Seniors' Oral Health
in the
Calgary Health Region

Report prepared for:

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EXECUTIVE SUMMARY

Due to the combined effects of population aging and increased average life expectancy, issues concerning older adults are assuming an increasingly important role in the planning and delivery of health care. However, one crucial aspect of health is frequently overlooked: historically, dental care has not been integrated into broad-based health promotion and prevention approaches for seniors.

Oral health is essential for overall well-being, regardless of age. It is particularly important to seniors as health issues in this group are numerous, complex and interrelated. Currently, few resources exist in the Calgary region for seniors who need or want dental care, especially for those who are living in poverty, homebound, dealing with multiple systemic health problems, or residents of care facilities. Without a plan in place to address these gaps in services, needs will continue to go unmet, and the problem can only get bigger as projected numbers in this population segment increase. In March 2002, there were over 89,200 individuals aged 65 years and older living in the region. This number is expected to increase to over 127,300 by 2012, and 154,700 by 2016. There were over 4,100 residents aged 65 and older living in assisted living facilities and care centres as of December 2001. Recognizing the growing need for an evidence-based, comprehensive approach to this issue in Calgary, Community Oral Health commissioned a report on Seniors' Oral Health.

The goal of this report is to propose a realistic plan for ensuring that Calgary region seniors, living at home or in care facilities, will be able to maintain their oral health. To accomplish this goal, a systematic review of seniors' oral health literature and best practices was completed. Interviews were conducted with key informants working in the area of seniors' oral health throughout Canada and the US to identify evidence-based practices. Interviews were also conducted with Calgary seniors, dental professionals and health professionals to determine needs and service gaps in current regional programs. From the information gathered, an action plan was developed, one that seeks to ensure that Calgary Health Region seniors will be able to maintain oral health throughout their life span.

This report is divided into five sections and includes the necessary information needed to make decisions concerning the future of seniors' oral health in the Calgary Health Region. Each section is summarized below:

I. Literature Review

Definition of Issue

The first section of the report defines the issue. The literature states that definitions of health and oral health have broadened in recent years to include issues of comfort, quality of life, and the ability to be a productive member of society. In addition, the terms oral health and general health should not be interpreted as separate entities. Researchers have suggested that because oral health is integral to general health and well-being, oral health care should be recognized as part of primary health care.

The effects of oral health problems are not limited solely to the mouth; they can profoundly affect general and systemic health as well. Poor oral health, particularly poor periodontal health, has been found to be a risk factor for heart disease, stroke, diabetes, chronic respiratory disease and aspiration pneumonia.

Complicating the issue of oral health care delivery for seniors is the fact that the elderly encompass a large and diverse group of individuals, and cannot effectively be considered a single cohort. Different age cohorts represent different dental expectations and experiences. Independent, frail, and functionally dependent elders seeking dental care also vary greatly in terms of their physical abilities, medical conditions, mental status, and social environment.

Oral Health Problems in the Aging Population

Dental diseases and treatment needs continue throughout the life span of the elderly living at home and in facilities. As each cohort maintains more teeth, there will be more teeth at risk, and presumably more persons will have dental problems as they age. Most elderly exhibit some degree of oral disease. However, the problems experienced by many seniors are preventable.

Oral disorders can also impact many aspects of psychological and social well-being. The effects of oral disorders on quality of life include pain, poor oral and facial esthetics, impairments to eating, chewing, and speaking, and a decreased desire to interact socially. Loss of oral function may limit food choices and detract from the pleasure of eating. Oral problems such as dental decay, periodontal diseases, xerostomia and edentulousness may lead seniors to restrict social contact, thus compromising quality of life. Older adults, whose quality of life may already be diminished due to cognitive and functional loss, may also be suffering unnecessarily from untreated oral disease.

Dental Service Utilization

Traditionally, utilization of dental services among the elderly has been reportedly very low, mostly because there have been relatively few people in that age group who have retained natural teeth. While elders used to be stereotyped as denture wearers who sought dental care infrequently, this is changing. The “new” elderly, aged 65 and older, are different from previous cohorts in that they are better educated, have had higher earning capacities, and have more discretionary income. This generation places a high value on preventive oral health care treatment, and will expect the same level of oral

care as they age. The availability of dental insurance, coupled with preventive philosophies has also increased dental utilization. The baby boomers will expect even more services. This suggests that each cohort will maintain more teeth, so there will be more teeth at risk and presumably more persons will have dental problems as they age. At the same time, they will have a greater personal awareness of the need for oral health care. With the expected trend toward retaining more natural dentition into old age and increased utilization of dental services, future frail and functionally dependent elderly will require improved access to oral care services.

Barriers to Dental Care

In contrast to baby boomers' expectations, many seniors today do not have a high level of oral health knowledge. Consequently they undervalue the importance of oral heath and its relationship to general health. The most common reason for not seeking dental care by independent, frail and functionally dependent, and institutionalized older adults is their lack of perceived need for dental services. This lack of perceived need has been shown to be an even greater barrier to dental care than financial cost. Poor access to oral care services and poor health in old age pose additional barriers for some seniors. Caregivers, family and health professionals reported similar barriers but differed regarding the order of significance of each of the barriers.

II. Best Practices Review

The second section of the report reviews seniors' oral health assessment and outcome research, oral health strategies, best practices of Canadian and US programs and key informant recommendations.

Assessment and Outcome Research

Dentistry has lacked appropriate measures of health outcomes for the evaluation of oral care and health promotion programs. Measurements in dentistry are mainly confined to clinical indicators of the presence and severity of oral disease. Researchers have argued that a new model for measuring oral health status is needed, one that is comprehensive and considers health rather than disease. Over the last twenty years, research has been conducted to develop oral health assessment tools and outcome measures to determine effective oral health programs and services. Findings indicate that the new measurements are potentially useful but require additional testing. There continues to be a lack of universally accepted measurements in seniors' oral health programs and future research is required.

Regulatory Issues

- **Nursing Home Regulations**

The US is well ahead of Canada in setting objectives for dental care and in legislating the provision of oral health services in nursing homes, both of which occurred because of concern about the quality of care in US nursing homes. By establishing detailed oral care regulations, minimum guidelines and standards are created for care facilities.

These auditable standards promote improved quality of care and facilitate the identification of problem areas.

In Canada, the regulation of nursing homes is governed by provincial legislation. British Columbia, Saskatchewan and Ontario are the only provinces that have oral health regulations that govern licensed long-term care facilities. British Columbia has the most extensive and detailed oral health requirements in place to promote improved quality of care. The commitment of the BC long-term care facilities, concerning their residents' oral care, appears to be related to enforcement of these regulations.

- **Dental Hygiene Regulations**

Dental hygiene regulations vary by state and province. In most provinces dental hygiene regulations do not allow dental hygienists to provide dental treatment without the supervision of a dentist. There is a severe shortage of dental health professionals serving individuals who are homebound or living in care facilities. Reducing regulatory barriers for dental hygienists in provinces such as British Columbia, Saskatchewan and Ontario has been shown to improve access to dental services for a segment of the population that cannot access traditional dental treatment.

Review of Seniors' Oral Health Programs and Initiatives

Interviews were conducted across Canada and the United States with program coordinators, researchers, executive directors of professional bodies, educators, health professionals, dental hygienists and dentists who are all working in the area of seniors' oral health. In an attempt to obtain best practices information, a review of seniors' oral health models, strategies and programs from various provinces and states were gathered, including detailed information on:

- program description
- program funding
- program staff, and
- program evaluation/statistics.

The best practices review helped to determine that:

- no evidence-based seniors' oral health model exists in Canada or the US
- no universally accepted seniors' oral health outcome measures exist
- limited evaluation data of seniors' oral health programs is available

Key informants recommended that the following components be included in a seniors' oral health program:

- a standardized oral health assessment tool and oral care standards
- a formalized routine for periodic oral health assessments
- education for seniors and their families, health professionals and caregivers concerning the importance of mouth care to health and well-being in general
- training for care facility staff to provide daily oral hygiene for residents
- easy access to dentists, dental hygienists and denturists for residents and homebound seniors' dental treatment needs

III. Status Quo in Calgary Health Region

The third section of the report details seniors' population data, seniors' health programs, senior oral health programs and dental benefit coverage in the Calgary region.

Demographic Trends

Over the last quarter of a century, the proportion of seniors increased significantly. Seniors aged 85 and over represent the fastest growing segment of the senior population. By 2002 there will be approximately 9,220 seniors over the age of 85 in the Calgary Health Region. This number is estimated to rise to over 18,290 by 2,016—a cumulative increase of 98%.

The aging of the population will accelerate as the baby boomers begin to turn 65. This accelerated growth is expected to continue until approximately 2030 when the last of the baby boomers become seniors.

Calgary Health Region Continuing Care Programs

The Calgary Health Region provides seniors who have health conditions or disabilities with access to services they need to experience independence and quality living. This includes professional, personal care, and a range of services provided for the short or long term. The Calgary Health Region provides these services in and through a variety of settings and programs, including:

- Seniors Resource Nurse Program
- Home Care
- Specialized Geriatric Services
- Assisted Living Facilities
- Care Centres

There is no formalized oral health component in any of the seniors' health programs that were reviewed. Oral health assessments are not routinely included in the general health assessments, and no clinical oral health data has been collected in these programs.

Seniors' Dental Programs

Seniors' access to comprehensive oral health care varies depending on one's living situation and financial resources.

- **Care Centres**

The Dental Outreach Program of the Division of Dentistry & Oral Medicine at the Foothills Medical Centre offers comprehensive oral health care to twenty-one care facilities in the Calgary Health Region. The services provided are oral assessments, mouthcare inservices to staff at the care centre and fee-for-service dental treatment at the Oral Medicine Dental Clinic. A private practice dentist offers similar care to three additional care centres. There are seven new or expanding care centres that will require oral health services in the near future.

The Dental Outreach Program provides oral health assessment information to the twenty-one care facilities and family members, but a database has not been complied or analyzed. Similarly there is no data complied for the three care centres that are served by a private practice dentist.

- **Community**

Three dental hygienists (1.0 FTE) from Community Oral Health Services are available to provide oral health information to Home Care staff and Seniors Resource Nurses. Referrals for dental treatment are made over the telephone if necessary. In the Calgary Region there are no dental treatment programs targeted for homebound or low-income seniors.

Calgary private practice dentists offer comprehensive dental services to seniors on a fee-for-service basis in their dental clinics.

Alberta Senior Dental Coverage

As of March 31, 2002, the Alberta Extended Health Benefits Program, which covered a portion of denture and dental costs for all seniors in Alberta, ended. To replace this program, two programs were established:

- Alberta Seniors Benefit Program
- Alberta Special Needs Assistance for Seniors

With the changes to the Extended Health Benefits Program, seniors who have been turned down by the Alberta Seniors Benefit program and Special Needs Assistance for Seniors program will be considered for eligibility in the Calgary Health Region dental treatment clinics (restricted to poverty-line clients).

IV. Needs Assessment: Calgary Health Region

The fourth section summarizes available seniors' oral health data, as well as interviews with health professionals, caregivers, and seniors in Calgary. A listing of regional oral health needs and recommendations are drawn from these findings.

Quantitative Oral Health Data

In the last few years there has been substantial information collected on Alberta seniors' health views and issues. In 1999 a long-term care review was conducted by Alberta Health and Wellness and recommendations were made. Building on this review, *Alberta's Healthy Aging and Seniors Wellness Strategy* 2002-2012 developed a framework that represented four goals for healthy aging. The Calgary Health Region used this framework to develop a *Healthy Aging Ten Year Strategic Service Plan* which includes an action plan for oral health. A key strategy of the oral health plan is to collect baseline oral health data for seniors. The Calgary Health Region has very limited data on the current status of seniors' oral health. The last comprehensive oral health survey was conducted over twenty years ago. At that time, high unmet dental needs among residents of long-term care facilities were reported, with 81% requiring some dental

treatment. New data is required to assess current needs and address gaps in service delivery.

Telephone and in-person interviews were conducted with Calgary dental health professionals, health professionals, seniors and caregivers for this report. An interview guide was used during the interviews and modified for each group. Problems, barriers and recommendations were recorded and categorized according to similar responses for each group.

The recommendations of the Calgary dental and health professionals, seniors and caregivers were no different from the targeted interview responses from across Canada and United States. The same four themes emerged:

1. Education and information is needed for seniors, health professionals, caregivers and policy-makers about oral health and the relationship of the mouth to the rest of the body.

2. Oral health assessments should be part of the general health assessment in Senior Programs.

3. Oral care standards should be developed for Calgary Health Region residents in care facilities.

4. A targeted dental treatment program is needed for at-risk low-income seniors.

In response to the question, “If the Region could do something to help seniors meet their oral health needs, what would it be?”, all three groups responded with a similar comment: “The Region needs to identify seniors’ oral health problems, then provide education and treatment to solve the problems. Identifying the problems is not enough.”

V. Recommendations

Most people have good access to dental care for much of their lives, and it is not acceptable that their oral health is at risk once they enter their senior years – especially since neglect can quickly lead to serious consequences.

Seniors’ oral health issues are numerous, complex, and interrelated with overall health, so a comprehensive, integrated approach is needed. Unfortunately, no evidence-based model exists: findings from the best practices review of Canadian and US programs indicate a lack of measurement and evaluation in this area.

This report uses the next best approach: integrating information in literature with knowledge of the needs and service gaps in the community to develop the following action plan. It should ensure that Calgary Health Region seniors will be able to maintain their oral health throughout their life spans:

Action Plan

1. **Initiate accord across all Regional programs:**
   a. Oral care is an essential element of primary care and integral to the general health and well-being of older adults
   b. Include oral health in seniors' general health assessments
   c. Collect oral health assessment information.

2. **Use health promotion strategies to generate awareness and action by stakeholders (and the community at large).**
   a. Raise oral health issue awareness among seniors, professionals, policy-makers, health care personnel, the public (2003; ongoing)
   b. Improve oral health knowledge among Regional health care providers (2003; ongoing)
   c. Develop partnerships in the seniors' community to generate and leverage oral health promotion (2003; ongoing)

3. **Identify gaps and priorities**
   a. Review current Regional programs (2004)
   b. Review current knowledge, attitudes and practices by care facility staff (2004)
   c. Develop standards and outcomes for regional care facilities (2004)
   d. Develop a continuing education plan that will outline resources and opportunities for Regional dental staff training in the management of the oral care needs of the elderly (2004)
   e. Convene focus groups to identify seniors' oral health needs & priorities (2004)
   f. Convene representatives of dental health professionals who currently provide seniors' oral health services in the Calgary Health Region (2004)
   g. Prepare report identifying seniors' oral health needs and priorities for change to assist with future program planning (2005).

4. **Generate innovative strategies**
   a. Develop innovative pilot project(s) to address seniors' needs and priorities (2004)
   b. Devise a method for better communication and cooperation between individuals and agencies interested in seniors' oral health (2004)
   c. Create a presentation or publish a report about the methodologies for improving seniors' oral health care in order to improve dissemination and the sharing of information (2005)
   d. Evaluate pilot projects and initiatives to determine impact on seniors' oral health and to assist in resource allocation decisions (2005)

5. **Advocate for change**
   a. Advocate for provincial standards for care facilities (2004)
   b. Advocate revised provincial regulations for Dental Hygienists (2004)
   c. Advocate for all students in health professions to receive course work on oral health needs of the older adults. Dental and health care professionals and

educators should discuss how best to incorporate geriatric oral health content into their curriculum and practices.

Vision for the Future

A new approach to seniors' oral health care is required. Maintaining the status quo is not a viable option; it does not meet the needs of Calgary's seniors today, and is incapable of adequately serving the needs of the baby boomers who will be the next generation of aging Calgarians.

For changes to occur, the province, the region, the dental health profession and the community need to be responsible for specific outcomes. At the same time however, they must work in partnership to generate the solutions needed to support the oral health of seniors in Calgary.

In an ideal future:

- There is stakeholder and public awareness of the importance and implications of good oral health for seniors.
- The service delivery system offers oral health care to older adults in various living situations.
- Oral care programs are sensitive to the concerns of the elderly and reflect the diversity of their financial, physical and mental conditions.
- Financial and physical barriers to care are eliminated

No single, simple, strategy will generate such satisfying outcomes. Creating such a future will require effort, perseverance, resources and changes in attitude.

1.0 INTRODUCTION

1.1 Overview

Oral health is essential for overall well-being, regardless of age. There are several vulnerable population groups with poor access to oral health services. The result is unmet basic needs and poor oral health. This report considers one such group: seniors in the Calgary Health Region.

The Canadian population is aging and the average life expectancy is also rising. Seniors are one of the fastest-growing population groups in Canada. The rapid growth in the size of the senior population is also expected to continue well in the future, particularly when those born during the baby boom years from 1946 to 1965 begin turning 65 early in the second decade of the twenty-first century.[1] In Canada, 13% of the population is over 65 years of age.[2] By the year 2036, the elderly will represent over 23% of the population.[2] The sharpest growth in the seniors' population has been the 85-year-olds and over group. It is estimated that this group will increase by 79% between 2001 and 2006.[2] The growth in the size of the population in the oldest age categories is significant because people in this age range generally have greater needs than younger seniors for such things as social support and health care.[1]

Due to the combined effects of population aging and increased average life expectancy, issues concerning older adults are assuming an increasingly important role in the planning and delivery of health care.[3] In discussions about health care services, dental care is often overlooked or directed primarily towards the young. However, researchers, dental health experts, and professionals in the fields of health promotion and aging are now focusing attention on the oral health needs of the expanding older adult population.

There are few resources in the Calgary region for seniors who need or want dental care, especially for those who are living in poverty, homebound, dealing with multiple systemic health problems, or residents of care facilities. In addition, the issues around seniors' oral health are numerous, complex and interrelated with overall health. For these reasons, Community Oral Health has commissioned a report on Seniors' Oral Health.

The goal of this report is to propose a realistic plan for ensuring that Calgary region seniors, living at home or in care facilities, will be able to maintain their oral health. The first section of the report includes an extensive literature review that defines the issue and describes the oral health status and barriers to care of various cohorts of older adults. The second section outlines seniors' oral health strategies and best practices from other jurisdictions. The third section of the report details seniors' population data, senior oral health programs and dental benefit coverage in the Calgary region. The fourth section summarizes interview results that suggest regional oral health needs and recommendations. The last section of the report makes recommendations for seniors' oral health that will assist in developing policies and strategies for sustainable oral care for seniors in the Calgary Health Region.

2.0 DEFINITION OF ISSUE

Oral health means much more than healthy teeth. The word oral refers to the mouth. The mouth includes not only the teeth and gums and their supporting connective tissues, ligaments, and bone, but also the hard and soft plate, the soft mucosal tissue lining of the mouth and throat, the tongue, the lips, the salivary gland, the chewing muscles, and the upper and lower jaws, and the temporomandibular joints.[4] Equally important are the branches of the nervous, immune, and vascular systems that protect and nourish the oral tissues, as well as provide the connections to the brain and the rest of the body.[4]

2.1 Health and Oral Health

Concepts and definitions of health have broadened in recent years. The World Health Organization (WHO) expanded the definition of health to "a state of complete physical, mental and social well-being, and not only the absence of infirmity."[5] No longer is the absence of disease equated with a healthy state. Issues of comfort, quality of life, and the ability to be a productive member of society all contribute towards to the concept of health.[5]

Just as the definition of health has broadened, so has the definition of oral health. In the 2000 Report of the Surgeon General, oral health is described as "being free of chronic oral-facial pain conditions, oral and pharyngeal cancers, oral soft tissue lesions and other disorders that affect the oral, dental and craniofacial tissues."[4] These are tissues that allow us to speak and smile, sigh and kiss; smell, taste, touch, chew and swallow; cry and convey emotions through facial expressions.[4]

A minimal definition of oral health for older adult populations has been published as "a comfortable and functional dentition that allows a patient to continue in his/her desired social role. "[6] This patient-centered definition of health diverges from the disease-centered epidemiologic measures of health and outcomes traditionally used in dentistry, but is widely used in medicine.[6]

In 2001 the Canadian Dental Association (CDA) defined oral health as "a state of the oral and related tissues and structures that contributes positively to physical, mental and social well-being and the enjoyment of life's possibilities, by allowing the individual to speak, eat and socialize unhindered by pain, discomfort or embarrassment."[7] The CDA's definition is modeled, in part, on the WHO's definition of health.

The terms oral health and general health should not be interpreted as separate entities. Researchers have suggested that because oral health is an integral component to general health and well-being, oral health care should be recognized as part of primary health care.[6,8] The effects of oral health problems are not limited solely to the mouth; they can profoundly affect general health as well. Oral infections can influence systemic health. Poor oral health, particularly poor periodontal health, has been found to be a risk

factor for heart disease, stroke, diabetes, chronic respiratory disease and aspiration pneumonia.[9]

The oral cavity often mirrors the rest of the body, exhibiting signs and symptoms of more serous health problems.[10] During an oral examination oral health professionals are often the first to detect changes in the mouth which may be indications of nutritional deficiencies as well as a number of systemic diseases, including microbial infections, immune disorders, injuries and some cancers. [4,9]

Poor oral health can also hamper one's ability to live without pain, comfortably and efficiently masticate food, maintain a favourable self-image, and be reasonably content with one's personal appearance.[6] Oral health is crucial to an individual's quality of life.

2.2 Aging

While aging has been defined chronologically,[11,12] this taxonomy can be limited due to the great variability in physical, medical and mental health status among people over the age of 65. Many feel it is more appropriate to discuss the health needs of older adults according to their health and functional status, rather than by their age. The Bureau of Health Professions defined elderly as "a population with health care conditions and needs which differ significantly from those of younger people, which are often complicated by the physical, behavioral, and social changes associated with aging." [6] This would include all persons over 60, but may include slightly younger people who are subject to similar physical and/or mental conditions. Older adults have also been classified as being independent, frail or functionally dependent.

Dolan and Atchison define independent older adults as "those who reside in the community and receive little or no formal or informal assistance in their necessary activities of daily living, such as feeding themselves, dressing or toileting." [6] These individuals access dental care as would younger individuals. The frail elderly have chronic, debilitating physical, medical and emotional problems and are able to maintain some independence in the community only with continued assistance from others. The functionally dependent are so impaired that they are unable to maintain their independence. [6]

Health status is dynamic, so individuals may be independent at one point in time, and then become frail or functionally dependent after suffering an acute ailment or the exacerbation of a chronic condition. Likewise, elders can recover from acute illnesses to regain their independence. [6]

WHO has defined aging as "the process of progressive change in the biological, psychological and social structure of individuals." [13] Aging is a life-long process, which begins before we are born and continues throughout life. The functional capacity of our biological systems increases during the first years of life, reaches its peak in early adulthood and naturally declines thereafter. The slope of decline is largely determined by external factors throughout the life course. This is captured in the WHO's conceptual

framework called "the life-course perspective of aging." [13] This conceptual approach identifies new opportunities, as people are able to influence how they age by adopting healthier lifestyles and by adapting to age-associated changes. In a supportive environment, an individual who has experienced substantial loss in any given functional capacity may continue to live independently while another, with the same degree of functional loss in a less supportive environment will experience loss of independence.[13]

In gerontological research there has been a shift from viewing aging as a period of loss and decline in all organ systems and functions to one of continued growth and psychological self-actualization. Most recently the concept of successful aging has been described in *Alberta's Healthy Aging and Seniors Wellness Strategy 2002-2012.*[14] The document states that "healthy aging is more than medical aspects of aging or the medical focus of health promotion and disease prevention. Healthy aging is about taking a holistic view of health, addressing the physical, mental, social and spiritual needs experienced by all individuals. Healthy aging addresses both the medical/ physical and social/mental aspects of aging and supports the premise that optimal health and enriched living can be experienced regardless of one's age." [14]

2.3 Aging and Chronic Health Conditions

With increasing age, the incidence of chronic mental and physical diseases increases. The elderly, and in particular the disabled elderly, are at high risk for general health problems. Institutionalized older adults have an average of 3.3 chronic conditions per person.[4] Oral infections resulting from tooth decay or periodontal disease can trigger medical complications.

In the United States, 34% of adults aged 65-74 years and 45% of the adults aged 75 years and older report some limitation in activities because of chronic health conditions.[15] The most common chronic health conditions among adults older than 70 years are arthritis, high blood pressure and heart disease. More than half of these adults suffer from arthritis, 45% hypertension, and 21% heart disease.[15] Memory impairment affects only 4% of the adults between 65 and 69 years, but this number increases to 36% for those aged 85 years and older.[15] Impaired manual dexterity from arthritis and stroke can impact on the ability to provide adequate oral hygiene for oneself, as can cognitive deterioration.
About 69% of adults aged 65 years and older take some type of prescription medication regularly, and taking an average of 2.4 prescription mediations per day.[15] From a dental perspective, these medications not only increase the risk of an inadvertent reaction to dental anaesthesia, they can also affect oral tissues. Gingival hypertrophy (enlargement or overgrowths of the gum tissue) and xerostomia (dry mouth) are common oral side effects of medications taken by older adults.

2.4 Oral Health Problems in the Aging Population

Oral health problems are not a normal part of aging but may become an issue for the elderly.[11] Impaired manual dexterity combined with cognitive deterioration makes it

difficult for some older adults to manage their own daily oral hygiene. This is commonly seen in residents of long term care facilities and frail dependent elderly living in the community. In an Iowa nursing home study, 57% of participants required direct oral hygiene assistance.[16] These elderly must rely on nurses' aides or other caregivers for their daily oral care.

Poor oral hygiene has been found in most dependent elderly receiving home support services and residents living in care facilities.[17,18] This may lead to dental decay, periodontal disease and tooth loss. In addition, poor oral hygiene increases exposure to microorganisms found in the oral cavity and in combination with reduced host defense mechanism, the elderly could be susceptible to increased incidence of systemic infections and risk of major medical disorders.

Oral disorders can also impact many aspects of psychological and social well-being. The effects of oral disorders on quality of life include pain, poor oral and facial esthetics, impairments to eating, chewing, and speaking, and a decreased desire to interact socially. Loss of oral function may limit food choices and detract from pleasures of eating. Oral problems such as dental decay, periodontal diseases, xerostomia and edentulousness may lead seniors to restrict social contacts, compromise quality of life and result in poor nutrition. Older adults, whose quality of life is already diminished due to cognitive and functional loss, may also suffer unnecessarily from untreated oral disease.[9]

Poor oral hygiene practices in the aging population are associated with the following oral health problems and related systemic disorders and conditions:

- tooth loss
- xerostomia
- dental caries
- periodontal diseases
- oral cancer
- inadequate nutrition

Findings from the literature review are presented below.

2.4.1 Tooth Loss

In the dental literature, the aging population is commonly categorized according to whether an individual is dentate or edentulous (loss of all teeth) rather than by his/her chronological age or health status.

