Oral Health
Action Plan

2016

Alberta Health Services

This document was produced through collaborative efforts of the AHS Provincial Oral Health Office Team:

Rafael Figueiredo - Provincial Dental Public Health Officer
Cindi de Graaff – Provincial Oral Health Manager
Heidi Rabie – Manager and Division Chief for Dental Public Health Clinics
Sylvia Baran - Provincial Team Lead, Oral Health
Cynthia Huber - Provincial Team Lead, Oral Health
Steven Patterson - Associate Dental Public Health Officer
Marianne Howell - Associate Dental Public Health Officer

For more information or to obtain an electronic copy contact: AHS Provincial Oral Health Office POHO@ahs.ca
Publisher: Healthy Public Policy Unit, Alberta Health Services

Contents

Executive Summary

Oral health is an essential part of overall health and impacts individuals' quality of life and well-being. Access to dental care correlates directly with good oral health. The opposite is also true: lack of access to dental care results in poor oral health, affecting individuals' physical, social/emotional and economic health. Signs and symptoms include disabling pain, recurring infections, and a dysfunctional dentition. Impacts range from delayed growth in children, to exacerbation of chronic diseases such as diabetes in adults. Untreated dental disease limits children's ability to learn, and adults to gain and maintain employment. The dental care system in Canada, which mainly operates as a private fee-for-service system, poses accessibility barriers to certain groups of the population. Timely access to preventive services, and to treatment services at early stages of oral disease is essential to achieving and maintaining good oral health throughout life. Cost of care is a significant factor in accessing dental services. Inability to pay, lack of employment benefits, or ineligibility for public health benefits contributes to poor oral health and to an uneven distribution of disease among Canadians. This oral health inequity, where low income and working poor are disadvantaged by their social economic status, makes them the most vulnerable group for poor oral health.

The oral health component of the *Canadian Health Measures Survey* identifies that the cost of care limits access to dental care and consequently impacts the oral health status of the Canadian population. This national oral health reality is also observed in Alberta. In particular, poverty and lack of dental insurance not only limits access to dental care but further limits an individual's ability to exercise control over their life and to secure employment. The lack of these determinants of health contributes to oral health inequity. In Alberta, poverty affects 12% of the population. Among children under 18 years of age, 11% live in poverty, and more than half of them are under the age of six.

Similar to other Canadian provinces, the Alberta Government provides basic oral health care benefits for some low income Albertans and/or their dependents. Each program has specific eligibility criteria based on income, employment status, age, or disability. Despite these initiatives, not all vulnerable Albertans are eligible to receive dental benefits and/or dental benefits may not meet all their needs. Individuals with limited access to oral health care rely on non-dental health professionals and hospital facilities to alleviate the symptoms of pain and infections associated with oral disease. While hospital emergency departments can provide temporary measures such as relief for dental pain and infection, they do not provide definitive dental care. The use of emergency departments as the primary source for dental care is neither ideal nor efficient, representing a misuse of health care resources.

In Alberta, addressing the oral health needs of the population became more provincially focused with the appointment of the Alberta Health Services (AHS) Provincial Dental Public Health Officer and Provincial Oral Health Manager in 2009 followed by the development of a provincial *Oral Health Action Plan (OHAP)* in 2010. The current *OHAP 2016* document updates the initiatives and objectives to meet the oral health needs of Albertans and to ensure sustainability of the initiatives currently implemented.

The Provincial Oral Health Office (POHO) is responsible to lead and facilitate initiatives to improve the oral health status of Albertans, with special attention to those groups of the population that

are more vulnerable. Within AHS, POHO is part of Chronic Disease Prevention and Oral Health; Healthy Living; and Population, Public and Aboriginal Health. POHO is also supported by the Council of Public Health Physicians. Overall clinical leadership and oversight of POHO is provided by the Provincial Dental Public Health Officer with support from 0.4 FTE Associate Dental Public Health Officers. Operational leadership of the provincial prevention and promotion domains within POHO is provided by the Provincial Oral Health Manager and 2.5 FTE team leads. The Manager/ Division Chief, Dental Public Health Clinics has responsibility for clinical and operations of the treatment domain of POHO. With POHO's vision "to improve the oral health status of Albertans," we follow our mission "to provide leadership and strategic direction to respond to Albertan's oral health needs."

POHO organizes the oral health initiatives established by OHAP 2016 into four domains to reflect the scope of initiatives for public oral health in Alberta. The domains are identified as follows: health promotion; prevention services; treatment services; and research and surveillance. Each domain is correlated to specific initiatives, objectives, and indicators for OHAP 2016.

In line with POHO's vision, mission and guiding principles, OHAP 2016 takes these actions:

- addressing the burden of oral disease for Albertans focusing on vulnerable groups in the population
- contributing to healthy lifestyles by addressing risk factors for oral health that arise from social, economic, environmental, and behavioural factors
- supporting the ongoing development of standardized public oral health services that equitably improve oral health
- advocating and developing oral health policies to integrate into the broader systems of social, economic and environmental determinants of health

Through leadership, POHO collaborates with government leaders, policy makers, organizations, AHS Zones and communities to successfully oversee the delivery of the OHAP 2016 initiatives and consistently utilize scientific evidence-based dentistry in its decision making.

Background

Oral health is an essential part of overall health and impacts quality of life and well-being. Access to dental care correlates directly with good oral health. The opposite is also true: lack of access to dental care results in poor oral health (CAHS, 2014). Dental care in Canada operates primarily as a private fee-for-service system. Timely access to preventive and treatment services at early stages of oral disease is critical to achieve and maintain good oral health throughout life.

