Oral Health in Edmonton Community Dwelling Older Adults

by

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Abstract

Poor oral health in older adults is identified as a major health issue. There are cumulative effects of oral diseases over time that may impact other health issues for older adults. Regular utilization of dental care is key to maintaining good oral health in later life; however, older adults identified oral health care as the most common health care service they need, which has significant barriers. The purpose of this study was to explore oral health experiences from the perspective of older adults' living in community dwellings: to identify facilitators and barriers to oral health care, and to determine how oral health services utilization compares to utilization of other healthcare services. An interpretive descriptive methodology was employed with a purposive sample of 12 adults, aged 70 years or older. The inclusion criterion was English-speaking seniors residing in community dwellings. Community dwellings were defined as any housing outside of long-term care or other supportive living facilities. Semi-structured interviews were 30-80 minutes, audio-recorded and transcribed verbatim. Three researchers participated in the comparative analysis process to develop codes, generate categories, interpret patterns, and construct themes. Three central themes surfacing from the data were: 1) life course influences on oral health; 2) transparency in delivery of oral health services; and 3) interrelationships between oral health and overall health. Study findings were interpreted within the context of current literature and a theory of aging. Perspectives of older adults in this study helped inform suggestions for improving dental and dental hygiene clinical interventions in the following areas: recognizing the value of establishing collaborative and trusting relationships between oral health practitioners and older adults; including oral health services as part of interdisciplinary care; and funding more research to expand research related to life course influences on oral health for older adults.

Preface

This thesis is an original work by Kimi Khabra. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board Panel B, "Oral health in community dwelling older adults", No. Pro00044963, September 17, 2014.

Dedication

For my Bibi and Papa.

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Chapter One

Introduction

Canadians are aging and demographers are projecting by 2036, Canada's population aged 65 and over could comprise one fourth of the total Canadian population.[1] This demographic shift is a result of changes in immigration patterns, decreasing death and birth rates, and longer life expectancies over the years.[2] In Canada, 65 years is the common benchmark age used to indicate the beginning of old age, define a senior or older adult.[1] The media has referred to the rise of older Canadians as a "grey tsunami." A "grey tsunami" refers to the wave of social and economic burdens and disturbances older adults would create on Canada's health care system. Older adults will have experienced life-long exposures to risk factors for diseases, and will experience at least one chronic condition during their lifetime, requiring the use of Canada's health care system. Health care providers and policy makers should be equipped with strategies and resources to meet the growing health needs of older Canadians.

The most prevalent chronic conditions affecting older adults are diabetes, cardiovascular disease, chronic respiratory disease, and cancer.[3] Oral disease is not included in this list, but is a chronic condition affecting older adults. Poor oral health in older adults is identified as a major health issue across the globe.[3] As one ages, there are cumulative effects of oral diseases and conditions that pose as health problems for older adults.[4-6] Oral health is significant to older people's general health, quality of life and their perception of self.[5] A high incidence of tooth loss, dental caries, periodontal disease, oral cancer, and xerostomia is found in the older adult population.[3] Poor oral health can limit food choices and the pleasures of eating, impair chewing efficiency, lead to pain, and may restrict social contact and inhibit intimacy.[7,8] Furthermore, tooth loss can affect speech, detract from physical appearance, and lower self-esteem.[8,9] Researchers

have examined associations between oral diseases and medical conditions: cardiovascular disease, diabetes, nutritional deficiencies, and pneumonia.[4, 10-12] Oral health in older adults is a topic of concern for both oral health practitioners and practitioners in other health disciplines due to the link between oral health and systemic health.

Purpose of the Study

In Alberta, a new strategy was implemented in 2010 towards helping older adults age in the right place.[13] One of the specific initiatives is providing older adults with assistance towards aging in the community and a shift away from institutionalization.[13] With this new initiative, it is imperative to understand the oral health needs and experiences of older adults in the community. Oral health research in older adults focuses on oral health status and the outcomes of dental treatments. There is limited research that examines older patients' experiences. Focusing on understanding oral health experiences of older adults is crucial to identify facilitators and barriers to oral health. Achieving an insight into the experiences of community dwelling older adults can help oral health care providers become aware of the oral health related practices, beliefs, and needs of older adults. This insight has implications on existing oral health policies, programs and services that older adults utilize. There is a need to reorient oral health services toward prevention and health promotion in older adult populations to meet the needs of this growing group of Canadians. This study explores oral health experiences from the perspective of older adults living in community dwellings: 1) to identify facilitators and barriers to oral health care; and, 2) to determine how oral health utilization compares to the utilization of other health care services.