Historically, tooth loss increased with age, but it is not due to aging.[11] As a result of a more preventive approach to oral health by the dental profession and the benefits of fluoridation, the proportion of older adults who lost all of their teeth has declined.[19] Rates of edentulism in the literature vary depending on the age of the subjects and living situation. The highest rates of edentulism are usually found in long-term care facilities (50% to 77%).[20] In United States, the total tooth loss among persons 65 years

of age and over in noninstitutionalized populations has decreased by 23% from 1983 to 1993.[21] Studies of edentulism rates for seniors have ranged from 32% for those aged 65-69 to 49% for those over age 80.[6] In a study of four Ontario communities of independently living adults aged 50 to 64,16.8% were edentulous; adults aged 65-74, 30.2% were edentulous and 75 years and older, 40.8% had lost all their teeth.[22] Similar results were reported in a Winnipeg study of older adults living in seniors' housing centres—where 40% of the seniors were edentulous, mostly those aged between 80 – 89 years.[23]

Several studies attribute edentulism to cohort phenomenon rather than aging. Older age groups have had poor access to dental services and less sophisticated treatment than younger age groups, presumably resulting in greater tooth loss and edentulism.[6] Studies have shown that edentulism is associated with populations that are disadvantaged, low income,[6,9] uninsured,[9,22] and less educated.[6]

As the numbers of dentate elderly begin to rise, this paradox will be apparent: benefit of wide-spread retention of natural teeth, and burden of their daily care, disease and management.[24]

2.4.2 Xerostomia

Studies have shown that decreased saliva is not a normal aspect of the aging process.[25] Xerostomia or dryness of the mouth is frequently due to side effects of medications, systemic diseases such as diabetes and Sjogren's Syndrome, or salivary gland damage from head and neck radiation.[11,25]

Saliva is extremely important for maintaining oral health and also affects quality of life and comfort. Its functions include lubrication, buffering of acids produced by oral bacteria, remineralization of tooth surfaces and antibacterial action.[25] The reduction of saliva can produce drastic compromises in oral health and can predispose the elderly to the following clinical signs and symptoms:[11,25]

- profound problems with denture wearing
- difficulty speaking, eating and swallowing
- a burning sensation of the tongue
- abnormal taste
- rampant root decay

The most common cause of a dry mouth is from medications. At least 400 common prescription drugs, including drugs for high blood pressure, antidepressants, and antihistamines, produce dry mouth as a side effect.[11] In a recent study of elderly living in Vancouver area long-term care facilities, 78% of residents taking medications had xerostomic side effects.[26] These results were similar to other published studies.[26]

2.4.3 Dental Caries

Seniors with natural teeth are at risk for dental caries (tooth decay). Studies have demonstrated that the rate of dental decay of older adults ranged from 76% to over 95%.[6,26,27] Dental caries are caused by bacteria found in the oral cavity combining with carbohydrates (sugar and starches) from the diet, which produces acid. This acid then dissolves the tooth enamel causing decay. The public's perception that tooth decay is a disease of children and not of older adults is not supported by the literature.[28] Tooth decay can occur throughout life on healthy teeth, around old fillings or along root surfaces. The type and distribution of caries in older adults differs from that of younger adults and children. Older adults with exposed root surfaces due to recession and periodontal disease may be at risk for developing root surface caries. A noticeable increase in dental caries may also occur because of xerostomia. When left untreated, dental caries can cause a toothache or infection, and may eventually result in tooth loss.

Studies have shown that dental diseases and treatment needs continue throughout the life span of all seniors.[17,29] An Ontario study of nursing home residents and independently living elderly aged 85 years showed high levels of unmet dental needs. Of dentate subjects, over 60% had untreated tooth decay regardless of place of residence and 47% of nursing home residents had untreated root decay.[30] Similar studies investigating the oral health needs of the functionally dependent elderly also reported poor oral hygiene and a high need for restorative care.[17]

Prevention of dental decay among institutionalized elders has been shown to be far more cost-effective than the provision of dental treatment.[19] Preventive measures suggested to control caries and possible subsequent tooth loss in older adults include diet modification, tooth brushing, flossing and fluoride therapies.[19]

2.4.4 Periodontal Diseases

Periodontal diseases are chronic infections of the supporting structures of the teeth. They are caused by bacteria that elicit an inflammatory and immune response in the periodontal tissues. Significant entry of microorganisms into the blood stream is directly related to the severity of gingival inflammation.[9] The increased prevalence and severity of periodontal disease in older adults does not appear to be the result of increased susceptibility because of aging, but rather the cumulative effects of long-standing, undiagnosed, untreated, or neglected chronic infection, which may have had its origin in childhood.[11,28] Preventive measures throughout a lifetime can reduce or control dental disease in the elderly. The primary method of preventing periodontal disease is daily brushing and flossing to remove plaque, augmented by preventive oral health care provided by dental health professionals.

U.S. data indicates that severe periodontal disease affects almost one in three elderly.[9] Periodontal infections have been identified as having an adverse effect on systemic health[9,31] and have been reported to increase the risk of the following major medical disorders in the elderly:

- **Heart Disease and Stroke:**

Studies have suggested that periodontal disease is linked to both heart disease and stroke.[4,9,31] The risk of cardiovascular disease increases with the severity of the periodontal disease.[9] Investigators found in a longitudinal study that veterans with periodontal disease were 1.9 times more likely to develop fatal coronary heart disease than the control group.[9] In a study of 10,000 subjects, individuals with periodontal disease had twice the risk of stroke than individuals with good oral hygiene.[4] Preventing periodontal disease is particularly relevant because cardiovascular disease is one of the major causes of death among the elderly population.[32]

- **Pneumonia:**

Bacterial pneumonia is a common infection and a significant cause of morbidity and mortality, especially in the elderly. Poor oral health strongly correlates with increased risk of developing aspiration pneumonia.[9,33] Aspiration of oropharyngeal and periodontal pathogens from the oral cavity into the lower respiratory tract is the dominant cause of nursing home-acquired pneumonia[33] and accounts for the majority of admissions to hospitals from nursing homes.[9] Research has shown that daily oral hygiene practices and regular dental care is a cost-effective means for minimizing morbidity of oral infections and their nonoral sequelae.[33]

- **Diabetes:**

Diabetes is also one of the major causes of death among the elderly population. There are several reports in the literature on the interaction between periodontal disease and diabetes.[9,31] Diabetes influences the status of the oral cavity and is associated with increased occurrence and progression of periodontal disease due to lower resistance to infection and delayed healing. The presence of moderate to advanced periodontal disease is felt to directly influence a reduced glycemic control in diabetics.[31] Evidence has been reported to support recommending oral care regimens in protocols for managing diabetics' poor glycemic control.[31]

2.4.5 Oral Cancer

Oral cancer is a disease of older age, with age as the highest risk factor.[28] Oral cancer, which includes lip, oral cavity, and pharynx cancer, is of particular concern for persons 65 years of age and older because they are seven times likely to be diagnosed with oral cancer than persons under 65 years of age.[32] The estimated incidence of oral cancer in Canada was 3,090 cases in 1996; the estimated number of deaths from oral cancers was 1,070 (1.7% of all cancer deaths).[9] In Alberta there were 188 cases of oral cancer diagnosed in 1998.[34] Five-year survival rates for oral cancer are often 50% or lower.[9] As with other cancers, survival improves when the cancer is diagnosed at an early stage rather than at a later more advanced stage. Because people with an early stage

of oral cancer rarely have pain or other symptoms, detecting an early oral cancer is primarily dependent upon the clinician providing a comprehensive oral cancer examination.[34] Extraoral and intraoral examinations are routinely completed by dental health professionals.

Approximately 75% of all oral cancers are due to tobacco use, alcohol or both. Other risk factors include older age, exposure to sunlight and chronic inflammation. [9] Oral cancer and its treatment lead to impaired function, pain and disfigurement. The financial burden imposed by the disease is high since rehabilitation and prosthetic replacement are often necessary.

2.4.6 Inadequate Nutrition

Oral diseases have been associated with poor nutrition and general health problems. Poor oral health and the loss of teeth in the elderly result in a reduction in chewing efficiency.[35] As the ability to chew declines, dietary preferences that require less mastication are selected. A British study also found that intakes of essential nutrients including protein, calcium, iron, and vitamin C were lower in people with no natural teeth compared with those retaining a least some of their teeth.[35] This can result in changes in quality, consistency and balance of diet.[4,9] As a consequence it is estimated that between 5 to 10% of community dwelling elderly and 30 to 60% of homebound and institutionalized elderly are malnourished. [4,9]

In a 1995 US National Nursing Home Survey of over 8,000 residents, 41% reported difficulty chewing and biting all types of foods.[36] This loss of function was associated with increased need for assistance. Residents who had difficulty biting and chewing were more likely to need assistance with eating (66%) than those without problems (28%).[36]

There is a strong relationship between poor dentition status and deteriorating physical health and mortality.[37] Studies of hospital and nursing home populations have indicated that oral health problems, particularly problems chewing, are also linked to low body mass index and involuntary weight loss.[9] Studies indicated that those with no natural teeth were twice as likely to experience significant weight loss after controlling for other risk factors.[9] Many studies have demonstrated an association between weight loss and increased morbidity and mortality. This association is especially prominent among older adults.[9]

2.5 Access and Dental Service Utilization

Access to dental care and utilization of dental services by seniors have been well documented over the years. *Building Capacity in Primary Care Research* defines access to care as, “the ability of an individual to obtain any services, and the capacity of the system to match the patient’s needs and preference with the appropriate level of services.” [6] The US Preventive Health Task Force Guidelines for Preventive Services for Older Adults reports that the ability of the elderly to access dental services is an

important component of maintaining optimal dental health, and recommends that all patients should be advised to receive a compete dental examination on a regular basis.[6] The Canadian Task Force on Periodic Health Examination advises dental examinations once per year for those over age 65.[6] This recommendation is based on the assumption that the level of dental utilization is directly related to oral health status. Therefore seniors who use dental services should be in better oral health than those who do not.

In the United States, dental care has been found to be among the least-used health care services in nursing facilities nationwide, with an average of only 17% of residents receiving dental services. On the other hand, the percentage of residents receiving medical services (88%), nutritional services (69%), social services (64%) and physical therapy services (25%) is significantly higher.[38] In Canada, the elderly visit the dentist less than any other age group.[39] They are also much more likely to visit their physician than their dentist. In 1994, only 34% of Canadians aged 65 and older reported having visited a dentist in the last year, while 87.5% of them had visited a primary care physician.[40]

Traditionally, utilization of dental services among the elderly has been reported to be very low, mostly because there have been relatively few people in that age group who have retained natural teeth.[41] While elders used to be stereotyped as denture wearers who sought dental care infrequently, this view is changing.

Seniors encompass a large and diverse group of individuals that can not be effectively considered as a single cohort. Different age cohorts represent different dental expectations and experiences. The oldest segment of society was born in the early 1900's and has lived through different life experiences compared with younger cohorts.[30] Specific to oral health, those in the "old-old" group (over age 85) mostly have been unable to benefit from advances in dentistry. Most persons of this age group were already edentulous by the 1950s, because dental care was regarded as a luxury and they believed that dentists should be utilized only when experiencing discomfort or pain.[30] Generally, this group's attitude is that if there is pain, a dentist will remove the offending tooth.
Each cohort differs from the previous in its oral health status, use and demand of oral health care. The "new" elderly, aged 65 and older, are different from previous cohorts in that they are better educated, have had higher earning capacities, and have more discretionary income.[42] This generation places a high value on preventive oral health care treatment, and will expect the same level of oral care as they age. The availability of dental insurance, coupled with preventive philosophies has also increased dental utilization.[42] The baby boomers will even expect more services. This suggests that each cohort will maintain more teeth, so there will be more teeth at risk and presumably more persons will have dental problems as they age.[42] At the same time, they will have a greater personal awareness of the need for oral health care.[42] With the expected trend toward retaining more natural dentition into old age and increased utilization of dental services, future frail and functionally dependent elderly will require improved access to oral care services.[42]

2.6 Barriers To Dental Care

Barriers to dental care exist for both the functionally independent older adults and the functionally dependent persons residing at home or in a facility. The following barriers affecting seniors' dental care have been identified in the literature:[6,12,15,43,44,45]

- lack of perceived need
- financial constraints
- transportation and access difficulties
- poor health and old age

Caregivers, family and health professionals reported similar barriers but differed regarding the order of significance of each of the barriers.[9,44]

2.6.1 Lack of Perceived Need

Many seniors today do not have a high level of knowledge about oral health or oral care and consequently do not seek dental care. The most common reason given for not seeking dental care is lack of perceived need for dental services by independent,[9,43] frail and functionally dependent older adults[46,47] and institutionalized older adults.[12,20] The elderly often refuse dental care for the same reason, even when cost barriers are removed.[6,45]

The majority of elderly believe they have no need for dental care until they develop pain or eating difficulties, or suffer from social embarrassment.[39] Other studies have shown that older adults under-report oral problems or accept discomfort in the mouth as an inevitable consequence of aging.[6] Research has also confirmed that subjective dental health status is not highly correlated with observed oral health status.[17,23,48,49] In Winnipeg 94% of community living seniors rated their oral health as good or average but 100% of the dentate seniors and 89% or the edentulous seniors required dental treatment.[23] In a Canadian study of elderly receiving home support services, 48% overrated their oral health status and 45% said there was no need to see a dentist when a clinical need did exist.[17] Studies have shown that institutionalized elderly have higher dental needs and a lower perceived need than less dependent groups.[39] In a Danish survey of institutionalized elderly, 90% of residents had need for some kind of dental treatment whereas the interviews revealed that only 44% had a self-perceived need, 33% an expressed demand for treatment, and only 6% had used the available dental service regularly.[49]

The perceived need for dental care and positive attitudes toward oral health have been shown to be the most powerful predictors of dental care utilization for the elderly.[45] Education efforts have been found to be more effective in changing the health belief systems of the elderly to enhance dental utilization behavior than offering low cost dental health services.[45] Unfortunately older people have been neglected as targets of oral health education programs. Appropriate dental behaviors may never have been learned by some elderly. Correct methods of oral hygiene, use of fluorides, and

prevention of periodontal disease have changed or expanded over the years. Seniors who received dental health information in their youth may not have current information. This is compounded by the lack of regular dental care, making it difficult for older people to learn about new developments in dentistry.

Seniors also often undervalue the importance of oral health and its relationship to general health. Studies have shown that older adults can still benefit from oral health promotion.[18] Results indicate that improved oral health can enhance psychological well-being and quality of life among older people.[18]

2.6.2 Financial Constraints

The second most reported barrier accessing care is the high cost of dental services.[6,15,30,42,44,47,42] Although this barrier is cited second by seniors, it is mentioned much less than lack of perceived need for dental care. To illustrate this point a number of studies have shown that the availability of free or reduced cost dental services increases utilization only slightly.[45]

Lack of insurance also has been stated as a barrier. Many seniors lose their dental insurance at retirement.[4] Studies have shown that the presence of insurance increases dental service utilization by 50% to 100%.[45] In Canada only 11% of low income individuals aged 65 years and over had dental insurance.[9] The majority of dental care rendered to older adults is usually paid for out-of-pocket. Consequently, household income and insurance coverage are powerful determinants of dental visits.[30]

A recent Canadian study by Adegbembo et al. does not support previous findings[42] that insured older adults who are living in a long-term care facility and who have visited the dentist more frequently have lower treatment needs.[50] Also, contrary to past research results,[6,12,43,44,46,47] this study showed a high level of dental need and perceived need among the residents, especially the dentate elderly.[50] This is significant because the proportion of elderly who are dentate is expected to rise in the future.

2.6.3 Transportation and Access Difficulties

Transportation difficulties are usually mentioned third by older adults[6,42,47] Homebound elderly especially experience significant difficulty with transportation; they often require physical assistance to get to the dentist, and wheelchair accessible dental offices.[47] There appears to be a strong relationship between the ability of the homebound elderly to get to the dentist and the time elapsed since the last dental visit. Residents of care facilities are also limited in their ability to leave the centre or are unwilling to be transported off site for dental treatment.[43,50] Adegbembo et al. suggest that, because of the high level of dental need among this population, administrators of care facilities might consider setting up in-house dental clinics.[50]

2.6.4 Caregivers, Family and Health Professionals – Perceived Barriers

The barriers perceived by caregivers were frequently reported in a different order of significance from those stated by their clients. In general, the major difficulties cited by caregivers were lack of transportation and poor health.[47] Cost was a much less frequently cited problem than access.[47] In a study of perceived barriers to care of frail and functionally dependent older adults, the caregivers' perception of the benefit of dental care to their clients was dependent upon the resident's age, their own age, their own dental experience and whether they were paid or not in their caregiving role.[47] The results stated that 100% of caregivers in the 20 to 40 year old age group considered that dental care would be a benefit to their clients. This number dropped to 64% in the caregivers who were over 60 years of age.[47] Those caregivers who had regular dental care themselves were more likely to see benefit, as were those in paid caring roles compared to friends or relatives.[47]

Guardians/family members have specifically reported that the most important factors in their decision not to accept dental service was the resident's age, the guardian's perception that care was not needed, the resident's poor health status, and the resident's reluctance.[6,47]

Barriers affecting institutionalized elders' access to dental services from a nursing home administrator's point of view included resident's financial constraints, lack of interest by the resident, lack of interest by the resident's family and staff time constraints.[6,44,47]

Consulting dentists identified apathy of nursing home administrators, apathy of nursing home staff, lack of suitable portable equipment, and inadequate space to provide dental treatment in the facility as barriers to oral care.[6,44]

2.6.5 Caregivers, Health and Dental Professionals – Oral Health Knowledge and Attitudes

Nurses and nurses aides are most often the caregivers responsible for providing oral hygiene care to frail elderly. The literature states that oral health care for frail elderly has not been valued or given high priority by the caregivers associated with their care.[51,52,53,54] This may be due to the concept that, within medicine and nursing, the mouth has become "separated" from the rest of the body. This has often caused oral health to be forgotten and excluded from nursing care curriculums.[52] Studies have shown that most residents require help with their oral health care but many do not receive it.[55] Since most residents rely on nursing staff for their personal care needs, this poses an additional barrier to obtaining adequate oral care. In a study of nurses, nursing assistants and home care aides, toothbrushing was rated the most undesirable nursing activity, ahead of dealing with incontinent residents.[55] Studies have shown that caregivers are also unaware of the importance of oral healthcare within holistic care and are unable either to carry it out or to train other personnel to do so.[53]

Several studies have also reported that dentists and dental hygienists, like many other health workers, are reluctant to treat the elderly.[56,57] The reasons for this are identified as:[39,56]

- negative attitudes towards elderly generated by a general lack of knowledge and experience in treating elderly patients
- a lack of experience in treating patients out of the private office setting
- little financial incentive to spend the additional time needed to treat some older people

An Ontario survey found that the majority of dentists acknowledged their lack of awareness of geriatric issues and wished to improve their level of knowledge. However, few continuing education programs exist.[58]

3.0 BEST PRACTICES REVIEW

3.1 Assessment and Outcomes Research

Dentistry has lacked appropriate measures of health outcomes for the evaluation of oral care and health promotion programs. Measurements in dentistry are mainly confined to clinical indicators of the presence and severity of oral disease.[3,17,20,59] Researchers have argued that a new model for measuring oral health status is needed, one that is comprehensive and considers health rather than disease.[59] Over the last twenty years research has been conducted to develop oral health assessment tools and outcome measures to determine effective oral health programs and services. The various assessment and outcomes research will be reviewed below.

3.1.1 Assessment

Historically, health professionals have not considered oral health an integral and important dimension of health status. As a result, most comprehensive health assessment tools have not incorporated dental questions[60] unless regulated to do so. When dental questions are included in a geriatric assessment, they are usually limited to questions around the existence of dentures and the need for services. For example in the Calgary Health Region Community Adult Assessment Tool (CAAT) used by Home Care staff, the only mention of oral health is under the section of Nutrition where there is a box to indicate top dentures and bottom dentures. Assessments in the Seniors Resource Nurse Program and in the Specialized Geriatric Services, do not include oral health questions unless a specific problem such as swallowing, speech or tooth/denture pain is reported.

Measures of ability or function are used in the health field to determine the level of performance of a specific task, assess the loss of function, and measure the return to function as a result of rehabilitation or interventions. In the elderly, oral and denture

hygiene have been found to be poor, especially for those living in care centres, and those who are homebound in the community.[22,36,61,62] As stated earlier the elderly are at risk for adverse changes in their health and functional status.[4] Rarely is the task of toothbrushing included in an assessment. The use of dexterity tests, such as the Activities of Daily Oral Hygiene Index,[60] can help identify individuals unable to perform adequate oral self-care, and to determine the need for services or support for Home Care.[63,64]

The literature has reported that institutionalized elderly residents have decreased manual dexterity.[63] It also shows that elderly with decreased dexterity have decreased oral care abilities and that individual assessment of dexterity could be useful in identifying older adults who are unable to adequately care for their teeth.[63] Compromised elderly are also easy prey for destructive, insidious oral diseases. A simple method of identifying individuals with deficient toothbrushing ability may prevent or postpone oral problems, help preserve a functional dentition throughout life, and allow efficient targeting of care-provider resources. It has been recommended that persons entering a long-term care facility be examined for dexterity and consequent ability to brush their teeth.[63]

3.1.2 Outcomes

An important goal of a health care intervention is to improve the health of an individual or population and then be able to measure and explain the change. A review of the literature indicates that Canada's national and provincial data for many oral diseases and for special population groups are limited or nonexistent.[65] In addition very little research has examined the impact of oral disease on health outcomes by specifically measuring changes in oral health status and assessing effectiveness of interventions.[6] Smith has stated that it is difficult to make claims about the effectiveness of the provision of oral services in nursing homes.[66] She collected oral health service utilization data over a ten-year period in Minneapolis, Minnesota. The basic research question she started with was "Does the provision of dental services on a routine basis change the oral health status of nursing home residents?" Although the answer would seem to be self-evident, she found it has not been shown in the literature.[66] The reason for this is that the research to date has not been designed to include a control group and the results could not be compared.

Over the last decade, oral health outcome measures have been rethought and redefined. The measures are self-report measures dealing with functioning symptoms and social and psychological well-being. They are comparable to the health status measures used in assessing medical outcomes. The following oral health outcome measures have been developed and are presently being tested:

- **Geriatric Oral Health Assessment Index (GOHAI)**

There has been extensive research conducted on the Geriatric Oral Health Assessment Index (GOHAI) to determine its reliability, sensitivity and specificity.[67,68] The GOHAI is

an example of a patient-based assessment of oral health problems commonly affecting older adults. It is intended to comprehensively assess oral problems in a measure that is psychometrically sound and easy to administer in clinical as well as research settings. As a foundation for the development of GOHAI, oral health was defined as "freedom from pain and infection and consisting of a comfortable and functional dentition (natural or prosthetic) that allows an individual to continue in his or her desired social role". There are twelve items that assess oral health-related problems affecting the elderly in three dimensions:[67]

1. physical function: including eating, speech and swallowing
2. psychosocial function: including worry or concern about oral health, dissatisfaction with appearance, self consciousness about oral health, and avoidance of social contact because of oral problems
3. pain or discomfort: including the use of medications to relieve pain or discomfort from the mouth.

Researchers report that the GOHAI is sensitive to the provision of dental care and is potentially useful as an outcome measure[67] but requires additional evaluation in diverse groups of older people receiving a variety of dental treatments.[68]

- **Oral Health Impact Profile (OHIP)**

There is a second health outcome measure, the Oral Health Impact Profile (OHIP), which is currently being tested in collaboration with research teams in Australia, North Carolina and Canada. The OHIP is linked to the Lambeth disability studies. The model consists of the following concepts: impairment, functional limitations, pain and discomfort, disability and handicap. The preliminary data from studies in three countries suggest it is a promising measure, but more testing is required to determine oral health outcome measures that are valid, reliable and sensitive.[59]

- **Clinical Oral Disorder in Elders (CODE)**

MacEntee & Wyatt have reported that there is no gold standard of oral health for the elderly in long-term care or any other setting. They have recently developed an Index of Clinical Oral Disorder in Elders (CODE) at the University of British Columbia.[69] This index offers a model of scoring oral health based on clinical measures and providing a standard format to monitor the impact of oral care in the elderly populations.[69] A two year dental pilot project which started in January 2002 will use the index to determine if the oral health status of care centre residents in Vancouver & Richmond Health Region improves with a dental program in place.[70]

In reviewing oral health outcomes research, the literature has concluded that measurement of changes in oral health status is complex and none are universally accepted.[59,71] While continued research is required before decisions as to which measurement of health outcomes in dentistry is most appropriate, target outcome studies have established indicators for assessing the quality of routine oral care in long-term care facilities.

- **Target Outcomes Studies**

A Massachusetts study was conducted to identify oral health target outcomes for a long-term care facility. Staff and family members of long-term care residents were asked to develop a list of oral health target outcomes. They identified the following:[72]

- resident will be free from oral pain
- resident will not be at risk for aspiration
- emergency dental treatment will be available when needed
- mouth infections will be prevented
- daily mouth care is as much part of daily care as shaving or brushing hair
- discomfort from loose teeth or sore gums will be prevented
- teeth will be brushed thoroughly once a day
- staff will be able to provide oral hygiene care as needed
- staff will provide dental care to prevent problems eating
- staff will recognise oral problems early.

These results are consistent with target outcomes and indicators of quality routine and emergency dental care in care facilities determined at a Consensus Conference in Minnesota and outlined under 3.4.1 Nursing Home/Care Facility Regulations in the US.[73]

- **Programs To Achieve Target Outcomes**

Education programs of various kinds have been developed for nursing home staff to achieve target outcomes. Some researchers have reported that education programs have failed to improve oral hygiene status significantly.[73,74] It has been shown that improved daily oral care cannot be accomplished with education alone.[73,74] To be effective a comprehensive oral health strategy should include education, assessments and dental treatment.[73,74] In another study of over 100 interviews of administrators, staff, dental personnel, residents and family members associated with 12 long-term care facilities in British Columbia, it was concluded that oral health assessments, daily oral hygiene, and easy access to dental professionals for treatment were necessary components to attain oral health target outcomes.[75]

A Virginia study has shown that a “system” of daily oral care is capable of improving oral hygiene in an institutional population.[73] The system involved an oral care aide to provide daily oral care services, training of staff, provision of necessary supplies and equipment and continuous monitoring of job performance by a dental hygienist.[73] In Calgary a study was conducted to determine the effectiveness of inservices in changing oral care knowledge and attitudes of caregivers. Results indicated that an oral care inservice, involving slides, role-playing and hands-on demonstrations increased oral care knowledge and changed oral care attitudes of extended care nursing staff.[54] Seventy-five percent of the staff felt the level of mouthcare provided to their residents had improved since the inservice and 80% of staff felt the techniques taught in the inservice made it easier for them to provide mouthcare for their residents.[54] Another study also recommended that well elderly can effectively participate in

educational programs and less well and confused elderly need regular professional support.[74]

Research has also reported that regardless of the specific oral health program, when there is a more prominent role for dental personnel on the health care team of a facility, there is a greater likelihood of improving oral health through increased visibility, active participation, and regular evaluation of results.[75]

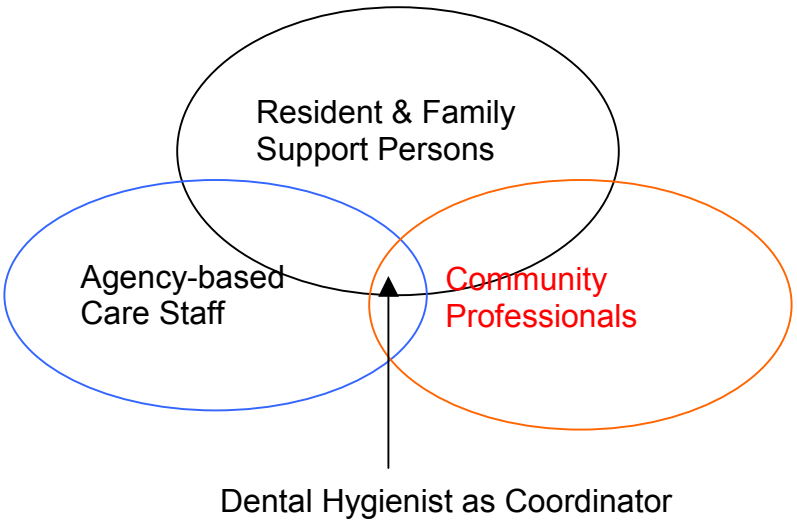
3.2 Models/Strategies

There have been several models/strategies proposed in the literature for the delivery of seniors' oral health care. The various models provide valuable ideas for planning oral health programs for older adults.