Cost of care is a significant factor in accessing dental services (Health Canada, 2010). Most Canadians pay for oral health services through employment benefits or they pay for it themselves. Sixty-two per cent of Canadians have private insurance, 32% of the population has no dental insurance and 6% access the limited resources of publicly funded dental services (Health Canada, 2010). Inability to pay, lack of employment benefits, or ineligibility for public health benefits contributes to poor oral health and to an uneven distribution of disease among Canadians. This oral health inequity where low income and working poor are disadvantaged by their social economic status makes them the most vulnerable group for poor oral health. National data also reports that lower middle income families in Canada are facing economic barriers to dental care (Ramraj, Lawrence, Dempster, & Quinonez, 2013).

Improving Access to Oral Health Care for Vulnerable People Living in Canada (CAHS, 2014) identifies the following most vulnerable Canadians:

- children in low income families
- adult workers without employment-related dental insurance
- elderly people living in institutions and/or with a low income
- Aboriginal people
- refugees and immigrants
- individuals with disabilities
- people living in rural and remote regions

The oral health component of the *Canadian Health Measures Survey* identifies that the cost of care impedes access and consequently impacts the oral health status of the Canadian population. (Health Canada, 2010) The following list conveys the impact of cost on access to dental care:

- Seventeen per cent of the general population in Canada avoided going to a dental professional because of cost (Health Canada, 2010).
- Sixteen per cent of the general population in Canada avoided having the full range of recommended treatment due to the cost (Health Canada, 2010).
- Thirty-four per cent of the lowest income Canadians avoided going to a dental professional because of cost; while 9% of the highest income Canadians avoided going to a dental professional because of cost (CAHS, 2014).
- Approximately 50% of people in the lowest income group reported having no insurance (CAHS, 2014).

- Twenty-six per cent of children and adolescents without insurance avoided going to a dental professional due to cost versus 6% with dental insurance (CAHS, 2014).
- Forty-six per cent of adults without dental insurance avoided going to a dental professional due to cost versus 10% with insurance (CAHS, 2014).
- Nineteen per cent of the elderly without dental insurance avoided going to a dental professional due to cost versus 6% with insurance (CAHS, 2014).

Poor oral health throughout life can have substantial consequences affecting not only individuals, but also our society and the health-care system. For the vulnerable populations, the impact is further exacerbated by the lack of access to oral health care (CAHS, 2014). The following are some of the major impacts of poor oral health:

Health Impacts (Rowan-Legg, 2016)

- increased risk of new decay in primary and permanent dentition
- limited diet choices
- trouble eating, sleeping, and speaking
- risk of delayed physical growth and development
- aggravation of pre-existent chronic health conditions and contribution to new ones
- repeated infections and fever

Social Impacts (US Department of Health and Human Services, 2000)

- loss of school days and restricted activities
- diminished oral health related to quality of life and well-being
- embarrassment, and diminished self-esteem and sociability

Economic Impacts (CAHS, 2014)

- loss of work days
- increased treatment costs
- inappropriate utilization of non-dental health professionals and hospital facilities

Similar to the rest of Canada, poverty in Alberta directly impacts poor oral health and affects 12% of the population. Eleven per cent of children under the age of 18 live in poverty, with more than half under the age of six. A report on the needs of poor Albertans identifies that lack of access to dental care limits the ability to exercise control over one's life and secure employment (Hudson, 2014). As in other Canadian provinces, the Alberta Government provides basic oral health-care benefits for some low income Albertans and/or their dependents. Each program has eligibility criteria based on income, employment status, age, or disability (Alberta Government, 2016). Despite these initiatives, not all vulnerable Albertans are eligible for dental benefits and/or dental benefits may not meet all their needs (Hudson, 2014). Individuals who cannot access private or publicly funded oral health care rely on non-dental health professionals and hospital facilities to alleviate pain and infections associated with oral diseases (Alberta Health, 2015).

The *2015 Health Trends Alberta* report shows that dental problems not associated with trauma place an unnecessary burden on hospital emergency departments (EDs). In a five-year period, there were 37,000 ED visits in Alberta for toothaches to manage pain and infection. According to

the same report, "Each ED visit is estimated to cost the health-care system approximately $150 to $225." It indicates that the ED visits for dental problems are more common among individuals in the lowest income quintile (Alberta Health, 2015). While EDs provide temporary measures such as relief for pain and infection, they do not provide definitive dental care and fail to resolve underlying dental problems (CAHS, 2014; LaPlante, Singhal, Maund, & Quinonez, 2015).

Oral Health Action Plan

Addressing the oral health needs of Albertans has become more provincially focused with the appointment of the Provincial Dental Public Health Officer and Provincial Oral Health Manager for AHS in 2009. The establishment of these provincial leadership roles led to the Provincial Oral Health Action Plan (OHAP) 2010 framework. OHAP 2010 recommends standardized, evidence-based prevention and treatment services for children, seniors, and low income individuals across the province to address oral health inequities. In alignment with the plan, AHS Zones implement services within existing public oral health resources to achieve the OHAP 2010 objectives. The present document, *Oral Health Action Plan 2016*, updates initiatives and objectives to meet population needs and ensures sustainability. In addition, the updated plan moves forward with a comprehensive population health approach and expansion of the initiatives.

