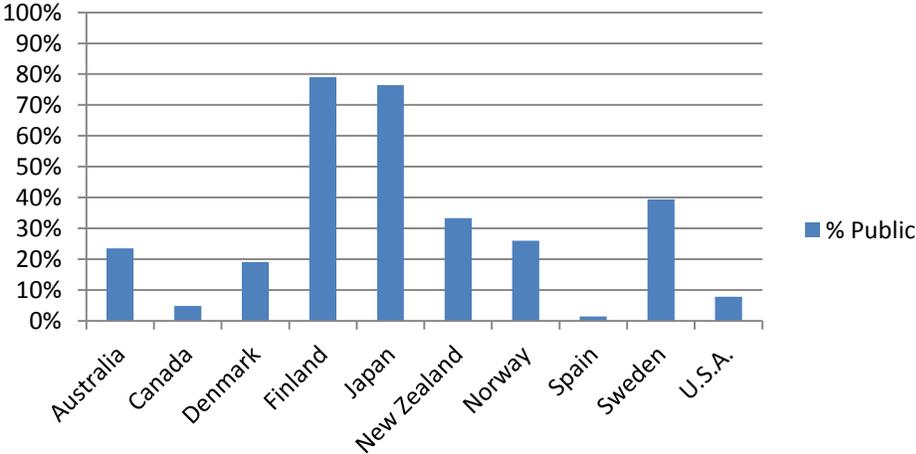
⁴ There is limited research on effectiveness of Canada's publicly-financed systems

⁵ CHMS, 2009

In some cities across the country (e.g. Vancouver, Calgary, Edmonton, Regina, Winnipeg, Toronto, and Halifax), there are reduced-fee clinics that provide services for people in need. Canada's ten dental schools offer reduced-rate services for treatment in their teaching clinics or in collaboration with other provincial organizations (e.g. Montreal's Jim Lund Dental Clinic, a partnership between McGill's Faculty of Dentistry and the Welcome Hall Mission). Similarly in some areas of Canada, dental hygiene and dental assisting schools provide preventive clinical services (at reduced rates or no cost) and in some cases provide disease prevention and health promotion in First Nation communities, child care programs, schools, senior's centres, and long term care (LTC) facilities. Many private oral health professionals provide pro bono or low-cost services to people who do not have financial resources.

However there has been a decrease in expenditure from publicly-provided services in Canada, raising questions about the effect this will have on oral health services. Canada's percentage of publicly funded expenditures was 5.1% in 2010 (down from 8.1% in 1975).

Chart 1: Public dental expenditures as a percentage of total dental expenditures.



Source: Canadian Institute of Health Information, 2010

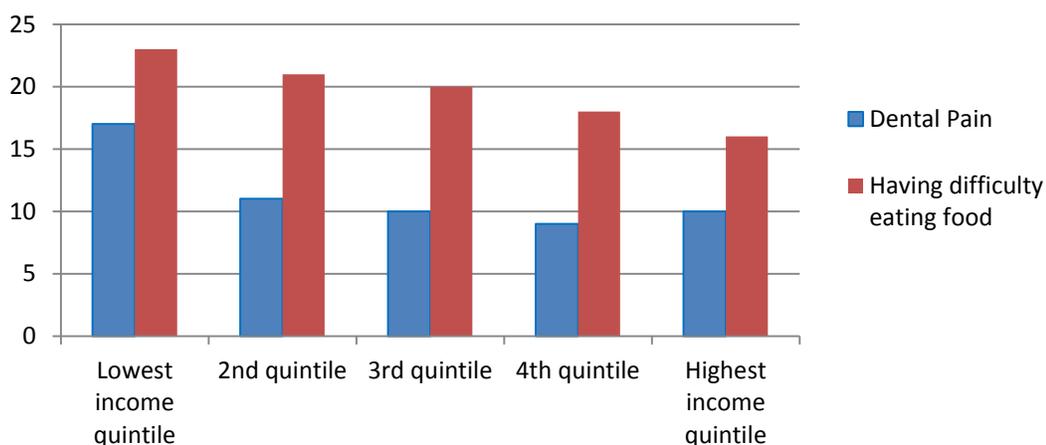
These decreases in public expenditures come at a time when there is increasing evidence that people with low income have poorer oral health.

Chart 2: Dental disease rates, according to income

	High income	Middle income	Low income
The average dmft +DMFT of a 6-11 y.o.	2.16	2.95	2.53
The average DMFT of a 12-19 y.o.	1.96	2.44	3.43
% of 12-19 y.o. with a DMFT>0	51.4%	57.7%	70.1%
% of adults with fewer than 21 teeth	10.4%	17.2%	20.0%
% of adults who are edentulous	3.2%*	8.5%	10.9%*
% of those who self-report poor/very poor oral health			
40-59 y.o.	12%	19.1%	31.3%
20-39 y.o.	11.3%*	17.8	32.6%

One of the consequences of this income-linked poorer oral health status is that people with low income experience more dental pain and have more difficulty eating food.

Chart 3: Dental pain and difficulty eating food, by income, Canada, 2007-09



Source: Ravaghi V, Quinonez C, Allison P. Analysis of the Canadian Health Measures Survey, Canadian Academy of Health Sciences Report on Access to Dental Care 2012.

Although dental decay is mostly preventable, it is a multifactorial disease that affects most people: 96% of adults have had a history of cavities, with DMFT rates increasing with age⁶. Many key factors related to increased caries risk (lower socio-economic background, poor oral hygiene, unbalanced diet) are linked to chronic diseases such as obesity, cardiovascular disease, and diabetes and to the social determinants of health.

Aboriginal Peoples

Oral health services are provided in First Nations and Inuit communities through a variety of programs/services, funding arrangements⁷ and oral health care providers. First Nations and Inuit Health Branch (FNIHB) services are provided through programs such as Non-insured Health Benefits (NIHB), Children’s Oral Health Initiative (COHI), and partner programs including Headstart and Canada Prenatal Nutrition Program (CPNP). Oral health practitioners delivering services include dentists, dental therapists, denturists, dental hygienists, dental assistants and COHI/dental aides as well as practitioners outside of the community to whom referrals are made. Through NIHB, service is also provided to eligible First Nations and Inuit, regardless of where they live, with supplementary oral health benefits where coverage is not provided from other public or private programs.

First Nations and Inuit people have the highest dental decay rates – two to three times higher than non-Aboriginals. Although the NIHB helps to address their oral health needs, they have geographic, language, and socio-cultural barriers that impede access to care.

⁶ The average DMFT of 2.49 at age 12-19 years increases to 10.67 for adults (CHMS).

⁷ A number of funding arrangements exist, such as contribution, agreements and the B.C. provincial government, the FNIHB and the B.C. First Nations Health Authority are forging the first tripartite arrangement about directing and administering oral health services.

Chart 4: Oral health status – Aboriginal and non-Aboriginal

Indicator	CHMS	Inuit OHS	FNOHS
% of 6 y.o. with a dmft +DMFT=0	53.4%	13.9%	7.6%
% of 6-11 y.o. with a DMFT=0	76.4%	40%	32.9%
The average DMFT of a 12 y.o.	1.0	2.01 (for age 6-11)	3.9
The average DMFT of a 12-19 y.o.	2.49	9.49	6.15
% of 12-19 y.o. with a DMFT=0	41.2%	3.3%	8.6%
% of adults who are edentulous at age 40+	21.7% at age 60-79	21.3%	13.1%
% of adults with 21 or more teeth at age 40+	57.8% at age 60-79	31.0%	55.2%

Aboriginal People access oral health care less than the Canadian average. During 2010-11, NIHB reported that 50% of the eligible population utilized dental services over a two-year period compared to a one-year rate of 60% for Canadians with low income.

Service in many FN/I communities is delivered by dental therapists. Canada’s only dental therapy training school, National School of Dental Therapy (NSDT) closed in 2011. Since the early 1970s the NSDT trained unique dental health professionals to provide services to people in remote and isolated areas of the country. The loss of the school will lead to the gradual decline in numbers of dental therapists, potentially making it more difficult for these communities to access dental care. Many dental therapists are Aboriginal people who speak the languages, understand the culture, live in the community, and are readily accepted in FN/I communities.

The COHI, an early intervention FNIHB program for Aboriginal children under the age of seven years, their parents and care givers, currently utilises over 250 community based COHI aides. These trained workers assist in community arrangements for other members of the COHI team (dentists, dental hygienists and dental therapists). They bring an important cultural competency component to the oral health education, health promotion and services that they provide (such as fluoride varnish applications).

Special Populations

Marginalized groups of people suffer the greatest burden of disease and have the most difficulties accessing care. This estimated 17% of the Canadian population also have the weakest voice in making changes for improvements.

A 1998 study⁸ found that immigrant adolescent children were five times more likely to have dental caries than children born in Canada and 23% required restorative treatment for dental caries. Many refugees and immigrants come from Africa and Asia where the prevalence of dental caries is increasing. These new Canadians face barriers in accessing oral health care such as: limited income, poor language skills, a fear of dentists, history of inadequate care, embarrassment about their current oral condition, and differences in cultural approaches and concepts for dental prevention and treatment.

⁸ Locker D, Clarke M, Murray H. Oral health status of Canadian-born and immigrant adolescents in North York, Ontario. *Community Dent Oral Epidemiology* [1998;26:177-81].

People with disabilities⁹ face challenges in their ability to maintain oral health, prevent disease, and access dental care. Barriers include difficulty accessing care including physical and equipment limitations, personal social challenges (fear, anxiety, embarrassment, stigma or discrimination about their disability), and cost.

Legislation and Training

Given the diversity within provincial/territorial jurisdictions, the scope of practice of oral health care practitioners, standardization is an issue. In many cases the authorization for professionals to use their full scope of practice is restricted by jurisdictional regulations. For example, dental assistants, trained to apply preventive agents (topical fluoride, sealants) and provide health promotion and disease prevention services, are restricted from doing so except in Ontario and Alberta. Even with a long history of providing safe and high quality oral health care, dental therapists are not able to practice, even in remote areas, in the two largest provinces, Ontario and Québec.

Provinces vary in legislative requirements surrounding oral health assessments and care for residents of long term care (LTC) facilities. Undergraduate training for dental hygiene students includes courses in how to work with LTC facilities but graduates are unable to provide this service in all jurisdictions.

Reducing children's decay rates requires effective preventive programs, however no legislation exists mandating oral health examinations for children entering the school system – a practice that could greatly enhance measures to improve oral health status.

In recent years, dental hygienists have gained the ability to open independent practices – many of these independent DHs accept very young children and/or visit residents of LTC facilities to provide care (as do many dental practices) but not all provinces and territories allow these independent practices.