3.2.1 Model for Integrated Oral Health Care: Dental Hygienist as Coordinator [76]

A model was developed for the provision of comprehensive oral health care to residents in a number of British Columbia nursing homes. The model below illustrates the interdisciplinary relationship of the care team, and centrally positions the dental hygienist as coordinator and educator.

Figure 1



Model for Integrated Oral Health Care
By placing the dental hygienist in the role of coordinator, the model draws on the hygienists' dental knowledge and expertise to support a cost-effective interdisciplinary approach.

Responsibilities of the dental hygienist to the agency-based care staff, and interdisciplinary care team:

- provides on-going staff education
- problem-solves oral hygiene issues
- provides/coordinates denture labeling and cleaning
- recommends oral hygiene products

Responsibilities of the dental hygienist to resident and family support persons:

- conducts resident oral assessments
- develops individualized oral hygiene care plan in consultation with agency staff
- monitors oral status
- consults with and educates resident and family regarding oral health needs

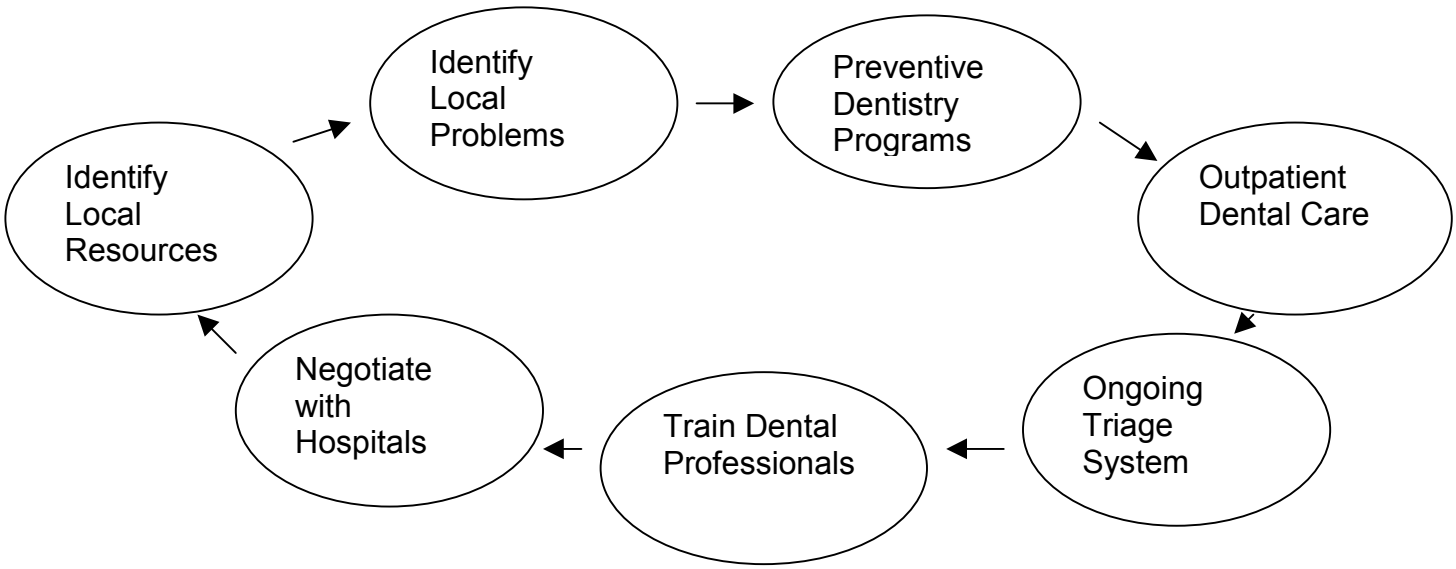
Responsibilities of the dental hygienist to community professionals – physician, dentist, denturist, others:

- liaises with physician, denturist, dentist and others as needed, and coordinates follow-up
- provides treatment within scope of practice

3.2.2 Community-Based Model [77]

A community-based dental delivery system is described below. This system has been used in a number of communities in California to improve oral health for people with special needs. It includes oral health assessment, coalition building, development and networking of local resources, training of dental professionals, and utilization of preventive dentistry training materials. One important aspect of the community-based model is matching the person in need of dental care with the right resource for providing that care. This model uses the services of a dental coordinator to conduct periodic dental screening examinations, and makes referrals to appropriate local dental professionals. Funding and reimbursement issues were not addressed in this model.

Figure 2



Community-Based Model

3.2.3 Oral Health Outreach Task Service Delivery Model [78]

A service delivery model developed by the Halton Oral Health Outreach Task Force was implemented in February 2000 to address many of the gaps and challenges to delivering oral health care services to the frail elderly and adults with special needs. This model provides a means for coordinated service delivery. It is a one-stop access to information and referral regarding oral health services. A case manager (dental hygienist) and a community educator (dental assistant) play key roles in the development and management of the program. The case manager assesses the ongoing needs of clients and ensures that coordination of appropriate services to meet those needs. The community educator is responsible for ensuring that clients, oral health professionals and caregivers are aware of oral health needs of the elderly population.

Surrounding the model are references to a community education strategy. The placement of this strategy within the diagram represents the need for continuous education for the elderly, professionals and caregivers throughout every stage of the model.

The Halton model is described in more detail in Appendix A.

3.2.4 Healthy Japan 21 [79]

In 2000 a new geriatric oral health strategy was established by Japan's Ministry of Health and Welfare. The strategy suggests positive actions to keep 20 or more teeth by the age of 80, and encourages collaboration between local health authorities and dental associations. Healthy Japan 21, which is a strategy for comprehensive health promotion, has nine major sections:

- better nutrition
- good exercise
- taking a rest
- prevention of circulatory diseases
- prevention of cancer
- prevention of, and control of, diabetes
- control of alcohol use
- restriction of smoking
- oral health

The focus of oral health as part of comprehensive health promotion strategy helped to identify oral health as a priority for the elderly in Japan, and highlighted its importance to general health and well-being. Dental associations and local governments collaborated to implement preventive oral care programs and mobile dental services for the frail elderly.

3.2.5 Management of a Comparable Health Issue – Community Prevention of Obesity [80]

It is sometimes helpful to examine strategies that have been successful in addressing other health issues. The prevention of childhood obesity is comparable to seniors' oral health in terms of its lack of data and best practices. The process initiated to develop a framework for prevention of obesity may provide insight into future strategies to be considered for seniors' oral health programs.

Childhood obesity has been identified as a top priority for research in the next decade. While there are general prevalence figures available for obesity, there is a lack of standard definitions and measurement techniques as well as a lack of surveillance databases on weight patterns in children and youth. Also there is a lack of a framework to guide and support integrated initiatives in health promotion and treatment.

Calgary Health Region formed an intersectoral steering committee comprised of representatives from health, mental health, community, not-for-profit, aboriginal community, and education. The committee undertook the task of developing a framework to guide community-based initiatives in obesity prevention. The process included:

1. a review of literature on obesity
2. production of three technical documents
   - Prevalence and Predictors
   - Definition, Measurement, and Surveillance
   - Strategies and Frameworks
3. review and validation of the documents by experts in the field of obesity
4. focus group sessions with parents, young people, professionals and adults who were impacted by the issue of obesity to:
   - share and get response to findings from the literature reviews
   - gather information about attitudes, concerns, and priorities around the issue of overweight and obesity
   - gather recommended strategies
5. development of a framework to guide integrated initiatives
6. a consensus workshop to validate the proposed framework document and gather broader community input.

The Steering Committee's purpose is now to lead community-based prevention of obesity. To achieve this they will:

- oversee project development and operations
- acquire and broker project funds
- form partnerships to support project work
- advocate for and promote community based prevention of obesity

It appears there are many similarities when looking at the issue of seniors' oral health and prevention of childhood obesity. The framework outlined above provides a starting

point and an interesting example for developing a seniors' oral health initiative in the Calgary Health Region.

3.3 Dental Service Options

Globally, there are currently several options for the delivery of dental care to older adults living in the community and residents of long-term care facilities. Seniors can receive oral care by being transported to an outside dental office, from a mobile van that visits a facility periodically, from a provider who periodically brings portable equipment to the facility/home, or from an on-site fixed clinic located at the facility. The table below summarizes the main advantages and disadvantages of each of these care delivery options for residents, facilities and dental providers.[38]

Delivery Approach	Advantages	Disadvantages
Outside Dental Office	• Full range of services available • Easier scheduling • Travel opportunity for resident • No space needed in facility • Convenient, comfortable for dental provider	• Cost of transportation • Travel may fatigue some residents • Change of environment may stress some residents
Mobile Van	• Convenient for facility, residents • No transportation costs for facility • Minimizes resident stress over travel, change of environment • No space needed in facility	• Cost for dental practice • Scheduling limitations • Emergency care may be limited • May be more physically or psychologically demanding for dental provider • level, snow-free parking space adjacent to facility
Portable Equipment	• Convenient for facility, residents • No transportation costs for facility • Bedside care possible • Minimizes resident stress over travel, change of environment	• Cost for dental practice/time consuming • Range of services may be limited • Scheduling limitations • May be more physically or psychologically demanding for dental provider • Emergency care may be limited • Temporary space needed in facility
On-Site Fixed Clinic	• Convenient for facility, residents • No transportation costs • Convenient, comfortable for dental provider • Full range of services available • Facilitates emergency care • Minimizes stress of travel and change of environment • Reinforces importance of dental care in facility	• Cost for facility • Scheduling limitations • Permanent space needed in facility

Mobile and portable clinics are the most cost-effective alternative to permanent clinics and are the only delivery system able to provide access to care for bedridden residents or homebound elderly in the community. [73]

Helgason has reported that the costs of providing routine dental services are low when compared with nursing care, pharmacy, physician services and other long-term care costs. Two years of treatment data of a mobile, on-site delivery system was analyzed to determine the average annual cost per resident for comprehensive routine and emergency oral health services. The data showed that routine and emergency dental services, when provided by mobile equipment, cost about $200 (US) per resident per year. [73]

3.4 Regulatory Issues and Highlights

3.4.1 Nursing Home/Care Facility Regulations

- **Background**

The US is well ahead of Canada in setting objectives for dental care and legislating the provision of oral health services in nursing homes, both of which occurred because of concern about the quality of care in US nursing homes. Detailed oral care regulations create minimum guidelines and standards for care facilities. These standards, which can be audited, promote improved quality of care and facilitate the identification of problem areas. [81]

Nursing home/care facility regulations in the US and Canada will be outlined below with emphasis on regulations that include oral health services.

<u>Nursing Home /Care Facility Regulations in the US</u>

- **Omnibus Budget Reconciliation Act of 1987**

Concerns about the quality of care in US nursing homes led to the passage of the Omnibus Budget Reconciliation Act of 1987 (OBRA 87), which is federal legislation imposing stricter regulations on the care provided to institutionalized adults. [82] Included in OBRA 87 was a mandate for the implementation of a comprehensive uniform health assessment of nursing home residents. This tool, which has been in use since 1990, is known as the Minimum Data Set (MDS). All nursing homes receiving Medicaid or Medicare funding must complete the MDS on all new residents within 14 days of admission. It must be updated yearly or more frequently if problems are identified. A comprehensive plan of care for each resident is completed based on the information gathered by the MDS. [82]

Two sections of the MDS pertain directly to oral health: Oral /Nutritional Status and Oral/Dental Status (below). All responses suggesting possible oral problems, or "triggers", require an automatic referral to dental care.
Minimum Data Set (MDS) – oral health sections:

Section K: Oral/Nutritional Status
1. Oral Problems (Check all that apply in last 7 days)
   a. Chewing problem
   b. Swallowing problem
   c. Mouth pain
   d. None of the above

Section L: Oral/Dental Status
1. Oral Status and Disease Prevention (Check all that apply in last 7 days)
   a. Debris (soft easily removable substances) present in mouth prior to going to bed at night
   b. Has dentures and /or removable bridge
   c. Some or all natural teeth lost does not have or does not use dentures or partial plates
   d. Broken, loose, or carious teeth
   e. Inflamed gums (gingiva); swollen or bleeding gums; oral abscesses, ulcers or rashes
   f. Daily cleaning of teeth or dentures, or daily mouth care – by resident or staff
   g. None of above

- **American Society for Geriatric Dentistry - Long-term Care Objectives**

In 1993 the American Society for Geriatric Dentistry's (ASGD) Long-term Care Committee developed four objectives for long-term care dentistry which reinforced the OBRA 87 regulations. The following objectives were written for the dental profession, consumers, the long-term care industry, health plans, and government agencies:[73,83]

1. Oral health care should be provided to prevent disease, maintain chewing and speaking ability, and to preserve comfort, hygiene and dignity.
2. Both the standard of oral health care and access to it should be equal to that in the community at large.
3. Residents or their representatives should have the right to freely choose:
   - whether or not to receive oral health care
   - who will provide their care
   - what specific oral health services will be provided.
4. All caregivers should advocate against the neglect of oral health problems suffered by vulnerable adults who cannot advocate for themselves.

Even though the federal nursing regulations were in place, studies reported that nurses were not detecting oral problems via the MDS, and it may have been due to inadequate training or skill in this task.[82] A more recent review by the Department of Health and Human Services has stated that nursing homes are attempting to systematically complete the MDS and implement the plans of care but nursing staff still require training to improve their understanding of the MDS and the resident assessment process. [84] In light of these challenges, the US Department of Health & Human Services has taken responsibility for the development and dissemination of educational programs and materials that will promote a uniform understanding of MDS requirements and improve the accuracy of MDS information. On September 21, 2001, "Assuring Dental Health in Nursing Homes" a training film for caregivers, was nationally broadcast via satellite. The objective of the broadcast was to increase knowledge and awareness of the dental needs of residents in long-term care, including normal and abnormal findings.[84]

- **Minnesota Nursing Home Rules**

Minnesota has received national attention by developing a state oral care model for nursing homes. Utilizing the ASGD long-term care objectives and the OBRA 87 federal regulations as a foundation, the Minnesota Nursing Home Regulatory Reform Task Force - Dental Work Group drafted the Minnesota Nursing Home Rules. The membership of this group included: Regulatory Reform Staff, Health Department Dental Director, Long-term Care Ombudsman, Resident, Minnesota Dental Association, University of Minnesota Geriatric Dentistry Graduate Program Faculty, Apple Tree Dental – Mobile On-Site Dental Care and Veterans Administration Medical Center Dental Director. [73]

The Minnesota Nursing Home Rules meet or exceed the requirements of the OBRA 87 and provide basic delivery system guidelines for dental and nursing home professionals working together to provide oral health services. They clarify the OBRA regulations, describe work roles, and delineate responsibilities and processes needed to coordinate on-site oral care. The Minnesota Nursing Home Rules are presented in their entirety in Appendix B.

Draft versions of the Minnesota Nursing Home Rules went through a vigorous process of review by experts and public hearings. Amendments were made and an administrative law judge ruled upon the final version. Minnesota's Nursing Home Rules were adopted in 1995 and have accelerated efforts in developing effective rules in other states.[73]

After the Minnesota Nursing Home Rules were adopted, indicators for assessing the quality of daily oral care systems and providing routine and emergency oral health services were presented at a Consensus Conference. These indicators were unanimously agreed to the participants.[73]

Indicators of Daily Oral Care Systems

- Subjective Indicators
  - Residents and representatives report satisfaction with daily oral care services.

- Procedural indicators
  - The facility establishes initial daily oral care plans within 15 days of admission.
  - The facility's daily oral care program ensures that the residents receive assistance as needed with daily oral care.
  - The facility's staff seeks assistance from dental professionals, and physical and occupational therapists as needed to facilitate maximum self-care.
  - The facility has a regular program of in-service training for staff on daily oral care.
  - The facility actively solicits feedback from dentists and hygienists regarding the effectiveness of daily oral care at each check-up.

- Clinical outcome indicators
  - Oral hygiene indices for individual residents are low.
  - Aggregate oral hygiene indices for facility are low .
  - Low rates of new oral disease are recorded at subsequent routine examinations.

Indicators of Quality Routine and Emergency Dental Care

- Subjective Indicators
  - Residents and representatives report freedom from oral pain, oral infection, tooth decay, periodontal disease, and other oral pathological conditions.
  - Residents and representatives report the ability to chew normally and speak clearly.
  - Residents and representatives report satisfaction with dental appearance.
  - Residents and representatives report satisfaction with the accessibility, quality and costs of on-site and off-site dental services.

- Clinical Outcomes
  - Low rates of new oral disease are recorded following initial treatments.
  - Low rates of tooth loss are recorded following initial treatments.
  - Each resident has achieved his/her highest practical level of functional dentition.

- Procedural Indicators

The Facility:
  - Makes prompt dental referrals when dental problems or emergencies arise.
  - Ensures that referrals for routine oral evaluations are carried out in a timely manner.
  - Provides a "dental liaison" to coordinate on-site an off-site dental care visits.
  - Provides an adequate work area for on-site care if available.

- Assists with medical-dental consultations.
- Assists with communication with residents' representatives.
- Assists with financial arrangements for care.
- Provides a regular program of in-service training for staff on daily oral care and procedures for routine and emergency dental care.
- Includes oral health care in quality assurance procedures.

The On-site Dental Provider:

- Ensures that all residents have access to needed oral care by:
  - providing routine and emergency oral health services,
  - providing an appropriate schedule and frequency of on-site visits,
  - coordinating off-site dental care referrals when necessary,
  - making a commitment to non-discrimination, and
  - helping residents overcome financial and other barriers to care.

- Ensures a high standard of care by:
  - obtaining training as needed to manage medically compromised patients safely,
  - obtaining adequate medical and behavioral assessments prior to planning dental care,
  - consulting with residents' physicians, nurses, and other caregivers as needed,
  - following appropriate protocols for obtaining informed consent before providing care,
  - obtaining appropriate dental equipment for the scope of services provided on-site,
  - following geriatric clinical care protocols, and operating a quality improvement system.

Although there was consensus among experts concerning these indicators, no clinical research exists to show what impact Minnesota Nursing Home Rules has had on improving oral health care of residents in care facilities. As discussed previously, while utilization data has been collected, no control group exists to contextualize the data.[82] Despite this, these indicators do help to provide direction and outline nursing home and dental team responsibilities.

Nursing Home/Care Facility Regulations in Canada

The regulation of nursing homes, facilities and personal care homes is governed by provincial, not federal legislation. As a result, legislation outlining regulations or standards of care in Canadian facilities differs from province to province.

Nursing Home/Care Facility Regulations in Alberta

In Alberta, the Nursing Homes Act (Alberta Regulation 258/85) outlines the regulations for nursing home operations. Notably, while the annual assessment of physical and mental health is mandated by the Act, the assessment of oral health is not:

> "(4) During each 12 month period of stay of a resident in a nursing home, the operator shall arrange for an examination of the resident by a physician, including a review of the physical and mental condition of the resident and the nursing home's plan of care for the resident."

Nursing Home/Care Facility Regulations in Other Provinces

British Columbia, Saskatchewan and Ontario are the only provinces that have oral health regulations that govern licensed long-term care facilities. British Columbia has the most extensive and detailed oral health requirements which promote improved quality of care. The commitment of the BC long-term care facilities, concerning their residents' oral care, appears to be related to enforcement of these regulations.[70,85,86,87]

It is worth noting that the same three provinces, British Columbia, Saskatchewan and Ontario, allow dental hygienists to work in long-term care facilities without the supervision of a dentist. This improves access to oral health care services for the residents in care facilities.

Oral health long-term care regulations and dental hygienist scope of practice legislation are outlined below:

- **British Columbia**

On October 1, 1997 the BC Government passed changes to the Adult Care Regulation (B.C. Reg. 536/80) that governs licensed long-term care facilities. Licensed facilities ("licensees") are now required to provide certain oral health services to their residents. Relevant portions of the regulations are reprinted in Appendix C.

The regulation recognizes the importance of oral health and its effects on quality of life, general health, self-esteem and relationships with others. Oral infections, lesions, ill-fitting dentures and other oral problems put an individual at risk for eating difficulties, weight loss and decline in physical health. The regulation affects all licensed adult care facilities in the province of British Columbia, including group homes.

The regulations provide licensees the flexibility to encourage residents to obtain the appropriate level of oral health care based on the resident's desires, needs and financial abilities. Professional dental services may be provided by dental hygienists, dentists or denturists as dictated by their respective legislated scopes of practice.[88]

The following is a sample of an oral health plan written by Simon Fraser Health Region, Continuing Care, to assist licensees in writing their own policies and procedures for their residents' daily oral health care.[89]

Resident Care Plans – Oral Health

The oral health care plan should assist residents, licensees and care staff in the management of residents' daily oral health care. The plan should include the resident's general dental status and concerns and recommendations for maintaining his or her daily oral health.

The following information should be gathered and documented in the development of the oral health care plan:

- presence or absence of natural teeth in upper and lower arches;
- presence or absence of dentures (complete or partial) in upper and lower arches;
- current cleaning routine for resident's mouth, teeth and /or dentures including: frequency, time of day, products and procedures used, and ability to perform the task without assistance;
- general concerns expressed by the resident regarding his or her mouth such as pain or an inability to eat comfortably with existing teeth and/or dentures;
- contact information for resident's dental health care professional if available and date or last appointment;
- dental coverage or other sources of funding for dental care; and
- date information gathered.

The following recommendations should be included in the oral health care plan:

- level of assistance required with daily oral health procedures;
- products and supplies required;
- cleaning procedures to be followed;
- special considerations including: communication and behavioural challenges, dry mouth, dysphagia, and specific concerns identified by the resident.
- date of plan development and review schedule.

The licensee may find it useful to provide care staff with inservice training that enables them to carry out individualized oral health care plans.

- **Saskatchewan**

In Saskatchewan, oral health care is listed in the Personal Care Homes Regulation, 1996 Chapter P-6.01 Reg 2 s23 (b). There are no guidelines or standards outlined.

Health Examinations

> "23. With the consent of each resident, a licensee shall ensure that:
> (b) each resident receives dental, optical and other examinations as necessary."

- **Ontario**

The Ontario Ministry of Health passed legislation on Long-Term Care Reform in December 1993.[90] They released a Long-Term Care Facility Program Manual, which included standards of oral and dental care including:

- daily oral care
- denture labeling
- access to dental services
- oral assessments on admission.

Each long-term care facility in Ontario is to meet these Oral and Dental Care Standards to retain or attain a license (see Appendix D)**.**

Enforcement of these standards seems to be an issue.[86,91,92,93] In a survey of 21 long-term care facilities in the Hamilton-Wentworth and Brant County Regions of Ontario, only four of the facilities gave residents an initial dental assessment on admission, despite the Dental Services recommendations of the Ontario Ministry of Health.[58] Several Health Unit staff and dentists also reported that long-term care facilities in their region did not comply with the recommended standards.[86,91,92]

It is also interesting to note that since 1996, Ontario has mandated the introduction of the Minimum Data Set (MDS) in the chronic care sector.[94] This is the same comprehensive, multidisciplinary assessment tool that is mandated in the United States (OBRA 87 Regulations) and includes two sections on oral/dental status.

3.4.2 Dental Hygiene Regulations

- **Background**

Dental hygienists are licensed, preventive oral health care professionals who provide educational, clinical, research and administrative services that support total health by promoting optimal oral health. Dental hygienists are capable of offering oral health care services in various work settings including continuing care facilities. In many cases, preventive care provided by dental hygienists in care facilities could improve access to oral care, contribute immeasurably to residents' increased comfort and quality of life, and reduce the need for more expensive, complex and aggressive treatment of oral disease.[95]

The literature has reported a shortage of dentists willing to provide oral care services for dependent elderly in care facilities.[15] The institutionalized and homebound frail elderly have been shown to be among those in greatest need of oral care services but they seem to have the least access to care.[15] Reducing regulatory barriers for dental hygienists is one way to improve access to dental services for homebound frail elderly and institutionalized seniors.

Dental hygiene regulations vary by state and province and are outlined below:

Dental Hygiene Regulations in the US

In 46 states, dental hygienists may provide services without the presence of the dentist (general supervision) in some settings.[96,97] In 14 states, dental hygienists are permitted unsupervised practice.[96,97] This means that the dental hygienist can:

- initiate treatment based on his/her assessment of patient needs without the specific authorization of a dentist
- treat the patient without the presence of a dentist
- can maintain a provider-patient relationship without the participation of the patient's dentist of record

Dental Hygiene Regulations in Canada

Dental hygiene legislation in most Canadian provinces prevents or limits dental hygienists' ability to practice unsupervised or independently. In the following four provinces dental hygienists are self governing but they have varying supervision regulations:

Dental Hygiene Regulations in Alberta

The Dental Disciplines Act, 1990, Chapter D-8.5 Part 1, 2(3) obligates dental hygienists to practice "under the supervision of a dentist". Therefore, under existing legislation, if no dentist is available, the services of dental hygienists must be denied.[95]

In preparation for an eventual Regulation under the recently proclaimed Health Professions Act (HPA), the Alberta Dental Hygienists' Association (ADHA) submitted a regulation policy document to Alberta Health and Wellness. The document proposed that dental hygienists would be able to engage in practice consistent with their education, experience and competencies, including the option to practice independent of dentists. The ADHA hopes that this will provide Albertans with improved access and increased choice about where dental services are received. Independent dental hygiene practice will allow a broader spectrum of the population – including seniors – to gain greater access to dental hygiene services in a wider variety of settings such as long-term care facilities.[98]

This Regulation is scheduled to come into force in spring 2003. Alberta Health and Wellness will consult with a wide variety of stakeholders, including Health Authorities, on the ADHA proposed policies.[95]

Dental Hygiene Regulations in Other Provinces

- **British Columbia** [88,99]

Dental hygienists in BC can assess the status of teeth and adjacent tissues and provide preventive and therapeutic dental hygiene care for teeth and adjacent tissues. Present legislation permits clinical dental hygiene service (e.g. scaling of teeth) to proceed within 365 days of a person having been examined by a dentist. However, dental hygienists with a residential care registration can provide dental hygiene services without a prior examination by a dentist.

- **Saskatchewan** [100]

Dental hygienists in Saskatchewan are authorized to conduct assessments, perform the procedure of scaling of the teeth, administer local anaesthesia and expose dental radiographs.

In Saskatchewan, according to Section 25 (3) of The Dental Disciplines Act, 1997, "a dental hygienist may only perform the practices that he or she is authorized by subsection 23(5) to perform where he or she is employed by or practices under contract with:

(a) an employer that employs or has established a formal referral or consultation process with a dentist; or
(b) a dentist

Section 25 (1) lists the employers. An employer cannot be a private corporation. The employer can be the government, a health district, a municipality, a long-term care facility and a university."

- **Ontario** [101]

In the Ontario Dental Hygiene Act, 1991, Chapter 22, 5. "a dental hygienist does not require supervision by a dentist but requires an "order" by a dentist for the procedure of scaling and root planing the teeth." This allows dental hygienists to conduct assessments but limits the treatment they can provide.