Context

Canada's health care delivery is operated at a provincial and territorial level guided by federal standards established by the Canada Health Act of 1984.[14] Medicare is central to the Canada Health Act, which involves Canadians receiving publically funded health care services in hospitals, physician services and surgical dental procedures performed in a hospital.[14] Health services accessed in settings other than a hospital or services provided by allied health professionals are not funded by Canada's health care system. This exclusion of health services creates inequities in Canadians health across geographic areas in Canada, among different cultural groups, socioeconomic statuses, ages and genders. For example, as a result of Canada's exclusion of dental care from Medicare, the majority of Canadians use private insurance plans; employer based insurance plans or out-of-pocket expenditures to fund a dental visit.[15,16] Comparatively, dental care is federally funded for the Armed Forces, First Nations and Inuit people and the Royal Canadian Mounted Police.[17] Additional publically funded dental services are targeted towards socially marginalized groups such as low-income children and adults; creating inequities in health through the exclusion of select Canadians.[17]

Canada's dental care system exemplifies the 'the inverse care law,' where those that need the most care receive the least.[16] Utilization patterns for dental services show that older Canadians are less likely to visit a dentist compared with younger Canadians.[18] The predominate fee-for-service delivery of oral health care in Canada poses a financial burden on older adults, affecting utilization rates of oral health care services.[16,18] As Canadians age, entry into older adulthood coincides with retirement resulting in a loss of employer sponsored dental benefits, leaving the older adult population to fund dental services out-of-pocket or to purchase personal dental plans.[15] Furthermore, employment or private based insurance plans have an annual

maximum coverage and limitations placed upon the dental procedures financed, resulting in additional out of pocket expenditures for Canadians. Regular utilization of dental care is key to maintaining good oral health in later life; yet older adults identified oral health care as the most common health care service they need, which has significant barriers. In Alberta, the provincial government provides a level of financial assistance for dental services to residents over age for 65; this assistance is provided on the basis of narrow eligibility criteria.[19] The Alberta Seniors Program provides financial assistance of a maximum of $5,000 every five years for dental services but covers only select dental services.[19] Seniors eligible for this program are those who have a low annual household income of $26,400 or less.[19] Prior to the implementation of Alberta Seniors Program, the Government of Alberta prided itself in providing the largest universal dental care plan for the elderly in North America, known as the Alberta Extended Health Benefits dental plan.[20] It was described as a comprehensive dental benefit plan for all Alberta residents aged 65 years and older, their spouses and dependents.[20] The plan was funded entirely from provincial government revenues, and dental benefits were broad in scope, with extensive dental services available. It was regarded as a comprehensive dental insurance plan with few limitations that required no coinsurance payments by seniors and was deemed analogous to Canada's Medicare.[20] However, this program no longer exists and the current oral health program available to older adults in Alberta is targeted and not inclusive. Poor oral health in older adults is an indication that a sustainable and inclusive oral health program needs to be implemented to meet the oral health care needs of Alberta's older adult population.

Researcher Interest

The inspiration for this present study developed as a result of my role as a dental hygienist. During my first year practicing as a dental hygienist, I encountered the issue of poor oral health in older adults in clinical practice. Yet, when I recommended the ideal continuing

care interval or necessary dental procedures, such as fluoride, I was met with reluctance and refusal from some of my older adult clients. The conclusion of my one-hour appointment left me disappointed and intrigued as to why majority of older adults exhibited this pattern of behaviour. My clinical practice taught me that Canada's predominate fee-for-service delivery of oral health care has a powerful ability to dictate oral health treatment plans for older adults. Clinical experiences have heightened my recognition of the need for increased social responsibility and advocacy efforts for vulnerable populations who have abundant oral health needs. Without an understanding of older adult's oral health experiences it is difficult to reduce inequities in oral health of older adults and stimulate advocacy efforts targeted to improve oral health in older adults.

Thesis Outline

This thesis is organized in five chapters. The second chapter provides a comprehensive literature review that details the current state of literature focusing on community dwelling older adults' oral health experiences; utilization of oral health services; implications of one's cohort on his/her oral health; and predictors of utilization of oral services. In the third chapter, an overview of the methodological framework is provided and details of the research design and analysis. The study findings are described and interpreted in chapter four. The fifth chapter offers a discussion of key findings: implications for practice, policy, study limitations and future directions complete this last chapter.

Chapter Two

Literature Review

This literature review will provide research related to the following issues: community dwelling older adult's utilization of oral health services; predictors of utilization of oral services; and implications of one's cohort on his/her oral health. A review of both qualitative and quantitative literature focusing on community dwelling older adults' oral health experiences will be presented. The first section offers qualitative explorations of oral health experiences in older adults and immigrant older adults. The second section examines quantitative measures of older adults' self-perception of oral health and experiences. This chapter concludes by situating the current study within the research literature.

Utilization of Oral Health Services

The Canadian Health Measures Survey[21] in 2007, found that 20.7% of dentate and 81.7% of edentulous older adults aged 60-79 years did not annually visit dental professionals. However, this survey excluded older adults above 79 years of age; therefore, current national data on dental utilization of this older adult group is unknown. Nonetheless, what is known in the literature is that older adults utilize oral health care services less often than younger Canadians.[21,22,23] This lower utilization rate is linked to poor oral health outcomes for older adults.[24]