Children's Programs¹⁰

Four provinces provide universal dental programs for children: Quebec covers children to age 10 (i.e. before all permanent teeth have erupted), Newfoundland and Labrador to age 12, Nova Scotia to age 13, Prince Edward Island to age 17¹¹. Alberta, British Columbia, Newfoundland and Labrador, New Brunswick and Saskatchewan cover the cost of preventive and basic treatment services for children from low-income families. Ontario's CINOT (Children In Need Of Treatment) program and Healthy Smiles Ontario (HSO) program provide a safety net for low income families with no dental insurance who have children (0-17 years) who need dental treatment. Alberta, PEI, Quebec, Saskatchewan and the Yukon provide school-based programs. School-based and school-linked programs reduce caries in children through providing preventive services such as topical fluorides, oral hygiene programs and sealants.

⁹ There is little research comparing the oral health of people with disabilities and the general population.

¹⁰ Availability of dental services for children in each of the provinces can be viewed at <http://www.fptdwc.ca/English/e-access.html>

¹¹ The Government of Prince Edward Island recently announced that it will be changing to a program where preventive services will remain universal. However, government has adopted the payer-of-last-resort model for dental treatment services provided through the program. <http://www.gov.pe.ca/health/index.php3?number=news&dept=&newsnumber=8608&lang=E>.

Seniors

Currently seniors visit the dentist less often than other Canadians¹². However this may change with Canada's rapidly increasing cohort of seniors who will have different oral health needs. This cohort are generally in good oral health with much lower rates of edentulism and have retained teeth that are often heavily restored. Instead of looking after removable dentures, future seniors will need help with daily oral hygiene, periodontal disease, routine assessments and treatment of failing dental restorations. Aging typically leads to limited abilities to provide self-care. Seniors, with fixed incomes, may have inadequate funds for dental care and other non-insured health care.

Educational institutions are being challenged to develop the necessary competencies for dental service providers who may be required to treat seniors in settings outside the private office. There is a shortage of faculty qualified in this area.

Residents of LTC facilities typically have complex health issues, restricted mobility and very limited disposable income. Twenty-five percent of those living in LTC facilities in Nova Scotia reported having seen an oral health professional in the past year (TOHAP survey). Alberta is the only province that has a dedicated program to help low-income seniors with the rising costs of dental care while Yukon is the only territory.

"This epidemiologic study of the oral health of LTC residents revealed a high prevalence of untreated oral disease and low use of oral care services, highlighting the need for better access to oral care for this population."

Matthews et al. Oral Health Status of Long-Term Care Residents - A Vulnerable Population. J Can Dent Assoc 2012;78:c3

Needs Assessment/ Surveillance

Monitoring of oral health and evaluation of oral health programming are key functions of public health. Reporting the oral health trends of the community and the effects of interventions, provides accountability for dollars spent and requires good surveillance.

The oral health component of the 2007-2009 Canadian Health Measures Survey has become the gold standard for surveys in Canada.¹³ Best suited to large scale surveys or research, the same methodology was used in the Inuit Oral Health Survey (IOHS), the First Nations Oral Health Survey (FNOHS), the Nova Scotia Seniors Survey (TOHAP) and a number of regional and international surveys. The provinces and territories have evolved their own survey protocols, with considerable variation from one region to another. OCDO provides support for conducting surveys using CHMS methodology via an online toolbox with information, descriptions and survey forms (www.fptdwc.ca). However, there is no common depot for storage of data/result repository: the CHMS Oral Health results are posted on the FPTDWG website, but regional data from surveys by provinces and territories are stored regionally.

¹² Canadian Community Health Survey (CCHS) - 2009-10. Data from Statistics Canada, Health Canada, Report on the Findings of the Oral Health Component of the Canadian Health Measures Survey 2007-2009. <http://www.fptdwc.ca/assets/PDF/CHMS/CHMS-E-tech.pdf>
Towards Oral Health of an Aging Population (TOHAP) - 2009-10 survey of adults over the age of 45 in Nova Scotia
<http://tohap.dentistry.dal.ca/>.

¹³ Surveys require an adequate sample size, calibration of examiners, and elimination of bias. The age cohorts should be comparable with other regions, and subjects should be randomly selected.

Based on the epidemiology of dental diseases, national surveys should be conducted every 10 years; regional surveys could be done more frequently if a specific need arises or to monitor the effects of programs or interventions (e.g. every 5 years).¹⁴

Many regions perform dental screenings to identify disease or the risk of disease so that the individual may receive preventive interventions or referrals for treatment. Screenings can also be conducted in a way that provides surveillance data.

Workforce¹⁵

In 2009 Canada had over 42,600 professionals providing oral health care: 19,655 dentists; 23,902 dental hygienists, 2,200 denturists, 300 dental therapists and 14,000 registered dental assistants and 17,000 dental assistants that are not regulated. A major change over the past decade is the increase in the number of dental hygienists, with this trend continuing upward with each year. With the closure of the dental therapy school, NSDT, there is a change in availability of dental therapists, upon whom many Aboriginal communities depend for culturally-appropriate dental services.

In 2007, the Public Health Agency of Canada, in conjunction with the Office of the Chief Dental Officer, commissioned a scan of dental public health human resources across the country. It found that the distribution of oral health professionals is uneven, with the majority of dentists and dental hygienists migrating to the larger centres, and working in private dental clinics. This has created an imbalance of too many dental professionals in some of the bigger cities, while smaller remote locations are underserved or have no services at all.

Directors of Dental Public Health, who can both influence decision making and help ensure that publicly-funded services and oral health programs are accessible and effective, hold full time positions in Alberta, Manitoba, Ontario, Prince Edward Island and Quebec. Quebec is the only province following an oral health strategic plan with measurable goals.

In many cases, improved coordination of workforce available with those needing dental services would increase the effectiveness of the overall system. For example, oral health needs could be address when people require care in association with other treatment, such as cancer or other major hospital-based care. Also the oral health needs of FN/I mothers from remote locations could be provided when they are in major centres for the birth of the child.

The rate and volume of updated research and evidence challenges everyone's ability to keep current. This impacts curriculum innovation in academic institutions, accreditation standards, board examination, and regulatory structures and processes. Few organizations have the funding and capacity to effectively translate

¹⁴ Wide variations between healthier people and the marginalized segments of the Canadian population mean average decay rates hide significant problems. An average DMFT rate of 1.02 (CHMS) reflects 75% of the children having a DMFT of 0.7 - 0.8, and 25% of the children having a much higher decay rate. The SiC index (Significant Index of Caries) measures the DMFT of the one-third of the population with the highest DMFT scores. Including both DMFT and SiC gives a better picture of the degree of difference in decay rates.

¹⁵ The population/dentist ratio was 1,725:1. The ratio of population to all registered dental providers was 777:1. In some major cities the population/dentist ratio is less than 1,000:1. With 718 FTEs nationwide the dental public health workforce is about 1.7% of the total (47 dental public health specialists, 66 clinical dentists, 152 dental therapists and 453 dental hygienists).

new knowledge into readily digestible clinical practice or public health guidelines. Strong evidence base practices are not readily integrated into care provision by oral health practitioners¹⁶. Dental professionals have difficulty understanding how to evaluate research, and may not know the hierarchy of levels of evidence.

Determinants of Health

The social determinants of health (SDOH) are the social and economic conditions that influence the health of individuals, communities, and jurisdictions as a whole. These conditions are also shaped by forces such as social policy and politics.

The social determinants of health are mostly responsible for health inequities; that is the avoidable differences in health status due to unfair circumstances that are socially or economically influenced such as poverty or barriers to education or health care¹⁷.

The SDOH have a significant influence on the oral health status of Canadians. The existing oral health care system is effective for most Canadians. However, the CHMS has demonstrated that a portion of the Canadian population has a much poorer than average oral health status. Unlike health conditions due to biological or genetic factors, poor oral health that results from inequities in opportunities and resources could be changed. However many of these factors are outside the direct influence of oral health organizations. Therefore it is only possible to influence these factors by working in partnership with other institutions and organizations.

For example, the dental profession and all stakeholders need to be aware of the impact of socio-economic status and its implications for oral health programming in terms of treatment, referrals and follow up care for at risk groups.

Oral health must also be considered from the perspective of chronic disease risk factors. It is recognized that oral disease shares similar risk factors with other chronic conditions such as overweight and obesity, diabetes, heart disease, stroke and cancer. Common key risk factors include poor diet, smoking, and increased alcohol use. Poor diet may lead to compromised dentition but also contributes to overweight and obesity and in many cases, to diabetes and cardiovascular diseases. Smoking will result in poor gingival/periodontal health as well as oral or lung cancer. Excessive alcohol consumption increases the risk of oral cancer and liver problems.

This framework identifies some areas of opportunity to engage with other [health and public sectors](#) to improve the oral health of Canadians – especially the subpopulation of Canadians who suffer from a disproportionate burden of oral disease.

Future Work

Some oral health problems require complex and resource-intensive strategies: periodontal health, oral cancer, and oral anomalies (enamel hypomineralization, mucosal lesions). COHF identifies these as important issues, but not as current priorities, so future iterations of the COHF are expected to address them. Edentulism and the

¹⁶ The Oral Health Section in the Canadian Best Practices Initiative offers a way to share evidence-based programs from one place to others.

¹⁷ http://www.who.int/social_determinants/en/

percentage of adults with 21 or more teeth are important measures of the oral health of adults, but are not included as COHF goals because interventions are not likely to have a measurable impact within the time frame.

COHF Priorities

Aboriginal peoples, those with low income, recent immigrants, people with disabilities, and seniors in LTC facilities generally have more barriers to good health and a higher burden of disease than the Canadian average. They often have limited access to dental care through employment-provided dental insurance or may be ‘under-insured’ for needed procedures; where coverage is in place it varies and may require co-payments or high deductible, putting dental services out of reach.

The CHMS shows that less-advantaged Canadians have:

- a higher burden of dental disease and
- less access to oral health care than the general population.

Addressing these **two priorities, reducing the burden of disease and increasing access**, forms the direction for the COHF. COHF categorizes ten goals in two areas: **oral health status** goals and **oral health system** goals.

The Oral Health Status goals focus on children - with an emphasis on those most at risk.

The Oral Health System goals represent themes: Improve Oral Health, Access to Care; Oral Health Policy; Surveillance; Health Protection, Oral Health Promotion and Disease Prevention; and Leadership and Workforce.

There are 10 major categories for goals. Unless otherwise noted, all baseline data are from the CHMS.