3.5 Oral Health Programs and Initiatives

Sixty-six interviews were conducted across Canada and United States with program coordinators, researchers, executive directors of professional bodies, educators, health professionals, dental hygienists and dentists who are all working in the area of seniors' oral health (Appendix E). In attempt to obtain best practices information from the various seniors' oral health programs, a summary of models, initiatives and programs in

various provinces and states is outlined below. The respondents acknowledged that no evidence-based practice information exists in Canada or the U.S. regarding the impact of their program other than service statistics or anecdotal evidence around quality of life issues.

A qualitative research study conducted in 12 long-term care facilities in British Columbia provides further evidence that no "one best practice" exists. [75] The purpose of the study was to identify factors that influence oral health care in these facilities. Open-ended interviews were conducted with 109 individuals. These included: administrators, staff, dental personnel, residents, and family members associated with the facilities. The results revealed that no one particular organizational strategy was ideal because of conflicting priorities in the daily routine of each facility.[75] It was concluded that three important components were common to all:[75]

- formalized routine for periodic oral health assessments
- staff training to provide daily oral hygiene
- easy access to dentists, dental hygienists and denturists for residents' dental treatment

It was also reported that a more prominent role for dental personnel on the health care team of the facility probably offers the greatest likelihood of improving oral health through increased visibility, active participation, and regular evaluation of results.[75]

Documented below are various oral health programs that incorporate some or all of these recommended components and provide practical insights to oral health strategies for the elderly. Each oral health program will be described under the following categories:

- Program Description
- Program Funding
- Program Staff
- Program Evaluation/Statistics
- Other

3.5.1 Canadian Dental Association [102,103,104]

The Canadian Dental Association (CDA) has an *Oral Health Care of Chronic Care Patients Resource Document*, 1988 but no standards, practice guidelines or polices on seniors' oral health. The CDA committee on Community and Institutional Dentistry is currently gathering and reviewing provincial information on seniors' oral health care.

3.5.2 British Columbia

- **Background** [88]

Prior to 1980, the oral health of seniors living in residential care facilities received little attention in British Columbia. Since 1980, considerable effort has been made to improve the oral health of clients living in facilities and increase awareness of oral health issues for seniors. Much work has been done by community health dental staff, organizations representing dental hygienists and dentists, private dental health practitioners, and others in the community. The increased awareness about oral health care issues for seniors, lead largely by community dental health staff, created an impetus for changes in Adult Care Regulations to include the delivery of oral health services.

The introduction of oral health care in Adult Care Regulations has helped increase interest and commitment among some administrators in implementing oral care policies for clients in residential care. Oral health care is now recognized by government, community health dental staff, facility administrators, private dental health practitioners, educators, and researchers as being essential for overall well-being. The removal of the supervision clause for dental hygienists has also increased the number of dental hygienists providing care in the community and care centres. However, only one-quarter of the residential facilities have oral health programs at the present time, and there is still a large unmet need for oral health services.

Incentives have been set up to encourage full-time or retired dentists to work in long-term care settings. The Association of Dental Surgeons of BC and the Dentistry Canada Fund have funded a reduced dental licensure fee for this work setting.[105] The Association of Dental Surgeons of BC will also partner with an insurance company to pilot a Geriatric Dental Fee guide that covers a group of approximately 500 individuals. The fee guide takes into consideration the increased time involved when working on seniors.[105]

- **A Summary of Services Provided by Community Health Dental Staff to Clients in Residential Care Facilities and Seniors Living in the Community**[88]

It appears that all community health dental programs in British Columbia direct some of their resources toward the provision of services to improve the oral health of clients living in residential care. The volume and range of services provided varies greatly in different regions of the province. Key factors that influence service provision in a region include: dental staffing and funding levels, health region priorities, the number of facilities and the number of clients living in care, and the level of service provided to this client group by the private sector.

In most areas of the province, Community Dental Health staff are involved in activities that attempt to address barriers to good oral care. Examples of such activities include:

- conducting oral assessments

- presenting oral health information to staff, health professionals and caregiving students
- developing/consulting on daily oral care plans
- providing denture cleaning and marking
- attending client care conferences
- coordinating referrals for treatment
- providing information on oral care regulations
- monitoring compliance with oral care regulations
- assisting with development of oral care policy
- facilitating recruitment of dental practitioners

Private sector dental hygienists are offering to provide more oral care services (assessments and cleanings) in residential care facilities. This is allowing Community Dental Health staff to provide more education and support to ensure that the Adult Oral Care Regulations are met.[87]

- **Barriers**[88]

BC Community Health Dental Staff have determined that there are three basic problems that interfere with the ability of seniors in residential care facilities to attain and maintain good oral health:

a. lack of on-site dental care consultants
   - oral hygiene needs of residential care clients are often not understood by administrative personnel, nursing staff and family members

b. lack of adequate daily oral care by care staff
   - oral health care needs of residents are not being met due to caregivers' demanding workload, their attitudes towards oral hygiene and lack of knowledge about the importance of mouthcare

c. difficulty accessing professional dental care
   - providing dental care to clients residing in care facilities presents many challenges and requires specialized skills

- **Programs**

The education and skills of dental hygienists allow them to assist licensees in meeting the Adult Care Regulations and establishing oral health policies and procedures for their residents. Dental hygienists have successfully coordinated oral health programs in care facilities.[76]

Two progressive oral health programs (outlined below) provide comprehensive oral care in residential facilities. These programs appear to utilize the Model for Integrated Oral Health Care: Dental Hygienist as Coordinator (discussed previously under section 3.2.1) and have a unique partnership with the facility and community. These oral health programs have received accolades for the service they provide and other areas in BC are looking at ways to duplicate their success.

1. Queen's Park Care Centre Oral Health Program [106]

a. Program Description

The oral health program was created approximately in 1990. Over the years it has evolved into a comprehensive oral health program. The program includes client assessments, dental treatment and preventive services, and staff education and interdisciplinary participation.

b. Program Funding

Queens' Park Care Centre receives funding from the BC Ministry of Health through the Simon Fraser Health Region. This facility has determined that their Oral Health Program is a priority and they have designated funding from their global budget for its operation.

c. Program Staff

- 1 FTE (full time equivalent) dental hygienist
- 1 FTE certified dental assistant
- 1 dentist – 2 days per week on contract with Ministry of Health
- 1 denturist – with a service agreement.

There is a dental clinic on site at Queen's Park (300 residents – young adults to elderly population). Depending on the situation, oral health services are provided in the dental clinic or at bedside. There is no fee charged to the client for the services. Mobile equipment is available for use at Fellburn Care Centre (110 residents – elderly population).

- **Dental Hygienist's Responsibilities:**
  - provides client oral assessments
  - develops and reassess client oral care plans
  - refers to dentist, denturist, dental assistant as required
  - participates in client care conference
  - collaborates with Regional Clinical Nurse Specialist to develop Clinical Practice Guidelines for Maintenance of Oral Health Standards
  - provides oral health education to staff in one-to-one or group format
  - participates on the Resident Program Team in preparation for accreditation and ongoing quality improvement initiatives

- **Certified Dental Assistant's Responsibilities:**
  - assists the dentist
  - provides indirect assistance to the dental hygienist
  - labels client dentures
  - cleans dentures in ultrasonic unit
  - orders supplies and restocks as needed

- **Dentist's Responsibilities:**
  - provides appropriate dental treatment for the clients

- **Denturist's Responsibilities:**
  - fabricates and repairs partial and full dentures for the clients
  - responds to referrals from dentist, dental hygienist, dental assistant, care staff
  - visits residents in the facility
  - provides some work on site or removes dentures to provide services needed in lab and then returns dentures to resident

d. Program Evaluation/Statistics

- No program evaluation or statistics available.

2. The BC Northern Interior Health Unit Geriatric Outreach Dental Program – Northern Health Authority [107]

a. Program Description

The Northern Interior Health Unit Geriatric Outreach Dental Program provides dental services to four adult care facilities in Prince George. This public health initiative began approximately in 1996.

b. Program Funding

The Northern Interior Health Service Delivery Area of the Northern Health Authority provides ongoing funding for program staff and supplies. The cost to provide dental treatment and hygiene services to the four facilities is $16,110 in total. Portable equipment was purchased with funds raised by the local dental community, public dental health program and from a grant from the University of British Columbia.

c. Program Staff

Annual contracts:
- 3 dentists
- 1 dental hygienist
- 1 certified dental assistant

- **Dental Hygienist's Responsibilities:**
  - provides clinical hygiene sessions and assessments for the residents
  - reviews and updates resident oral care plans and attends care conferences or provides written report to be shared at the care conference

- provides inservices to staff based on identified oral educational needs.
- liaises with attending dentist to ensure clarification, monitoring and problem solving pertaining to dental health service

- **Dental Assistant's Responsibilities:**
  - assists the facility dentist and dental hygienist during oral health assessments and clinical procedures
  - coordinates Dental Outreach Program
    - booking of residents' appointments
    - maintenance and care of equipment
    - ordering of supplies
    - arranges for transport of equipment
    - submits for payment to facility on behalf of dental team members
    - communicates with dentist's private practice office to reduce risk of booking conflicts
    - acts as the "hub" of the program

- **Dentist's Responsibilities :**
  - provides assessments and treatment (basic dental care—fillings, simple extractions, denture adjustments and cleanings) at no charge to the resident

- **Public Health Dental Role:**
  - Provided the framework for the program
  - Oversees the clinical role of the dental assistant and dental hygienist
  - Provides administrative support
    - chairs and records meetings 3 times a year with dental team
    - liaises between facility administration and dental team
    - collects and collates statistics on an annual basis
    - provides quality improvement guidelines and initiatives for program
    - promotes program within the community—media, seniors' groups, etc.
    - oversees fee submissions
    - manages contracts

d. Program Evaluation/Statistics

The Geriatric Outreach Dental Program has collected the following data for April 1, 2001 – March 31, 2002:

Dental Treatment – 4 Facilities (287 residents)

Initial exams	97
Recall exams	54
Fillings	4
Extractions	12
Denture adjust/reline	58
Abscesses/lesions	53

Dental Hygiene - 3 Facilities (171 residents)

Inservices	4
Denture Labeling	44
Daily oral care plans	85
Consults/referrals	1
Clinical hygiene sessions	10

e. Other

Continuing Education

The Geriatric Outreach Dental Committee meets three times a year to discuss direction. The Northern Interior Health Unit has partnered with the local Dental Society to bring in educators in the geriatric field. The Health Unit provides oral health education sessions to local college Home Support Resident Care Aid and Licensed Practical Nurses programs. "Hands on" training sessions are made available for Dental Hygiene and Home Support Residential Care Aid students.

3. University of British Columbia Geriatric Dentistry Program [70]

a. Program Description

In February 2002, the UBC Dentistry Specialty Clinics began providing dental services to approximately 1,000 seniors in eight residential care centres. Satellite dental clinics, equipped with mobile dental equipment, have been established at the residential care centres.

b. Program Funding

The Vancouver & Richmond Health Board, the UBC Faculty of Dentistry, and the Providence Health Care have formed a unique partnership to provide dental services for seniors in care facilities. Additional financial support has been obtained from the St. Vincent's Hospitals Foundation and the UBC Foundation. This is a two-year (2002-2004) pilot project with an operating budget of $200,000.

c. Program Staff

Private practice dentists and dental hygienists provide the dental services. Dental students from UBC have the opportunity to rotate through the clinic to gain experience providing oral care to the elderly.

d. Program Evaluation/Statistics

To determine effectiveness of the program, baseline assessments of residents' oral health, using Clinical Oral Disorder in Elders (CODE) evaluation tool, have been conducted. Annual assessments will be completed to determine if the oral health status of the residents improves with the dental program in place. This is one of the few programs/projects in Canada that will conduct research to determine how oral health of the elderly is impacted by the intervention.

3.5.3 Alberta

- **Background**

In Alberta, oral health care is not included in the Alberta Regulation 258/85 Nursing Homes Act – Nursing Homes Operation Regulation. There are also no provincial oral care guidelines or a standardized oral assessment tool. Dental hygienists in the private sector must practice under the supervision of a dentist. These factors may have influenced the decision of health regions to provide only minimal community-based oral care programs for seniors.

Seniors' oral health programs in Calgary are discussed in section 6.0 – Current Dental Programs for Seniors in Calgary. Three oral care programs in Alberta are outlined below:

1. Capital Health [108]

a. Program Description

Dental hygienists offer the following oral health services in the adult and seniors' population:

- presenting mouth care inservices to 25 long-term care facilities upon request
- conducting oral assessments on residents in two long-term care facilities (approximately 135 residents)
- providing oral health information on request to Capital Health Resource Team and long-term care staff concerning residents' oral health needs
- displaying information at health fairs
- presenting information on the importance of oral health to licensed practical nurses and personal support aides at Norquest College and to nursing students at the University of Alberta

b. Program Funding

Funding is allocated from existing program/operational budget.

c. Program Staff

Three dental hygienists (total of 0.6 FTE) provide oral care services for the seniors' population.

d. Program Evaluation/Statistics

Oral Health Assessments Statistics 2001

# of Residents Assessed	116
Residents with at least 1 full or partial denture	62%
Residents with some or all of their natural teeth	38%
Residents with no teeth or dentures	10%
Residents with natural teeth who have periodontal disease	27%
Residents with natural teeth and unhealthy plaque levels	68%
Residents with dentures and unhealthy plaque levels	42%
Residents with dry mouth	53%
Residents with oral lesion or abnormality	12%
Residents that have tooth decay	34%
Residents referred to a dentist	24%
Residents referred for denture concerns	38%
Residents referred to a physician	3%

2. Glenrose Seniors Dental Clinic [109]

a. Program Description

The Dental Clinic has been operating since 1990 and provides comprehensive dental treatment for medically compromised seniors on a fee-for-service basis. Throughout the year, oral assessments are conducted by a dentist in long-term care facilities. Residents requiring dental treatment are referred to the Glenrose Seniors Dental Clinic or a dentist of their choice. Prior to changes to the Alberta Health's Extended Health Benefits Program, there was no fee for the assessment. Residents are now responsible for the cost of the assessment.

b. Program Funding

The clinic is expected to generate enough revenue to cover costs.

c. Program Staff

The staff includes:

- 1 FTE dentist
- 1 FTE dental assistant
- 1 FTE receptionist

d. Program Evaluation/Statistics

Approximately 400 assessments are conducted in 10 long-term care facilities and 4,700 seniors are treated annually.

e. Other

A proposed partnership to provide additional and integrated oral health services to residents in continuing care centres was submitted by Capital Health to the Glenrose Hospital in April 2000. The Community Health Services (CHS) and Glenrose Seniors Dental Clinic staff collaboratively identified the need for improved oral hygiene and dental treatment services for residents of continuing care facilities. The goals of the program were:

- To improve the oral health status of residents living in continuing care through education of care providers and family members within existing resources.
- To identify oral disease by conducting assessments and referring those residents requiring dental treatment**.**

The proposal was not supported by Glenrose Seniors Clinic because there was a concern that they couldn't handle an increase in the number of patients that may result from an increase in dental screenings at the facilities.

3. Lakeland Regional Health Authority [110]

a. Program Description

The following preventive dental services are offered to residents in long-term care facilities:

- mouth care inservices to long-term care facilities
- oral assessments on residents in long-term care facilities or partner with local dentists to conduct oral assessments
- oral health information to staff, health professionals and caregiving students
- assistance with resident mouth care on-site
- development of daily oral care plans for residents
- consultations with the resident and family to discuss dental problems and solutions
- annual denture cleaning and marking
- coordination of referrals to physicians, dentists or denturists for treatment

b. Program Funding

Funding is allocated from existing program/operational budget.

c. Program Staff

2.3 FTE dental hygienists and 5.6 FTE dental assistants are responsible for the oral health services in infant, preschool, school and continuing care programs. As part of the 2002 deficit reduction plan for the Lakeland Region, the Dental Services lost 0.7 FTE dental hygienist and 2.6 dental assistants. The future of Lakeland Regional Health Authorities Oral Health Services in the Continuing Care Program is under review in 2002.

d. Program Evaluation/Statistics

Annual oral health assessments are conducted in 8 long-term care facilities. The statistics collected are similar for all the sites. An example of the results of the assessments for one site is listed below:

Lamont Long-term Care – May 2001

# of Residents assessed	96
Residents with some or all of their natural teeth	39%
Residents with dentures	57%
Residents not wearing dentures	28%
Residents with natural teeth who have periodontal disease	24%
Residents with natural teeth and unhealthy plaque levels	43%
Residents with dentures and unhealthy plaque levels	33%
Residents with oral lesions	29%
Residents that have tooth decay	35%
Residents referred to a dentist	35%
Residents referred for denture concerns	29%
Residents referred to a physician	2%

3.5.4 Saskatchewan

Background

In Saskatchewan, oral health care is listed in the Personal Care Homes Regulation, 1996 Chapter P-6.01 Reg 2 s23 (b). The regulation states that “a licensee shall ensure that each resident receives a dental examination as necessary”.

There are limited seniors’ oral health programs provided by Health Authorities/Districts in Saskatchewan. Two programs are described below:

1. Saskatoon Regional Health Authority [111]

a. Program Description

There is a minimal seniors' oral health program in place. The dental health staff is responsible for:

- providing seniors' oral health information to students in the Homecare/Special Care Aide Program at the Saskatchewan Institute of Applied Science and Technology (SIAST)
- presenting mouth care inservices to long-term care staff on request

b. Program Funding

Funding is allocated from existing program/operational budget.

c. Program Staff

No information available.

d. Program Evaluation/Statistics

No information available.

2. North Central, North East and Pasquia Health Districts [112]

a. Program Description

A dental health educator:

- conducts oral health assessments once every three years
- provides mouth care inservices to long-term care staff on request
- presents an annual 3 hour oral care presentation to Homecare/Special Care Aide Program at SIAST

b. Program Funding

Funding is allocated from existing program/operational budget.

c. Program Staff

Approximately 10% of the Dental Health Educator (1 FTE) program is allocated to the seniors' population.

d. Program Evaluation/Statistics

No information available.

3. Private Practice Mobile Dental Hygiene Services [113]

a. Program Description

In Regina there are no on-site dental programs operating in care facilities. Heritage Mobile Dental Hygiene Services provides a comprehensive dental hygiene program for seniors and physically challenged persons. The following components and services are provided on-site (by transporting portable equipment into the facility and private homes):

- an annual oral health assessment and oral cancer screening
- referrals to dentist and/or denturist for on-site dental services
- direct communication with family and other health professionals
- dentures professionally cleaned and labeled at the initial assessment
- personalized oral hygiene plan based on individual needs
- advocate for staff compliance of oral hygiene care plan
- facility staff provided with oral hygiene instruction

b. Program Funding

- A comprehensive dental hygiene program is provided for a fee that is paid once yearly.

- The following additional services are provided on a fee-for-service basis:
  - dental hygienist's services – scaling, fluoride treatments, X rays, oral care aids
  - dentist's services

c. Program Staff

- Owned and operated by a dental hygienist (works 5-6 days per month)
- Working relationship with a private practice dentist

d. Program Evaluation/Statistics

In 2002, 60 clients received dental services and each client was seen approximately three times.

3.5.5 Manitoba

- **Background** [114,115]

Currently there are no provincial oral care standards in Personal Care Homes. Oral care is considered part of the overall care plan for the resident. Many facilities have

their own policies on oral care and some have facility-specific standards. Manitoba Health also does not operate any seniors' specific oral care programs in the province.

The Centre for Community Oral Health [116]

The University of Manitoba, Faculty of Dentistry operates the Centre for Community Oral Health (CCOH). This outreach and community service centre provides dental care programs and promotes oral health for individuals who, for a variety of reasons, are unable to access mainstream dental services. A Health Promotion Unit, which was established in 2000-01, also initiates health promotion activities in many of the centre's programs. The elderly are one of the groups that are targeted by the following CCOH outreach programs:

1. Deer Lodge Centre Dental Program

a. Program Description

Clinical services are provided in the 4-chair dental clinic for elderly residents of this long-term care facility. Most residents have complex medical/mental conditions. All new residents receive a free initial examination, but the dental treatment program is a fee-for-service program. The program also accommodates dental and dental hygiene students for a 1-week geriodontic externship and has a research component to measure impacts on residents' health.

b. Funding

In 2001, the cost to operate the program was $226,000 and the revenue generated from the fee-for-service program was $225,000.

c. Program Staff

- 1 dentist (4 days)
- 1 dental assistant (4 days)
- 1 receptionist (5 days)
- 1 dental hygienist (2 days)

d. Program Evaluation/Statistics

An estimated 1,200 residents receive dental services annually.

e. Other

The Health Promotion Unit staff developed a comprehensive three-stage oral care inservice program for the 600 Deer Lodge Centre nurses and caregivers. The two dental hygienists present a one-hour large-group lecture session and a one-hour "hands-on" demonstration and practice of daily mouth care skills on the unit. The third

session involves “train the trainer” approach for a small group of interested individuals who will serve as an internal resource for daily mouth care.[117]

2. Home Dental Care Program

a. Program Description

Since 1985, dental teams have taken portable dental equipment to many locations within Winnipeg to provide care to individuals who are unable to travel to dental offices. Approximately 95% of services are provided to elderly residents of the 48 long-term care facilities with severely restricted mobility. These residents typically have complex medical and pharmacological concerns. The remaining 5% of services are provided to individuals who are confined to their homes for a variety of physical and medical reasons. A major change to the program was implemented this year with the purchase of a portable dental hygiene unit, allowing the addition of dental hygiene services and expansion of preventive modalities.

The Home Dental Care Program is a “fee-for-service” program. A structured “prepayment” system has been set up to cover the patients’ dental fees and reduce bookkeeping problems.

The program staff also accommodate all 4th-year dental students during their geriodontic externship rotation.

b. Funding

In 2001 the cost to operate the program was $400,000 and the revenue generated from fees covered the costs.

c. Program Staff

Two dental teams made up of:

- 1 FTE dentist
- 1 FTE dental assistant
- .3 FTE dental hygienist

d. Program Evaluation/Statistics

Approximately 3000 residents receive dental services per year.

3.5.6 Ontario

- **Background**

In 1974, the Task Force on Community Dental Services recommended that more comprehensive services be provided to specific adult groups such as "geriatric and handicapped people".[40] Guidelines required health units to provide screening, referral and follow-up, clinical preventive measures, dental health education, and advisory services to seniors' facilities. In 1982, 23 of 43 Ontario local health units offered community-based programs for seniors, but by 1994 the number reporting seniors' services had fallen to 16.[40]

The Ontario Ministry of Health passed legislation on Long-Term Care Reform in December 1993. They released a Long-Term Care Facility Program Manual, which included standards of oral and dental care.[90] It was intended that each licensed facility in Ontario would have to meet these standards in order to retain or attain a license. It appears from discussions with various Health Unit staff that the long-term care facilities are not complying with the oral care standards.[86,91]

It has also been a challenge for public health programs to find dentists who are willing to provide follow-up dental treatment in long-term care facilities. Dental hygienists are interested in filling this need but are limited in the treatment they can provide.[93]

In 1997, preventive dental public health services for seniors were no longer mandated and as a result, public health programs started losing the capacity to offer oral health programs to seniors or had to start charging for their services to cover costs.[40] Six seniors' oral health programs are outlined with emphasis on the challenges they encountered.

1. Simcoe County District Health Unit [91,118]

a. Program Description

In 1986 a Geriatric Dental Advisory Committee was formed, which included Simcoe County District Health Unit staff, representatives from the local dental society, denturists and nursing home staff. Their mandate was to develop a dental care program for 2000 long-term care residents. The committee met for one year and the following program was designed with outlined responsibilities:

- Health Unit: screening, charting, referral, preventive services, education of caregivers, coordinating delivery and maintenance of portable equipment, follow-up of residents. (no fee involved)

- Dentists: examination, treatment planning (including cost estimates), dental treatment. (fee-for-service)

- Denturists: examination, treatment planning, reline, repair and/or fabrication of complete dentures. (fee-for-service)

- Nursing Homes: on site staff assistance with program related activities, distribution and collection of consent forms and related paperwork. (no fee involved)

b. Program Funding

From 1986 to 1996 the province of Ontario mandated preventive dental public health services for seniors and funding was provided**.** In 1997 the preventive dental public health services for seniors were no longer mandated and budgets were cut. For the next three years residents were charged a $22 fee for an annual assessment, scaling, denture cleaning and labeling. The Health Unit also presented dental health inservices to staff. By 2000, the $22 fee was recovering only 50% of staff salaries. A survey was sent to the long-term care facilities asking them whether they would continue to participate in the program if the fee for dental care increased to $45 per resident. All facilities refused the Dental Care Program and it was put on hold. Since 2000 some long-term care facilities have been contacting the Health Unit because of increasing dental problems. There is now a renewed interest in restoring the Dental Care Program at a cost-recovery fee.

c. Program Staff

No information available

d. Program Evaluation/Statistics

- The care facilities reported that the preventive program satisfied most of the preventive needs of the residents.

- Dentists' services were identified as the weak link in the provision of services to the residents. In many cases the dentists only provided emergency services (i.e. extractions). If further treatment was required, many dentists insisted that residents be transported to their offices.

2. Middlesex-London Health Unit [86]

a. Program Description

Dental Services conducted a dental screening program in long-term care facilities from 1987 to 2001. Dental hygienists did the screenings using portable equipment,. Denture labeling and inservices were offered to the facilities.

b. Program Funding

Funding was allocated from existing program/operational budget.

c. Program Staff

No information available

d. Program Evaluation/Statistics

The screening program was stopped in 2001 because of the following problems:

- After screenings were completed by the Health Unit, their recommendations for treatment and follow-up care by the facility did not occur despite the mandated long-term care regulations in place.
- Accessing dental treatment outside the facility was difficult for the residents.
- Families did not want to pay for dental treatment.
- Dental health was not a priority for the resident, family or care facility.

3. Halton Region Health Department – Oral Health Outreach Program[78,119]

a. Program Description

The goal of Halton Region Health Department Oral Health Outreach Program is to provide appropriate structures and mechanisms to ensure the provision of necessary oral health services to adults with special needs and the frail elderly who require assistance with daily oral hygiene practices and/or access to dental treatment services. These adults may reside in a long-term care facility, complex continuing care unit, or their own home.

A service delivery model was developed by the Halton Oral Health Outreach Task Force and implemented in February 2000. It provided one stop access to information on oral health services and coordination of service delivery (Appendix A).

b. Program Funding

To fully implement the model, funding was required. The Task Force requested funding from the Long-Term Care Branch of the Ministry of Health to cover the costs associated with the initial setup of this program. The annual budget for this program was approximately $110,300; however, due to in kind contributions, the amount of funding required was only $73,300.

c. Program Staff

- 1 FTE dental hygienist (case manager)
- 1 FTE dental assistant (community educator)

There is a partnership between the Community Care Access Centre of Halton (CCAC) which was previously Home Care, and the Halton Region Health Department. The CCAC case managers provide oral health information and a referral service to the frail

elderly and adults with special needs. The Halton Health Department dental staff present oral health education sessions, and dental hygienists conduct oral screenings.

d. Program Evaluation/Statistics

Statistics are gathered from the Minimum Data Set (MDS) which is used in hospitals, Home Care and long-term care facilities. This is the same tool, mandated by US federal legislation (OBRA 87), for the implementation of a comprehensive uniform health assessment of nursing home residents . It includes two sections that assess oral health: Oral/Nutritional Status and a more extensive section, Oral/Dental Status. The dental staff also complete an Oral Health Assessment Record and Daily Oral Care Plan for all clients.