Most older adults are symptomatic attendees despite noting a six-month dental check-up as the gold standard for dental attendance.[25] Anderson and Newman's[26] framework for health utilization has been used to predict dental utilization among Canadian older adults.[18,27] According to this model, dental visits by seniors are influenced by predisposing factors: gender, age, race, living arrangement, and education; enabling factors, including family and community resources such as income; availability of health insurance and health facilities; and need factors, such as

immediate health status or illness/pain.[26] Kiyak and Reichmuth[28] found that high education and high income are positively associated with the frequency of visiting a dentist. Similarly, Ettinger[29] mentioned higher income and education as predictors of a dental visit within the past year, along with being female, residing alone, living in a major metropolitan area, and being in good health. Older adults have mentioned that good general health is necessary in order to utilize oral health care services.[30] Researchers have found that those with poor systemic health and multiple chronic conditions are less likely to utilize dental care services.[28, 31] Similarly, those with poor general health, older adults residing in rural communities and ethnic minority seniors have lower utilization rates.[28]

Predictors of Utilization of Oral Health Services

While several predictors for utilization exist, perceived importance of dental care is assumed to be the best predictor of preventative or emergency dental utilization or non-utilization.[32] Slack-Smith et al.[33] found that many older adults commonly consulted a dental professional if they had a problem with their teeth, and considered the absence of pain as an indication that they had no dental problems. Number of teeth remaining has also been noted to influence utilization patterns.[28] Slack-Smith et al.[33] found that many older adults considered dental check-ups to be unnecessary for those with complete dentures; others visited a dentist if they wanted dentures replaced or fixed.[33] Perceived importance of dental care is a belief one holds. According to Ettinger[34] beliefs or attitudes are developed as a result of experiences and once attitudes are developed, they are maintained and not readily changed.

Implications of Cohort on Older Adults Oral Health

In 1992, Ettinger[34] introduced the concept of cohort differences affecting older adults' attitudes towards oral health and oral health experiences. Ettinger[34] noted that socioeconomic

conditions and dental events during history impact the oral health experiences and behaviours of a generation. Older adults were born and grew up in a time where the way of life differed immensely; dentistry was in its infancy and dental philosophies differed compared with today. Ettinger[34] described five cohorts of individuals born from 1905 until 1945 and the relationship of these cohorts oral health to historical and socio- dental events. His description identified those born in 1905 as 'old-old', 1915 the 'old elderly,' 1925 as 'new elderly', 1935 as 'the heavy metal generation', and 1945 as the 'baby boomers.' Since there are few individuals over 100 years of age, we presume that in today's society the majority of older adults who are alive are those described as the 'old elderly cohort' and successive cohorts.

Ettinger[34] asserts the 'old elderly' and 'new elderly' grew up during the Great Depression and the unstable years leading to World War II. These individuals grew up in a time where extractions of teeth dominated dental practices; dental care was viewed as a luxury rather than a part of health care, and dentistry for children was discouraged.[34] This cohort also may have had negative dental experiences, since it was not until late 1920's before guidelines restricting the practice of dentistry to adequately trained dentists were created.[34] Edentulism was the accepted norm, and viewed as a natural result of aging for these older adults.[34] Comparatively, edentulism was not an accepted norm for the 'new elderly'; this cohort reached adulthood when dentistry was shifting to an age of restorative dentistry.[34] This shift in philosophies to restoration instead of extractions arose from the development of an improved local anesthetic, lidocaine, in 1943 and development of the high-speed hand piece in 1957, which allowed the removal of dental decay and placement of fillings.[35]

Individuals born from 1935-1944 also benefited from the innovative restorative technologies and are characterized as the "heavy metal generation" due to the high incidence of

caries and metal fillings.[34] With a high incidence of dental decay, public water fluoridation was introduced into Canada and USA in 1945 to prevent dental decay.[35] The baby boomers generation born after World War II benefited from water fluoridation compared to previous cohorts. In 1948, the national institute of dental research and federal funding for dental research was developed in the US, followed by the introduction of fluoride toothpaste in the 1950's.[35] Furthermore, the delivery of dentistry changed and there was an increased use of dental hygienists, dental auxiliaries, and dental insurance became available.[34] Rosenstock[36] suggested that the baby boomers are oriented towards seeking preventative health services compared to previous cohorts due to stable economic growth and developments in science. Dentistry has evolved and the world has changed over the years; the cohort that older adults grew up in has influenced their oral health status, experiences, values and behaviours. Understanding the oral health experiences of older adults can help provide insight into the issue of poor oral health in older adults despite the evolvements of dentistry.

Qualitative Explorations of Older Adults' Oral Health Experiences

Qualitative explorations of older adults' oral health experiences have made an important contribution to the literature, as they highlight older adults voices and gain their thoughts and perspectives. While experiences are unique for each person, there are common themes across community dwelling older adults' experiences and across studies conducted in different parts of the world. In this section, barriers and facilitators of oral health care services, older adult perceptions of oral health, and self-oral care practices echoed throughout the literature are discussed. The section concludes with a description of common themes in immigrant oral health experiences.