Each goal has a number of strategies which primarily relate to that goal, but may have impacts towards reaching other goals. To avoid duplication, strategies are listed only once.

Oral Health Status Goals

Improve Oral Health

1. Improve the oral health of children and youth.¹⁸

Reduce the number of cavities and teeth affected by cavities for children under the age of 12 years, with a particular emphasis on those with the highest rates of disease. Reduce the amount of untreated disease, improving their dmft/DMFT score. (See Appendix 1 for evaluation criteria)

Strategies¹⁹

- 1.1 Develop school-based or school-linked preventive services, and/or community-based preventive and treatment services for children.
- 1.2 In schools with children at higher risk of dental disease, initiate/offer a range of preventive services that may include one or more of the following: daily brushing programs; fluoride varnish application; fluoride mouth rinse programs; dental sealants; scaling; oral health education; and oral health promotion.
- 1.3 Provide support for preschool/nursery brushing programs, policies and oral health screenings recognizing that this is the age (less than 5 y.o.) where good oral health habits start.
- 1.4 Promote addition of health rooms (usable for dental services) in newly-constructed or renovated schools.
- 1.5 Promote access to publicly-funded dental prevention and treatment programs for children to age 17 years.
- 1.6 Address the social determinants of health and health inequities whenever/wherever possible.
- 1.7 Provide oral health benefits for low income children.
- 1.8 Consider building capacity among physicians, nurse practitioners and nurses to apply fluoride varnish for children under 3 years of age.
- 1.9 Develop oral health promotion campaigns to initiate change (e.g. "making healthy choices the easier choices" in remote communities to address the cost differential between sugary and healthy drinks).
- 1.10 Promote oral health examinations for children entering the school system.
- 1.11 Promote school-health policies which include oral health.

¹⁸ Specific goals and outcomes are outlined in appendix x

¹⁹ These strategies (and those that remain in this document) have not been placed in priority order.

Access to Care

2. Improve oral health access for Aboriginal People.

Make service more accessible at the community level. Increase the number of trained providers in dental auxiliaries so that remote and isolated communities can be served with community-based providers. Expand school-based programs. (See Appendix 2 for evaluation criteria.)

Strategies

- 2.1 Expand the role of COHI aides to provide school-based preventive services (brushing programs, fluoride rinse programs, fluoride varnish) for all grade levels, in Aboriginal communities.
- 2.2 Initiate school-based dental prevention programs, where currently not present, in on-reserve schools and off-reserve areas where the number of eligible FN/I children warrants.
- 2.3 Include a dental clinic space when constructing or remodeling health centres in FN/I communities, and in larger centres where the numbers of FN/I clients warrant.
- 2.4 Encourage an increase in the number, training and type of oral health professionals working in northern Canada.

3. Ensure adequate access to oral health care.

Provide adequate access to oral health prevention and treatment from professionals skilled in bridging social and cultural differences. Develop additional alternate forms of oral health care delivery targeted to people with poor access to dental care. Ensure good access to oral health services for seniors (particularly those residing in long-term care facilities) who have difficulty accessing the private system. Increase the number of lower income individuals and seniors visiting an oral health professional in any fiscal year.

Reimburse preventive and treatment services for vulnerable populations: people receiving social assistance; Aboriginal People; immigrants; and residents of LTC facilities. Address the oral health needs of people requiring care in association with other treatment, such as cancer or other major hospital care. (See Appendix 3 for evaluation criteria.)

Strategies

- 3.1 Develop alternatives to complement the private system and provide a safety net for less-advantaged people:
 - a. publicly-financed and operated clinics (or mobile clinics) where low-income families can access preventive and treatment dental services at no or a reduced fee;
 - b. private/public partnership/contracts/contribution agreements which offer government funded treatment provided by private practitioners; and
 - c. government-funded outreach clinics of dental faculties and other dental training institutions.

- 3.2** Investigate tax incentives:
- a. for dentists, dental hygienists or denturists who deliver pro bono work to marginalised populations;
 - b. for clinics with specialized equipment needed to service the health care of special need patients (e.g. dental rooms adapted for wheelchairs); and
 - c. for people with special needs - enhanced deductions/coverage.
- 3.3** Explore opportunities for partnerships with private sector dental professionals.
- 3.4** Develop and promote training courses in cultural competence (available via Internet and mentored by leaders from various cultures) to improve the ability of oral health professionals to reach out to Canada's diverse populations. Work with regulatory Colleges to ensure these courses meet criteria for continuing education credits.
- 3.5** Cover basic dental treatment services when essential for such things as care of cancer, cardiovascular disease, transplants.
- 3.6** Provide dental screenings, preventive services, referrals for treatment (and possibly treatment services) in LTC facilities to serve residents and seniors in the community.
- 3.7** Promote standards, regulations and legislation for LTC facilities that are publicly-financed to:
- a. ensure daily oral care and access to professional dental care;
 - b. provide health room (s) that could be used to deliver dental services;
 - c. oral health assessment and care plan be part of the program planning for new residents; and
 - d. recruit and hire an oral health professional staff member.
- 3.8** Research alternative delivery systems (costs and benefits of public dental clinics and networks) and make information on best practices widely available.
- 3.9** Encourage elected representatives to keep informed about inequalities in the oral health care system.
- 3.10** Convene a Canada-wide stakeholder committee to address issues and propose options related to access to care.
- 3.11** Invite/encourage/collaborate with partners to help fund alternative clinics which target people who are disadvantaged and vulnerable. Evaluate these for cost effectiveness and health outcomes in order to establish best practices and inform ongoing policy development.

Oral Health Policy

4. Include oral health as a key part of overall health.

Include oral health as a key component of overall health to encourage stakeholders to collaborate to prevent dental disease. Build on the better leadership, greater consultation, and cooperation (e.g. the 2009 national campaign with the CDA, and the Dental Industry Association of Canada) that the creation of OCDO has fostered. Ensure an understanding of the importance of health determinants, and their relationship to good oral health, across the health spectrum.

Increase the dialogue between dental public health leaders and Health Canada and the Council of the Federation to ensure oral health is included in health-related discussions.

Strategies

- 4.1** Include 'oral health as part of overall health' in inter-professional education (e.g., medicine, nursing, public health, social services and education).
- 4.2** Collaborate broadly to address the social determinants of health. Follow the five actions in the Population Health Promotion Model (strengthen community action; build health public policy; create supportive environments; develop personal skills; reorient health services).
- 4.3** Collaborate with Education Departments on school-health policies and programs for oral health, nutrition, tobacco cessation.
- 4.4** Increase engagement of dental stakeholder organizations with other health professions (conference presentations; journal submissions, inter-professional committees).
- 4.5** Convene an advance-planning summit to develop future COHF 2019-2026 options, alternatives and goals. Include dental and health organizations, academic institutions, government agencies, industry, and vulnerable populations.
- 4.6** Develop and sustain an oral health awareness and promotion campaign with coordinated messaging among dental, health and public health organizations and government agencies.
- 4.7** Collaborate broadly to develop policies and tax incentives that limit sugar consumption by infants, children and youth. Advocate for limitations on junk food advertising directed to children.
- 4.8** Advocate for interdisciplinary clinics offering oral health care, immunizations, breastfeeding support, vision and hearing screening, sexual health services, and mental health services.
- 4.9** Collaborate with other health professionals (e.g. nutrition, nursing, speech and language) to organize and deliver oral health promotion initiatives within their areas.
- 4.10** Continue research in new approaches and technologies to prevent cavities.
- 4.11** Initiate and enhance public programs based on best practices.

5. Develop Canadian framework about publicly-financed oral health care.

Develop Federal, Provincial and Territorial agreements on minimum, acceptable standards of dental care for people receiving oral health care through publicly-financed programs. Implement national standards for availability of oral health care for people who rely on public financing.

Strategies

- 5.1** Include public financing of oral health as a part of the Council of the Federation²⁰ discussions and the Federal, Provincial and Territorial Health Ministers.
- 5.2** Convene an academic/policy meeting on the issue of appropriate levels of publicly-financed dental

²⁰ The Council of the Federation comprises Canada's 13 provincial and territorial Premiers. Established in 2003, the Council enables Premiers to work collaboratively to strengthen the Canadian federation.

- care; invite international experts.
- 5.3** Establish a Canadian panel to set a direction and draft a discussion paper:
 - a. ask stakeholder organizations and groups to present their perspectives and suggestions;
 - b. develop a draft agreement; and
 - c. work with governments and stakeholders to review and encourage acceptance of an agreement on minimal standards of oral health care.
 - 5.4** Collect data about Emergency Department care for non-traumatic dental reasons (e.g., pain and infection). Explore the effectiveness of provincial dental programs such as Ontario’s Children In Need Of Treatment and Healthy Smiles Ontario in covering general anaesthesia when provided in private facilities. Establish best practices and make widely available for implementation.
 - 5.5** Follow an evidence-based approach to determine reimbursement rates and inclusion of services in publicly-funded programs.

Surveillance

6. Develop and maintain information²¹ about oral health status.

The CHMS has reported national baseline data, but there is limited regional or local information for making evidence-informed policy or doing program planning and evaluation. Nor does it include the collection of oral health data from the under-six age population. Each of the fourteen jurisdictions (13 Ps/Ts + Federal) has evolved its own approach using its own system, making it very difficult to compare oral health status accurately from one place to another.

Develop a central storage site for Canadian surveys. Facilitate the sharing of data, best practices and successful interventions and standard targets, through ongoing data collection by jurisdictions using similar data systems, comparable formats and indicators, and tracking similar age groups. Facilitate comparisons of results. Establish common methodology so provinces and territories can quickly compare recent data. Leaders need to know disease trends and impacts of interventions to be able to compare them to neighbours, and to a national standard. (See Appendix 4 for evaluation criteria.)

Strategies

- 6.1** Convene an academic/policy meeting on the topic of oral health surveillance systems (both ‘gold standard’ and ‘acceptable’).
- 6.2** Set up a Canadian panel to set a direction for the establishment of data collection protocols.
- 6.3** Assign a FPTDWG subcommittee to draft a proposal related to COHF Surveillance goals.

²¹ The CHMS has reported national baseline data, but there is limited regional or local information for making evidence-informed policy or doing program planning and evaluation. Each of the twelve jurisdictions has evolved its own approach using its own system, making it very difficult to compare oral health status accurately from one place to another. Leaders need to know disease trends and impacts of interventions, and to be able to compare them to neighbours, and to a national standard.