Statistics will be gathered to determine:
- access to oral care services
- oral health status
- client satisfaction

4. City of Ottawa Public Health and Long-term Care Branch[120,121]

The City of Ottawa coordinates two oral health programs for seniors:
i. Long-term Care Facility Dental Clinics
ii. Community Denture Program

i. Long-term Care Facility Dental Clinics

a. Program Description

In 1997, the provincial government no longer mandated preventive dental public health services for seniors. As a result, there are dental clinics in only two long-term care facilities (each with 250 residents) that are owned and operated by the City of Ottawa. The facility administration identified a need for dental services and approached the Ottawa Public Health and Long-term Care Branch to set up the dental clinics. The two dental clinics provide services on a “fee-for-service” basis. Some 350-400 assessments are conducted annually and dental treatment and hygiene services are recommended to the residents.

b. Program Funding

The dental clinics are revenue neutral.

c. Program Staff

- 1 dentist – 1 day/week
- 1 dental assistant – 1day/week

- 1 dental hygienist – 1day/week
- 1 volunteer

d. Program Evaluation/Statistics

No information available.

ii. Community Denture Program

a. Program Description

This program is a community partnership with private dentists and denturists. Seniors, who qualify for financial assistance from Social Services, can request denture services. Three City of Ottawa dental clinics assess seniors to determine their denture needs. Private dentists and denturists are then authorized to fabricate the dentures. Lab fees are negotiated with the local labs as a group.

b. Program Funding

The budget for this program is $1.5 million and is accessed from a provincial fund called Essential Health and Social Supports, and the Ontario Social Assistance Department. In 2001, $900,000 was spent in this program.

c. Program Staff

- Assessment by City of Ottawa dentists
- Dentures made by private dentist or denturist

d. Program Evaluation/Statistics

The following statistics were gathered for the Community Denture Program in 2001:

Community Denture Program Statistics 2001

Procedure	Numbers	Lab Costs	Dentist Costs
Complete Upper Denture (CUD)	239	$45,410	$77,675
Complete Lower Denture (CLD)	35	$6,650	$11,375
CUD/CLD	432	$164,160	$235,440
Relines Upper (Max)	164	$13,940	$19,516
Relines Lower (Mand)	122	$10,370	$14,518
Relines Chairside	5	$360	$360
Repairs	812	$30,709	$17,420
Partial Upper Denture (PUD)	41	$4,223	$4,223
Partial Lower Denture (PLD)	8	$824	$824
PUD with clasps	165	$28,050	$33,990
PLD with clasps	199	$33,830	$40,994
PLD/PUD	81	$27,621	$33,453
PUD cast	27	$5,940	$9,747
PLD cast	37	$8,140	$13,357
Other	7	$3,080	$3,745
TOTAL		**$382,947**	**$517,233**
Total Cost of Community Denture Program 2001			**$900,180**

5. City of Toronto Public Health Department[122]

Seniors' Dental Program

The two primary components of the seniors' dental program in the City of Toronto are:

i. treatment
ii. prevention

i. Dental Treatment Program

a. Program Description

The dental treatment program for seniors operates in nine community-based clinics which are situated throughout the city. Each is easily accessed by public transportation and is staffed by employees who are fluent in the languages of the client groups. Seniors are eligible for dental treatment in these clinics if they satisfy the following criteria:

- are 65 years of age
- are a city of Toronto resident
- have an annual income of $16,750 or less for a single person and $25,500 or less for a couple
- can provide proof of residency (e.g. driver's license, official communication etc.)

Only seniors who are eligible are treated in these clinics. There is no charge for most of the services provided, the exception being any laboratory charges associated with the fabrication of dentures. The client is responsible for 50% of the laboratory charge in these instances.

The services provided for seniors are:

- examinations
- radiographs
- fillings
- extractions
- partial dentures
- complete dentures
- cleanings

b. Program Funding

Approximately 10,000 seniors are treated/year. The total cost of the dental treatment program for the city of Toronto (including children, seniors, high school students, high risk mothers and ESL students) is $5.2 million, of which approximately 30% is used for treating the seniors' population.

c. Program Staff

These clinics are staffed by 23 dentists, 5 dental hygienists, 23 assistants and 1-2 clerks/clinic. In addition to serving seniors, they provide services for children, high-risk mothers, high school students and ESL students.

d. Program Evaluation/Statistics

The Seniors' Dental Program is evaluated by the number of services provided for this population.

ii. Seniors Preventive Program

a. Program Description

The preventive program for seniors is largely located in collective living centres (CLCs) and carried out by teams headed by dental hygienists. There are also preventive services included in the treatment component of the program in the community-based clinics. The CLCs that these teams visit include:

- nursing homes
- homes for the aged
- seniors' residences
- community centres
- chronic care hospitals.

In general these teams provide:

- screening examinations
- oral health education
- denture cleaning and labeling
- referral for treatment
- advice and education to caregivers

b. Program Funding

Funding is allocated from existing program/operational budget.

c. Program Staff

- dental hygienists (also involved in school screenings)
- dental assistants

- **Dental Hygienist's Responsibilities:**

  - coordinates program
  - conducts oral health screenings
  - refers seniors for treatment

- **Dental Assistant's Responsibilities:**
  - provides oral health education to caregivers and staff

d. Program Evaluation/Statistics

The Seniors' Dental Program is evaluated by the number of services provided for residents and caregivers.

6. Baycrest Centre for Geriatric Care – Dentistry
Out-patient Geriatric Dental Program, U of Toronto [123]

a. Program Description:

The Out-patient Geriatric Dental Program is a service within the Reuben & Helene Dennis Ambulatory Care Centre. The dental program provides diagnosis and treatment for all aspects of dental care to adults in the community, and specializes in caring for people 65 years and older. Baycrest's Department of Dentistry is a teaching clinic of the University of Toronto and George Brown College.

b. Program Funding

- fee-for-service program

c. Program Staff

Dentists, specialists, dental hygienists, assistants and residents staff the program.

d. Program Evaluation/Statistics

No information available.

3.5.7 Nova Scotia

The Oral Health of Seniors Project [124,125]

a. Program Description

There are no public oral health programs for seniors in Nova Scotia.[126] Because of this, the idea for an unique and innovative project evolved from discussions between the Faculty of Dentistry at Dalhousie University and the Atlantic Health Promotion Research Centre. Collaboration on a project in the area of health promotion and dentistry resulted in a 2-year project that began in April 2002, titled: The Oral Health of Seniors Project.

This project will identify the key components of a health services model based on continuity of care, which will improve the oral health of seniors in Nova Scotia.

The project will:

- examine continuity of care in the delivery of oral health services for seniors in Nova Scotia
- determine barriers and facilitators to the use of oral health services by seniors through critical analysis of experiences and lessons learned in existing systems in Canada and elsewhere
- develop strategies for financial, organizational and policy interventions and a model for continuity of care that will improve private/public sector provision of oral health services in Canada
- undertake a set of activities to communicate and disseminate the model, findings and implementation strategies for improved quality of health service

b. Program Funding

Proposal Development Funding ($40,000) from:

- Nova Scotia Department of Health
- Nova Scotia Dental Association

Funding amounts committed:

- Canadian Health Services Research Foundation (CHSRF) $100,000
- Nova Scotia Health Research Foundation (NSHRF) $ 50,000
- Manulife Financial $ 10,000

c. Program Staff

The project team is composed of representatives from:
- Manulife Financial
- Northwood Homecare
- Senior Citizens' Secretariat
- Dalhousie University
- NS Department of Health
- NS Dental Association
- NS Dental Hygienists' Association
- University of Toronto

d. Program Evaluation

No information available

3.5.8 Prince Edward Island

Long-term Care Facility Dental Program[127]

a. Program Description

Residents of provincial and private long-term care facilities, including seniors' manors and Hillsborough Hospital are eligible for this program. Annual dental/oral screenings are conducted by the dental public health staff. Where there are treatment needs, or where further investigation is necessary, the resident is referred to a private dentist, oral surgeon or physician. The resident or family is responsible for dental treatment costs that are incurred in private practice dental clinics. There is no cost to the residents for the assessments or preventive services provided by the public health dental staff.

b. Program Funding

A budget of $15,000 has been assigned from within the overall budget.

c. Program Staff

- **Dentists' Responsibilities**:
  - conducts dental/oral screenings

- **Dental Hygienists' Responsibilities**:
  - conducts dental/oral screenings
  - provides follow-up preventive care visits approximately three months after screenings
  - cleans and labels dentures

- applies fluoride varnish
- removes hard deposits from the residents' teeth
- presents inservice sessions for resident care staff

d. Program Evaluation/Statistics

Approximately 1000 annual screenings are conducted in the 18 facilities.

3.6 Geriatric Oral Health Curriculums – Undergraduate and Graduate

- **Background**

As discussed previously, studies have reported that dentists, dental hygienists, physicians, nurses and other health workers, are reluctant to treat the elderly's oral health needs because of a general lack of knowledge and experience. In medicine, nursing and nursing aide curriculums, there is limited oral health information presented.[39,53,54,55,56,57] The literature indicates there is usually only one to three hours of oral health information in curriculums of non-dental health professionals.[128] For example, at the University of Calgary, the third year medical students receive a two-hour lecture titled "Oral Manifestations of Aging" in their Aging & Elderly course. This lecture emphasizes that the mouth of an elderly person plays an important role in the quality of life during their remaining years and dental treatment and prevention can do much to prolong the function of the dentition and enhance the oral health of the older patient.[129]

With this limited exposure to oral health information, many dental and health professionals are unprepared to meet current and future geriatric dental needs. Without appropriate teaching and interaction with dependent elderly in their curriculums, health and dental professionals' inexperience will be translated into limited, poor, or absence of oral health care delivery after graduation.

- **Geriatric Dentistry Courses**

Geriatric dental education is not universal in US or Canadian dental schools. [130]

- 25% of dental schools do not have geriatrics addressed didactically
- 45% of the schools do not provide clinical experiences in geriatrics
- 42% do not include funding for geriatrics in their budgets

When Canadian dental and dental hygiene schools were contacted regarding their geriatric educational courses, all but one responded that geriatric dentistry was integrated in their entire program rather than being offered as a stand-alone course.[70,117,128,131,132,133,134,135] The reason given for this was they do not see geriatric dentistry as a distinct and separate activity, but rather as part of the preparation of

students for general dental practice. Most students received some practical experience, but for a limited amount of time, and only with the well-elderly.

Three universities in Canada and United States offer postgraduate courses and/or continuing education programs in geriatric dentistry.

1. University of British Columbia (UBC) [131]

UBC's Faculty of Dentistry has recently developed a six-credit course for oral health professionals called Oral Health Care in Residential Care Settings. This course meets the learning outcomes for Residential Care Registration and is open to dental hygiene degree completion students, undergraduate dental students, masters' students and practicing dental hygienists and dentists.

The course was offered for the first time to six students from September to April 2000/2001. There is a didactic component, as well as clinical practice experiences which occur on-site in residential care settings. The field experience component totals 40 hours. The course goals are:

- To foster development of a specialized knowledge base to prepare oral health professionals to meet the oral health needs of institutionalized residents.
- To provide opportunities for review and analysis of scientific literature, reports and documents relevant to the complex health issues faced by institutionalized residents.
- To foster critical analysis and integration of relevant information into the provision of appropriate oral health care services for institutionalized residents.
- To participate as a member of an interprofessional team in a residential care facility.

2. University of Minnesota [136]

In 1981 the University of Minnesota, School of Dentistry, established the Oral Health Services for Older Adults (OHSOA) Program. The program has been a pioneer in geriatric dentistry and has won awards for its outstanding contributions in community service, education, and research.

The following courses are offered in the OHSOA program:

Mini-residency in Nursing Home Care for the Dental Team

Since this innovative continuing education program began in 1991 it has provided training to 78 practicing dental professionals from 26 states and three provinces. The five-day, 40-hour program, which includes lectures and practice opportunities, is specifically designed to teach dentists, dental hygienists and dental assistants how to

deliver care more effectively in nursing homes and other long-term care environments. The following topics are addressed:

- Overview of the long-term care system; key elements of long-term care dental programs, comparison of dental care delivery systems; estimating utilization and revenues for dental programs.
- Review of nursing home regulations and required MDS oral health assessments; demonstration and practice of effective wheelchair transfers.
- Contracts and reimbursement issues; systems to enhance communications in long-term care settings; documentation for the dental care of nursing home residents; dental program implementation in variety of settings.
- Planning fixed clinic installations; discussion of portable care delivery in nursing homes.
- Common medical issues in the nursing home including medical risk assessment and management; common dental problems; dental treatment planning; discussion of preventive programs, nursing staff in-service education strategies.

Clinical Fellowship Program

This is a full-time one-year program designed to develop the clinical expertise of dentists and dental hygienists in providing care for older adults. Clinical requirements are completed primarily through rotations at outreach geriatric dental clinics. The program objectives are:

- expertise in the delivery of clinical oral heath care to a broad range of older adults, from well to frail
- expertise in providing care to older adults from a variety of settings, including those in long-term care or other supportive environments
- understanding of the impact of biological aging, systemic disease, functional impairment, and drug therapy on the delivery of oral health care to older adults
- skills in working with a variety of health care professionals and the dental team to deliver effective oral health care
- administrative skills necessary to oversee clinical oral health programs for the elderly

A certificate is awarded and this program prepares the participant for entry in the MS-Dentistry and Graduate minor in Gerontology programs offered in collaboration with the University of Minnesota Graduate School.

Master of Science Program (M.S.)

In 1981 the first M.S. degree program in geriatrics was developed. This graduate degree is offered to dentists and dental hygienists in an 18-month program designed to prepare dentists and dental hygienists with clinical expertise for positions of leadership in education, research, and program administration in the oral health field.

3. University of Washington [137]

The University of Washington's Program of Dental Education in Care of Persons with Disabilities (DECOD) offers many formats of instruction in the dental management of persons with disabilities. This program is available for dentists, dental hygienists and assistants and is designed to link dental training to delivery and rehabilitation services for persons with disabilities. Training formats are didactic and clinical and program length varies from 1 day to 12 months. The following training options are available:

Short-Term Fellowships

Courses of 4-8 weeks provide individualized Home-Based Self-Study Distance Learning Unit (40 hours) and clinical instruction (15 days) that relates to the specific interests of participating dentists, dental hygienists, and dental assistants.

Extended Variable-Length Fellowships

A program of extended training offers variable-length fellowships to dentists and dental hygienists who plan careers in dentistry for the medically compromised and persons with disabilities in underserved areas. Didactic via the Home-Based Self-Study Distance Learning Unit and clinical instruction will provide participants with a broad base of knowledge in:

- disability care
- characteristics of major disabilities
- field observation of diverse services
- oral disease risk assessment
- prevention in special needs groups
- treatment of patients with a wide spectrum of disabilities
- participation on interdisciplinary health teams

Fellows will rotate to DECOD clinical services within the School of Dentistry and in extramural settings such as long-term care facilities. Mobile dental equipment is used at some sites.

The program may partially fulfill requirements towards a Master of Science in Dentistry degree. Fellowship length may vary from two to 12 months to meet individual needs.

3.7 Key Informant Recommendations

Telephone, e-mail and in-person interviews were conducted with 66 individuals from across Canada and United States who are working and/or teaching in the area of seniors' oral health (See Appendix E for a listing). Recommendations and comments from targeted interviews are summarized. Themes and supporting statements that emerged from the majority of the respondents are included in the following categories:

- data collection
- outcome measures
- organizational support
- legislation
- dental staff presence
- comprehensive dental care
- budget allocations and funding
- education of health professionals and formal caregivers
- education of seniors, family members/caregivers

1. Data Collection

- data is needed to show whether oral care has been impacted with increased access to seniors' dental services.

- lack of funding and lack of staff have resulted in data not being collected or analyzed.

- an assessment tool is needed to provide reliable and valid seniors' oral health data.

2. Outcome Measures

Respondents indicated that there are challenges associated with outcome measures in seniors' oral health programs. They felt that:

- the value of seniors' oral health programs is the screening to identify pain, pathology and referrals where treatment is indicated.

- there are no measurable outcomes in a seniors' oral program that can verify oral health improvement.

> "Scaling an 85 year-old's teeth, or labelling a denture cannot easily be put into terms of oral health improvement. The only measurements can be service statistics or quality-of-life issues."

- continued research efforts are required to develop appropriate and workable outcome measures.

3. Agency Support

- seniors' oral health programs are most effective when all portfolios within a health authority support them.

- sustainability of seniors' oral health initiatives is attributed to organizational and care facility support.

"When the health authority and facility administrators make seniors' oral health a priority and someone in a management position champions the cause, there is a greater probability that the program will succeed."

4. Legislation

- **Oral Care Standards**

– mandated provincial oral care standards in long-term care help improve oral care access for the residents.

– passage of Adult Care Regulations, which includes oral health care, generates increased interest and commitment of facility administrators towards the implementation of oral care policies.

– provincial oral care standards must be enforced to be effective.

- **Dental Hygiene Regulations**

– there is a need to advocate for removal of supervision requirements from legislation governing the practice of dental hygiene in provinces (such as Alberta) so dental hygienists can provide oral health services for residents in long-term care.

"Dentistry has not embraced the idea of providing dental services in long-term care facilities, yet they are preventing other dental professionals from filling the void."

5. Dental Staff Presence

– when a consistent dental presence is maintained in a facility, improved levels of residents' oral health is observed and increased requests for oral health information results.

"When dental staff participate in resident case conferences, oral health issues are addressed and other disciplines have an opportunity to learn that oral health can have a huge impact on resident's health and well-being."

– the education and skills of dental hygienists make them ideal professionals to coordinate a comprehensive oral health program in long-term care facilities because of their expertise and cost-effectiveness.

6. Comprehensive Dental Care

- an initial dental examination is essential for oral care planning just as an initial medical assessment is an essential requirement for care planning for each resident.

- it is necessary to provide at least the minimal standard of care in long-term care facilities – elimination of oral pain, infection and swelling.

- education and assessments are important components of a seniors' oral health program, but dental services must be available if dental treatment is recommended.

- finding dentists that are willing to go into long-term care facilities to see residents that require dental treatment is usually the weakest link in the dental care program.

- a fee-for-service dental clinic that specializes in geriatric dentistry and has wheelchair access, should be available for residents of care centres and older adults living in the community.

- a mobile geriatric dental service (fee-for-service) should be available to residents of long-term care facilities and homebound seniors that cannot access services at a dental clinic.

  > "Dental treatment is often not requested by families because the resident is unable to leave the facility and dental staff are unwilling to provide treatment in the facility."

7. Budget Allocations and Funding

- it would be ideal to have additional funds for a Seniors' Oral Health Program but in reality, most programs realign staff and redistribute funds from their existing operational budget.

- partnering with community groups is a successful way to raise funds for dental equipment, vans etc.

8. Education of Seniors, Family Members and Caregivers

- there is a need to educate seniors and their families concerning the importance of mouth care to health and well-being in general.

- it is necessary to raise awareness of the value of seniors' oral health to policy makers, facility administrators, and future caregivers.

9. Education of Health Professionals and Caregivers

- efforts are needed to enhance the undergraduate and postgraduate education of physicians, nurses, dentists and dental hygienists so that the health profession in the future will feel more adept at managing oral health problems in our aging population.

- oral health care procedures should be included in the curriculum of personal home care aides/health care students, and dental professionals should teach the information.

- facilities must allow an appropriate amount of time and access to mouth care inservices for all caregivers.

4.0 STATUS QUO IN CALGARY HEALTH REGION

4.1 Demographic Trends

4.1.1 Alberta

Over the last quarter of a century, the proportion of seniors increased significantly. Since 1971 the number of Albertans over the age of 65 has increased by 150%, rising from 120,500 in 1971 to 301,000 in 2000. [138] It is expected that by 2016, approximately 14% of Alberta's population will be comprised of individuals aged 65 and older.[138] This percentage is expected to increase to 20% by 2026, with a projected 700,000 plus seniors in Alberta, or about one in five Albertans.[138] The aging of the population will be fairly gradual until 2011 and then the rate of growth will accelerate as the baby boomers begin to turn 65. This accelerated growth is expected to continue until approximately 2030 when the last of the baby boomers become seniors.

While the share of seniors in Alberta is smaller than in other provinces, Alberta is the recipient of the largest net inflow of senior interprovincial immigrants.[2,139] In 1997-98, 2,300 more seniors moved into Alberta than moved out.[2]
The rate of seniors living in care facilities has declined gradually since 1976. Recent data (2000) from Alberta Health and Wellness show that there are approximately 14,000 Albertans in long-term care facilities. This represents only 5% of all Alberta seniors. Over 91% of seniors live in private homes.[138]

4.1.2 Calgary Health Region

Growth projections (2000-2005) for the population in Calgary for 65 year-olds and older are in the 16% range.[140] The Calgary Health Region has projected that in March 2002 there were 89,236 individuals aged 65 and older living in the region.[141] This number is projected to rise to 127,316 in 2012 and 154,744 by 2016.[141]

In 1998, the population of seniors over the age of 75 was 32,029. Predictions based on census data indicate by 2003, there will be well over 40,000 seniors over the age of 75 in the Calgary Health Region.[142]

Seniors aged 85 and over represent the fastest-growing segment of the senior population. By 2002 there will be approximately 9,220 seniors over the age of 85 in the Calgary Health Region. This number is estimated to rise to over 18,290 by 2016, a cumulative increase of 98%.[141]

The Calgary Health Region, Seniors Health Program, describes the seniors population as being those age 65 and older but also identifies the need for a continuum approach to this aging population including the pre-seniors, seniors that are 85 and older, and all of those in-between.[139] The Region recognizes that the needs of the senior should be driving services, not the person's chronological age.[138]

4.2 Calgary Health Region Continuing Care Programs

As defined in the Broda Report (1999),[143] continuing care "is a system of service delivery which provides individuals who have health conditions or disabilities with access to services they need to experience independence and quality living. Services include professional, personal care and a range of other services provided for a short term or long term. Usually these services are provided in long-term care centres or in the home."[143] The Calgary Health Region provides these services in a variety of settings and programs.

4.2.1 Seniors Resource Nurse Program (SRN)[144,145]

Seniors Resource Nurses are public health nurses with specialized knowledge and skill in gerontological nursing. There are 4.5 FTE Seniors Resource Nurses based geographically across the Region and working out of regional community health centres. The healthy aging team also has 1.0 FTE licensed practical nurse working in a pilot capacity until August 2003.

As seniors continue to live independently in their own homes, in both urban and rural Calgary, assessment and anticipatory surveillance is offered by Senior Resource Nurses. The target population of this program is at-risk, frail seniors, usually 75 years and older, who are experiencing challenges to managing their self-care. Health promotion and disease/injury prevention services are provided with the goal of preventing clients from moving further along the care continuum, thereby reducing the need for Home Care, Supported Living, or care centre placement.

Referral to the Seniors Resource Nurses are received from seniors themselves, physicians, Home Care, acute care, building managers, community agencies, and family/neighbours. Venues for Seniors Resource Nurses are wellness clinics, community centres and individuals' homes.

In the 2000/2001 SRN program there were 437 new clients and 5,245 ongoing clients seen at Calgary Health Region Wellness Clinics. There were also home visits for 260 new referrals and 1,836 ongoing clients.

4.2.2 Home Care[146]

Home Care provides services that enable clients to live as independently as possible in their own home or supportive community setting. Home Care services prevent, delay or provide a substitution role for care based in a care centre or an acute care facility. The senior population group includes clients who are 65 years of age or older. These clients have needs related to function, cognition, and/or their disease state. Care can be provided on a short-term basis to manage the complex physical, psychosocial and emotional needs associated with the elderly. Interventions are prevention, care, treatment, maintenance, restoration, and/or services directed toward achieving quality of life.
Referral to Home Care are received from seniors themselves, physicians, acute care, health professionals, family and friends. Home Care services are provided in homes, seniors' apartments, lodges, assisted living environments, personal care homes and community clinics. Approximately 6,975 seniors receive some aspect of home care services each year in the Calgary region.

4.2.3 Specialized Geriatric Services[147,148]

Seniors' Health has specialized teams of health care professionals who work with older adults to help them improve their ability to care for themselves. The teams do this by helping older adults manage health problems, by maintaining or improving independence, and by assisting in future care or discharge planning.

Clients seen within the services are frail, complex older adults who present with deterioration in their functional status. This group generally has a number of underlying chronic conditions. An exacerbation of one or more of these, interacting with an acute condition, leads to the need for a diagnostic assessment, which also encompasses consideration of their social and functional capabilities. The objective is to develop an overall plan for treatment and management with an emphasis on functional status and quality of life. The clients are 99% community dwelling, with a mean age of 85 years. They have from 10 to 16 co-morbidities. In 2000/01, there were approximately 675 clients who received assessment, rehabilitation and consultation services from Acute Care sites. Day Hospital provided services to 434 clients. Home Care services were accessed by 91% of patients discharged from inpatient units.

There are two new innovative services offered to seniors living in the community:

- **Comprehensive Community Care for the Frail Elderly**[147,148]

Comprehensive Community Care (C3) is a first of its kind service in Calgary. This service helps frail seniors stay in their home as long as possible. By using a holistic model of care that assesses and coordinates the needs of frail seniors – from medical to home support needs – admission to a care centre or other supported living arrangement may be delayed or avoided. This program is responsive to individual needs and includes other services such as transportation, telephone support services, pharmacy, and referral to specific health professionals. The program serves up to 100 clients within a geographical area approximately 30-45 minutes from the site. As of March 2002, 58 clients were enrolled in the program.

- **Seniors Urgent Assessment Clinic**[149]

The Seniors Urgent Assessment Clinic began in September 2001 to serve seniors with declining health but not ill enough to be hospitalized. The clinic is located at Foothills Medical Centre and assists seniors who are in need of urgent care and living in the community. Seniors are referred by an Emergency Department, family physician or Home Care coordinator. The average client is 81 years of age, has three or more medical diagnoses and considered medically frail. Five to ten clients per week undergo a comprehensive geriatric assessment by a transdisciplinary team, which includes:

- gerontology nurse practitioner
- occupational therapist
- pharmacist
- physiotherapist
- registered dietitian
- registered nurse
- secretary
- social worker

After this intensive holistic assessment, the senior is referred to appropriate community resources.

4.2.4 Assisted Living Facilities[150,151]

The Assisted Living Program provides basic support services (at least one meal per day, housekeeping, linen laundry services, and life enrichment) services in a congregate care setting. Personal care support is also offered to the residents. This program allows seniors that can no longer live in their home, despite support from home care and other services, to continue to have independence with 24-hour supervision and surveillance for safety in their living situation.

As of December 2001, there were 1,232 residents aged 65+ in this program plus 25 residents in personal care homes.

4.2.5 Care Centres[150,151]

The Calgary Health Region care centres offer a range of residential, personal care and health services when 24-hour support for chronic health concerns is needed. Care centres also provide a variety of support services to people who still live in the community including respite care, rehabilitation services and day programs. As of December 2001 there were 2,895 residents in care centres.

5.0 ALBERTA SENIOR DENTAL COVERAGE

5.1 Alberta

5.1.1 Alberta Health and Wellness – Extended Health Benefits Program[152]

March 31, 2002, marked the end of the Alberta Extended Health Benefits (EHB) program, which covered a portion of denture and dental costs for all seniors in Alberta. The decision was announced by the Minister of Finance as part of the 2002/2003 provincial budget.

5.1.2 Alberta Seniors Benefit Program[153]

To replace the EHB program, the Alberta Seniors Benefit program was established to assist lower-income seniors. The program:

- provides a monthly cash benefit for eligible seniors, and
- determines eligibility for Alberta Health Insurance premium exemptions.