Provincial Oral Health Office

Who We Are

The Provincial Oral Health Office (POHO) is responsible to lead and facilitate initiatives to improve the oral health status of Albertans, with special attention to groups of the population that are more vulnerable. Within AHS, POHO is part of Chronic Disease Prevention and Oral Health; Healthy Living; and Population, Public and Aboriginal Health. POHO is also supported by the Council of Public Health Physicians. Overall clinical leadership and oversight of POHO is provided by the Provincial Dental Public Health Officer with support from 0.4 FTE Associate Dental Public Health Officers. Operational leadership of the provincial prevention and promotion domains within POHO is provided by the Provincial Oral Health Manager and 2.5 FTE team leads. The Manager/ Division Chief, Dental Public Health Clinics has responsibility for clinical and operations of the treatment domain of POHO. This consists of two Dental Public Health Clinics in Calgary (14.18 FTEs) and the Dental Outreach Program (three satellite clinics in the North Zone) operated by the School of Dentistry, University of Alberta.

POHO engages a variety of stakeholders within and external to AHS to implement OHAP initiatives. Standard dental prevention services are managed and delivered by AHS Zones to meet local needs including resource capacity, population distribution, and population characteristics such as culture and language. Currently, there are approximately 59 FTE Registered Dental Assistants and Dental Hygienists providing preventive services to preschool and school age children in the province. The University of Alberta is an external stakeholder delivering services through the Dental Outreach Program in three northern communities. Additional stakeholders are identified in the section "OHAP 2016 Domain Initiatives".

To achieve our vision "to improve the oral health status of Albertans," we follow our mission "to provide leadership and strategic direction to respond to Albertans' oral health needs." A set of guiding health principles is used to make decisions for OHAP initiatives and to achieve our vision and mission. Diagram 1 (pg. 10) outlines the POHO perspective.

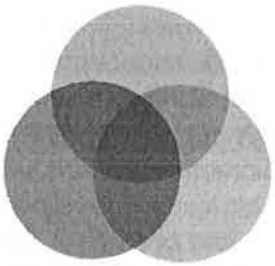
Core Functions

To achieve POHO's vision, we employ core functions that align with elements of population and public health. We use these core functions to plan and develop OHAP 2016 initiatives. These initiatives and their objectives are further strengthened by their alignment with the *AHS 2014-2017 Health Plan and Business Plan* to provide appropriate care, develop partnerships for better health, and create a sustainable public oral health-care system (Alberta Health Services, 2014). We identify seven core functions essential to addressing the oral health of Albertans:

- oral health surveillance
- evidence-based dentistry
- standardized prevention and treatment services
- strong oral health partnerships
- monitoring and evaluation of initiatives

- responding to emerging issues
- oral health advocacy

For each core function, we develop operating processes and systems for quality management. Within these systems, POHO adheres to AHS organizational values of respect, accountability, transparency, engagement, safety, learning, and performance. Table 1 outlines POHO core functions, OHAP 2016 objectives, and the AHS *Health Plan* and *Business Plan*.



VISION | MISSION | PRINCIPLES

Provincial Oral Health Office

To improve the oral health status of Albertans

To provide leadership and strategic direction to respond to Albertans' oral health needs

Every Albertan deserves good oral health as part of good health

Access to oral health care improves health, well-being, and quality of life

Partnership and collaboration create a supportive environment for oral health

Evidence-based dentistry enables a cost effective utilization of resources

Oral health standards of care ensure quality services

Leadership and communication improve capacity to meet public health needs

Diagram 1: POHO Vision, Mission and Guiding Principles

POHO Core Functions	OHAP 2016 Objectives	*AHS Health Plan and Business Plan* (Alberta Health Services, 2014)
ORAL HEALTH SURVEILLANCE EVIDENCE-BASED DENTISTRY STANDARDIZE PREVENTION AND TREATMENT SERVICES STRONG ORAL HEALTH PARTNERSHIPS MONITORING AND EVALUATION OF INITIATIVES RESPONDING TO EMERGING ISSUES ORAL HEALTH ADVOCACY	Target disadvantaged preschool children and provide the standardized provincial fluoride varnish service Provide comprehensive dental treatment to low income children and adults in Alberta without private dental insurance or government funded dental benefits Target disadvantaged school children and provide the standardized provincial fluoride varnish service Target disadvantaged school children and provide the standardized provincial dental sealant service Provide comprehensive dental treatment services to communities in northern Alberta	STRATEGY **Bringing appropriate care to the community** GOAL 1 Build a strong, integrated community and primary health care foundation to deliver appropriate, accessible, and seamless care
	Engage with internal/external partners to provide Albertans with access to oral health information Inform stakeholders about the oral health status of Albertans Support Albertans' access to fluoridated drinking water Promote measures that support improvement of oral health for seniors in care	STRATEGY **Partnering for better health outcomes** GOAL 2 Actively engage Albertans as partners and provide them with the support they need to enhance control over the factors that affect their health and the health of their families GOAL 3 Advance the adoption of evidence-informed practices in the delivery of quality services across the continuum through partnerships with providers, academic institutions, physicians, and others
	Expand the number of health-care providers and facilities receiving training for daily oral hygiene in continuing care Increase the current utilization of preventive and treatment services by target population Collect oral health information on the Alberta population to support planning, implementation, and evaluation Research oral health issues that impact the oral health status of the population	STRATEGY **Achieving health system sustainability** GOAL 4 Continue to build a sustainable, quality health system that is patient-centred, and driven by outcomes and informed by evidence

Table 1: POHO Core Functions, OHAP 2016 Objectives and AHS Health Plan and Business Plan 2014-2017

Employing a Population Health Approach in OHAP

We use a population health approach to focus on the interrelated conditions and factors that influence the oral health of Albertans, to identify systematic variations, and to utilize this subsequent knowledge for addressing oral health inequities. The Public Health Agency of Canada (PHAC) outlines eight elements of a population health approach that complement POHO core functions for developing OHAP initiatives (Public Health Agency of Canada, 2013). Through this approach, the initiatives target population groups at risk for oral disease, reducing inequities, and improving the oral health status of Albertans.