Barriers and Facilitators to Oral Health

Delivery of oral health care services. Globally, the delivery of oral health care varies from privatized services to publically government-funded services and at times a combination of both. The delivery of oral health care was noted as both a barrier and facilitator in older adults accessing oral health services.[25, 33,37,38] In Britain, the National Health Service (NHS) was introduced in 1948, a model of delivering accessible free health care to all British citizens.[39] Under the NHS model, many older adults do not qualify for free dental treatment, a service available to those less than 18 years of age, pregnant women, and select low-income populations.[39] Older adults viewed this as a form of ageism, abandonment from the government, and infringement on their rights as British citizens.[37] This lack of accessibility to government funded dental care resulted in older adults accessing care from private dentists, where they experienced difficulties in funding dental costs.[25,37] Furthermore, older adults have stated that there was a shortage of NHS dentists, and that dentists were moving from the public to private sector.[25,37] The shift into the private sector resulted in difficulties for older adults in locating a NHS dentist to access care from and left many becoming symptomatic or non-attendees.[25,37]

Similarly, a study conducted in Perth, older adults pointed out the delivery of dental care resulted in high costs compared with other medical services, which were free or heavily subsidized by the government.[33] In Perth, both a public and private model of delivering oral health care exists. Older adults who accessed both government-funded and privatized dental services felt dental costs were high and a deterrent to seeking dental care.[33] While older adults mentioned that government funded dental services were cheaper, they expressed frustration with long wait times and gaining an appointment at public dental clinics.[33] Difficulty in gaining an

appointment within the public system resulted in older adults receiving delayed dental treatment, negatively affecting their oral health.[33]

In contrast, a study conducted in Sweden found all older adult participants were routinely utilizing dental care and did not report any issues with accessibility.[38] Sweden established a national dental health scheme in 1974, making dental care financially accessible to all citizens, including older adults.[38] This dental scheme fostered the routine utilization of oral health services, which began in adulthood and continued into older adult years.[38] Studies indicate the delivery of dentistry varies across the globe affecting older adults' accessibility to oral health services and is attributed to the disparities in oral health among older adults.

Patient-practitioner relationship. A trusting relationship between older adults and dental practitioners serves as a facilitator in seeking dental care. Establishing a trustful relationship was considered vital to older adults because of the anxiety and financial costs associated with undergoing dental treatment.[33] Older adults mentioned that concerns regarding dental costs and treatment were alleviated when their relationship with their dental practitioner was trustful.[33] As mentioned earlier, dental services were both privately and publically administered in Perth. The public dental system had a high turnover of dental staff affecting the rapport developed between patients and practitioners.[33] Older adults who sought care from the public system were open to seeking care from any dental practitioner. In contrast, older adults who accessed private dental services and who had established a good relationship with their dentist were reluctant to move to a different practice, despite lower dental costs or closer proximity.[33]

Giddings et al.[40] noted the quality of the relationship between dental staff and older adults was a deciding factor in accessing certain dental clinics. Older adults assessed the quality of the relationship by the level of comfort they felt when questioning dental staff about treatment

decisions and whether staff involved them in treatment decisions.[40] Similar findings were reported in a study conducted in New Zealand; older adults that were happy with their relationship with their practitioner and felt clear explanations were provided did not question their dentist's decisions because they trusted their dentist.[41] Comparatively, older adults who expressed feelings of being rushed by certain dentists and uninvolved with their treatment decisions were dissatisfied with their dentists and sought out a new dentist whom they trusted.[38]

Borreani et al.[25] highlighted the characteristics of the dentist are important to establish trust between the patient and dentist. Older adults mentioned poor communication skills of the dentist resulted in lower confidence in their dental practitioner.[25] A friendly, polite and professional approach of the dentist oriented positive feelings towards dental treatment and alleviated fears, while a hasty manner was a barrier to dental treatment.[25] Establishing a trustful relationship between dental providers and older adults can serve as a facilitator for older adults accessing dental care.

Affordability of oral health services. Older adults have indicated affordability of dental services as a barrier in seeking routine dental care, resulting in problem-oriented dental visits or non-attendance.[25, 40,41] Giddings et al.[40] found that older adults felt fearful about dental treatment costs, which led to the weighing of pros and cons of dental treatments in relation to the financial costs. Older adults who had private health insurance considered private insurance as inadequate compensation for high dental fees.[33] Borrenai et al.[25] found older adults using publically delivered NHS services still felt that costs were a barrier to oral care since old age pension was their sole income. Older adults have put forward suggestions to minimize barriers associated with high dental costs such as, compulsory and free dental check-ups.[25] They have noted that dental fees should be discounted for them and that a standardized schedule of fees for dental

services would encourage routine dental utilization.[33,37] While others have stated that in order to entirely remove the barrier of cost, dental care should be free.[25] Literature illustrates how affordability of oral health care influences utilization rates and results in non-attendance or symptomatic attendance for some older adults.