To be eligible for the Alberta Seniors Benefit program an individual must be 65 years of age or older and have a gross income limit of $21,625 for a single senior and $34,250 for a senior couple.

5.1.3 Alberta Special Needs Assistance For Seniors[153,154]

There is an additional financial assistance program called the Special Needs Assistance for Seniors program. This program is for seniors already on the Alberta Seniors Benefit program who do not have the financial resources to fund one-time or extraordinary expenses. Funding is provided for allowable special needs, such as medical, optical, and dental expenses. Special Needs Assistance is a source of funding of last resort to protect seniors who cannot make ends meet and have no other resources to draw on. Seniors are expected to exhaust all other sources, and this includes applying to other programs and using their own resources as their first options. To qualify for this assistance, eligible seniors need to show they are unable to meet unexpected or extraordinary expenses. This program provides a lump sum cash payment of up to a

maximum of $5,000 in a lifetime to help eligible lower-income seniors. A written estimate is required from the service provider.

From April 1, 2000 to March 31, 2001 approximately $2 million was given out to 2005 Alberta seniors in the Alberta Special Needs Assistance For Seniors Program. An estimated third of the recipients were from the Calgary area.[155]

5.2 Dental Coverage in Other Provinces

Seniors' oral health program coverage information was compiled for each province from available published data and personal communications. The dental coverage varies for each province and specifics are summarized in Appendix F.

6.0 CURRENT DENTAL PROGRAMS FOR SENIORS IN CALGARY

6.1 Foothills Medical Centre Dentistry & Oral Medicine Dental Clinic Calgary Health Region [156,157,158]

- **Program Description**

The Dental Clinic has provided comprehensive dental treatment for medically compromised adults since the spring of 1989. The target patient population includes adults who are mentally and physically challenged, those with a variety of severe medical conditions, as well as those with head and neck cancer. The clinic treats approximately 6,400 patients each year; and about 40% of the patients are seniors. Salaried employees:

- Dentists: 3.0 FTE
- Dental Hygienists: 1.1 FTE
- Dental Assistants: 3.0 FTE
- Office Support: 3.4 FTE
- Sterilizing Aide: 1.5 FTE

The program costs approximately $880,000 per year and is run on a revenue neutral basis.

6.2 Foothills Medical Centre Dental Outreach Program[156,157,158]

- **Program Description**

The Dental Outreach Program of the Division of Dentistry & Oral Medicine at the Foothills Medical Centre serves the comprehensive oral needs of residents of long-term care facilities in the Calgary Region.

This program has several components:

- **Dental Evaluations:** Oral evaluations are carried out on a semi-annual basis for all residents in 21 care facilities. These evaluations are carried out on-site at the facility by a dentist or dental hygienist. A standardized reporting form is provided in order to give meaningful information to the nursing and medical staff concerning the resident's current oral health status, date when last seen, treatment rendered and planned treatment, if necessary. New admissions are seen for oral evaluation whenever possible within three months of notification of admission. The assessments are provided at no cost to the facility or to the resident.

- **Mouthcare Inservices:** Mouthcare inservices are presented to nursing staff at their facilities by a dental hygienist. Each inservice, which lasts from 30 to 50 minutes, has been developed to meet the needs of the staff and residents. Components of the inservices include both slide presentations and hands-on demonstrations. The inservices are provided at least twice a year at each of the 21 facilities at the request and scheduling of the facilities' nursing staff instructor. There is no cost to the facility or to the resident for this service.

- **Dental Treatment:** Comprehensive dental care is available to all residents of the facility on a fee-for-service basis. Transportation is arranged for the resident with their caregivers and the nursing unit clerk. Consent for treatment, as well as cost estimates and financial arrangements are made directly with the resident or their guardian prior to any treatment being initiated. The Foothills Hospital dental clinic has wheelchair and stretcher access with ceiling-mounted patient lifts for transfer of the residents into the dental chair.

- **Denture Labelling** - All dentures whether existing or new, are permanently labelled with the resident's last name.

In 1997 the Division of Dentistry & Oral Medicine submitted a proposal for a Mobile Dental Clinic for Extended Care Facilities to the Health Transition Fund. The proposed trailer-based mobile clinic would provide comprehensive primary dental health care for individuals whose access to dental care is limited or non-existent. The mobile clinic was planned as a satellite to the existing Dental Outreach Program which would also operate on a revenue neutral basis. The proposal was not approved.

6.3 Community Oral Health Services
Calgary Health Region [159,160]

- **Program Description**

The following services are provided to the Adult and Seniors' population by three dental hygienists (total: 1.0 FTE):

- develop and provide oral health information (health promotion materials and phone consultations) to home care staff and Seniors Resource Nurses
- link with internal and external partners on oral health issues
- develop and provide oral health educational sessions to targeted groups
- develop and display dental health information at health fairs
- conduct surveys to identify seniors' primary oral health concerns

6.4 Dental Treatment in Dental Clinics Calgary Health Region[161]

- **Program Description**

Adults in the Calgary Health Region who live on a poverty-line income or live in subsidized housing and have no access to a group dental insurance plan are eligible for reduced-fee dental treatment. Prior to March 31, 2002 seniors were ineligible for this program because they had access to the provincial Extended Health Benefits Program.

Currently if seniors have been turned down by the province for the Alberta Seniors Benefit program and Special Needs Assistance for Seniors program, they will be considered for eligibility in the Calgary Health Region dental treatment clinics. Proof of income is required.
The clinic program employs 2.6 dentists, 0.5 dental hygienist and 8 dental assistants, and is overwhelmed by demand from eligible clients.

6.5 Calgary Urban Project Society[162]

- **Program Description**

Calgary Urban Project Society (CUPS) is a primary health care facility that provides care to the population struggling with poverty and homelessness. Emergency dental services (mostly extractions) are provided to clients who have no access to dental insurance. Prior to March 31, 2002, seniors were ineligible for dental care at this facility because they had access to the provincial Extended Health Benefit Program.

6.6 Calgary Private Practice

6.6.1 Dentists

Approximately 600 dentists offer dental services in their offices to all ages, including seniors, in the Calgary area.[163] The following two private practice dentists provide dental services for residents in long-term care facilities:

- **Dr. David Lawton**,[164] has been providing dental services to three long term care facilities. Over the last twelve years he had donated his time and some dental equipment to these facilities.

  The services provided are:
  - oral assessments on admission
  - oral assessments twice a year
  - emergency care e.g. extractions on site – on call
  - referral to private practice dentists for dental treatment
  - inservices provided to physicians and staff on a yearly basis or on request

- **Dr. Tom Fraser**[165] has a dental office located in the Colonel Belcher Hospital. Approximately 50% of his practice are seniors and he also has 120 patients who are residents of the veteran's hospital. Dr. Fraser provides comprehensive dental care for his senior patients on a fee-for-service basis. He also receives requests to provide dental services in care facilities. Dr. Fraser will do simple extractions and denture adjustments at bedside if necessary.

6.6.2 Denturists

There are several denturists that have contracts with long-term care facilities to fabricate or repair dentures on a fee-for-service basis. Denture repairs or adjustments are usually done on-site for the residents.[16]

7.0 NEEDS ASSESSMENT: CALGARY HEALTH REGION

- **Background**

In the last few years there has been substantial information collected in Alberta on seniors' health views and issues. In 1999 a long-term care review was conducted by Alberta Health and Wellness and recommendations made.[143] Building on this review, *Alberta's Healthy Aging and Seniors Wellness Strategy 2002—2012* developed a framework that represented four goals for healthy aging:[167]
- promoting health and preventing disease and injury
- managing chronic conditions
- optimizing mental and physical functioning
- engaging with life

As a result of this, the Calgary Health Region has developed a *Healthy Aging Ten Year Strategic Service Plan* which includes an action plan for oral health.[168] A key strategy of the oral health plan is to collect baseline data for seniors because the Region has limited knowledge of seniors' oral health status to date.

7.1 Quantitative Oral Health Data

The Calgary Health Region has collected very little data around seniors' oral health. Various types of seniors' oral health studies have been conducted over the last 22 years. Assessment tools and methodology have varied. The studies have included:

- a randomized clinical study of residents' oral health status in care centres
- a mouthcare knowledge, attitudes and practice survey of nursing staff in care facilities
- visual oral assessments of residents in care centres
- telephone interviews of community seniors concerning their oral health status
- seniors' oral health referral data

Findings from these studies are presented below.

7.1.1 Seniors' Oral Health Surveys in Calgary

i. Calgary Local Board of Health
Calgary Institutionalized Elderly Oral Health Survey - 1980[169]

The purpose of the 1980 Calgary Institutionalized Elderly Oral Health Survey was to establish the dental needs and demands of chronically ill residents in Calgary Auxiliary Hospital and Nursing Home District No. 7 facilities. A total of 290 residents were randomly selected from the six facilities. The median age was 80 years old and only 7% of the total sample were considered independently capable of leaving the facility to obtain dental treatment in the community.

Survey results reported high unmet dental needs. (1980)

Residents totally edentulous	Edentulous one-arch only	Denture in need of repair or replacement	Evidence of periodontal disease	Requiring restorations or extractions	Poor oral hygiene	With oral lesions	Some dental treatment required
67%	11%	71%	80%	59%	79%	34%	81%

Interviews were conducted with a sample of residents who were able to pass a simple memory/orientation test. Of the residents who required dental treatment and also reported dental problems, only 28% requested that the treatment be completed. The number one reason given by residents for not visiting the dentist regularly was "treatment thought not necessary". The second reason was "transportation problems".

The following survey recommendations were made to the District No. 7 Administration:

1. A plan for immediate implementation of preventive programs is needed.

2. A research proposal is required to establish effective methods of providing rational dental care to the chronically-ill institutionalized residents.

Only the first recommendation, for a preventive program, was accepted by District No. 7. The Calgary Local Board of Health, Dental Program outlined a plan for a preventive oral health program in long-term care facilities. Two dental hygienists were scheduled in this program approximately 4 days a week. They presented oral health inservices to the residents and staff. Visual examinations of the residents were conducted and referrals for dental treatment were made. This program was discontinued by the Dental Division, Local Board of Health at the end of 1982.[170]

It is interesting to note that the results of the 1980 Calgary survey indicate high level of unmet dental needs; this parallels the data reported in current dental literature on oral health of seniors, suggesting that no progress has been made over the last 20 years.

ii. Foothills Hospital Long Term Care Facility Survey – 1992 and 1993[54]

Ten years after the Calgary Institutionalized Elderly Oral Health Survey was conducted, unmet dental needs continued to exist in Calgary's long-term care facilities. In 1992, the Foothills Hospital Dental Clinic staff met with the administration of Dr. Vernon Fanning Extended Care Centre to discuss the poor oral health condition of most residents and the need for a staff oral health education program. Prior to developing a staff oral health program it was decided that a survey was necessary to determine the caregivers' oral health knowledge and attitudes. In September 1992, a Mouthcare Knowledge, Attitudes and Practices survey was conducted at Dr. Vernon Fanning Extended Care Centre by a Foothills Hospital dental hygienist. The results of this survey reported that many misconceptions exist about dental disease and prevention, and specifically around what constitutes appropriate oral care for their residents. A mouthcare inservice was developed to address these misconceptions. Over a four-week period, 17 inservices were presented by a dental hygienist to over 240 caregivers in the care centre facility.

To decide if mouthcare inservices should be presented in other extended care facilities, a second study was conducted to determine the effectiveness of the inservice in changing mouthcare knowledge and attitudes of the caregivers.

The objectives of the second survey were:

1. To determine if a mouthcare inservice, involving a slide presentation, role-playing and hands-on demonstration, is an effective method to convey dental health information to caregivers.
2. To determine whether a mouthcare inservice results in a change in oral care knowledge and attitudes of the caregivers.

The 1992 mouthcare questionnaire, which was distributed to all nursing staff and aides, provided the baseline data. A second mouthcare questionnaire was distributed in May 1993 to staff who attended one of the oral care inservices. The results indicated that three months after the oral care inservice, oral health knowledge scores had improved

significantly and 80% of the nursing staff felt that the techniques taught in the inservice made it easier for them to provide mouthcare for their residents.

The findings suggested a need to include comprehensive oral care inservices in the basic training and continuing education programs for extended care nursing staff. The administration of Dr. Vernon Fanning accepted these findings and an oral care inservice program was developed to enable the nursing staff to provide appropriate oral care for their residents. The inservices were conducted by a dental hygienist in five Calgary Carewest and two Bethany Care long term care facilities on a yearly basis. This program continued until 1996.

iii. Division of Dentistry & Oral Medicine, Foothills Medical Centre – Extended Care Facilities Dental Survey – 1995[156]

From November 1995 through March 1996, visual oral assessments of 867 residents were conducted in various extended-care facilities in the Calgary region. Data was collected and analyzed to determine the oral health status of the residents. It was found that 64% of the residents still had some or all their teeth. Of those with teeth, 84% had periodontal problems, 33% had moderate or severe dental caries and 7% had dental abscesses. Previously undiagnosed oral cancer was found in four residents. Of those without teeth, 27% had denture problems.

As indicated in the dental literature, residents in care centres are retaining more natural teeth. The results of this survey show that 36% of the Calgary care centre residents are edentulous compared to 67% in 1980 survey. This survey also indicates that, as the elderly continue to retain their natural teeth, there is an increased need for preventive and dental treatment services and referrals.

iv. Health of Calgary Region Report 2001[171]
Independently Living Seniors' Oral Health

The Health of Calgary Region 2001 is a progress report on the health of the population of Region 4. The individuals surveyed are living independently and are capable of responding to telephone survey questions. The Calgary Region 2001 results are similar to the findings published in the literature on the oral health of independently living seniors. Increasingly, Calgary seniors are keeping their natural teeth as they age: 62% have retained half or most of their natural teeth. Yet, the elderly visit the dentist less than any other age group. They are also more likely to visit their physician than their dentist: more than 85% of independently living seniors in Calgary visited a physician, while only 59% visited a dentist. Only 46% of 65 year-olds indicated that they had dental insurance and 13% reported having had a painful tooth in the last 12-month period.

v. Dental Outreach Program, Foothills Medical Centre – 2002[158,172]

Throughout the year, visual oral inspections of residents are conducted in 21 care facilities. The following referral data was collected by a dental hygienist during February and March 2002:

Inspection Results	February 2002		March 2002	
	%	#	%	#
Total number oral inspections	100	421	100	501
Residents referred to physician	3.1	13	3.2	16
Residents referred to denturist:				
- ill-fitting dentures	3.8	16	6.6	33
- broken dentures	0.2	1	1.2	6
Residents with oral lesions	1.7	7	1	5
Residents referred for:				
- treatment	15	63	15.6	78
- examination	7.6	32	3.4	17
Total referrals	31.4	132	30.9	155
Residents with teeth referred for dental treatment	N/A	N/A	37.5	78

The results of visual oral inspections indicate that there is a continuing need for preventive and dental treatment services in long-term care facilities.

7.1.2 Seniors Health Surveys in Calgary

Although there is limited discussion regarding oral health issues in the following two health surveys, they are included in this section because the seniors' concerns and recommendations provide direction in developing strategies to address seniors' oral health needs.

i. Calgary Health Region Senior Cluster Community Project Summary Report Phase 1, July 2000[173]

Two surveys were conducted in Northwest Calgary in 2000. The purpose was to learn more about the needs of seniors and the barriers to optimum health they experience in their day-to-day life. The first survey included 420 seniors continuing to live independently. Some 66% percent of the seniors surveyed were 76 years of age or older and had a household income of less than $1,200 per month.

When asked about health conditions that seniors experience, 70% reported having a chronic health condition such as hearing loss, arthritis, heart-related problems and chronic pain. Oral health problems were not identified. Some 78% of the seniors

reported accessing their physician at least annually, but only 27% reported visiting their dentist or denturist once a year. Results indicated that an important aspect of choosing a service provider for seniors included the provider's personal attributes (88%) and a convenient and/or close service location (98%). Seniors stated that they experience chronic stress with respect to having enough financial resources to maintain their lifestyle in light of increasing costs and reduced benefits, e.g. dental coverage.

A second survey was conducted to explore the needs of seniors from the health providers' perspective. Stakeholders reported that seniors would like to be able to access a greater variety of services from health professionals, including dentists, but the cost of this service is a barrier for many seniors. Providers also stated that a central point of contact to access information about other providers and services within the community would improve communication and collaboration with other health care providers.

ii. A Place to Call Home: Final Report of the Elder Friendly Communities Project – June 2001[174]

The goal of the Elder Friendly Communities Project was to conduct a focused assessment of the assets, capacities and needs of seniors and their families in four Calgary communities. Data was collected using three approaches: focus groups, in-home interviews, and key informant interviews. The seniors were living in a variety of settings in the community (e.g., own home, seniors' apartments, etc.). A total of 294 individuals participated in interviews and focus groups for this study.

Across all the communities, seniors perceived the health care system as confusing and were overwhelmed by program details and restrictions. Many seniors were unaware of the benefits and services available to them. Printed forms were often complicated and not user-friendly. When looking for information, seniors preferred personal assistance to brochures. Both seniors and service providers reported that a centralized information referral source or information line for seniors' health issues was needed. Another suggestion was that seniors' advocates are needed to assist seniors with accessing services, benefits, and information, and with completing application forms. Individuals with expertise in service delivery for seniors believed that there should be an increase in the availability of outreach services to identify and provide services to isolated seniors.

7.2 Qualitative Oral Health Data

- **Background**

Telephone and in-person interviews were conducted with dental health professionals, health professionals, seniors and caregivers for this report (Appendix E). The sample groups were determined by recommendations of individuals working in the area of seniors' health and oral health in Calgary. An interview guide was used during the interviews and modified for each group. (Appendix G). Problems, barriers and

recommendations were recorded and categorized according to similar responses for each group.

When analyzing the results, it appeared that seniors' perceptions around oral health problems and barriers to oral care differed from those identified by the dental and health professionals, a finding that is consistent with the literature.

7.2.1 Seniors' Responses

Thirteen seniors, ranging in age from 71-89, were interviewed. Their living arrangements varied from independently living in their own home, to subsidized housing, and being part of the Comprehensive Community Care Program. Just less than half of the seniors wore one or more dentures.

- **Oral Health Problems**

When asked, seniors frequently stated that they had no oral health problems. When the question was rephrased to: "Do your teeth or mouth cause you any discomfort?", they would respond "yes" and provide details such as: "poor fitting dentures" and a "dry mouth".

- **Barriers to Oral Care**

Seniors from a subsidized housing complex identified cost of dental care as the main barrier to oral care; difficulty in accessing dental services the second most frequently cited barrier (e.g. dental clinic in walking distance or on public transportation route). The responses from seniors in the Comprehensive Community Care Program differed in that they commented they could afford to go to the dentist but they did not have a need for dental care. Several reported that their dentists had retired and others stated they were unaware of any dental offices that had wheelchair access. The senior living at home said he also could afford oral care but it was not a priority; therefore he only went when he was in pain.

- **Seniors' Recommendations**

The seniors' recommendations were very similar to the responses cited in the CHR Senior Cluster Community Project[173] and The Elder Friendly Communities Project[174] reported in section 7.1.2. The following three recommendations were consistently offered by the respondents:

1. An oral health information line should be set up to provide information around accessing dentists, denturists, and wheelchair accessible offices.
2. A dental health professional should work with community health nurses to offer oral assessments, answer questions, and provide advice to seniors so they aren't taken advantage of by dentists or denturists.
3. Dental services should be available for low-income seniors.

7.2.2 Dental and Health Professionals' Responses

Seventeen interviews were conducted with dentists, dental hygienists, denturist, pharmacists, a senior resource nurse, a senior nurse practitioner, a long-term care education nurse and Care in the Community directors, with representation from the Calgary Health Region, care facilities and private practice.

- **Oral Health Problems**

Poor oral hygiene was the most frequently cited oral health problem associated with seniors. Respondents also identified the problem of increased tooth decay due to increased retention of natural teeth. Poor fitting dentures and dry mouth problems were identified next as oral health problems.

It is worthwhile to note that all of the dental and health professionals who routinely inspected the oral cavity of seniors commented on the poor oral hygiene and tooth decay, while all of the health professionals who did not have that opportunity, cited poor fitting dentures and dry mouth problems (a response that is more in keeping with the seniors' perceptions).

- **Barriers to Dental Care**

Dental and health professionals also differed in their responses to barriers to dental care. Dental professionals felt that lack of perceived need for dental services by seniors was the main barrier to dental care. The second barrier they identified was that seniors, family members, and caregivers didn't value the importance of oral health. Related to this, they stated a lack of knowledge concerning the importance of good oral health and its relationship to general health among long-term care residents and caregivers. Lack of staff's training in oral care procedures was identified next as a barrier to care. High costs of dentistry and access to care concerns were reported last.

- **Dental and Health Professionals' Recommendations**

The following recommendations were suggested:

1. Educate health and dental professionals, within and outside the Region, concerning the oral care needs of older adults.

2. Educate seniors, families and caregivers about the importance of oral health and its relationship to general health.

3. Change provincial regulations to allow qualified dental hygienists to provide oral care in long-term care settings without the supervision of a dentist.

4. Provincial legislation should outline standards of oral care services required in long-term care facilities.

5. Develop oral care standards for Calgary Health Region Care Centres.

6. Develop and use standardized oral assessment tool in Calgary Health Region senior programs.

7. Conduct and analyze oral inspections of seniors in various living situations to establish a baseline.

8. Include oral assessments as part of the general health assessment in Home Care and admission for long-term care facilities.

9. Advocate a targeted seniors' dental treatment program for at-risk seniors who are unable to afford dental care.

10. Advocate a treatment option (e.g. mobile equipment) for homebound seniors who have oral problems and can afford dental services.

11. Promote a dental professional to go "into the field" to assess and refer CHR clients with oral health problems. This will assist in identifying oral problems of seniors and making health professionals more aware of seniors' oral health needs.

12. Improve communication between Calgary Health Region staff (Home Care, Continuing Care), nursing, physician and patient groups regarding the importance of oral health to overall health for the senior population.

7.2.3 Summary of Seniors' Oral Health Needs and Service Gaps

The recommendations of the Calgary dental and health professionals, seniors and caregivers were no different from the targeted interview responses from across Canada and United States. The same four themes were reported:

1. Education and information is needed for seniors, health professionals, caregivers and policy-makers about oral health and the relationship of the mouth to the rest of the body.

2. Oral health assessments should be part of the general health assessment in Senior Programs.

3. Oral care standards should be developed for Calgary Health Region residents in care facilities.

4. A targeted dental treatment program is needed for at-risk low-income seniors.

When all groups interviewed were asked, “If the Region could do something to help seniors meet their oral health needs, what would it be?” All three groups responded with a similar comment: “The Region needs to identify seniors’ oral health problems, then provide education and treatment to solve the problems. Identifying the problems is not enough.”

8.0 SUMMARY

8.1 Literature Review

The elderly encompass a large and diverse group of individuals that cannot be effectively considered as a single cohort. Different age cohorts represent different dental expectations and experiences. Independent, frail, and functionally dependent elders seeking dental care also vary greatly in terms of their physical abilities, medical conditions, mental status, and social environment.

Dental diseases and treatment needs continue throughout the life span of elderly people living at home and in facilities. As each cohort maintains more teeth there will be more teeth at risk and presumably more persons will have dental problems as they age. The oral cavity is also a refuge for a large variety of microbes, some of which can enter the blood stream and infect tissues throughout the body. Most elderly exhibit some degree of oral disease but it is preventable. To deal with unmet dental needs, health assessments of elderly should include assessment, not only of the oral health, but also of the ability to perform oral hygiene procedures.

The literature indicates that the primary reason for older adults not seeking dental care is their lack of perceived need. This lack of perceived need has been shown to be an even greater barrier to care than financial cost. An additional barrier for some seniors is poor access to oral care services and consequently poor oral health status.

The oral health knowledge base of health professionals, seniors and family members concerning the implications of poor oral health for the elderly has been shown to be lacking. Education is needed to convey that poor oral health impacts general health: oral disease increases the risk for heart disease, stroke, diabetes, chronic respiratory disease and aspiration pneumonia. Quality of life and comfort are also affected by poor oral health. Improving oral health of the elderly is an integral component to improving their general health.

Currently seniors and health professionals undervalue the importance of good oral health, but this will change as “baby boomers” age. The demand for dental services will increase because this cohort is better educated, has more discretionary income, and places a higher value on preventive oral health care treatment. Their perceived need

for dental care and positive attitudes toward oral health will require improved access to oral care services when they become the frail and functionally dependent elderly.

Strategies to prevent oral disease in the elderly include:
- removing barriers to professional care
- early intervention of dental treatment
- identification of at-risk older adults
- training of caregivers
- implementation of preventive programs

8.2 Calgary Health Region Seniors

The Calgary Health Region projected that in March 2002 there were over 89,200 individuals aged 65 and older living in the region. The projected number of seniors increases to over 127,300 in 2012 and 154,700 by 2016. In the Calgary Region there were over 4,100 residents aged 65+ living in assisted living facilities and care centres as of December 2001.

8.3 Dental Programs

Seniors' access to comprehensive oral health care varies depending on living situation and financial resources. There is limited oral health status data for seniors in the Calgary Health Region.

- **Care Centres**

The Dental Outreach Program of the Division of Dentistry & Oral Medicine at the Foothills Medical Centres offers comprehensive oral health care to 21 care facilities in the Calgary Health Region. The services provided are oral assessments, mouthcare inservices to staff at the care centre and fee-for-service dental treatment at the Oral Medicine Dental Clinic. A private practice dentist offers similar care to three additional care centres. There are seven new or expanding care centres that will require oral health services in the near future.

The Dental Outreach Program also provides oral health assessment information to the 21 care facilities and family members, but a database has not been compiled or analyzed. Similarly there is no data compiled for the three care centres that are served by a private practice dentist.

The Calgary Local Board of Health conducted the most recent seniors' dental survey in 1980. It determined the dental needs of the chronically ill residents in Calgary nursing homes. Current information regarding oral assessments, daily oral care protocols and routine dental services provided to residents is needed to determine oral health status and service gaps of seniors in the Calgary Health Region care centres.

In 1992, a survey was conducted in a care centre to determine the staff's mouthcare knowledge, attitudes and practices. A mouthcare inservice was developed and presented to address the staff's misconceptions concerning dental disease and prevention. Mouthcare inservices in care centres have continued on a sporadic basis since 1995. Currently one dental hygienist presents mouthcare inservices and conducts oral assessments for the 21 care centres and provides clinical oral hygiene services to clients in the Oral Medicine Dental Clinic. This allows only a limited "dental presence" in the care centres.

- **Community**

There is no standardized oral assessment tool for seniors utilized in the Calgary Health Region. Oral health assessments are not routinely included in the general health assessments conducted in seniors' programs. Because of this situation there is no clinical oral health data collected in the following programs:

- Seniors Resource Nurse Program
- Home Care
- Specialized Geriatric Services
- Comprehensive Community Care for the Frail Elderly
- Assisted Living Facilities

Three dental hygienists (total: 1.0 FTE) from the Community Oral Health Services are available to provide oral health information to Home Care staff and Seniors Resource Nurses. Referrals for dental treatment are made over the telephone if necessary. In the Calgary Region there are no dental treatment programs targeted for homebound or low-income seniors. With the change in the Extended Health Benefits Program, seniors who have been turned down by the Alberta Seniors Benefit program and Special Needs Assistance for Seniors program, will be considered for eligibility in the Calgary Health Region dental treatment clinics.