Diagram 2: Population Health Approach (Public Health Agency of Canada, 2013)

The following are eight elements of a population health approach with corresponding examples of how POHO employs each of them.

Population Health Approach	Description of Elements	POHO Examples
Focus on oral health of population	Assess oral health status and oral health status inequities over the lifespan at the population level	Provincial oral health surveillance
Address oral health determinants and their interactions	Measure and analyze the full range of factors, commonly referred to as the determinants of health, known to influence and contribute to oral health	Deprivation mapping to identify population sub-groups vulnerable to poor oral health outcomes
Base decisions on evidence	Use an approach that puts a body of information through a broad critical review process	Evidence-based standards for dental sealant services to prevent tooth decay
Increase upstream investments	Maximize impact by directing efforts and investments "upstream" to address root causes of oral health and illness	Community water fluoridation
Apply multiple interventions and strategies	Integrate multiple interventions and strategies across the oral health continuum	Preventive and treatment services Policy advocacy and development
Collaborate across sectors and levels	Share responsibility for health outcomes across multiple sectors and levels whose activities directly or indirectly impact oral health	Oversight of Dental Outreach Program through partnership with the University of Alberta and Alberta Health
Employ mechanisms for public involvement	Promote citizen participation in oral health improvement by providing public opportunities to contribute in meaningful ways to the selection of health priorities, the development of strategies, and the review of outcomes	Advocacy for community water fluoridation
Demonstrate accountability for oral health outcomes	Focus on oral health outcomes and determining the degree of change that can be attributed to interventions	Oral health dashboard Reports on Albertans' oral health

Table 2: Eight Elements of a Population Health Approach

OHAP Planning and Evaluation

POHO decision-making to plan OHAP initiatives considers the Equity Effectiveness Loop proposed by Tugwell (Tugwell, de Savigny, Hawker, & Robinson, 2006). The loop provides a framework for developing and evaluating population health interventions and policies that focus on narrowing the gap between rich and poor, using the best available evidence. This framework integrates the concepts of individual risk and socioeconomic status with intervention effectiveness from a population health perspective. The iterative loop emphasizes the importance of monitoring and re-assessing health initiatives after they are implemented to determine the impact on the burden of disease. The five steps in the loop follow a planning process cycle for development, implementation, and evaluation. Diagram 3 depicts Tugwell's Equity Effectiveness Loop (Tugwell, de Savigny, Hawker, & Robinson, 2006).