- 6.4 Consult provincial and federal privacy commissioners regarding central storage of personal health information and specific wording that should be used for survey consent forms. Consult institutions (e.g. Canadian Institute of Health Information) for storage and methods to share the data with researchers and health planners.
- 6.5 Design and conduct surveys with a core set of comparable data and some other data that is specific to the province/territory/region. (For example, self-report questionnaire surveys.)
- 6.6 Request Statistics Canada (all provinces and territories) to include the oral health component of the CCHS on a regular periodicity.
- 6.7 Encourage dental, dental hygiene and dental assistant schools curricula to teach epidemiology, data gathering, and evidence-based health care.

Health Protection, Oral Health Promotion and Disease Prevention

7. Increase access to fluoridated water to help prevent dental cavities.

Promote fluoridation of water²² by mandating the practice through provincial/territorial legislation. Provide accurate, recent data and make it widely available to counteract misinformation and anti-fluoride campaigns. Peer-reviewed scientific studies continue to indicate that there are no adverse health or environmental effects from exposure to fluoride in drinking water at or below the maximum acceptable concentration. Health Canada and many provincial health departments/officials continue to strongly support water fluoridation as a safe, effective and cost effective public health measure to help prevent dental cavities.

Strategies

- 7.1 Maintain a registry of drinking water fluoride concentrations in all municipalities and naturally occurring levels, for the benefit of public health providers and the public.
- 7.2 Develop a national guide and supporting documents for conducting a campaign in favour of water fluoridation, so proponents in each municipality can learn best practices and from the experiences of others.
- 7.3 Facilitate collaboration between stakeholders to support public education about the benefits of water fluoridation.²³
- 7.4 Continue research into risks and benefits of water fluoridation.
- 7.5 Develop (FPTDWG) a benefits-based approach to fluoridation (survey the decay and fluorosis rates to forecast changes for that community).

²² Guideline technical document on fluoride, published in 2011, <http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/2011-fluoride-fluorure/index-eng.php>

²³ Dr. Arlene King, Ontario's Chief Medical Officer of Health, strongly recommends fluoridation in "Oral Health - More Than Just Cavities" (April 2012) http://www.health.gov.on.ca/en/public/publications/ministry_reports/oral_health/oral_health.pdf.

- 7.6 Monitor decay and fluorosis rates.
- 7.7 Develop (Canada's Chief Medical Officers) a position statement on fluorides and fluoridation.
- 7.8 Develop position statement(s) on fluorides and fluoridation (the Public Health Agency of Canada, provincial public agencies and provincial health departments).
- 7.9 Update dental professional groups' position statements on fluorides and fluoridation.

Leadership and Workforce

8. Promote oral public health leadership.

Improvements in oral health require leadership to properly plan advise and direct the most effective and efficient use of resources. Leaders need training or experience and skills in dental public health²⁴ in order to be able to provide information to assist in government decision making. Promote an increase in the number of provincial/territorial Oral Health Directors and jurisdictional strategic plans for oral health. Develop Oral Health Strategic Plans, identifying issues, appropriate interventions and evaluation processes, and emphasizing accountability, assisting in helping identify and develop implementation plans for improving oral health.

Strategies

- 8.1 Prepare backgrounders for use in promoting the value of having properly compensated,²⁵ full-time provincial oral health directors in all jurisdictions, with the education, skills and knowledge for health program planning, to advise governments, and to develop oral health programs and evaluate/monitor oral health.
- 8.2 Promote the hiring of a full-time oral health director in the Territories (shared amongst territories).
- 8.3 Develop provincial/territorial oral health strategic plans,²⁶ accepted by the Ministry of Health in each of the jurisdictions.
- 8.4 Ensure that information is consistently provided to senior decision makers in all orders of government to encourage the inclusion of oral health in all health-related decisions, thus building the recognition that good oral health is essential to good overall health.

9. Promote professionals working within their capacity and full scope of practice.

Standardization of scope of practice would avoid complications and confusion surrounding the movement of professionals across boundaries that can also inhibit portability of credentials. Full use of scope of practice could extend the services available to underserved populations. (See Appendix 5 for evaluation criteria.)

Strategies

²⁴ conducting needs assessments, planning programs, developing surveys, monitoring, evaluating and reporting

²⁵ Nova Scotia Oral Health Review, pg. 29: http://www.gov.ns.ca/hpp/publications/08-35069-oral_health_review.pdf

²⁶ A formal process is recommended: <http://66.240.150.14/topic/hp-pdls/11/page/1>.

- 9.1** Encourage the development of national standard guidelines for scope of practice for oral health professionals.
- 9.2** Encourage changes in regulations or legislation to allow dental professionals to provide services within their scope of practice in non-dental clinic environments. If necessary, develop a graduated ladder licensing, specific tasks within their scope of practice in non-dental clinic environments.
- 9.3** Encourage collaboration with other health professionals (e.g. physicians, nurses, early-years workers, nutritionists, dieticians and tobacco cessation health promoters) and promote a team concept, where the various oral health professionals work together and provide services within their full scope of practice in public clinics.

10. Encourage a balanced supply of dental professionals.

Increase the number of oral health professionals available in isolated and remote communities and who service marginalised communities. Increase the number of oral health service deliverers who have training in cultural competence.

Strategies

- 10.1** Survey other professional groups to create an inventory of initiatives (successful and unsuccessful) to address imbalances in supply.
- 10.2** Expand incentive program for professionals to consider working in underserved communities.
- 10.3** Promote changes to enable dentists, dental therapists, denturists, dental hygienists and dental assistants to provide services in underserved areas.
- 10.4** Develop an alternate approach to supervision of oral health professionals (delivering preventive services) in underserved communities to promote safe but accessible service.
- 10.5** Encourage FN/I and other under-represented groups to choose a career as a dental professional.
- 10.6** Develop a communication strategy (single window access) with recently graduated oral health professionals to keep them informed on specific regional needs.

Conclusion

COHF (2013-2018) followed a formal strategic planning process to explore the oral health care of Canadians and of the Canadian delivery system. This framework identifies and discusses inequities in oral health and some opportunities to reform the current delivery system. It sets measurable goals and outlines a series of strategies.

COHS (2005-2010) led to significant advances in oral public health; COHF highlights a series of priorities to improve oral health delivery for all Canadians, especially the marginalized segments of society with a higher burden of oral disease and less access to oral health services.

Oral public health is inconsistent across the country; each government (federal, provincial, territorial) determines programs and services available to their residents. By addressing issues in policy, promotion, prevention, access to care, leadership and workforce – both collaboratively and within regional jurisdictions – dental public health professionals can make a significant difference in the future health of all Canadians. Every stakeholder (orders of government, individuals and organizations) has a role in advancing the COHF goals and strategies.

Appendix 1: Improve Oral Health of Children			
#	Objectives	Baseline	Indicator
1.a	Reduce the number of teeth affected by cavities in 6-year-olds	2.52	deft +DMFT of <2.5 for 6 y.o.
1.b	Reduce the percentage of 6-year-olds who experienced cavities	46.6%	55% of 6 y.o. have dmft +DMFT=0
1.c	Reduce the percentage of 6-year-olds with untreated cavities	18.6%	<15% of 6 y.o. have d+D>0
1.d	Improve the DMFT rate for 12 year olds	1.02	DMFT of <1.0 for 12 y.o.
1.e	Decrease the percentage of 12-year-olds who experienced permanent tooth cavities	61.3%	>70% of 12 y.o. have DMFT=0

Baseline established by: Health Canada. Report On The Findings Of The Oral Health Component Of The Canadian Health Measures Survey 2007-2009. <http://www.fptdwg.ca/Assets/Pdf/Chms/Chms-E-Tech.Pdf>

Appendix 2: Improve Oral Health of Aboriginal People			
#	Objectives	Baseline	Indicator
2.a	50% of FN/I receive oral health care services in fiscal year	<40%	% of FN/I who receive oral health care services annually
2.b	50% of FN/I schools provide school-based preventive dental services	Not available (few)	% of FN/I schools provide school-based preventive dental services
2.c	Improve the oral health status of those children entering school (6 year olds)	13.9%	15% of 6 y.o. FN/I have dmft +DMFT=0% of 6 year-old First Nations and Inuit children have not had tooth decay
2.d	Improve the oral health status of 12 year old FN/I	17.8% of 12 y.o. FN (from p. 37 COHF) 38.7% of 12 y.o. Canadians	20% of 12 y.o. FN/I have DMFT=0
2.e	Improve the DMFT rates for those 12-19 year old FN/I	DMFT 6.15 for 12-19 y.o. FNOHS (from p. 38 COHF) DMFT 9.49 for 12-19 y.o. IOHS	DMFT <5.0 for 12-19 y.o. FN/I DMFT for FN/I aged 12- 19
2.f	Reduce the rate of untreated decay for 12-19 year old FN/I	46.4% FN 38.1% Inuit (from p. 39 COHF)	<43% of 12-19 y.o. FN 35% Inuit have untreated decay

Baseline figures from the Inuit Oral Health Survey http://www.hc-sc.gc.ca/fniah-spnia/pubs/promotion/_oral-bucco/index-eng.php and the First Nations and Inuit Oral Health Survey http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

Appendix 3: Ensure adequate access to oral health care

#	Objective	Baseline	Indicator
3.a	Additional alternate forms of oral health care delivery targeted to people with poor access to dental care.	[5/10] Clinics for low-income individuals exist in AB, BC, MB, ON, QC.	Each province produces at least one such program.
3.b	Publicly-delivered provincial/territorial programs of preventive services for children, targeted primarily for those children with poor access to oral health care	[6/13] There are publicly-delivered preventive services for children in AB, ON, PEI,NL, QC, SK, and YK.	Number of provinces and territories that provide publicly delivered preventive services for children, divided by 13.
3.c	Programs to ensure good access to oral health services for seniors (particularly those residing in long-term care facilities) who have difficulty accessing the private system	[6/13] AB, BC, NU, NW PEI, YK	Number of provinces and territories that meet the objective, divided by 13.
3.d	Increase the number of lower income individuals visiting an oral health professional in the fiscal year.	60.0%	66.6% of lower-income individuals visited an oral health professional in the past year. (see Appendix 5 for CHMS low income definition)
3.e	Increase the number of seniors visiting an oral health professional in the fiscal year.	68.4%	75% of 60-79 y.o. report having visited an oral health professional in the past year

Appendix 4: Develop and maintain information about oral health status

#	Objectives	Baseline	Indicators
6a	Agree on standard minimum data set for children's oral health.	[0/13] No standard minimum data set. The CHMS report covers ages 6-11 years and 12-19 years; includes dmft, DMFT, and other indicators.	Number of provinces and territories agreeing to a standard minimum data set for children's oral health; divided by 13.