Early childhood dental experiences. Along with affordability of oral health services, early childhood experiences created barriers in seeking dental care and are also contributing factors for symptomatic dental attendance or not accessing dental care in older age. Older adults recall early childhood experiences contributing to anxiety and fears surrounding dental visits. In Sweden, New Zealand and London, older adults' initial oral health experiences occurred in school based dental programs.[25, 38,41,42] Older adults referred to these school programs as the 'dental murder house' and 'terrifying dental van,' which contributed to dental anxiety and an avoidance of seeking dental care for maintenance in older years. The sound of the drill, absence of local anesthetics, dental office environment, and negative portrayal of dental professionals in the media were noted as factors associated with fear of dental care.[25] Borreani et al.[25] noted that only a minority of older adults reported no fear or anxiety associated with a dental visit as a result of the improvements in dental equipment and techniques in pain relief. While some older adults began to routinely utilize dental care in their older years, they attributed utilization to being able to manage their early childhood fears by understanding the improvements in dentistry.[25] Early childhood experiences create barriers in older adults seeking routine dental care and provide an understanding of dental utilization patterns of older adults.

Transport. While early childhood experiences set the tone for symptomatic or non-dental attendance in older age, older adults who do access oral health care in older age commonly mention transportation issues as a barrier to oral health care.[25,33,41,42] Giddings, McKenzie-Green

Buttle and Tahana found that a great deal of planning went into each visit to the dentist.[40,42] Older adults planned driving routes, avoided heavy traffic times, and made sure there was another mode of transport if they could not drive. At times older adults would co-opt transport from friends or family, use taxis or public transport when they could no longer drive. Borreani et al.[25] similarly found that transport was an issue and more so for older adults without friends or family, especially for certain treatments requiring sedation. The lack of a person to accompany older adults emphasized their social isolation particularly for those older than 85 years of age.[25] Furthermore, for those accessing public transport, Slack-Smith et al.[33] found that older adults were aware that health problems could limit their ability to access public transport for dental care in the future leaving them without transport. Transportation issues create barriers in accessing oral health care services in old age, and for some older adults resulted in non-attendance despite wanting to seek oral care.

Perceptions of Oral Health

While literature highlights barriers and facilitators to oral health experienced in older adults, it is equally important to understand how older adults perceive oral health. As mentioned earlier, perceived importance of dental care is assumed to be the best predictor of dental utilization.[32] Understanding older adults perceptions of oral health may help us to understand differences in utilization rates of older adults.

Importance of oral health. Maintenance of oral health for function, social contacts and aesthetics were noted as key factors when discussing the importance of oral health in older adults. The ability to chew was a key concept that was mentioned when discussing the importance of oral health. [33,38,42,43] Older adults noted the ability to chew as key in allowing them to eat, gain nutrition and in turn maintain general health.[33, 38,42,43]

The mouth and teeth were viewed as extremely important and a part of one's public appearance and presentation.[42] Older adults noted the importance of the mouth for allowing them to feel socially secure when communicating with others, allowing them to smile, and in turn maintaining social relationships.[38,42] Some older adults felt judged by others for the changes and condition of their mouth.[40] Older adults reported as they aged, their teeth discoloured, cracked, and decayed, existing fillings would fall out, and inflammation of gums was frequent.[40] As a result some mentioned covering their mouths or not smiling when being photographed.[42] Older adults felt they had to project their best appearance and if their mouth was not aesthetically pleasing it would inhibit socially engaging with others.[42] The aesthetics of teeth and mouth were mentioned as important in maintaining social relations; and when discussing aesthetics views of dentures and natural teeth were also commonly mentioned.

Dentures vs. natural teeth. Views towards dentures compared to natural teeth differed greatly among older adults studied in the literature. Older adults grew up during a time of economic depression and war where extracting teeth and replacing them with dentures was the norm therefore, certain older adults have the misconception that tooth loss is an inevitable part of aging.[41,42] Some older adults felt their natural teeth were chalky or diseased and dentures would give them an aesthetically pleasing smile, was fashionable and would help increase confidence.[41,43,44]

Comparatively, other older adults held negative perceptions of dentures feeling uncomfortable, being an annoyance and looking less attractive and false compared to natural teeth.[43, 44] Older adults reported avoiding eating hard foods and modifying food choices to prevent breaking their dentures.[42, 43, 45] Some denture wearing older adults regretted the loss of their teeth but felt they had to make the best of what they had.[41] For older adults wearing partial

dentures, negative perceptions of dentures served as reinforcement to maintain and take care of their remaining teeth.[42] Furthermore, some older adults expressed the belief that edentulous individuals did not need to attend the dentist and that oral health meant presence of natural teeth.[33] Older adults who retained their natural teeth expressed feelings of pride because they felt maintenance of natural teeth signified oral health. [33, 41] Gididngs et al.[40] found that older adults talked about their natural teeth and mouth appearing aged and old like them but that was representative of their authentic self and that was important. Views of dentures and natural teeth differ across older adults and perhaps the cohort that the older adult was born in influences these diverse views. However, literature has presented older adults views of dentures and natural teeth collectively and has not separated differences in views on the basis of cohort. It would be interesting to examine this from a cohort perspective and perhaps provide more insight as to why such a spectrum of views exists.

Oral health and general health. One qualitative study by MacEntee et al.[43] found older adults identified a sense of holism between oral health and general health. A few older adults believed that general health was affected by oral health and indicated that poor oral health would impede food digestion and removal of diseased teeth would relieve body ailments.[43] Others felt that general health influenced oral health and that proper nutrition improved dental health and if general health failed, dental health would suffer consequently.[43] Limited research exists that used qualitative methods to examine older adults' views of the relationship of general health and oral health. However, a few quantitative studies have measured this and it will be discussed later.