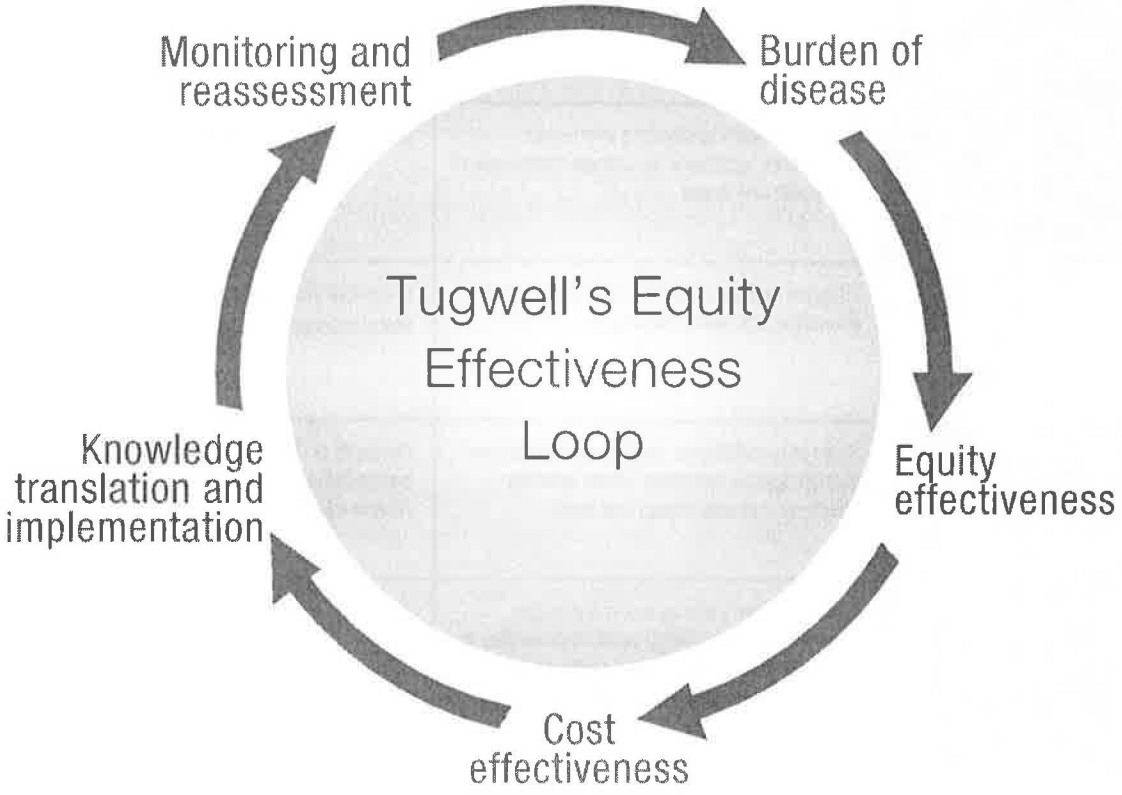


Diagram 3: Tugwell's Equity Effectiveness Loop

1. **Burden of disease:** to identify and assess possible causes of the burden of disease using oral health indicators and socioeconomic measures
2. **Community effectiveness**: to determine the benefits from an initiative once implemented in the community and estimate the reduction of the burden of diesease. The value of the initiative is influenced by the following modifiers:
    - diagnostic accuracy: accurately determining who is at risk using a population health approach
    - coverage/access: using the 5 "As" Approach: Availability, Accessibility, Affordability, Acceptability, and Accommodation
    - provider compliance: health-care providers follow standardized guidelines for service delivery
    - consumer support: consumers adopt the recommendations for oral health services. Service uptake is dependent on a consumer's time and financial resources, values, preferences, and attitudes
3. **Cost-effectiveness**: to determine the relationship between cost and effect, and ensure the initiative is delivered to those who benefit the most
4. **Knowledge translation and implementation:** to integrate evidence-based practices for feasibility, impact, and efficiency of oral health initiatives. Knowledge translation considers how oral health initiatives are affected by population characteristics, provider characteristics, context, and setting
5. **Monitoring and reassessment:** to provide ongoing monitoring of oral health initiatives using selected indicators to determine the impact and burden of disease

OHAP incorporates multiple initiatives that are progressing through different steps of the Equity Effectiveness Loop. Assessment throughout these steps informs evaluation:

- determines the need for an initiative
- determines if inputs and activities lead to expected outcomes
- identifies strengths and weaknesses for improvement
- monitors initiatives for attainment of objectives
- facilitates informed decision-making, priority setting, and resource allocation
- ensures the quality of initiatives to meet intended outcomes
- re-assesses needs and prioritizes future initiatives

Ethical Considerations in OHAP

In OHAP, we employ a population health approach to identify high risk groups in the population and standardize services to address oral health equity. The AHS policy *Appropriate Prioritization of* Access to Health guides us in ethical decision-making (Alberta Health Services, 2015). The policy outlines ethical principles for determining access to publicly funded oral health services in AHS. The principles include: moral equity, oral health equity, societal need, public confidence, transparency, and stewardship. Moral equity supports our vision that every Albertan has the right to good oral health. Oral health equity ensures vulnerable Albertans have access to oral health care. Societal need speaks to prioritizing services for high risk groups. We determine standards of care and adhere to them, ensuring public confidence and transparency for our decisions. As good stewards of public health resources, we utilize evidence-based dentistry proved to prevent and treat oral disease in populations.

Further support for ethical decisions comes from the Public Health Leadership Society Code of Ethics that guides practitioners in solving ethical dilemmas in public health practice. The ethical principles outlined in the leadership society document include the following (Public Health Leadership Society, 2002):

- protect and promote health
- address fundamental causes of health risks
- achieve community health with respect for individual rights
- provide opportunities for feedback from the community
- advocate that basic resources and conditions necessary for health are accessible to all
- collect information to implement effective policies and programs
- provide information to communities for decision-making
- act on information collected within the resources and mandate of public health
- incorporate diversity
- protect the confidentiality of information collected
- enhance physical and social environments
- ensure professional competence of employees
- engage in collaboration to build trust and effectiveness

We acknowledge practitioners are also directed by the professional codes of ethics of the Alberta Dental Association and College, the College of Registered Dental Hygienists of Alberta, and the College of Alberta Dental Assistants.

OHAP 2016 Domain Initiatives

We organize the OHAP 2016 oral health initiatives into four domains to reflect the scope of initiatives for public oral health in Alberta. The domains are: health promotion; prevention services; treatment services; and research and surveillance. Each domain is correlated to specific initiatives, objectives, and indicators for OHAP 2016, and is outlined in the following sections. The OHAP domains are depicted along with their descriptions in Diagram 4.

Health Promotion	Prevention Services	Treatment Services	Research & Surveillance
To enable people to increase control over and improve their oral health. Oral health promotion goes beyond a focus on individual behaviour to address a wide range of socioeconomic and environmental factors	To provide preventive initiatives focused on addressing oral health inequities among disadvantaged Albertans	To provide dental treatment services focused on addressing oral health inequities among disadvantaged and geographically isolated Albertans	Collecting and analyzing information to improve the oral health of individuals, communities, and populations

Diagram 4: OHAP Domains

Domain: Health Promotion

The Ottawa Charter for Health Promotion includes five action areas that guide the OHAP 2016 oral health promotion initiatives (World Health Organization, 1986).

1. building healthy public policy
2. creating supportive environments
3. strengthening community action
4. developing personal skills
5. re-orienting health services

We engage in health promotion by working collaboratively with stakeholders, influencing decision-makers, impacting health determinants, and empowering and enabling Albertans to achieve good oral health. Implementing oral health promotion initiatives occurs in a variety of ways in response to stakeholder needs. Beyond prevention and treatment services, we recognize the need for broader health promotion strategies to support Albertans' oral health.