6.b	Establish standard protocol and tool to evaluate children's oral health.	[0/13] No standard. The discussion should start with the CHMS protocol and tool.	Number of provinces and territories agreeing to a standard protocol and tool to evaluate children's oral health; divided by 13.
6.c	Establish standard protocol and tool for screening children's oral health.	[0/13] No standard. Each jurisdiction has their own.	Number of provinces and territories agreeing to a standard protocol and tool for screening children's oral health; divided by 13.
6.d	Each province and territory conducts an oral health survey collecting minimum data set.	[0/13] depends on achieving 8.a. PEI & QC gather data annually. ON & BC did the CCHS in 2009-10. NS & SK have done recent surveys. Data sets vary. ON has annual school-based screening data.	Number of provinces and territories with an oral health survey collecting minimum data set; divided by 13.
6.e	Each province and territory set a timeline for repeating survey.	[0/13] depends on achieving 8.a and 8.d.	Number of provinces and territories with a timeline for repeating survey; divided by 13.
6.f	Establish a central storage site for Canadian surveys, facilitating comparisons of results.	[0/13] No central storage site	Number of provinces and territories with an oral health survey stored in a central storage site which contains the results of surveys from at least two jurisdictions; divided by 13
6.g	Set a timeline for repeating the CHMS, IOHS and FNOHS.	Repeat in ten year blocks	Public statement from OCDO establishing timelines for repeating the surveys.

Appendix 5: Promote oral public health leadership			
#	Objectives	Baseline	Indicators
9.a	Each province have a full-time oral health director (consultant, advisor), with formal training or possessing special skills in dental public health.	[5/10] On Jan 1, 2012, five provinces had a full-time dental director. (AB, MB, ON, PEI, QC)	Number of provinces with a full-time, filled position of dental director, divided by 10.
9.b	The three territories have a shared full-time oral health director, with formal training or possessing special skills in dental public health.	[Incomplete] There is currently a part-time regional director with NIHB for the Northern Region.	A shared, full-time dental director for the three territories.
9.c	Each government (federal, provincial and territorial) establishes a formal oral health strategic plan that identifies the problems, establishes goals and determines strategies to achieve the goals, and monitors outcomes.	[1/14] Quebec is currently the only province that is working from a five-year strategic plan with measurable goals and a monitoring system.	The number of governments that develop and are working from a formal strategic plan, divided by 14.

Appendix 6: COHF Summary Table

COHF Summary

Issues	Oral Health Status			Oral Health System							
Themes	<i>Improved oral health</i>	<i>Access to care</i>		<i>Policy, promotion and prevention</i>		<i>Surveillance</i>		<i>Leadership and workforce</i>			
Goals	1*	2*	3	4	5	6	7	8	9	10	
	Children	Access Aboriginal people	Better access to care	Key part of overall health	National guidelines for publicly-financed	Develop information	Fluoridated water	Public health leadership	Scope of practice	Balanced supply	
	1.1 to 1.8	2.1 to 2.6	3.1 to 3.13	4.1 to 4.11	5.1 to 5.5	6.1 to 6.9	7.1 to 7.2	8.1 to 8.7	9.1 to 9.5	10.1 to 10.5	
Outcomes	<ul style="list-style-type: none"> Increased proportion of children with no caries experience Reduced number of teeth affected by cavities Reduced cavity levels in children from low-income families, from Aboriginal families, and from most affected third of population more Aboriginal people receive care annually more school-based preventive services for Aboriginal children 			<ul style="list-style-type: none"> More alternative clinics for oral health care More publicly-financed preventive service programs for children Minimal acceptable standards of dental care for people supported by public finances Standard protocol, tool and minimum data set for children's oral health surveys and screening- Central storage site for Canadian oral health surveys Established timeline for repeating CHMS, IOHS, FNOHS 				<ul style="list-style-type: none"> More provinces with full-time dental directors More provinces with oral health strategic plans Oral health more evidenced in overall health decision making 			
FOUNDATIONS: Planning – Surveillance – Evidence – Best Practice – Evaluation – Collaboration											

*These two groups were selected based on available surveillance data and the likelihood that additional surveillance data will be collected during the timeframe of COHF.

Appendix 7: Results of COHS 2005-2010

Goal 1. To improve oral health promotion and public awareness of the importance of good oral health.

Objectives	Baseline (Jan 1, 2005)	Current (As of Dec 31, 2010)
<p>The establishment of an Oral Health Secretariat within Health Canada with the mandate of:</p> <ul style="list-style-type: none"> • Establishing a major Oral Health Promotion initiative. • Provide oral health advice, consultation and information. • Integration of oral health promotion with other health professional organizations. • Developing evidence-based resources for oral health promotion. • Assist in the process of Evidence Based Clinical Practice Guidelines, along with the Canadian Collaboration of Clinical Practice Guidelines in Dentistry. • Implementing initiatives developed through the Canadian Oral Health Strategy. 	<p>The position of a Chief Dental Officer and/or an oral health secretariat does not exist at this time within Health Canada.</p>	<p>The position of a Chief Dental Officer and an Office of the Chief Dental Officer was established in 2005.</p>
<p>A major national oral health promotion campaign, coordinated cooperatively by the Canadian Dental Association, the Canadian Dental Hygienist Association and Health Canada.</p>	<p>There are no current plans for a national, coordinated oral health promotion campaign.</p>	<p>The OCDO implemented a national oral health awareness campaign in partnership with the Canadian Dental Association, the Dental Industry Association of Canada, and the Dentistry Canada Fund in 2009.</p>
<p>A national report on the oral health of Canadians, equivalent to the U.S. Surgeon General's First Report on the Oral Health of Americans.</p>	<p>There is no report on the oral health of Canadians, outlining the oral health status or the issues of access to care, etc.</p>	<p>In May 2010, Health Canada released the results from the oral health component of the Canadian Health Measures Survey in two formats: a technical report (geared toward academics and dental researchers) and a summary report (geared toward the general public and public health professionals).</p>

Goal 2. To improve the overall oral health of Canadians.

Objectives	Baseline	Current Status
<ul style="list-style-type: none"> In self-report surveys, at age 17, at least 75% of the population report that they are satisfied with the appearance of their teeth. 	Due to a lack of scientific data, this objective is based on arbitrary assumptions and best guesses, in order to assign a target value.	According to the CHMS, 88.9% of Canadians from the age of 6 to 79 are satisfied with the appearance of their teeth. ²⁷ 73.8% of First Nations adolescents, ages 12-19, report being satisfied with the appearance of their mouth. ²⁸
<ul style="list-style-type: none"> In self-report surveys, at age 35-44, at least 75% of population report that the state of their oral health is very good or better. 	Due to a lack of scientific data, this objective is based on arbitrary assumptions and best guesses, in order to assign a target value.	According to the CHMS: 82.6% of adults 20-39 and 82.6% of 40-59 year-olds rated their oral health good, very good or excellent. ²⁹ For Inuit adults aged 20-39, 59.3% report good oral health; for age 40+, 61.4% report good oral health. ³⁰ 61.3% of First Nations adults (age 20+) rate their oral health as good or better. ³¹
<ul style="list-style-type: none"> At age 35-44, 45% of the population has never lost a permanent tooth due to dental cavity or periodontal disease. 	Due to a lack of scientific data, this objective is based on arbitrary assumptions and best guesses, in order to assign a target value.	According to the CHMS, 66.7% of the 20-39 year-olds and 32.8% of the 40-59 year-olds have a complete dentition. ³²
<ul style="list-style-type: none"> In self-report surveys, at age 35-44, no more than 20% of the population report that they are impacted by difficulties in chewing. 	Due to a lack of scientific data, this objective is based on arbitrary	According to the CHMS, 13.5% of 20-39 year olds and 11.7% of 40-59 year-olds reporting avoiding foods because of problems

²⁷ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

²⁸ First Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

²⁹ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

³⁰ Inuit Oral Health Survey (IOHS) - http://www.hc-sc.gc.ca/fniah-spnia/pubs/promotion/_oral-bucco/index-eng.php

³¹ Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

³² Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

Objectives	Baseline	Current Status
	assumptions and best guesses, in order to assign a target value.	with their mouth. ³³ For Inuit adults, the figures are 28.8% and 35.6% respectively. ³⁴ 30.1% of First Nations adults (20+yrs) report that they find it uncomfortable to eat any food because of problems with their mouth. ³⁵
<ul style="list-style-type: none"> In self-report surveys, at age 35-44, at least 75% of the population report that they are satisfied with the appearance of their teeth. 	Due to a lack of scientific data, this objective is based on arbitrary assumptions and best guesses, in order to assign a target value.	According to the CHMS, 88.9% of Canadians from the age of 6 to 79 are satisfied with the appearance of the teeth. ³⁶ 71.6% of First Nations adults (age 20+) report that they are satisfied with the appearance of their teeth. ³⁷
<ul style="list-style-type: none"> In self-report surveys, at age 35-44, no more than 20% of the population report that they have been impacted by peri-oral pain within the last month. 	Due to a lack of scientific data, this objective is based on arbitrary assumptions and best guesses, in order to assign a target value.	According to the CHMS, 14.6% of 20-39 year olds and 12.7% of 40-59 year-olds reported persistent pain or ongoing pain anywhere in their mouth. ³⁸ For the Inuit population, the figures are 32.7% and 29.5% respectively. ³⁹ 26.7% of First Nations adults (age 20+) report that they always or often experience pain in their mouth in the past 12 months. ⁴⁰
<ul style="list-style-type: none"> In self-report surveys, at age 65+, at least 70% of population report that the state of their oral health is very good or better. 	Due to a lack of scientific data, this objective is based on arbitrary assumptions and best	According to the CHMS, 85.8% of older adults aged 60-79 years of age reported their oral health to be good, very good or excellent. ⁴¹

³³ ibid

³⁴ *Inuit Oral Health Survey (IOHS)* - http://www.hc-sc.gc.ca/fniah-spnia/pubs/promotion/_oral-bucco/index-eng.php

³⁵ *First Nations Oral Health Survey (FNOHS)* - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%202009-10_0.pdf

³⁶ *Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report.* <http://www.fptdwg.ca/English/e-chms.html>

³⁷ ibid

³⁷ *First Nations Oral Health Survey (FNOHS)* - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%202009-10_0.pdf

³⁸ *Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report.* <http://www.fptdwg.ca/English/e-chms.html>

³⁹ *Inuit Oral Health Survey (IOHS)* - http://www.hc-sc.gc.ca/fniah-spnia/pubs/promotion/_oral-bucco/index-eng.php

⁴⁰ *First Nations Oral Health Survey (FNOHS)* - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%202009-10_0.pdf