Calgary private practice dentists offer comprehensive dental services to seniors on a fee-for-service basis in their dental clinics.

8.4 Best Practices Review

A best practices literature review was completed and interviews were conducted across Canada and United States with program coordinators, researchers, executive directors of professional bodies, educators, health professionals, dental hygienists and dentists who are all working in the area of seniors' oral health.

There was agreement that:

- no evidence-based seniors' oral health model exists in Canada or the US
- no universally accepted seniors' oral health outcome measures exist
- limited evaluation data of seniors' oral health programs is available

Key informants also recommended that the following components be included in a seniors' oral health program:

- a standardized oral health assessment tool and oral care standards
- a formalized routine for periodic oral health assessments
- education for seniors and their families, health professionals and caregivers concerning the importance of mouth care to health and well-being in general
- training for care facility staff to provide daily oral hygiene for residents
- easy access to dentists, dental hygienists and denturists for residents and homebound seniors' dental treatment needs

8.5 Interviews

Interviews were also conducted with dental health professionals, health professionals, seniors and caregivers in the Calgary Health Region. The responses were similar to the targeted interviews conducted across Canada and United States. The following recommendations were reported:

- conduct oral assessments in care facilities to determine baseline data
- survey care facilities to determine current oral care protocols
- develop oral care standards for Calgary Health Region residents in care facilities
- provide education and information for seniors, health professionals, caregivers and policy-makers about oral health and the relationship of the mouth to the rest of the body
- conduct oral health assessments as part of the general health assessment in Senior Health Programs
- provide a targeted dental treatment program for at-risk low-income seniors

9.0 RECOMMENDATIONS

Unfortunately, no evidence-based model to improve seniors' oral health exists: findings from the best practices review of Canadian and US programs indicate a lack of measurement and evaluation. The next best approach is to integrate the information in literature with knowledge of the needs and service gaps in the community to develop recommendations for a comprehensive and measurable approach to seniors' oral health.

The literature indicates that the issues around seniors' oral health are numerous, complex, and interrelated with overall health. Accordingly, geriatric oral health care should be addressed in a systematic, comprehensive and multi-disciplinary way.

Information about needs and service gaps come from interviews of Calgary seniors, dental and health professionals, and caregivers (see 7.2 Qualitative Oral Health Data). These matched the comments of key informants working in the area of seniors' oral health across Canada and United States. The same four themes emerged repeatedly:

1. Education and information is needed for seniors, health professionals, caregivers and policy-makers about oral health and the relationship of the mouth to the rest of the body.
2. Oral health assessments should be part of the general health assessment in Senior Programs.
3. Oral care standards should be developed for Calgary Health Region residents in care facilities.
4. A targeted dental treatment program is needed for at-risk low-income seniors.

The following action plan seeks to ensure that Calgary Health Region seniors will be able to maintain their oral health throughout their life spans:

9.1 Action Plan

1. Initiate accord across all Regional programs:

a. oral care is an essential element of primary care and integral to the general health and well-being of older adults
b. include oral health in seniors' general health assessments
c. collect oral health assessment information.

Rationale:

Oral health is often overlooked in seniors' general health and well-being, despite the links to heart disease, stroke, diabetes, chronic respiratory disease and aspiration pneumonia.[9] In the 1999 Long Term Care Review, *Healthy Aging: New Directions for Care*, the Policy Advisory Committee recommended a multidisciplinary team approach using a primary health care model to allow frail older people to "age in place" and receive services that are accessible and coordinated.[143] The model for

primary health care included screening, health information, eye exams, physical examinations, hearing exams, home visits, vaccinations, and nutrition counseling. Oral health was not included, and should be on the list.

The US Secretary of Health and Human Services has stated that "Oral health is integral to general health....you cannot be healthy without oral health".[4] Translating this approach to seniors means oral health is not considered in isolation, but as part of a total wellness program which includes audiology and speech pathology, vision testing, foot care, etc.

To mitigate medical risks and maintain quality of life of older adults in the Calgary Health Region, oral health must be part of any primary care model for health promotion and service delivery.

Since oral diseases are intertwined with declining health and disabilities, it is important to achieve an accurate assessment of seniors' oral health status at the same time that the general health assessment is conducted. The last extensive oral health survey of seniors was conducted in 1980.[169] The randomly selected sample of 290 care centre residents indicated that there was a high unmet dental need. In the early 1990's oral health assessments were conducted in selected care facilities, but the information was only shared with the facilities and families. Collection and analysis of baseline seniors' oral health data within the Region is required to identify oral health needs of the elderly population and take steps to prevent further deterioration of their health.

Actions:
by: Representatives from Healthy Communities (Community Oral Health, Oral Health Education and Prevention, Seniors Programs, Healthy Public Policy), Care in the Community, Home Care, Foothills Medical Centre Dental Outreach Program, Carewest**:**

a. Include oral health for older adults as an essential element of the Calgary Health Region primary health care model (2003)
b. Include oral health component in all future seniors' program planning (2003)
c. Include dental health professionals on the Regional multidisciplinary team specializing in geriatric health (2003)
d. Collect and analyze data about seniors' oral health:
    - Develop a standardized oral health assessment tool to measure seniors' oral health status (2003)
    - Disseminate the assessment tool and educate dental health professionals in its importance and use (2004)
    - Include a standard oral health assessment as an integrated component of the general health assessment for Calgary Health Region seniors' programs (2004)
    - Collect and analyze data about oral assessments in seniors' facilities and programs (2004)

- Utilize database to evaluate seniors' oral health programs and to assess population oral health status (2005)

2. Use health promotion strategies to generate awareness and action by stakeholders (and the community at large).

Rationale:

Health promotion has been defined as "the process of enabling people to increase control over, and to improve their health".[175] The Ottawa Charter for Health Promotion expanded the idea of health promotion to include advocacy for health as a resource for everyday life. It emphasized that " . . . to reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and realize aspirations, to satisfy needs, and to change or cope with the environment".[175] It recognized that health promotion requires coordinated action by governments, health and other social and economic sectors, by non-governmental and voluntary organizations, by local authorities, by industry, and by the media. This definition has led to a renewed emphasis on the broader determinants of health and on cross-sectoral strategies that address large populations.[176] In 1996, after a comprehensive review, the Calgary Health Region Health Promotion Unit adopted *Population Health Promotion: An Integrated Model of Population Health and Health Promotion.*[177] The overall goal of the *Population Health Promotion* model, as depicted in Appendix H, is to improve the health of the population through a comprehensive approach.

Informed policymakers at all levels of government are crucial to ensuring the inclusion of seniors' oral health services in health promotion and disease prevention programs, care delivery systems and reimbursement schedules.[4] Raising awareness of the effectiveness of seniors' oral health programs within the Calgary Health Region is essential to creating effective public policy to improve seniors' oral health.

Similarly, the Mazankowski Report (2001)[178] recommends a health promotion approach to sustain Alberta's health system by enabling people and communities to take more responsibility for their health. Alberta's Healthy Aging and Seniors Wellness Strategic Framework also suggests a population health promotion approach.[167] The healthy aging conceptual model includes health promotion and disease/injury prevention components.

As aging occurs, the impacts of the determinants of health become more apparent: older adults are more likely to show the cumulative effects of low incomes, inadequate food, shelter, and limited social supports. Health promotion and disease prevention programs have been shown to improve the functional level, health status and quality of life of seniors, as well as reducing overall health care utilization.[176]

Oral health problems of older adults often stem not from age or illness, but from a lack of awareness of the importance of good dental health and methods of preventing dental disease. Since health behaviours are based on knowledge, skills, attitudes, and beliefs, there is a need for the public to understand the importance of oral health in order to appreciate and use the available services.[4] One of the specific recommendations in the *Framework for Reform* is to "provide Albertans with better information about how to stay healthy".[178]

Actions:
by: Representatives from Healthy Communities (Community Oral Health, Oral Health Education and Prevention, Seniors Programs, Healthy Public Policy), Care in the Community, Home Care, Foothills Medical Centre Dental Outreach Program, Carewest
[and potential community partners: Kerby Centre; others]

a. Raise oral health issue awareness among seniors, professionals, policy-makers, health care personnel, the public (2003; ongoing)
b. Improve oral health knowledge among Regional health care providers (2003; ongoing)
c. Develop partnerships in the seniors' community to generate and leverage oral health promotion (2003; ongoing)

3. Identify gaps and priorities

Rationale:

As a large and diverse group of individuals, seniors cannot be effectively considered as a single cohort. Diverse segments of seniors have different dental health status, unique dental care experiences, and varying expectations with regards to use and demand of oral health care. In addition, each diverse subgroup includes seniors who are independent, or homebound, or living in care facilities.[3]

Currently seniors' oral health programs are provided by Foothills Medical Centre Dentistry & Oral Medicine – Dental Clinic and Dental Outreach Program, Calgary Health Region – Community Oral Health Services, Oral Health Education & Prevention, and Calgary private practice dentists. A review of these programs has not been conducted regarding the impact on seniors' oral health.

In September 1992, a *Mouthcare Knowledge, Attitudes and Practices* survey was conducted with care providers at Dr. Vernon Fanning Extended Care Centre.[54] The results of this survey indicated that the respondents had many misconceptions about dental disease and prevention, and specifically around providing appropriate oral care for their residents. A mouthcare inservice was developed to address these misconceptions.[54]

It is important for dental professionals to be well trained and compassionate to the special needs of the elderly.[39] By participating in continuing education courses and reviewing current literature, dental health professionals will greatly enhance their ability to effectively treat and manage the elderly. Education in dental care of the elderly, however, must also be supplemented with practical experience in their treatment, and with opportunities to participate in multidisciplinary health care teams.[10]

The development of auditable standards promotes improved quality of care and facilitates the identification of problem areas. Therefore to maintain and continuously improve the quality of care provided in care facilities, Alberta Health and Wellness [143] has recommended that the following key elements must be in place:

- care standards
- legislation to back up care standards
- effective monitoring system
- staff accountability

Actions:

by: Representatives from Foothills Medical Centre Dentistry & Oral Medicine Dental Clinic and Dental Outreach Program, Healthy Communities (Community Oral Health Services, Oral Health Education & Prevention, Healthy Adults & Seniors), Care in the Community, Home Care, and Calgary Private Practice Dentists

a. Review current Regional programs (2004)
    - Survey and report on any duplications and gaps of current oral health services that are provided in care facilities and the community.
b. Review current knowledge, attitudes and practices by care facility staff (2004)
    - Survey the care facility staff to ask:
    - Which staff members are primarily responsible for the maintenance of residents' oral health care needs?
    - What oral care services does the staff currently perform?
    - What level of expertise do they have for these duties?
    - What continuing dental education information and resources would enable these staff to perform their duties more effectively?
    - Report summary of findings
c. Develop standards and outcomes for regional care facilities (2004)
d. Develop a continuing education plan that will outline resources and opportunities for Regional dental staff training in the management of the oral care needs of the elderly (2004)
e. Convene focus groups to identify seniors' oral health needs & priorities (2004)
    - include seniors, family members, care providers, care facility administrators, dental and health professionals

f. Convene representatives of dental health professionals who currently provide seniors' oral health services in the Calgary Health Region (2004)
   - determine collaborative approaches to best provide these services
   - assess effectiveness of current resource allocations
   - identify priorities for action

g. Prepare report identifying seniors' oral health needs and priorities for change to assist with future program planning (2005).

4. Generate innovative strategies

Rationale:

The Calgary Health Region is committed to developing innovative and effective ways of delivering health care and services to increase access and achieve the highest quality of care. One example in primary care is community physicians and home care nurses working in partnership to care for elderly clients living at home. In this highly collaborative project, the physician and home care nurse share clients, allowing many of them to live at home longer.[179] Another innovative program example is the Mental Health Mobile Response Team which uses a collaborative approach to more effectively meet the needs of its clients. Managed by the Calgary Health Region and funded by the Alberta Mental Health Board, the team has improved access through integration of mental health services.[180]

An interesting approach was used to improve access to health services for low-income families. Alberta's first mobile health clinic was established in 2002 through donations and various partnerships. Staffed by social workers, nurses, nurse practitioners and physicians, the mobile clinic travels to a variety of sites in east Calgary. Services include immunizations, counseling and female health screening. The van/health clinic is expected to improve access to health services for those who may never seek medical attention.[181]

Experts in geriatric oral health generally agree that no evidence-based practice information exists to indicate the impact of programming efforts on seniors' oral health. The literature has stated that research must be conducted to develop best practices for improving oral health care of older adults.[59, 71] In 2000, the Alberta Heritage Foundation for Medical Research also identified "Dentistry and Oral Health in Seniors" as a priority for research in Alberta. To reduce wasted energy "reinventing the wheel", evaluation of current seniors' oral health treatment and prevention programs is required to identify successful models and resources.[182]

Actions:
by: Representatives from Foothills Medical Centre Dentistry & Oral Medicine Dental Clinic and Dental Outreach Program, Healthy Communities (Community Oral Health Services, Oral Health Education & Prevention, Healthy Public Policy) Care in the Community, Calgary Private Practice Dentists, Care Facility Administrators, Health and Dental Professional Practice Organizations

a. Develop innovative pilot project(s) to address seniors' needs and priorities (2004)
   - Convene a task force (representatives from community groups, health societies, business and social service groups, and the dental community) to develop strategies to improve oral health of seniors in Calgary.
   - Address various living situations:
   - independent
   - low income
   - homebound
   - supported living and care facilities
b. Devise a method for better communication and cooperation between individuals and agencies interested in seniors' oral health (2004)
c. Create a presentation or publish a report about the methodologies for improving seniors' oral health care in order to improve dissemination and the sharing of information (2005)
d. Evaluate pilot projects and initiatives to determine impact on seniors' oral health and to assist in resource allocation decisions (2005)

5. Advocate for change

Rationale:

The Long Term Care Review,[143] recommended that a new Continuing Care Act be established with standards for quality of care and services provided. It should clarify responsibilities and ensure appropriate accountability.

Regulation issues of dental professionals vary by province. Because there is a shortage of dental professionals who are willing to provide oral care services to older adults in care facilities, congregate living facilities, and private homes, provincial regulations may restrict access to dental services for certain populations such as homebound frail elderly and institutionalized seniors. In other jurisdictions qualified dental hygienists are legally allowed to initiate services (e.g. independent or alternate practice arrangements without supervisory requirements) to address the unmet dental needs of older adults residing in these settings.

Oral health is an integral part of total health. However very little time is devoted to geriatric oral health in the education of non-dental health professionals. Often the relationships between oral health and general health are not recognized and/or are undervalued. As a result, health care providers tend to be uneducated about oral health and unaware of the benefit of working collaboratively to provide optimal and comprehensive health care for their elderly patients.[4] Better understanding of seniors' oral health issues by health professionals is needed. This understanding should begin in the schools of the respective health care professions.

Actions:
by: Representatives from Foothills Medical Centre Dentistry & Oral Medicine Dental Clinic and Dental Outreach Program, Healthy Communities (Community Oral Health Services, Oral Health Education & Prevention, Healthy Public Policy) Care in the Community, Calgary Private Practice Dentists, Care Facility Administrators, Health and Dental Professional Practice Organizations

target a&b: Alberta Health and Wellness, Alberta Dental Hygienists' Association, Alberta Dental Association & College

target c: University of Calgary Faculty of Medicine and Nursing, University of Alberta Faculty of Medicine, Dentistry and Nursing, Mount Royal College, SAIT, NAIT.

a. Advocate for provincial standards for care facilities (2004)
   - Lobby provincial government for inclusion of oral care standards and policies in a new Continuing Care Act.
b. Advocate revised provincial regulations for Dental Hygienists (2004)
   - Reduce regulatory barriers for qualified dental hygienists to provide services in a variety of practice arrangements.
c. Advocate for all students in health professions to receive course work on oral health needs of the older adults. Dental and health care professionals and educators should discuss how best to incorporate geriatric oral health content into their curriculum and practices.

9.2 Resource Allocation

Base operating resources are increasingly scarce and continue to be limited in many portfolios. Developing a seniors' oral health plan that is totally reliant on new ongoing operating funds in such an environment may be somewhat unrealistic. However, greatly expanding public health commitment to seniors' oral health cannot be achieved without adding resources. The implementation plan should identify the necessary steps and tools to change existing barriers to seniors' oral care services. Sufficient one-time funding is needed to initiate pilot projects. If additional base funding will not be available, successful initiatives that impact seniors' oral health may have to be prioritized and initiated when possible from budget allocations.

- **Research Funding**

This report identifies gaps in standardized assessments, data collection and evaluation. These findings should be used to support funding requests for further research. Research funding opportunities are available through funding bodies such as the Centre for Advancement of Health. Pursuit of research data and evaluation also will provide necessary information to make evidence-based decisions in the effective use of existing operating funds.

- **Partnerships**

Key public-private partnerships must be struck to provide additional funding solutions for seniors' oral health initiatives. By establishing partnerships among dental and health professionals and their organizations, businesses, and social service groups, various funding strategies can be investigated to lend financial support which will allow the necessary delivery of oral health care services for the elderly.

9.3 Vision for the Future

A new approach to seniors' oral health care is required. Maintaining the status quo is not a viable option; it does not meet the needs of Calgary's seniors today, and is certainly incapable of adequately serving the needs of the baby boomers who will be the next generation of aging Calgarians. The service delivery system must be modified to provide oral health care to older adults in various living situations. Health promotion efforts should be tailored to special subgroups based on need. Oral care programs should be sensitive to the concerns of the elderly and reflect the diversity of their financial, physical and mental conditions. Eliminating financial and physical barriers to care should improve access to dental services.

For changes to occur, the province, the region, the dental health profession and the community will need to take individual ownership and be responsible for specific outcomes. At the same time, however, each must work in close partnership, creating a cohesive network to support the oral health of seniors in Calgary. The vision for the future is outlined below:

1. Alberta

- Seniors' oral health is recognized as an integral component of total health and incorporated into provincial frameworks and strategies similar to:
  - *A Framework for Reform: Report of the Premier's Advisory Council on Health. December, 2001*
  - *Alberta's Healthy Aging and Seniors Wellness Strategic Framework, 2002-2012*.

- Oral care standards are mandated in the new Continuing Care Act.

- Appropriate provincial legislation is enacted to allow self-regulated and insured dental hygienists to provide identified oral care services for seniors in a variety of practice arrangements without supervisory requirements by dentists.

- More extensive provincial policies are implemented to allow reimbursement and delivery of oral health services to a functionally dependent elderly population unable to access oral health care services in the traditional manner.

2. Calgary Health Region

- The Region recognizes the importance of oral health to total health by including seniors' oral health needs in portfolio business plans and design of programs.

- The Region addresses the financial and physical barriers which impede seniors' access to oral care information and services by providing the following:

    - one stop access to oral care and referral information for older adults.
    - preventive oral health strategies to improve seniors' oral health knowledge and status in the community and care facilities.
    - dental services targeted to those most in need: low income, at risk seniors.
    - a prominent and visible role for dental health professionals on the health care team in the community and care facilities.
    - oral assessments included in senior health assessments for early detection of oral problems.
    - dental treatment referral for seniors living in various settings.

3. Dental Health Professionals – Private Practitioners

- Dental health professionals are trained through their educational programs to provide dental services for the elderly in their private offices and in care facilities.

- Dental health professionals are working in partnership with health professionals to meet the oral health needs of their elderly clients.

- Private practitioners are encouraged, through innovative strategies, to provide dental services for seniors using various delivery options (mobile van, portable equipment, etc.).

4. Community

- The public values the importance of seniors' oral health and its relationship to general health.

- Community, business and social service groups are forming partnerships to fund innovative strategies to improve seniors' oral health in the Calgary region.

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APPENDIX A

Halton Region Health Department – Oral Health Outreach Program[78]

The 2001 population of the Halton Region was approximately 384,000 residents and 59,950 were adults aged 65 years and older. Current demographic trends in Halton demonstrated an aging population and a growing number of special needs adults who were in need of oral health services. This population indicated that assessment and coordination of oral health care services would be of great benefit to them. Health care professionals and family care providers also raised this issue repeatedly: first, through a community forum held in May 1998 and then through surveys sponsored by the Halton-Peel District Health Council.

Halton Oral Health Outreach Task Force

To deal with the community concerns, the Halton Oral Health Outreach (HOHO) Task Force was formed. The members included representation from: the Community Care Access Centre (CCAC) of Halton (previously Home Care), Halton Regional Health Department, Halton-Peel District Health Council, profit and non-profit agencies, dental professionals, retirement homes, supportive housing, seniors' day programs and interested individuals and clients. The goal of this Task Force was to develop appropriate structures and mechanisms to ensure the provision of necessary oral health services to adults with special needs and the frail elderly who require assistance with daily oral hygiene practices and/or access to dental treatment services. These adults may reside in a long-term care facility, complex continuing care unit, or their own home.

Gaps in Service

Although some organizations provide oral care services, there were clear gaps in service delivery that prevented staff and families from helping an individual access appropriate oral health care services. The following gaps were identified by the Halton Oral Health Outreach Task Force:

- No standard oral assessment tool was available for use in the community.
- Standards and criteria for oral health care exist only in long-term care facilities (Bill 101).
- A comprehensive database for community oral health services was not available.
- Ongoing education in regard to oral health issues has not reached all health care professionals in the community (e.g., physicians, nurses, homemakers, social workers, occupational therapists, etc.)
- Oral health care was considered a grooming task and not a specific health care requirement in Bill 173 (An act respecting long-term care).
- Initial and ongoing training with respect to daily oral care was not consistently provided to formal or informal caregivers in the community.

- No formal mechanism has been established for a continuum of oral health care from one setting to another (e.g., hospital to home, hospital to LTC facility).
- The target population in need was not aware of service delivery options available in the community.

Challenges To be Addressed

The Task Force identified several challenges that need to be addressed in order to coordinate an oral health care program:

- education of health professionals and family members regarding the importance of oral health
- access to the current oral health care service information in the community
- funding for oral health care service delivery
- financial assistance for some oral health care clients
- access to transportation
- access to attendant care/personal support services
- utilization of Ontario's Hospital Insurance Plan (OHIP)
- understanding scope of practice of dental hygienists
- working with volunteers

Oral Health Outreach Task Service Delivery Model

A service delivery model was developed by the Halton Oral Health Outreach Task Force and implemented in February 2000 to address many of the gaps and challenges to delivering oral health care services to the target population. This model provides a means for coordinated service delivery. A case manager (dental hygienist) and a community educator, (dental assistant) play a key role in the development and management of the program. These individuals combine their skills and expertise to provide comprehensive service and continuous program improvement.

Access to information on oral health services and coordination of service delivery is integral to the service delivery model that has been created. One stop access to information and referral regarding oral health services is both consistent with, and supported by, the structure and mandate of the CCAC of Halton. The case manager assesses the ongoing needs of clients and ensures that coordination of appropriate services to meet those needs occur at an early stage. The case manager is based in the CCAC office in Halton.

Responsibilities

The case manager is a visible advocate for oral health care in the community and liaises with groups like the Alzheimer Society, Multiple Sclerosis Society, and dental care professionals to increase recognition of the need for oral health care services. By liaising with the Halton community, the case manager also establishes and maintains linkages for appropriate care within the community. The case manager is also instrumental in the creation and maintenance of a comprehensive database regarding

oral health services and sources of assistance to support the various components of the model (e.g. financial assistance, transportation).

The community educator is responsible for ensuring that clients, oral health professionals, and formal and informal caregivers are aware of the oral health needs of the target population and the availability of coordinated services so that early intervention can be achieved. A staff member from the Halton Regional Health Department serves in this role, given that health promotion and disease prevention are already an integral part of public health programming.

Client Service Delivery

The service delivery model is client focused. The client may be referred from a physician, agency, friend, family member, self, or other groups and is processed through a central intake/access point.

When a client calls the intake line, the case manager assesses the individual's needs and designates him/her as either need for information or need for referral. Questions that may be posed by the case manager at this time may include:

- Does the client have a dentist?
- Do they need financial assistance?
- Do they need attendant support?
- Do they need access to a specialized facility?

At this point, some clients may only require verbal or written information, which will be provided to them via a direct link, over the telephone or though printed materials. Other clients may need to be referred to an appropriate treatment site such as a hospital, long-term care facility or the office of a dental professional. Referral requires the client's consent to release information. Initial contacts and arrangements for service delivery are made. The case manager then completes an oral assessment in the form of a questionnaire. The next stage is the referral and treatment classification whereby the case manager determines the priority for service. The final step is the linkage to dental services to meet the client's oral health care needs.

A key aspect of this model is the "Current Inventory of Services" which requires continuous maintenance. The case manager is responsible for ensuring that the lists of dental professionals who provide service in a facility or at a client's home is up-to-date and accurate. Offices that are wheelchair accessible are monitored and information regarding insurance coverage and government coverage is updated and monitored. In addition, information regarding the availability of transportation services is provided.

Surrounding the model are references to a community education strategy. The placement of this strategy within the diagram represents the need for continuous education throughout all stages of the model. This education takes place for clients, professionals and formal and informal caregivers.

The evaluation phase completes the model and is a continuous process. Data is collected regarding client contacts and referrals by the CCAC, Dental Department oral screenings and education sessions, and a client satisfaction survey.

Partnership

There is a partnership between the Community Care Access Centre of Halton (CCAC) and the Halton Region Health Department. The CCAC case managers provide oral health information and a referral service to the frail elderly and adults with special needs. The Halton Health Department dental staff present oral health education sessions, and dental hygienists conduct oral screenings.

Funding

In order to fully implement the model, funding was required. The Task Force requested funding from the Long-Term Care Branch of the Ministry of Health to cover the costs associated with the initial setup of this program. The annual budget for this program was approximately $110,300.00; however, due to in kind contributions, the amount of funding required was only $73,300.

Impact of the Oral Health Outreach Program:

Public Health in Halton has been instrumental in facilitating an integrated, intersectoral approach to providing oral care services for residents in Halton with special oral care needs. The local District Health Council identified the issue of oral health needs as a community need in the Annual District Service Plan 2000-2001. The approach to this project is people-family-community friendly. It has been designed to promote communication and cooperation between all sectors of care. The ongoing education component promotes oral care as part of total care, and considers the client first.