Self-Oral Care Practices

Older adults acquired their oral health knowledge during childhood, a time when there was less awareness about oral hygiene.[33, 37, 43] Researchers found that older adults had acquired

their oral health information from their parents and reported that as children they did not brush their teeth or have an oral care regimen.[38,43] However, as they aged and retired they mentioned having developed a thorough daily oral hygiene regimen and that they had more time to spend on oral hygiene procedures.[38] A study conducted in 2009 in Perth found that older adults did not consider oral health information acquired in childhood to be inadequate or outdated. They reported brushing their teeth or dentures, improved and maintained their oral health, and regularly used dental floss and mouth wash.[33] Another study conducted in 2009 in New Zealand, found that older adults changed and improved their oral hygiene practices if new oral health information fit their belief system.[42] Many of these older adults' daily oral health maintenance included brushing between three or four times a day, using mouth washes, fluoride preparations and specific dental brushes and toothpicks.[40,42] Unlike older adults in Perth, older adults in New Zealand did not consider flossing and tongue brushing to be important oral health practices.[42] Also older adults did not view gum as a dental hygiene product and advertisements of gum had little effect on their incorporation of gum as an oral health product.[40, 42] It is important to acknowledge that despite the introduction of new oral hygiene techniques and advancements in dental hygiene aides, not all older adults adopted these practices and this may be a factor in the disparities in oral health among older adults.

Immigrant Older Adult Oral Health Experiences

In recognition of the oral health disparities in oral health among older adults, a few studies used qualitative methods to explore immigrant older adult's oral health experiences. It has been found that older immigrants tend to utilize health services differently than other groups, which is related to differing cultural beliefs and values and unfamiliarity with new health care systems.[46,47] Affordability and accessibility of oral health services, language, and use of

traditional home remedies all influenced the oral health status and dental utilization in immigrant older adults.

Affordability of oral health services. Cost of dental care was viewed as a significant barrier for older adult immigrants similar to non-immigrant older adults. In Australia, oral health services are predominately provided by private dentists as a fee for service.[46] Access to public dental care for older citizens is largely based on whether or not they meet financial criteria, which is determined by whether or not an older person holds an Australian Commonwealth Healthcare or a Pensioner Benefit Card.[46] This delivery of dental care leaves recent older adult immigrants without access to public dental care or with substantial out-of-pocket dental costs.[46] Greek and Italian older Australians indicated that since their retirement, high cost of dental care has resulted in a reduction of routine utilization of oral health care services.[44] Similarly in British Columbia, Punjabi-speaking immigrants have perceived cost as the largest barrier to oral care.[47] Immigrant older adults have requested that governments provide assistance to seniors for dental care at either subsidized rates, or dental care should become an integral component of a government sponsored health care plan.[44,46-48]

Accessing oral health services. As a result of high dental costs some older immigrants commonly return to their native country for dental care. MacEntee et al.[47] found Punjabi-speaking immigrants return to India when possible for dental treatment, excluding emergency dental services. Similarly, Chinese immigrants in Melbourne and Vancouver returned to China for dental services and they maintained their insured dental benefits in China even after retirement.[48] Chinese older adult immigrants have noted dental treatment is readily obtainable and cheaper in China even when travel costs to China are included.[48] Chinese older adult immigrants have voiced that dentists in Australia and Canada are technically more competent

compared to dentists in China, but since dental costs are significantly cheaper they would rather seek care in China.[47,48]

Language. Language barriers affect the daily life of immigrant older adults; they impeded immigrant older adults from seeking oral care and communicating with dental practitioners. Some older adults felt that they were able to go to the dentist without major language barriers.[44] Others found language became an issue when more detailed explanations of preventative measures were discussed.[44] A study by Mariño et al.[44] found that many older adults preferred having a dentist who was bilingual rather than using an interpreter. Older adults noted that interpreter services were not always available, affecting their access to oral care services.[44, 46-48] As a result of limited interpreter services, some Chinese immigrant older adults preferred to seek care in China because of the ease in communication with dentists in China.[46] Language differences pose a barrier to seeking oral health care and may hinder immigrant older adults understandings of oral health practices in their new country of residence.

Use of traditional home remedies and oral health beliefs. Literature highlights how immigrant older adults maintain their traditional oral health care beliefs and behaviours. Chinese immigrant older adults mentioned traditional remedies, such as herbal teas, and acupuncture for managing chronic dental conditions.[48] Traditional Chinese medicine was widely used among Chinese older adults in Australia and Vancouver who tended to believe that traditional home remedies worked better than modern medicine. Similarly Punjabi-speaking immigrants discussed various home remedies used for managing inflamed gingiva and cavities.[47] Professional dental care for both Chinese and Punjabi-Speaking immigrant older adults was only sought when home remedies failed.[47,48]

Immigrant older adults held a strong belief that oral health and general health were inter-related.[47,48] MacEntee et al.[48] found that when older adults experienced oral problems they did not feel healthy. There was a general belief that the ability to chew food was related to intake of nutrition and led to overall good health.[44, 46, 48] Oral health was noted as influencing self-confidence, social life, social isolation, relationships and enjoyment of life.[44, 46, 47] Literature available on immigrant older adults oral health experiences is limited and a diversity of ethnicities have not been represented in the literature. A more in-depth exploration of this subset of older adults is needed to truly recognize the oral health experiences of diverse immigrant older adult populations.