Objectives	Baseline	Current Status
	guesses, in order to assign a target value.	Most (76-83%) older Nova Scotians perceive their oral health to be good or excellent. ⁴² In Manitoba, 83.4% of age 65+ report oral health to be good, very good or excellent (2007 CHMS)
<ul style="list-style-type: none"> In self-report surveys, at age 65+, no more than 35% of the population report that they are impacted by difficulties in chewing. 	PEI – 2001 – 42.9% impacted in ability to chew	According to the CHMS, 12.7% of 60-79 year-olds reporting avoiding foods because of problems with their mouth. ⁴³
<ul style="list-style-type: none"> In self-report surveys, at age 65+, no more than 35% of the population report that they have been impacted by peri-oral discomfort within the last month. 	PEI – 2001 – 42.9% impacted by peri-oral discomfort	According to the CHMS, 7.4% of 60-79 year-olds reported persistent pain or ongoing pain anywhere in their mouth. ⁴⁴ In Nova Scotia, 10% of community residents and 15% of LTC residents report they have experienced oral pain in the past month. ⁴⁵ In Manitoba (CCHS 2007) 12.9% at age 65+ report pain in teeth or gums in the past month.
<ul style="list-style-type: none"> At age 65+, no more than 30% of the population has lost all of their natural teeth. 	WHO – Quebec 1993. Edentulousness = 58%	According to the CHMS, 21.7% of adults 60 – 79 years of age have lost all of their natural teeth. ⁴⁶ The Inuit Oral Health Survey found that 21.3% of Inuit adults <u>over age 40</u> were edentulous. ⁴⁷ The CCHS showed similar results to the CHMS, with 21.3% of adults over 65 years of age reporting that they have no natural teeth. ⁴⁸

⁴¹ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

⁴² Towards Oral Health of an Aging Population (TOHAP) - 2009-10 survey of adults over the age of 45 in Nova Scotia <http://tohap.dentistry.dal.ca/>

⁴³ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

⁴⁴ ibid

⁴⁵ Towards Oral Health of an Aging Population (TOHAP) - 2009-10 survey of adults over the age of 45 in Nova Scotia <http://tohap.dentistry.dal.ca/>

⁴⁶ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

⁴⁷ Inuit Oral Health Survey (IOHS) - http://www.hc-sc.gc.ca/fniah-spnia/pubs/promotion/_oral-bucco/index-eng.php

⁴⁸ Canadian Community Health Survey (CCHS) - 2009-10. Data from Statistics Canada

Objectives	Baseline	Current Status
		In Nova Scotia, 11% of those aged 65+, living independently in the community are edentulous. Almost 2/3 of LTC are edentulous (41% or have teeth in only one arch (24%). ⁴⁹
<ul style="list-style-type: none"> At age 65, 50% of the population has 20 or more natural teeth. 		<p>According to the CHMS, 57.8% of adults 60 – 79 years of age have 21 or more teeth.⁵⁰</p> <p>31% of Inuit people over age 40 have 21 or more teeth.⁵¹</p> <p>31% of First Nations adults over 40 years of age have 21 or more teeth⁵²</p>
<p>Reduction of Dental decay</p> <ul style="list-style-type: none"> At age 6, 50% of children have never experienced dental decay. 	PEI – 2002-03 53.9% with deft = 0	<p>According to the CHMS, 53.4% of 6-year-olds have not experienced dental decay.¹</p> <p>Saskatchewan - 41.5% of grade 1 children have never experienced decay.⁵³</p> <p>PEI - 55.3% of 6-year-old children have not experienced dental decay.⁵⁴</p> <p>Of the Inuit population only 13.9% of 6-year-olds had not experienced decay.⁵⁵</p> <p>14.1% of First Nations 3-5 year old children have not experienced dental decay.⁵⁶</p>
<ul style="list-style-type: none"> At age 6, no more than 20% of children have unmet dental treatment needs 	PEI – 2002-03. Grade 1. 16.3% with dental	According to the CHMS, 18.6% of 6-year-olds have decay that has not been treated. ⁵⁷

⁴⁹ Towards Oral Health of an Aging Population (TOHAP) - 2009-10 survey of adults over the age of 45 in Nova Scotia <http://tohap.dentistry.dal.ca/>

⁵⁰ Inuit Oral Health Survey (IOHS) - http://www.hc-sc.gc.ca/fniah-spnia/pubs/promotion/_oral-bucco/index-eng.php

⁵¹ ibid

⁵² First Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

⁵³ Saskatchewan Children's Survey (SCS)-2008-09 -A survey of grade 1 and grade 7 students in Saskatchewan
http://www.saskatoonhealthregion.ca/your_health/documents/FinalSaskDentalScreening2008-09Report_000.pdf

⁵⁴ Prince Edward Island Children's Dental Care Program (CDCP) - Annual surveys of school children of all grades in P.E.I. (2010-11 year) Note that for the senior high school students, the survey was mostly conducted in rural schools, which tend to have higher decay rates than in the urban schools.

⁵⁵ Inuit Oral Health Survey (IOHS) - http://www.hc-sc.gc.ca/fniah-spnia/pubs/promotion/_oral-bucco/index-eng.php

⁵⁶ First Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

Objectives	Baseline	Current Status
	treatment needs.	<p>Saskatchewan - 27.1% of children screened have unmet dental treatment needs.⁵⁸</p> <p>PEI - 15.6% of children have unmet dental treatment needs.⁵⁹</p> <p>For Inuit children, 49.4% of those aged 3-5 had treatment needs 67.9% of 6-11-year olds had dental treatment needs.⁶⁰</p> <p>35.2% of First Nations children aged 3-5 had treatment needs & 16.7% of 6-11 year old children had treatment needs.⁶¹</p>
<ul style="list-style-type: none"> At age 12, a DMFT of 1.0 or less 	PEI – 2002-03. Grade 6&7. DMFT = 0.7	<p>According to the CHMS, 38.7% of 12-year-olds had 1 or more permanent teeth affected by caries and a DMFT of 1.02.⁶²</p> <p>Of the Inuit population, the sample size was too small to draw out 12-year-olds alone, but for ages 6-11 the average DMFT is 2.01.⁶³</p> <p>6-11 year old First Nations children had an avg. DMFT of 1.87.⁶⁴</p> <p>Saskatchewan - Average DMFT of 0.8 for grade 7 students (mostly 13-year-olds).⁶⁵</p> <p>PEI - Average DMFT of 0.83 for 12-year-old children.⁶⁶</p>

⁵⁷ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

⁵⁸ Saskatchewan Children's Survey (SCS)-2008-09 -A survey of grade 1 and grade 7 students in Saskatchewan http://www.saskatoonhealthregion.ca/your_health/documents/FinalSaskDentalScreening2008-09Report_000.pdf

⁵⁹ Prince Edward Island Children's Dental Care Program (CDCP) - Annual surveys of school children of all grades in P.E.I. (2010-11 year) Note that for the senior high school students, the survey was mostly conducted in rural schools, which tend to have higher decay rates than in the urban schools.

⁶⁰ Inuit Oral Health Survey (IOHS) - http://www.hc-sc.gc.ca/fniah-spnia/pubs/promotion/_oral-bucco/index-eng.php

⁶¹ First Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

⁶² Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

⁶³ Inuit Oral Health Survey (IOHS) - http://www.hc-sc.gc.ca/fniah-spnia/pubs/promotion/_oral-bucco/index-eng.php

⁶⁴ First Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

⁶⁵ Saskatchewan Children's Survey (SCS)-2008-09 -A survey of grade 1 and grade 7 students in Saskatchewan http://www.saskatoonhealthregion.ca/your_health/documents/FinalSaskDentalScreening2008-09Report_000.pdf

Objectives	Baseline	Current Status
<ul style="list-style-type: none"> At age 12, a 'significant caries index', (SiC) DMFT of 3.0 or less. 	PEI – 2002-03. Grade 6&7. SIC index= 2.1	<p>While not specifically answered in the CHMS, the data set is available to researchers to do this type of analysis.⁶⁷</p> <p>Saskatchewan - SiC index = 3.0 for grade 7 children.⁶⁸</p> <p>PEI - The SiC index for 12-year-old children is 2.49.⁶⁹</p>
<ul style="list-style-type: none"> At age 12, 75% of children have never experienced decay in their permanent teeth. 	PEI – 2002-03. Grade 6&7. 68.2% with DMFT=0	<p>According to the CHMS, 61.3% of 12 year olds were caries free.⁷⁰</p> <p>Saskatchewan - 66.2% of grade 7 students (mostly 13-year-olds).⁷¹</p> <p>17.8% of First Nations 12-year-old children had never experienced decay in their permanent teeth.⁷²</p> <p>PEI - At age 12, 66.7% of children have a DMFT of '0'.⁷³</p> <p>For Inuit children the sample size of 12-year-olds was too small to give statistically significant numbers, but for combined 6-11 year-olds, 40% had not experienced decay in their permanent teeth, compared to 76.4% for a similar age range in the CHMS.</p>
<ul style="list-style-type: none"> At age 12, no more than 10% of children have unmet dental treatment needs. 	PEI – 2002-03. Grade 6&7. 7.6% with dental treatment	<p>This number was too small to allow reporting in the CHMS.</p> <p>31.4% of First Nations 12-year-old children had untreated tooth</p>

⁶⁶ Prince Edward Island Children's Dental Care Program (CDCP) - Annual surveys of school children of all grades in P.E.I. (2010-11 year) Note that for the senior high school students, the survey was mostly conducted in rural schools, which tend to have higher decay rates than in the urban schools.

⁶⁷ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdvwg.ca/English/e-chms.html>

⁶⁸ Saskatchewan Children's Survey (SCS)-2008-09 -A survey of grade 1 and grade 7 students in Saskatchewan http://www.saskatoonhealthregion.ca/your_health/documents/FinalSaskDentalScreening2008-09Report_000.pdf.

⁶⁹ Prince Edward Island Children's Dental Care Program (CDCP) - Annual surveys of school children of all grades in P.E.I. (2010-11 year) Note that for the senior high school students, the survey was mostly conducted in rural schools, which tend to have higher decay rates than in the urban schools.

⁷⁰ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdvwg.ca/English/e-chms.html>

⁷¹ Saskatchewan Children's Survey (SCS)-2008-09 -A survey of grade 1 and grade 7 students in Saskatchewan http://www.saskatoonhealthregion.ca/your_health/documents/FinalSaskDentalScreening2008-09Report_000.pdf.