Evaluation

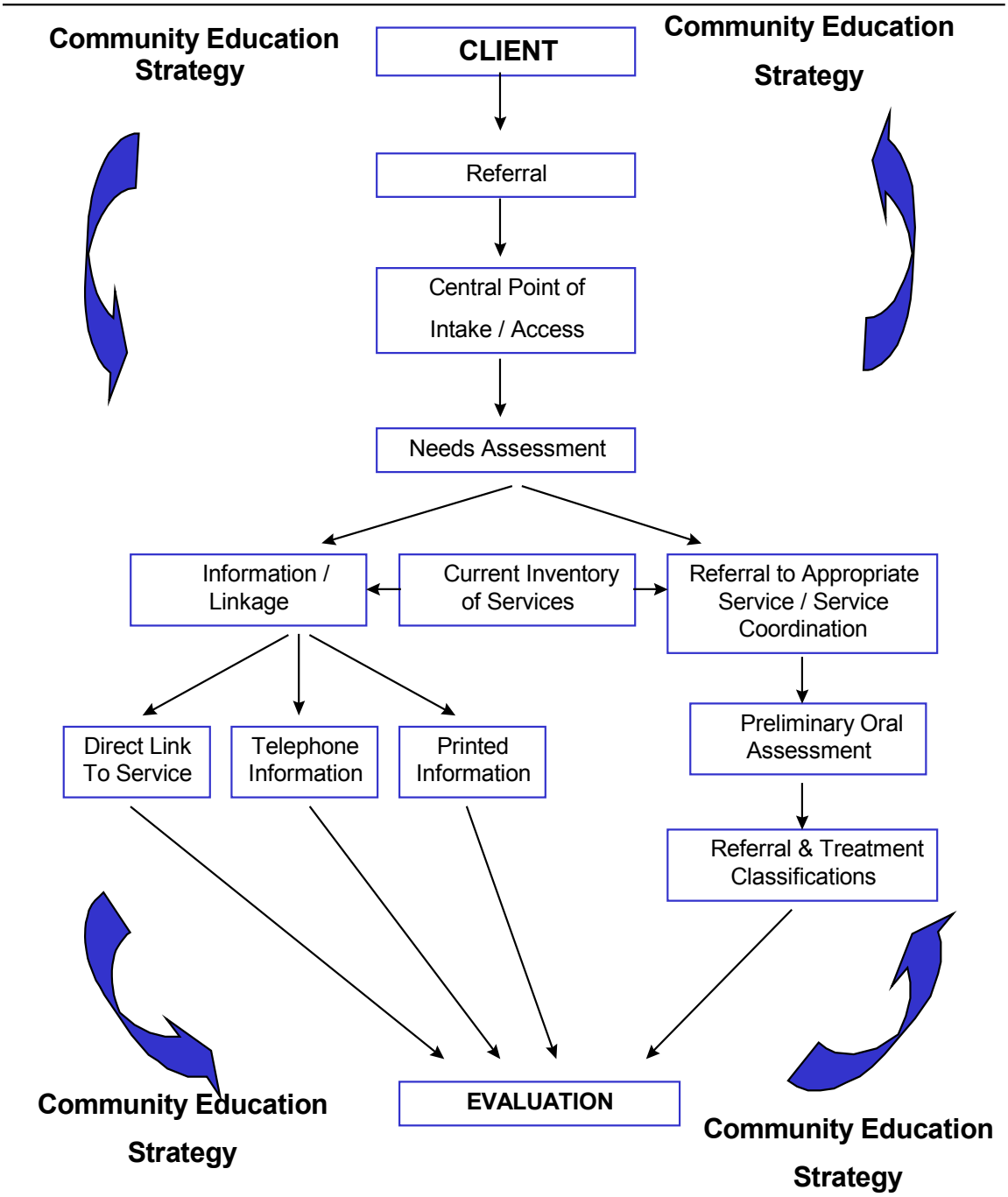
Statistics are gathered from the Minimum Data Set (MDS) which is used in hospitals, Home Care and long-term care facilities. This is the same tool, mandated by US federal legislation (OBRA 87), for the implementation of a comprehensive uniform health assessment of nursing home residents . There are two sections that assess oral heath: Oral/Nutritional Status and a more extensive section, Oral/Dental Status. The dental staff also complete an Oral Health Assessment Record and Daily Oral Care Plan for all clients.

Statistics indicate increased access to oral care services, increased number of elderly who have some natural dentition and enhanced client satisfaction.

The Halton Oral Health Outreach Task Service Delivery Model is outlined below:

Figure 3

HALTON ORAL HEALTH OUTREACH TASK SERVICE DELIVERY MODEL



APPENDIX B

Minnesota Nursing Home Rules[73]

4658.0720 PROVIDING DAILY ORAL CARE

Subpart 1. **Daily oral care plan.** A nursing home must establish a daily oral care plan for each resident consistent with the results of the comprehensive resident assessment.

A. A resident's daily oral care plan must indicate whether or not the resident has natural teeth or wears removable dentures or partials. It must also indicate whether the resident is able to maintain oral hygiene independently, needs supervision, or is dependent on others.

B. A nursing home must provide a resident with the supplies and assistance necessary to carry out the resident's daily oral care plan. The supplies must include at a minimum: toothbrushes, fluoride toothpaste, mouthrinses, dental floss, denture cups, denture brushes, denture cleaning products, and denture adhesive products.

C. A nursing home must make the daily oral care plan available to the attending dentist before each check-up, and must modify the plan according to the dentist's, dental hygienist's, or other dental practitioner's directions.

Subpart 2. **Labeling dentures**. A nursing home must label full and partial dentures with the resident's name or other identifiers within seven days of admission.

4658.0725 PROVIDING ROUTINE AND EMERGENCY ORAL HEALTH SERVICES.

Subpart 1. **Routine dental services**. A nursing home must provide, or obtain from an outside resource, routine dental services to meet the needs of each resident. Routine dental services dental services include dental examinations and cleaning, filling and crowns, root canals, periodontal care, oral surgery, bridges and removable dentures, orthodontic procedures, and adjunctive services that are provided for similar dental patients in the community at large, as limited by third-party reimbursement policies.

Subpart 2. **Annual dental visit.**

A. Within 90 days after admission, a resident must be referred for an initial dental examination unless the resident has received a dental examination within the six months before admission.

B. After the initial dental examination, a nursing home must ask the resident if the resident wants to see a dentist and then provide any necessary help to make the appointment, on at least an annual basis. This opportunity for an annual dental check-up must be provided within one year from the date of the initial dental examination or within one year from the date of the examination done within the six months before admission.

Subpart 3. **Emergency dental services.**

A. A nursing home must provide, or obtain from an outside resource, emergency dental services to meet the needs of each resident. Emergency dental services include: an episode of acute pain in teeth, gums, or palate; broken or otherwise damaged teeth; or any other problem or the oral cavity that requires immediate attention by a dentist.

B. When emergency dental problems arise, a nursing home must contact a dentist within 24 hours, describe the dental problem, and document and implement the dentist's plans and orders.

Subpart 4. **Dental records.** For each dental visit, the clinical record must include the name of the dentist or dental hygienist, date of the service, specific dental services provided, medications administered, medical or dental consultations, and follow-up orders.

4658.730 **NURSING HOME REQUIREMENTS**

Subpart 1. **Training**. Nursing home staff providing daily oral care must be trained and competent to provide daily oral care for residents.

Subpart 2. Written agreement. A nursing home must maintain a written dental provider agreement with at least one dentist, licensed by the Board of Dentistry, who agrees to provide:

A. routine and emergency dental care for the nursing home's residents;
B. consultation on the nursing home's oral health policies and procedures; and
C. oral health training for nursing home staff.

Subpart 3**. Making appointments**. A nursing home must assist residents in making dental appointments and arranging for transportation to and from the dentist's office.

Subpart 4. **On-site services**. A nursing home must arrange for on-site dental services for residents who cannot travel if those services are available in the community.

Subpart 5. **List of dentists**. A nursing home must maintain a list of dentists in the service area willing and able to provide routine or emergency dental services for the nursing home's residents. Copies of the list must be readily accessible to nursing personnel.

APPENDIX C

Adult Care Regulation – British Columbia Reg. 536/80[88]

ORAL HEALTH

9.2 (1) For the purpose of this section, dental health care professional means a person who is a member of

A. the College of Dental Surgeons of British Columbia,
B. the College of Dental Hygienists of British Columbia, or
C. the College of Denturists of British Columbia.

(2) A licensee must encourage a resident to obtain an examination by a dental health care professional at least once every year.

(3) A licensee must ensure that a resident is assisted in

A. maintaining daily oral health,
B. obtaining professional dental services as required, and
C. following a recommendation or order for dental treatment by a dental health care professional providing care to the resident.

CARE PLANS

9.3 (1) A licensee must ensure that staff develop and implement an individual care plan for a resident who remains in an adult care facility for two or more weeks.

(2) A care plan must include

A. a plan for the resident's health care, including any self-medication plans,
B. a plan for the resident's oral health care,
C. a nutrition care plan, and
D. a plan for the resident's recreation and leisure activities.

(3) A care plan must take into consideration the abilities, the physical, social and emotional needs and the cultural and spiritual preferences of the resident.

(4) A care plan must be

A. completed within six weeks of the resident's admission to the facility,
B. reviewed on a regular basis and modified according to the current needs and abilities of the resident, and
C. accessible at all times to staff who provide direct care to the resident.

(5) A licensee must encourage a resident to participate in the development and review of his or her care plan.

APPENDIX D

Ontario Ministry of Health Long-Term Care Facility Program Manual 1993[90]

Standards: Resident Care – Oral and Dental Care

B3.35 Individualized oral care shall be provided to maintain tissue integrity and to observe for problems.

B3.36 Each resident's mouth, teeth and /or dentures shall be cleaned twice daily or more frequently as required, with assistance provided according to the resident's ability to manage his/her own care.

B3.37 Each resident's dentures shall be labeled, cleaned and accessible to the resident.

Standards: Service Provision – Dental Services

J1. THERE SHOULD BE A COORDINATED PROGRAM OF DENTAL SERVICES, OR ARRANGEMENTS SHALL BE MADE TO ACCESS DENTAL SERVICES TO MEET RESIDENTS' DENTAL CARE NEEDS.

Criteria

J1.1 New residents shall have an oral assessment on admission as part of the admission medical and nursing assessments.

J1.2 When residents require dental treatment or other services not provided by the facility, assistance shall be provided to arrange for referral to a dentist or other dental personnel of the resident's choice, when payment is authorized by the resident/representative.

J1.3 A dental assessment, preventive services (scaling and cleaning, and an assessment to ensure that dentures are properly fitted) shall be offered annually or as required by qualified dental personnel, on a fee-for-service basis.

J1.4 Arrangements shall be made to provide emergency dental services for residents as required, when payment is authorized by the resident/representative.

APPENDIX E

KEY INFORMANTS

British Columbia

Shirley Bassett, Chair, Dental Programs
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Dr. Deborah Battrum, Chair, Geriatric Committee
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Alberta

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Sandy Cobban, Assistant Professor
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Calgary, AB

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Special Needs Assistance for Seniors Program
Alberta Community Development
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Keewatin Yathe Health District
LaRonge SK

Charlene Hamill, Registrar
Saskatchewan Dental Hygienists' Association
Regina, SK

Sherry Moneta, Dental Health Educator
North Central, North East, Pasquia Health Districts
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Dr. Doug Phillips, retired Dentist
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Ontario

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Nova Scotia

Dr. Carl Canning, Dental Consultant
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Dr. Joanne Clovis, Associate Professor
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Dr. Mary McNally
Faculty of Dentistry
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Prince Edward Island

Dr. Barry Maze, Director, Dental Public Health
Department of Health and Community Services
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Newfoundland and Labrador

Dr. Bruce Bowden, Director
Dental Services
St. John's, NF

Yukon

Linda Linton, Seniors' Program Officer
Department of Health and Social Services
Whitehorse, Yukon

USA

California

Dr. Kathryn Atchison, Associate Dean for Research and Knowledge Management
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Oral/Rural/Primary Care
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University of Florida College of Dentistry
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Illinois

Becky Grill, Government Relations Liaison
Illinois Dental Hygienists' Association
Chicago, IL

Tim Lynch, Manager
Governmental Affairs
American Dental Hygienists' Association
Chicago, IL

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Barbara Smith, Assistant Professor
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Mary Johnsen, Development Officer
Apple Tree Dental
Minneapolis, MN

Dr. Stephen Shuman, Associate Professor and Director
Oral Health Services for Older Adults Program
University of Minnesota School of Dentistry
Minneapolis, MN

Washington

Dr. Peter Moore
Mobile Dental Equipment Corporation
Bellevue, WA

Dalila Sebring, Coordinator DECOD
Dental Education in Care of Persons with Disabilities
School of Dentistry
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INTERVIEWS

Dental Professionals - Calgary

Megan Carrigy, Dental Hygienist
Community Oral Health Services
Calgary Health Region

Cindi de Graff, Dental Hygienist
Dentistry & Oral Medicine
Foothills Medical Centre
Calgary Health Region

Dr. Tom Fraser, Calgary Dentist

Sandy Gill, Dental Hygienist
Community Oral Health Services
Calgary Health Region

Dr. David Lawton, Calgary Dentist

Gail Oneski, Manager
Division of Dentisty & Oral Medicine
Foothill Medical Centre
Calgary Health Region

Dr. Trey Petty, Regional Division Chief
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Foothills Medical Centre
Calgary Health Region

Karla Tataryn, Dental Hygienist
Community Oral Health Services
Calgary Health Region

Curtis Welsh, Denturist
TransCanada Denture Clinic

Health Professionals - Calgary

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Carewest, Dr. Vernon Fanning Centre

Norma Casini, Director
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Nancy Chomiak, Access Transition Coordinator
Transition Services
Calgary Health Region

Joan Embry, Seniors Resource Nurse
Healthy Communities
North Hill, Calgary Health Region

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Seniors Urgent Assessment Clinic
Specialized Geriatric Services
Calgary Health Region

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Care in the Community
Calgary Health Region

Ralph Hubele, Specialist Housing Development
Care in the Community
Calgary Health Region

Debbie Lee, Clinical Specialist, Older Adults
Home Care, Care in the Community
Calgary Health Region

Doug Levy, Pharmacist
Pharmacy On Call

Roxanna Rasmussen, Nurse Practitioner
Alexandra Seniors' Health Centre

Lorne Robertson, Director
Supported Living Services
Care in the Community
Calgary Health Region

Varina Russell, Manager
Healthy Childhood, Healthy Communities
Calgary Health Region

Lesley Sutton, Outreach Counsellor
Seniors' Program
Alexandra Community Health Centre

Bob Wilson, Pharmacist
Simon Valley Drugs

Seniors/Family Members/Caregivers - Calgary

Alexandra Community Health Centre Seniors Advisory Committee (3 seniors)

Comprehensive Community Care (C3) – Sarcee (8 seniors)

Seniors in the community (3)

Seniors' Volunteer (1)

APPENDIX F

PROVINCIAL SENIOR ORAL HEALTH PROGRAMS
DENTAL COVERAGE

Seniors' oral health program coverage information was compiled for each province from available published data and personal communications. The dental coverage varies for each province and specifics are summarized. Yukon and Northwest Territories have the most extensive dental coverage.

SENIOR ORAL HEALTH PROGRAMS

Provincial Dental Programs – Publicly Funded

BRITISH COLUMBIA[183]

Program: Dental Coverage
Agency: Ministry of Social Services
Eligibility: Social assistance recipients 65 years of age and older
Providers: Private dental offices
Services: 100% coverage
Basic annual limit $500.00
Pre-authorized dentures

Alberta[184]

Program: Extended Health Benefits Program
Agency: Alberta Health and Wellness
Eligibility: Recipients of Alberta Widows' Pension
Providers Private dental offices
Services: Program operates on a limited, shared-cost basis for dental examinations, X rays, restorative services, extractions, cleanings and dentures

Program: Special Needs Assistance For Seniors
Agency: Alberta Seniors
Eligibility: 65 years of age or older, Alberta resident
Income-based program that provides a lump-sum payment to help eligible lower income seniors who are having financial difficulties
Providers: Private dental offices
Services: Dental services up to a maximum of $5,000 in a lifetime

Saskatchewan[185]

Program: Dental Services
Agency: Medical Services Plan, Saskatchewan Health
Eligibility: Residents of Saskatchewan who require limited dental services due to medical reasons
Providers: Private dentists and oral surgeons
Services: Maxillo-facial surgery due to an accident and/or abnormalities of the mouth and surrounding structures, orthodontic care of cleft palate and extraction of teeth prior to surgery

Ontario[186]

Program: Ontario Health Insurance Plan (OHIP)
Agency: Ministry of Health and Long Term Care
Eligibility: Ontario resident
Services: Dental surgery performed in a hospital

Newfoundland[186]

Program: Income Support Benefits for Seniors
Agency: Department of Human Resources and Employment
Eligibility: Social Assistance clients age 65 years and over
Services: Coverage of dental extractions and dentures

Prince Edward Island[186]

Program: Long Term Care Facility Dental Program
Agency: Department of Health and Social Services
Eligibility: Residents of provincial and private long term care facilities
Providers: Public health dentists and dental hygienists.
Services: Oral screenings and referral to a private dentist, oral surgeon or physician if necessary
Preventive services cleaning and labeling of dentures, fluoride applications and scaling
Education sessions for resident care staff
Resident or family is responsible for treatment costs when referred

Yukon[186,187]

Program:	Extended Health Care Benefits
Agency:	Department of Health and Social Services
Eligibility:	65 years of age and older Yukon resident who is not eligible for other insurance programs
Providers:	Private dental offices
Services:	$1,400 every 2 years, dentures once every five years

Northwest Territories[183,186]

Program:	Extended Health Care Benefits
Agency:	Department of Health and Social Services
Eligibility:	60 years of age and older Northwest Territories resident
Providers:	Private dental offices
Services:	$1,000 annual maximum for services listed in the NWT Dental fee schedule, exam once per year, complete radiographs every 2 years and dentures once every five years

APPENDIX G

SENIORS' ORAL HEALTH
INTERVIEW GUIDE – DENTAL PROFESSION

Date: _____

Name: _____

Title: _____

Practice/Facility: _____

Did you receive information on geriatric dentistry in your curriculum? Y ____ N__
Have you received formal training in geriatric dentistry? Yes ____ No _____
Did you receive on the job training only? Yes _____ No.

Describe _____

Staff:

- Dentists: _____
- Dental Hygienists: _____
- Dental Assistants: _____
- Office Support: _____
- Denturists: _____

Summary of Program:

Percent of Seniors in Practice (65+): _____

Types of Services Provided in Dental Clinic For Seniors:

- Routine dental services (fee for service): Yes _____ No_____
- Portable equipment (wheelchair adaptations): Yes _____ No _____

Other _____

Services Provided in Home/Facilities: **Location**

- Screenings: Yes _____ No _____ _____
- Treatment
- Restorative Yes _____ No _____ _____

Location

- Scaling & Cleanings Yes _____ No _____ _____

- Mobile/Portable Equipment: Yes _____ No _____ _____

Specify _____

- Inservices: Yes _____ No _____ _____

Funding:

- Government funding Yes _____ No _____
- Equipment owned: Yes _____ No _____
- Utilities Supplied: Yes _____ No _____
- Other: _____

Evaluation:

- Measurable Outcomes: _____
- Indicators: _____

What are seniors' oral care needs?

1. _____
2. _____
3. _____

What barriers are there to oral care for seniors?

- Financial: _____
- Access: _____
- Lack of Perceived Need: _____
- Lack of staff training: _____
- Other: _____

What are the oral care service gaps for Seniors?

1. _____
2. _____
3. _____

What are the emergency oral care needs of seniors?

_____

_____

_____

What components should make up a dental care program in a long term care facility?

_____ oral health assessments how often?_____

_____ daily oral hygiene includes? _____

_____ dental treatment _____

_____ education for staff _____

What dental services should be available for your senior clients?
Home Living (HL), Designated Assisted Living (DAL), and Facility Living (FL)

	HL	DAL	FL
Initial oral assessment on admission by a dental health professional	_____	_____	_____
Assistance with daily oral hygiene Care (brushing/cleaning dentures etc.)	_____	_____	_____
Modification of oral hygiene aids (toothbrushes etc.) for seniors/staff	_____	_____	_____
Daily oral inspections by a nurse or nurse's aid to screen for infection/ tooth decay or dry mouth concerns	_____	_____	_____
Periodic oral inspection by a dental health professional	_____	_____	_____
how often?	_____	_____	_____
Denture identification	_____	_____	_____
On-site dental treatment/cleanings	_____	_____	_____
Referral for off-site dental treatment	_____	_____	_____
On-site emergency dental treatment	_____	_____	_____

Referral for off-site emergency dental treatment _____ _____ _____

Other _____

Recommendations:

- Dental/Health Staff Training:

- Data Collection:

- Standards/Legislation:

- Organizational/Program Implications:

- Quality Assurance Program:

- Resources Required:

_ Financial Assistance

- Other:

If the Region could do something to help seniors meet their oral health needs and make your job easier, what would it be?

_____

_____

_____

_____

SENIORS' ORAL HEALTH
INTERVIEW GUIDE – HEALTH PROFESSIONALS

Date: _____

Name: _____

Title: _____

Facility: _____

Health Profession: _____

Did you receive any oral health information in your nursing curriculum and or continuing education?

Yes _____ No _____ Explain _____

Summary of Program:

Number of Seniors: _____

Types of Services Provided: _____

_____

_____

Oral Care Services Provided: _____

_____

What are seniors' oral care needs?

4. _____

5. _____

6. _____

What barriers are there to oral care for seniors?

- Financial: _____
- Access: _____
- Lack of seniors' perceived need:_____
- Lack of staff's perceived need: _____
- Lack of staff's training in oral care: _____
- Lack of staff/time: _____
- Other: _____

What components should make up a dental care program in a long term care facility?

_____ oral health assessments how often?_____

_____ daily oral hygiene includes? _____

_____ dental treatment _____

_____ education for staff _____

What dental services are needed for your senior clients?
Home Living (HL), Designated Assisted Living (DAL), and Facility Living (FL)

	HL and/or	DAL	FL
Initial oral assessment on admission by a dental health professional	_____	_____	_____
Assistance with daily oral hygiene care (brushing/cleaning dentures etc.)	_____	_____	_____
Modification of oral care aids (toothbrushes etc.)	_____	_____	_____
Daily oral inspections by a nurse or nurse's aid to screen for infection/ tooth decay or dry mouth concerns	_____	_____	_____
Periodic oral inspection by a dental health professional	_____	_____	_____
how often?	_____	_____	_____
Denture identification	_____	_____	_____
On-site dental treatment/cleanings	_____	_____	_____
Off-site referral for dental treatment	_____	_____	_____
On-site emergency dental treatment	_____	_____	_____
Off-site referral for emergency dental treatment	_____	_____	_____

Other _____

Recommendations:

- Dental/Health Staff Training:

- Data Collection/ Screenings

- Standards/Legislation:

- Quality Assurance Program

- Resources Required

- Organizational/Program Implications

- Finance Assistance

If the Region could do something to help seniors meet their oral health needs and make your job easier, what would it be?

SENIORS' ORAL HEALTH
INTERVIEW GUIDE – Seniors/Family Member

Date: _____

Family member: _____ **Relationship:** _____

Name of Senior: _____

Male: _____ **Female**: _____

Date of Birth: _____ **Age:** _____

Dental Insurance:
Alberta Extended Health Benefits for Seniors ____ yes ____ no

Additional dental insurance ____ yes ____ no

Living Stream: **Independent** (No outside care) _____
_____ single _____ with companion _____ with family

Home Living _____

_____ daily care _____ weekly care

By Whom? _____

Designated Assisted Living _____

Location:_____

Facility Living _____

Location: _____

Oral Status:

bottom teeth	_____
top teeth	_____
full bottom denture	_____
full top denture	_____
partial bottom denture	_____
partial top denture	_____

Self-Rated General Health:		**Self-Rated Oral Health**	
Excellent	_____	Excellent	_____
Very Good	_____	Very Good	_____
Good	_____	Good	_____
Fair	_____	Fair	_____
Poor	_____	Poor	_____

Have you had a painful tooth and/or denture sore in the last 12 months?
Yes ____ No _____

Do you brush your teeth twice or more daily? _____ once per day
Yes _____ No _____

Is a dry mouth a problem for you?
Yes _____ No _____

Explain_____

Have you told your dentist about your dry mouth? Yes_____ No _____

Have you told your physician about your dry mouth? Yes _____ No_____

Are there any foods that you avoid eating because of your teeth or mouth?
Yes _____ No _____ Explain _____

Do you have any physical challenges that make caring for your mouth difficult?
Yes _____ No _____ Explain _____

When was the last time you visited a physician? Reason?
_____ less than one year Routine _____
_____ approximately one year
_____ more than one year Emergency_____

_____ more than 2 years
_____ more than 4 years
_____ over 5 years

When was the last time you visited a dentist?
_____ less than one year
_____ approximately one year
_____ more than one year
_____ more than 2 years
_____ more than 4 years
_____ over 5 years

If edentulous, when was the last time you visited a denturist?
_____ less than one year
_____ approximately one year
_____ more than one year
_____ more than 2 years
_____ more than 4 years
_____ over 5 years

What was the reason?

Routine_____

Emergency_____

Have you experienced any problems/issues around dental care since becoming a senior?
_____

_____

_____

_____

Positive occurrences? _____

_____

_____

Did you know Alberta is one of the few provinces that subsidizes the cost of senior's dental care? _____ yes _____ no

Comments: _____

_____

Barriers to Dental Care:

- Cost: _____
- Transportation:_____
- Lack of perceived need: _____
- Fear: _____
- Poor Health :_____
- No Dentist:_____
- Other:_____

When selecting a long term care facility for a family member, is/was a dental care program a priority? _____ yes _____ no

Does the facility have a specific dental care program?
_____ yes _____ no _____ don't know

What components should make up a dental care program in a long term care facility?
_____ oral health assessments how often?_____

_____ daily oral hygiene includes? _____

_____ dental treatment _____

_____ education for staff _____

If dental examinations and treatment were provided periodically in your home or facility, would you/ or a family member utilize the service more than travelling to a dental clinic? This dental service would be "fee for service" – similar to the dental clinic.
____ yes ____ no

Comments _____

_____

If the Region could do something to help you meet your oral health needs, what would it be?

_____

_____

Recommendations:

_____

_____

_____

_____

_____

APPENDIX H

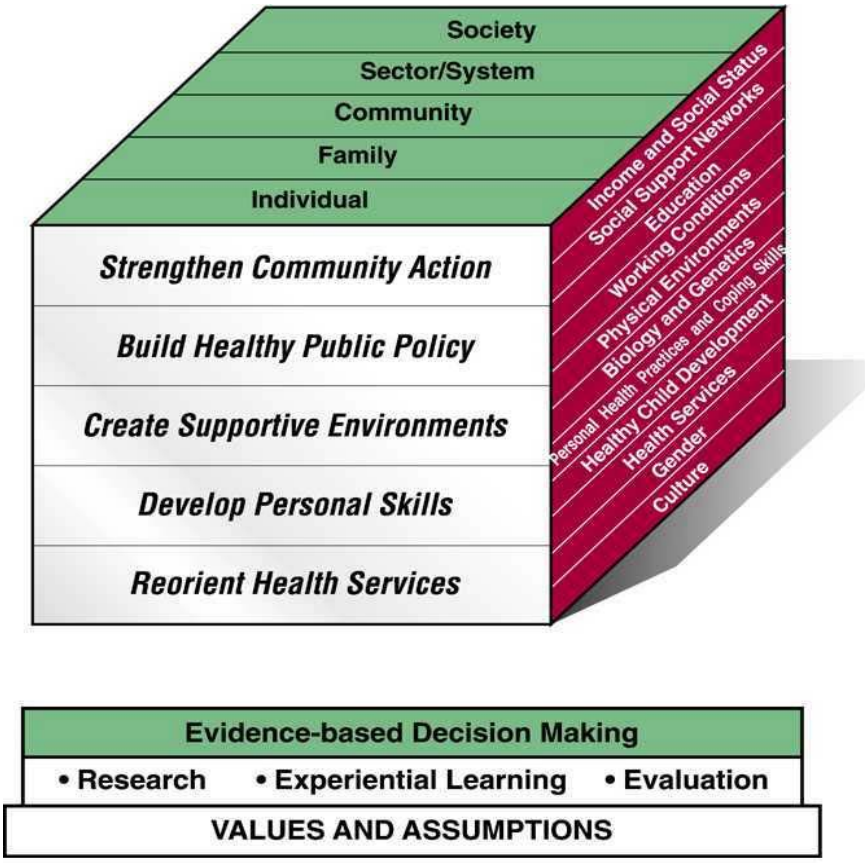

Figure 4 : Population Health Promotion (PHP) Model[177]