Overall, the qualitative research on older adults oral health experiences illustrates the multifaceted views of older adults, as well as how facilitators and barriers play a role in the utilization of oral health services. Taken together the research has provided examples of how barriers (such as affordability, early childhood experiences, transport, language), facilitators (such as patient-practitioner relationships, delivery of oral health services), and self-perception of oral health all interact to influence older adults oral health experiences. Qualitative research captures the voice of a select number of older adults therefore, it is important to examine quantitative literature to determine self-perception of a larger sample of older adults.

Quantitative Survey of Oral Health Experiences

Quantitative surveys have examined self-perception of oral health in community dwelling older adults. Research on clinical indicators measuring oral health is readily found in the literature, however, clinical measures fail to understand how individuals perceive their oral health. There is an increase in quantitative research on self-perceived oral health as a way to

complement information obtained from clinical indicators and to allow better planning of oral health services. An identification of literature on community dwelling older adults' self-perception of oral health is important because behavior is regulated by the perception.[49]

Quantitative measures have relied on questionnaires and indexes to assess self-perception. Quantitative researchers have commonly measured self-perception by questions such as, "*How would you rate your oral health?*", "*Are you in general satisfied with your teeth?"* The responses were based on Likert scales with options such as, fair/poor/ very poor/good/very good; very satisfied/mostly satisfied/not very satisfied/absolutely not satisfied.[50,51] Using these responses, self-perception was assessed in relation to independent variables of background, socioeconomic conditions, dental health service system factors, general health, oral health measures, and self-perceived impact of oral health on quality of life using the General Oral Health Assessment Index (GOHAI).

Oral health self-perception and perception of general health. Researchers found older adults with poor self-rated general health reported poor self-rated oral health.[50,51] Andrade et al.[50] determined this association using a questionnaire, which gave older adults the option to select either good or poor when assessing general health, and dichotomized self-perception of oral health from a five-point Likert scale to either good or poor. Researchers found poor self-perceived oral health was independently associated with poor self-rated general health for edentulous individuals.[50] In addition, poor self-rated general health was one of the best predictors of poor self-perceived oral health among both edentulous and dentate older adults.[50] Older adults who marked their perception of general health to be absolutely not healthy resulted in them perceiving their oral health negatively.[51] Literature shows an association between poor self-rated general health and poor oral health.

Self-perception and utilization of oral health care services. Self-perception of oral health was related to older adult's utilization of oral health care services. Visiting a dental professional more seldom was related to worse self-perception of oral health in older adults.[51] Stahlnacke et al.[51] found that dental visits less than once a year co-varied with worse oral health. Comparatively, other researchers found self-perceived oral health was associated with the reason for the last dental visit rather than the time elapsed since the last dental visit.[50] Older adults who sought a dentist for checkups and treatment were less likely to report poor oral health compared to older adults who accessed emergency dental care.[50] Similarly, having visited a dental hygienist was related to better oral health.[51] Individuals who sought dental treatment were approximately 13% more likely to report poor self-rated oral health compared with those whose last dental visit was for a checkup.[50] Routine use of dental services routinely and use of preventative rather than treatment based dental services was associated with better self-perceived oral health in older adults.[49]

Oral health self-perception in relation to oral status. Older adults' view of their oral health status was found to affect self-perception of oral health. A study conducted by Silva et al.[52] used the General Oral Health Assessment Index (GOHAI) to evaluate self-perceived oral health. The index consists of 12 questions relating to 3 dimensions of physical or functional, psychosocial and pain or discomfort, respectively. The greater the sum of the scores for the overall index and for each of its dimensions indicates a more positive self-perception and in turn quality of life. Older adults with higher GOHAI scores indicated a favorable perception of oral health, which was associated with presentation of functional dentition, use of complete dentures or lack of need for total dentures, and absence of oral mucosa abnormalities.

Similarly Andrade et al.[50] found lower GOHAI scores on the psychosocial dimension and poor self-perceived oral health for edentulous individuals.[50] Comparatively, Martins et al.[49] found older adults with a lower number of teeth present were more likely to have a positive self-perception of oral health. Martins et al.[49] did mention that results showed an inverse association compared to what is commonly found in the literature regarding having a higher number of permanent teeth is associated with positive self-perception. Rather, they found that self-perceived appearance was the factor most strongly associated with self-perceived oral health.[49] Stahlnacke et al.[51] found having the attitude that there is hope of keeping teeth throughout your whole life was strongly related to having better perceived oral health. Literature has not conclusively found an association between being dentate or edentulous and having a worse or better self-perception of oral health in older adults.[49-52]

Quantitative literature shows associations between self-perception of oral health and self-perception of general health, utilization of oral health services, and oral status. While quantitative literature is able to gather views of a larger sample of older adults, it fails to capture a deeper meaning and understanding of self-perception and older adults oral health experiences. Likert scales do not provide parameters describing what is considered poor, good, and very poor etc. therefore, it is difficult to understand the meanings older adults associate with good versus poor when assessing self-perception. Quantitative research is assumed to be generalizable due to the use of large, representative samples. However, without specific criteria describing the responses of very poor, poor, good it is difficult to accurately generalize findings to the larger older adult population. A qualitative methodology is better suited to truly explore a broad array of views and experiences of community dwelling older adults, voiced by older adults themselves, and without limitations placed on their responses.