⁷² First Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

⁷³ Prince Edward Island Children's Dental Care Program (CDCP) - Annual surveys of school children of all grades in P.E.I. (2010-11 year) Note that for the senior high school students, the survey was mostly conducted in rural schools, which tend to have higher decay rates than in the urban schools

Objectives	Baseline	Current Status
	needs.	decay ⁷⁴ Saskatchewan - 11.4% of grade 7 students (mostly 13-year-olds). ⁷⁵ PEI - 8.3% of 12-year-old children have unmet dental treatment needs. ⁷⁶
<ul style="list-style-type: none"> At age 17, a DMFT of 3.0 or less. 	PEI – 2002-03. Grade 10, 11 & 12. DMFT= 2.1	According to the CHMS, 12-19-year olds had a DMFT of 2.49. ⁷⁷ Inuit adolescents aged 12-19 had an average DMFT of 9.49 ⁷⁸ First Nations adolescents aged 12-19 had an average DMFT of 6.15 ³ PEI - The DMFT of 17-year olds is 2.74. ⁷⁹
<ul style="list-style-type: none"> At age 17, a 'significant caries index', (SiC index) of 5.0 or less. 	PEI – 2002-03. Grade 10, 11&12. SIC index=5.3	While not specifically answered in the CHMS, the data set is available to researchers to do this type of analysis. In the FNOHS & IOHS, the sample size was not sufficient to draw out the SiC index. PEI - The SiC index is 6.25. ⁸⁰
<ul style="list-style-type: none"> At age 17, 50% of adolescents have never experienced decay in their permanent teeth. 	PEI – 2002-03. Grade 10, 11 & 12. 43.1% with DMFT=0	According to the CHMS, 41.2% of 12-19 year-olds were caries-free. ⁸¹ For Inuit adolescents, 12-19, only 3.3% had never experienced

⁷⁴ First Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

⁷⁵ Saskatchewan Children's Survey (SCS)-2008-09 -A survey of grade 1 and grade 7 students in Saskatchewan
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⁷⁶ Prince Edward Island Children's Dental Care Program (CDCP) - Annual surveys of school children of all grades in P.E.I. (2010-11 year) Note that for the senior high school students, the survey was mostly conducted in rural schools, which tend to have higher decay rates than in the urban schools

⁷⁷ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

⁷⁸ Inuit Oral Health Survey (IOHS) - http://www.hc-sc.gc.ca/fniah-spnia/pubs/promotion/_oral-bucco/index-eng.php

⁷⁹ First Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

⁸⁰ Prince Edward Island Children's Dental Care Program (CDCP) - Annual surveys of school children of all grades in P.E.I. (2010-11 year) Note that for the senior high school students, the survey was mostly conducted in rural schools, which tend to have higher decay rates than in the urban schools

⁸¹ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

Objectives	Baseline	Current Status
	The 2001 US Surgeon General Report, Oral Health in America, states that 78% of 17-year-olds have at least one cavity or filling.	decay in their permanent teeth. ⁸² For 11-17 year-old First Nations adolescents, 11.1% had never experienced decay in their permanent teeth. ⁸³ PEI - 33.1% of 17-year-old adolescents have a DMFT of '0'. ⁸⁴
<ul style="list-style-type: none"> At age 17, no more than 10% of adolescents have unmet dental treatment needs. 	PEI – 2002-03. Grade 10, 11 & 12. 3.8% with dental treatment needs.	According to the CHMS, 16% have decay that has not been treated. ⁸⁵ 38.1% of Inuit adolescents 12-19 years of age have untreated decay. ⁸⁶ First Nations - 46.4% had untreated dental decay. ⁸⁷ PEI - 11.2% of 17-year-olds have unmet dental treatment needs. ⁸⁸
<p>Reduction of Periodontal disease</p> <ul style="list-style-type: none"> At age 35-44, no more than 60% of adults will have a CPITN score of 3 or 4. 	WHO data – 1994-95 52% had a highest CPITN score of '3'; 21% with score of '4'	According to the CHMS, 23.5 % of adults 40 – 59 years of age have a CPITN score of 3 or 4 ⁸⁹ . 23.0% of First Nations adults (age 20+) had a CPI score of 3 or 4. ⁹⁰ The Inuit Oral Health Strategy only categorized adults as age 40+, so periodontal scores for older adults were not drawn out

⁸² Inuit Oral Health Survey (IOHS) - http://www.hc-sc.gc.ca/fnihah-spnia/pubs/promotion/_oral-bucco/index-eng.php

⁸³ First Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

⁸⁴ Prince Edward Island Children's Dental Care Program (CDCP) - Annual surveys of school children of all grades in P.E.I. (2010-11 year) Note that for the senior high school students, the survey was mostly conducted in rural schools, which tend to have higher decay rates than in the urban schools

⁸⁵ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

⁸⁶ Inuit Oral Health Survey (IOHS) - http://www.hc-sc.gc.ca/fnihah-spnia/pubs/promotion/_oral-bucco/index-eng.php⁸⁶

⁸⁷ First Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

⁸⁸ Prince Edward Island Children's Dental Care Program (CDCP) - Annual surveys of school children of all grades in P.E.I. (2010-11 year) Note that for the senior high school students, the survey was mostly conducted in rural schools, which tend to have higher decay rates than in the urban schools

⁸⁹ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwc.ca/English/e-chms.html>

⁹⁰ First Nations Oral Health Survey (FNOHS) - http://www.fnigc.ca/sites/default/files/FNOHS%20Summary%20Report%2009-10_0.pdf

Objectives	Baseline	Current Status
		separately. 20.8% of dentate Inuit adults had a CPITN score of 3 or 4, while 38% had an attachment loss of 4 mm or more (compared to 26.1% and 47.1% for the two age categories in the CMHS respectively)
<ul style="list-style-type: none"> At age 65+, no more than 30% of adults will have a CPITN score of 4. 	WHO (U.S. data) 1991. 32% with score of '4'.	According to the CHMS, 7.1% of adults aged 60 – 79 have a CPITN score of 4. ⁹¹
Reduce Mortality due to Oral cancer <ul style="list-style-type: none"> Reduction of mortality due to oral cancer to less than 900 deaths per year, through prevention (smoking reduction) and early detection of oral cancers. 	Approximately 1,000 deaths due to oral cancer per year.	According to the Canadian Cancer Society, in 2009 1,150 people would die from oral cancer.
Reduce the prevalence of acquired developmental anomalies <ul style="list-style-type: none"> Prevalence of moderate or severe dental fluorosis (TSIF level 2 or greater) on 8 year olds = 7% or less. 	ON – 1999. Fluorosis = or > '2' of 4.9%. BC – 1993. Fluorosis = of > '2' of 8% (TSIF)	Using Dean's Index, too few children from the ages of 6 – 12 years of age had either moderate or severe dental fluorosis to allow for reporting in the CHMS. ⁹² In PEI in 2010, 3.7% of grade 3 children had a TSIF score of 2 or greater.
<ul style="list-style-type: none"> A database system, using a common measuring method, in place to monitor the frequency and severity of dental fluorosis. 	The Dean's index is the most commonly used fluorosis index in Canada	The Dean's Index is currently recommended by the Health Canada's Expert Panel on Fluoride and the CHMS Advisory Committee to be the measurement of fluorosis. ⁹³
<ul style="list-style-type: none"> A database system, using a common measuring method, in place to monitor the frequency and severity of hypoplastic teeth. 	There is not a common measuring system in place.	There is not a common measuring system in place. ⁹⁴

⁹¹ Report on the Findings of the Oral Health Module of the Canadian Health Measures Survey (CHMS) 2007-2009. The age groupings do not always match the one that was used in the objective, so in these situations, the data was pulled from the CHMS using the closest age group(s) that can be found in report. <http://www.fptdwg.ca/English/e-chms.html>

⁹² ibid

⁹³ ibid

⁹⁴ ibid

Goal 3 – To improve access to oral health care services.

Objectives	Baseline	Current Status
To increase the utilization of dental services in Canada by 5% over the 2000-01 rate.	StatsCan 2000 report indicates utilization rate of 60%	According to the CHMS, 74.5% of Canadians aged 6 – 79 years of age visited a dental professional in the past year.
All provinces and territories offer dental treatment programs for children of low-income families.	As of 01/01/2004, there are treatment programs in YK, NT, NU, AB, SK, ON, QC, NS, PEI, NL; W/A programs in BC, MB, NB	As of 2010 there is some form of treatment program for children from low income families in all provinces with the exception of New Brunswick and Manitoba. The type of program, eligibility and covered services vary from province to province. In Yukon there is a children's program delivered by dental therapists.
All provinces and territories provide school-based preventive dental programs for children.	As of 01/01/2004, there are school based preventive programs in YK, NT, NU, SK, ON, NS, PEI.	As of 2010 there are school-based preventive programs delivered on a provincial basis in Yukon, Ontario, Quebec, and PEI and on a targeted basis in Alberta. Fluoride rinse programs are in Nova Scotia and New Brunswick.
All provinces & territories have legislation requiring oral screening of new residents upon entry into a long-term care facility, as well as ongoing oral health care plans	As of 01/01/2004, BC has legislation. PEI has no legislation, but does screening.	None of the provinces have a legislative requirement for an oral screening and care plans for new residents of a LTC, however Ontario has an 'offer' of an annual dental assessment, and PEI conducts annual dental screenings.
All provinces and territories have full time oral health professionals to administer and direct public dental services.	As of 01/01/2004, there are full-time Senior Dental Consultants in BC, MB, QC, and PEI.	As of 2011 there are full-time Dental Consultant positions in British Columbia, Alberta, Manitoba, Ontario, Quebec, PEI and there is the a position created but not filled in Nova Scotia.
75% of non-institutionalized seniors report adequate access to dental care.	As of 01/01/2004, there are no statistics on access to care for non-institutionalized seniors.	According to the CHMS, 68.4% of adults aged 60–79 visited a dental professional in the past year.

Goal 4 – To establish a country wide, standardized method of monitoring and surveillance of oral health, and to assure that oral health research is appropriately supported.

Objectives	Baseline	Current Status
Develop standardized protocols for oral health surveillance.	There are currently no common standards for measuring oral health	The CHMS provides a standardized protocol for oral health surveillance which can be used for surveys based on it. There are as yet no standardized protocols for oral health screenings or combined screening/surveys.
Establish a central site for collecting and storing survey results	There is currently not a central site for collecting and storing survey results	The results from the CHMS are on the Federal, Provincial Territorial Dental Working Group website. More are welcome to post their results on the same website.
Establish a central cataloguing of surveys and research reports.	There is currently not a central cataloguing of survey and research reports.	There is not as yet a central cataloguing of surveys and research reports.

Goal 5 – To assure appropriate numbers, distribution and education of oral health professionals.