The following tables outline OHAP 2016 health promotion initiatives:

COMMUNITY WATER FLUORIDATION

Health Promotion	Prevention Services	Treatment Services	Research & Surveillance

Support Albertans' access to fluoridated drinking water

Indicator	Percentage of Alberta population with access to fluoridated drinking water
Accountability	POHO
Stakeholders	Community leaders/members/councils Alberta health professional associations AHS Medical Officers of Health AHS Zones AHS Environmental Public Health Community Water Fluoridation Committee
Actions	Sustain the Provincial Community Water Fluoridation Committee Provide water fluoridation information to municipalities on request Maintain accurate records of population access to fluoridation Maintain information and resources on water fluoridation that are available to the professions and the public

ORAL HEALTH INFORMATION

Health Promotion	Prevention Services	Treatment Services	Research & Surveillance

Engage with internal/external partners to provide Albertans with access to oral health information

Indicator	Number of partnerships that result in the availability of oral health information	
Accountability	POHO	
Stakeholders	Alberta health professional associations AHS Comprehensive School Health AHS Environmental Public Health AHS Nutrition Services AHS Population Public and Aboriginal Health	AHS Seniors Health AHS Zones My.Health.Alberta.ca Post-secondary educational institutions
Actions	Engage in collaborative partnerships to develop and share oral health information Provide information and resources to the public	

SENIORS MOUTH CARE

Health Promotion	Prevention Services	Treatment Services	Research & Surveillance

Promote measures that support improvement of oral health for seniors in care

Indicator	Adoption of policies Inclusion of daily oral health protocols in Continuing Care Health Service Standards
Accountability	POHO AHS Seniors Health
Stakeholders	AHS Seniors Health AHS Zones Alberta Health Ministry Alberta health professional associations Alberta senior population and family members Continuing care facilities
Actions	Advocate and develop standards for oral care

REPORTING ORAL HEALTH INDICATORS

Health Promotion	Prevention Services	Treatment Services	Research & Surveillance

Inform stakeholders about the oral health status of Albertans	
Indicator	Number of stakeholders provided with information on the oral health status of Albertans
Accountability	POHO
Stakeholders	AHS professionals AHS Population Health Infrastructure and Surveillance AHS Zones Alberta health professional associations Alberta population Non-government organizations Post-secondary educational institutions
Actions	Identify oral health indicators Develop and sustain the oral health dashboard Develop the POHO annual report

Domain: Prevention Services

OHAP 2010 was the basis for Zones to implement and manage oral health prevention services using evidence-based dentistry. OHAP 2016 uses information collected during the previous phase, evaluates results and reviews resources to re-define service indicators. Services include the application of fluoride varnish and dental sealants for children to prevent tooth decay, and daily mouth care to improve the general health and well-being for seniors. The Cochrane Review provides strong evidence that supports the effectiveness of fluoride varnish to reduce decay by 37% in primary teeth and 43% in permanent teeth (Marinho, Worthington, Walsh, & Clarkson, 2013). Dental sealants are also recognized as an effective preventive intervention, reducing tooth decay by 60% in children's permanent teeth (Truman, et al., 2002).

The need to support oral health for seniors residing in continuing care facilities remains a focus in OHAP 2016. Providing daily oral hygiene care for residents has beneficial effects for their oral and overall health (CAHS, 2014). A training program for health-care workers to deliver this care is available provincially. We work collaboratively with Zones to expand the modes for training and encourage the facilities and health-care workers to participate.

The following tables outline OHAP 2016 prevention service initiatives:

PRESCHOOL FLUORIDE VARNISH

Health Promotion	**Prevention Services**	Treatment Services	Research & Surveillance

Target disadvantaged preschool children and provide the standardized provincial fluoride varnish service	
Indicator	10% to 20% of the population between the ages of 12 to 35 months receive their first fluoride varnish 55% to 75% of those enrolled in the program receive a second fluoride varnish application within the period of eligibility 30% to 50% of those enrolled in the program receive a third fluoride varnish application within the period of eligibility 20% to 40% of those enrolled in the program receive a fourth fluoride varnish application within the period of eligibility
Accountability	POHO AHS Zones
Stakeholders	AHS health professionals AHS Zones Community groups Disadvantaged Alberta families Primary Care Networks
Actions	Identify target individuals and communities Follow and adhere to the standard procedures in the *Provincial Preschool Oral Health Services Implementation Manual* Improve the completion rate of children receiving the service

SCHOOL FLUORIDE VARNISH

Health Promotion	**Prevention Services**	Treatment Services	Research & Surveillance

Target disadvantaged school children and provide the standardized provincial fluoride varnish service		
Indicator	10% to 20% of Alberta school children in kindergarten and grades 1 to 2 receive their first fluoride varnish 80% to 100% of those enrolled in the service receive two FV applications in the given school year	
Accountability	POHO AHS Zones	
Stakeholders	AHS health professionals AHS Zones Alberta Education	Disadvantaged Alberta families School administration and educators
Actions	Identify target schools Follow and adhere to the standard procedures in the *School Oral Health Services Implementation Manual* Improve the completion rate of children receiving the service	

SCHOOL DENTAL SEALANTS

Health Promotion	**Prevention Services**	Treatment Services	Research & Surveillance

Target disadvantaged school children and provide the standardized provincial dental sealant		
Indicator	85% to 100% of the students with a sealant referral plan receive all recommended sealants	
Accountability	POHO AHS Zones	
Stakeholders	AHS Zones AHS health professionals Alberta Education	Disadvantaged Alberta families School administration and educators
Actions	Identify target schools Follow the standard procedures in the *School Oral Health Services Implementation Manual* Improve the completion rate of children receiving the service	