Goal		Current Status
<ul style="list-style-type: none"> By 2010, conduct a complete Human Resources strategic plan for the period 2010 to 2020, taking into consideration the oral health needs of the Canadian society, all oral health professionals, the related health sectors, and education requirements. 		In 2007, as a first step toward meeting this goal the Public Health Agency of Canada, in conjunction with the Office of the Chief Dental Officer commissioned a scan of dental public health human resources across the country.

Appendix 8: Development of COHF

The Canadian Oral Health Framework, 2013-18 (COHF) was developed through a collaborative process. The first step in this process was to identify and contact the major national oral health organizations, federal, provincial and territorial governments (through their FPTDWG members) and the ten faculties of dentistry. Each of the organizations approached was asked to inform and involve their members to the extent that they felt best.

The COHF was developed using a formal strategic planning process. These components were addressed separately and in order:

- Introduction and background;
- Mission, Vision, Purpose statements;
- Identification of the problems (through needs analysis);
- Identification of the existing measures, priorities and resources;
- Establish measurable goals/targets (SMART goals - Specific, Measurable, Achievable, Relevant, and Time-related);
- Determine strategies that can be used to achieve the goals; and
- Establish monitoring and evaluation

For identification of the problems, nothing was sent out that would lead the document in any particular direction. Rather, each of the stakeholders was asked to list what they saw as problems both in the oral health care delivery system and in the oral health of individuals or groups of individuals. The list that was generated was condensed by combining differently worded but similar items into more specific problem areas. Input was then requested from stakeholders on goals, and then strategies that would address the problems and meet the goals. The criterion for the goals was that they would have to meet the acronym SMART - Specific, Measurable, Achievable, Relevant and Time-related.

Once all of the sections had been worked through, they were all assembled into a draft document which was distributed to the stakeholders for a further round of input. There was a considerable amount of input from stakeholders, some of it at times conflicting. Where there were differences of opinion, it was necessary to choose what had the most support and was most relevant to the document. All input was considered very seriously.

In an additional revision some of the sections were combined and restructured to improve clarity and flow while reducing duplication.

The goals and associated strategies in this document are not binding. The oral health goals are based on a national average, but considerable variation occurs between provinces/territories as well as between segments of the population. Success in achieving the goals of COHF depends on stakeholders working together to advance oral health in their areas. It is hoped that this Canadian Oral Health Framework,

2013-18 will serve as a blueprint for improved oral health care delivery and a call for more standard approaches across Canada, to improve the oral health of Canadians, especially those who are less-advantaged.

Appendix 9: Dental Expenditures in Canada

Chart 1. Total health and dental care expenditures, by source of finance, Canada, 2008 (\$000,000)

	Public Sector	Private sector	Total
Health care	135,100	56,600	191,700
Dental care	585	11,256	11,841

National Health Expenditures Database, Canadian Institute of Health Information

Chart 2. Total private dental care expenditures, by source of finance, Canada, 2008 (\$000,000)

	Out-of-pocket	Insurance	Total
Dental care	5,218	6,036	11,256

National Health Expenditures Database, Canadian Institute of Health Information

Definition of lower income:

From Health Canada's "Report on the Findings of the Oral Health Component of the Canadian Health Measures Survey, 2007-2009" page 26.

Income and Social Status

Lower group	Middle group	Higher group
Less than middle group	\$30,000 - \$59,999 for 1 or 2 persons \$40,000 - \$79,999 for 3 or 4 persons \$60,000 - \$79,999 for 5 or more persons	More than middle group

Information on income and household size was obtained in the household interview and for the analysis, that information was partitioned into categories of sufficient size to allow for the examination of the effect of income. Three income categories are used for this report. The middle group (29.7%) consists of families who had incomes of \$30,000 to \$59,999 for 1 or 2 persons in the household, \$40,000 to \$79,999 for 3 or 4 persons, and \$60,000 to \$79,999 for 5 or more persons in the household. Families earning less than these amounts (18.9%) make up the lower group; families earning more (44.7%) make up the higher income category. As these income/household size categories were derived for this report, they have not been used by other agencies for the examination of social policy.

Appendix 10: Research and knowledge dissemination resources

All ten of Canada's dental faculties conduct research, and have published a respectable number of reports in peer-reviewed journals. Researchers acquire funding from the Canadian Institutes of Health Research (CIHR) or other funding agencies.

Many of the faculties also provide outreach services for low-income people; data from these services may provide useful information on operating these kinds of alternative access sites.

The Oral Health Component of the CHMS technical report is an excellent resource, as it describes oral health as it is today and serves as a baseline for monitoring interventions. Other information about the oral health of Canadians can be found at the Canadian Institute of Health Information (CIHI) and with the results of the Canadian Community Health Surveys (CCHS).

There is a movement today towards greater evidence-based health care, where evidence determines not only what procedures are most effective but also how the services can best be delivered. The internet is a driving force for evidence-based care by facilitating research and knowledge dissemination. Excellent internet resources on evidence-based health care include:

- The Cochrane Collaboration. (<http://www.cochrane.org/search/site/dental>)
- Health-Evidence.ca (<http://www.health-evidence.ca/>)
- The Center for Disease Control (<http://www.cdc.gov/oralhealth/>)

CHNET (<http://www.chnet-works.ca/>) is an internet seminar (webinar) resource centered in the University of Ottawa that coordinates and conducts several health-related webinars, including some on oral health.

The World Health Organization is responsible for providing leadership on global health matters, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries and monitoring and assessing health trends.
http://www.who.int/oral_health/en/

The Council of European Dentists (CED) is the representative organization for the dental profession in the EU, representing over 320,000 practicing dentists through 32 national dental associations. Established in 1961 to advise the European Commission on matters relating to the dental profession, the CED promotes high standards of oral healthcare and effective patient safety centered and evidenced-based professional practice across Europe.
<http://www.eudental.eu/index.php?ID=2731>

The FDI (World Dental Federation) is a federation of approximately 200 national dental associations and specialist groups. The organization acknowledges that oral health is an integral part of general health and well-being. The FDI develops and disseminates policies, standards and information related to all aspects of oral health.
<http://www.fdiworldental.org/our-activities>

Science Direct - Journal of Evidence Based Dental Practice
<http://www.sciencedirect.com/science/journal/15323382/12>

Appendix 11: Websites for planning oral health interventions.

The Public Health Agency of Canada has a website section called the [Canadian Best Practices Portal](#). In the general section of the portal there is a section on 'Population Health Approach: the organizing Framework', that provides an excellent resource on planning for health interventions.

Within the Canadian Best Practices Portal there is a [section on oral health](#). This section lists, under six topic headings, Canadian oral health programs or interventions that meet certain criteria to be considered a 'best practice', as well as providing references for the topic areas.

Websites with oral health information for the general population

There are numerous websites that provide oral health information for the general public. Some of the websites cover several topic areas while others are more specific to a single topic.

For information on a number of oral health issues, some examples are:

CDA - http://www.cda-adc.ca/en/oral_health/index.asp

CDHA - <http://www.cdha.ca/>

CDAA – <http://www.cdaa.ca> Health Canada website – Oral Health section - <http://www.hc-sc.gc.ca/hl-vs/oral-bucco/index-eng.php>

Seniors oral health information can be obtained from (among others):

Dalhousie University - <http://www.ahprc.dal.ca/projects/oral-care/events.asp>

Halton Region - <http://www.halton.ca/cms/One.aspx?portalId=8310&pageId=29689>

A website that lists many avenues for accessing oral health care is the Federal, Provincial and Territorial Dental Working Group website at <http://www.fptdwg.ca/English/e-access.html>.

Appendix 12: Human Resources

Over the years the number of oral health professionals relative to the population they serve has been increasing. According to the CHMS the population per dental care provider has gone from 3,052:1 in 1960 to 777:1 in 2007.

The human resources in actual numbers are surely adequate to meet the needs of all Canadians; however the problems of distribution of oral health professionals, the legislation around scope of practice and the lack of public leadership and funding are impeding access to oral health care for a significant number of Canadians.

Dentists - As of 2009 there were 19,655 licensed dentists in Canada, including private practice dentists, dental specialists and dentists in public programs. There has been a major shift from being primarily a male dominated profession to having mostly female graduates in the last number of years.

Dental hygienists - The number of dental hygienists has increased substantially such that it now exceeds the number of dentists. In 2009 there were 23,902 dental hygienists.

Denturists -Denturists are now licensed in all ten of Canada's provinces. In 2007 there were 2,200 licensed denturists.

Dental therapists - With the closure of the National School of Dental Therapy, the number of dental therapists will remain static in the short-term and then reduce, unless some other training facility opens. There are currently about 300 dental therapists.

Dental assistants - Dental assisting is regulated in all of the provinces except for Ontario and Quebec. There are approximately 14,000 dental assistants that are registered in the provinces where dental assisting is regulated plus approximately 17,000 in the two provinces where they are not regulated.

COHI Aides - A new dental worker is the COHI Aide who is trained to specifically support the Children's Oral Health Initiative, Health Canada. A typical COHI Aide is community-based, works part-time, provides oral health education, health promotion and fluoride varnish for Aboriginal children under the age of seven. Canada has approximately 250 COHI aides.

The Canadian Dental Association, the Canadian Dental Hygienists Association, the Canadian Dental Assistants Association, the Denturist Association of Canada and all of the provincial dental associations and regulatory bodies contribute to advancing and regulating oral health professionals and the practice of dentistry.

Appendix 13: Evidence Summary

Researchers from the University of Toronto, Community Dental Health Services Research Unit (CDHSRU) completed a methodical review of literature (published reports, grey literature, program descriptions/evaluations, and best practices) on four priorities in March 2007. The review highlighted several evidence-based strategies for addressing priority issues including community water fluoridation.

	Priority Issue	Evidence-based practice
1	Reduce the incidence of Early Childhood Caries (ECC)	<ul style="list-style-type: none"> • Fluoride varnish applications • Xylitol (a non-sugar substitute) to reduce oral bacterial transmissibility between mother and child • Oral health education/promotion • Building capacity in the physician and allied public health workforce
2	Reduce the incidence of dental caries in school-age children	<ul style="list-style-type: none"> • Topical fluoride applications • Pit and fissure sealants • Oral health education/promotion • Dental screening
3	Improve and maintain the oral health of seniors	<ul style="list-style-type: none"> • Topical antimicrobials (e.g. chlorhexidine, fluoride varnish) • Addition of oral health checks in general health examinations • Training of professionals in long-term care • Improved oral health policy in long-term care facilities
4	Increase access to dental care in order to reduce health disparities	<ul style="list-style-type: none"> • Effective public health programs • Reducing barriers to accessing dental care • Community water fluoridation