CONTINUING CARE ORAL HEALTH STANDARD

Health Promotion	**Prevention Services**	Treatment Services	Research & Surveillance

Expand the number of facilities trained to support the Continuing Care Health Service Standards for Oral Health	
Indicator	Number of trainers trained to deliver the mouth care training Number of facilities participating in the program Number of health-care providers who received mouth care training
Accountability	AHS health professionals AHS Seniors Health AHS Zones Continuing care facilities POHO
Stakeholders	AHS health professionals AHS Seniors Health AHS Zones Continuing care facilities Residents in seniors facilities and their families Senior care providers
Actions	Follow the standard procedures in the *Mouth Care Training for Care Staff in Continuing Care, Train the Trainer Manual* Identify continuing care centres and other facilities that are eligible to receive the services

Domain: Treatment Services

Within AHS, we play an important role in addressing the need for dental treatment for underserved populations in Alberta. We oversee the provision of dental treatment through various models. One model is the Dental Public Health Clinics operating in the urban setting of Calgary. Another model is the Dental Outreach Program (DOP) operating in rural communities of northern Alberta. Both models utilize a reduced fee-for-service payment schedule. The expansion of dental public health treatment services throughout the province and among population sub-groups is critical to addressing dental health inequities and improving the oral health status of Albertans. Other models also exist as Zone initiatives.

Model 1: Dental Public Health Clinics (Calgary)

The Dental Public Health Clinics provide dental treatment for individuals that otherwise depend on the primary and acute care system for relief of pain and infection. Albertans who typically do not qualify for dental insurance or government benefits can receive comprehensive dental treatment at either the Northeast Clinic at Sunridge Medical Gallery or the Sheldon M. Chumir Health Centre. Albertans eligible for these dental services include the working poor, the unemployed, refugees, and the homeless population. In addition, dental services are provided to patients referred by the Home Parenteral Therapy Program to address their acute dental infection. Dental treatment services are provided by AHS health professionals and the clinics are open to all Albertans without geographic restrictions.

Model 2: Dental Outreach Program

The DOP provides dental treatment for individuals in remote and underserviced areas of Alberta where access to treatment is limited. Alberta Health provides funding support for the DOP while the University of Alberta is responsible for day-to-day management. POHO provides oversight for this arrangement. All members of the community can access full dental services and some specialized services such as children's dentistry. Undergraduate dental and dental hygiene students deliver supervised care for 30 weeks per year in the communities of McLennan, High Level, and La Crete.

The following tables outline OHAP 2016 treatment services initiatives:

DENTAL PUBLIC HEALTH CLINICS

Health Promotion | Prevention Services | **Treatment Services** | Research & Surveillance

Provide comprehensive dental treatment to low income children and adults in Alberta without private dental insurance or government funded dental benefits	
Indicator	Number of individuals and number of dental procedures delivered to patients annually Number of referrals received from primary and acute care sources Annual monetary value of services provided as per Alberta Blue Cross Usual and Customary Fee Schedule
Accountability	Chief of Dental Public Health Clinic POHO
Stakeholders	Alberta population Non-governmental organizations
Actions	Review and use information on client demographics and services delivered for ongoing provincial planning Identify strategies to manage increased demand for services

DENTAL OUTREACH PROGRAM

Health Promotion | Prevention Services | **Treatment Services** | Research & Surveillance

Provide comprehensive dental treatment services to communities in northern Alberta	
Indicator	Number and type of services provided
Accountability	POHO University of Alberta
Stakeholders	Alberta Health Alberta Health Services Communities of McLennan, High Level, and La Crete University of Alberta
Actions	Review the annual service report provided by the University of Alberta for the DOP to ensure contractual obligations are met

Domain: Research and Surveillance

We collect information on oral health conditions that impact the oral health, well-being, and quality of life of the population. The two major activities to achieve this initiative are research and surveillance. Health research is defined by the World Health Organization (WHO) as an instrument "to generate high quality knowledge which can be used to promote, restore, and/or maintain the health status of populations" (World Health Organization, 2001). The main objectives for the oral health research proposed by OHAP are the advancement of scientific knowledge and utilization of this knowledge to address oral health issues. Knowledge is translated to improve oral health and oral health equity. Additionally, our oral health research aims to benefit the political, administrative, social, and economic sectors in Alberta.

Surveillance, the second activity of this domain is "the ongoing systematic collection, analysis, and interpretation of outcome-specific data for planning, implementation, and evaluation of public health practice" (World Health Organization, 2016). The surveillance activities proposed by OHAP identify groups of the population at increased risk for dental diseases and ensure that our initiatives are delivered to those who need it the most to improve and protect their oral health status.

The following tables outline OHAP 2016 research and surveillance initiatives:

RESEARCH

Health Promotion	Prevention Services	Treatment Services	Research & Surveillance

Research oral health issues that impact the oral health status of the population	
Indicator	Number of research projects funded and completed
Accountability	AHS Public Health Surveillance and Infrastructure (PHSI) POHO
Stakeholders	AHS PHSI AHS Zones Alberta health professional associations Post-secondary institutions
Actions	Identify key surveillance issues to be researched Pursue opportunities for collaborative partnerships and funding

SURVEILLANCE

Health Promotion	Prevention Services	Treatment Services	Research & Surveillance

Collect oral health information on the Alberta population to support planning, implementation, and evaluation

Indicator	Number of surveillance activities completed
Accountability	AHS Public Health Surveillance and Infrastructure (PHSI) POHO
Stakeholders	AHS PHSI AHS Zones Alberta health professional associations Alberta population Post-secondary institutions
Actions	Pursue opportunities for funding and collaborative partnerships Utilize surveillance data in planning, implementing, and evaluating OHAP services Disseminate surveillance reports

Closing Remarks

In line with POHO's vision, mission, and guiding principles, OHAP 2016 establishes health promotion, prevention, treatment, research, and surveillance initiatives:

- addressing the burden of oral disease for Albertans, with a focus on vulnerable groups in the population
- contributing to healthy lifestyles by addressing risk factors for oral health that arise from social, economic, environmental, and behavioural causes
- supporting the ongoing development of standardized public oral health services that equitably improve oral health
- advocating for and developing oral health policies for integration into the broader systems of social, economic, and environmental determinants of health

Through leadership, POHO collaborates with government leaders, policy makers, organizations, AHS Zones and communities to successfully oversee the delivery of the oral health initiatives proposed by OHAP 2016 and consistently utilizes scientific evidence-based dentistry in its decision making.

Bibliography

Alberta Government. (2016). Financial support. Retrieved 2016, from Human Services: http://humanservices.alberta.ca/financial-support.html

Alberta Health. (2015). Health trends Alberta: emergency department visits for toothaches. Retrieved 2015, from Government of Alberta: http://www.health.alberta.ca/documents/HTA-2015-03-17-ED-Visits-toothaches.pdf

Alberta Health Services. (2014). Health plan and business plan 2014-2017. Retrieved from Alberta Heatlh Services: http://www.albertahealthservices.ca/about/page11983.aspx

Alberta Health Services. (2015). Appropriate prioritization of access to health services. Retrieved 2015, from Alberta Health Services: https://extranet.ahsnet.ca/teams/policydocuments/1/clp-ahs-apa-policy-1167.pdf

CAHS. (2014). Improving access to oral health care for vulnerable people living in Canada. Retrieved 2015, from Canadian Academy of Health Sciences: http://cahs-acss.ca/wp-content/uploads/2015/07/Access_to_Oral_Care_FINAL_REPORT_EN.pdf

Health Canada. (2010). Report on the findings of the oral health component of the canadian heatlh measures survey 2007-2009. Ottawa, Ontario: Minister of Health, Government of Canada.

Hudson, C. A. (2014). Poverty costs 2.5: investing in Albertans. Retrieved 2015, from Vibrant Communities Calgary: http://www.vibrantcalgary.com/vibrant-initiatives/poverty-costs/poverty-costs-25/

LaPlante, N. C., Singhal, S., Maund, J., & Quinonez, C. (2015). Visits to physicians for oral health-related complaints in Ontario, Canada. Canadian Jounal Public Health, 106(3), e127-e131. doi:http://dx.doi.org/10.17269/cjph.106.4866

Marinho, V., Worthington, H., Walsh, T., & Clarkson, J. (2013). Fluoride varnishes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews(Issue 7. Art. No.: CD002279). doi:10.1002/14651858.CD002279.pub2.

Public Health Agency of Canada. (2013). Population health approach: the organizing framework. Retrieved 2015, from Canadian Best Practice Portal: http://www.albertahealthservices.ca/about/page11983.aspx

Public Health Leadership Society. (2002). Principles of the ethical practice of public health version 2.2. Retrieved 2015, from American Public Health Association: http://www.apha.org/~/media/files/pdf/about/ethics_brochure.ashx

Ramraj, C., Lawrence, H., Dempster, L., & Quinonez, C. (2013). Is accessing dental care becoming more difficult? Evidence from Canada's middle-income population. PLoS ONE 8(2) e57377. University of Florida, USA. doi:10.1371/journal.pone.0057377

Rowan-Legg, A. (2016). Oral health care for children - a call for action. Retrieved from Canadian Paediatric Society: http://www.cps.ca/en/documents/position/oral-health-care-for-children

Truman, B., Gooch, B., Sulemana, I., Gift, H., Horowitz, A., Evans, C., . . . Carande Kulis, V. (2002). Reviews of evidence on interventions to prevent dental caries, oral and pharyngeal cancers, and sports-related craniofacial injuries. 23, 1S 21-54. American Journal of Preventive Medicine. Retrieved from www.thecommunityguide.org/oral/oral-ajpm-ev-rev.pdf

Tugwell, P., de Savigny, D., Hawker, G., & Robinson, V. (2006). Applying clinical epidemiological methods to health equity: the equity effectiveness loop. British Medical Journal, 332, 358–361. doi:http://dx.doi.org/10.1136/bmj.332.7537.358

US Department of Health and Human Services. (2000). Oral health in America: a report of the surgeon general-executive summary. Retrieved 2015, from National Institiute of Dental and Craniofaciial Research: http://nidcr.nih.gov/DataStatistics/SurgeonGeneral/Report/ExecutiveSummary.htm

World Health Organization. (1986). The Ottawa charter for health promotion. Retrieved 2015, from World Health Organization: http://www.who.int/healthpromotion/conferences/previous/ottawa/en/

World Health Organization. (2001). Health research systems analysis concepts and indicators. Retrieved from World Health Organization: http://www.who.int/rpc/health_research/concepts/en/

World Health Organization. (2016). Public health surveillance. Retrieved from World Health Organization: http://www.who.int/topics/public_health_surveillance/en/