Situating the Current Study Within the Research Literature

Research on community dwelling older adults' experiences has established that poor oral health for older adults is an issue, and many older adults also have a poor self-perception of their oral health. While research has identified facilitators and barriers to oral health, there has been little focus on examining how older adults' oral health utilization patterns compare with seeking other health services. Consideration of how older adult's utilization rates of health and oral health services compare may lead to further insights on reducing barriers and optimizing facilitators to oral health.

The current study specifically explores oral health experiences from the perspective of older adults living in community dwellings: to identify facilitators and barriers to oral health care; and to determine how utilization of oral health services compares to the utilization of other health care services. Unlike the qualitative literature examined, where the voices of females are overrepresented in the research studies,[25,33,37,38,40-48] this study equally highlights voices of older men and women. The study is conducted in Edmonton, where a privatized model of delivering oral health care dominates and older adults do not have the option of publically administered dental services, which the literature indicated was available to older adults in select parts of the world. Furthermore, qualitative research at times has focused on oral health experiences of older adults as a collective group or discussed solely immigrant older adults' experiences. This study explores oral health experiences of both Canadian born older adults and immigrant older adults.

In order to achieve the study objective a qualitative research methodology was used that allowed for the perspectives of older adults to be highlighted. The methodology is similar to methodologies used in the existing qualitative literature that discussed older adults' oral health

experiences: this study achieves a depth of understanding of oral health in community dwelling older adults. In the following chapter the methodology is outlined, along with the interpretive inquiry that guided the research design decisions.

Chapter 3

Methodology

This chapter provides an overview of the qualitative inquiry method, and the interpretive description[53] that was used for data collection and reflective interpretation of the data. The methodology, research design, ethical considerations, sample and recruitment activities, data collection and analysis, and strategies to achieve rigor will be discussed.

Interpretive Description

Interpretive inquiry was key to exploring older adults oral health experiences and achieving a depth of understanding of poor oral health in community dwelling older adults. According to Creswell[54], a qualitative approach has merits when the phenomenon of interest needs to be explored to achieve an interpretive understanding. Qualitative research is characterized as a naturalistic inquiry that acknowledges the social construction of reality, and presents contextualized perspectives and a holistic understanding.[55-57]

Interpretive description recognizes that the theoretical perspective of the researcher informs the approach to the research problem.[57,58] My theoretical perspective aligns with the constructive theoretical stance of interpretive description. My education and professional role as a dental hygienist influence my theoretical perspective and highlight the congruency between dental hygiene and the constructivist paradigm, involving a belief of pluralistic, interpretive and contextual nature of perspectives.[59]

Interpretive description emerged as an alternative qualitative approach for studying a clinical phenomena in the discipline of nursing.[60] Interpretive description generates knowledge that is meaningful to a discipline and informs clinical understanding.[61] Interpretive description acknowledges shared realities but allows for individual variation and acknowledges the

contextual nature of human experiences.[60] Interpretive description embraces the clinical and theoretical lenses that the researcher uses to guide the research process in human health studies.[61] The use of interpretive description in this study intended to discover relationships and patterns that led to a deeper understanding of oral health experiences in community dwelling older adults. The goal was to gather sufficient contextual understanding to advance dental hygienists knowledge of poor oral health in older adults and guide clinical decision-making and interventions.

Research Design

Interpretive description studies are noted as qualitative investigations built on relatively small samples and design strategies borrowed from traditional qualitative methodologies such as, grounded theory, phenomenology, and ethnography.[61] Thorne[53] does not offer a precise approach of using interpretive description to guide the research process; rather the researcher's current knowledge of the phenomena and individual lens informs the research design. Thorne[53] asserts a literature review and theoretical forestructure are two critical elements to "foreground the study with scholarly positioning" (p. 54).[53] Thorne[53] describes "theoretical forestructure" as the theoretical framework, disciplinary orientation, and researcher's background knowledge used to shape the research design.

Theoretical framework. Baltes and Baltes[62] theory for successful aging using selection, optimization and compensation (SOC) was the theoretical framework used to understand older adults oral health experiences. This framework recognizes heterogeneity in aging is related to differences in genetic factors, environmental factors, and individualizing effects that occur during ones lifespan.[62] The SOC model embraces variability in older adults and understands that aging is not limited to a single distinct process amongst older adults. The importance of goal-

setting strategies is a key component of the model in order to adapt to biological, psychological, and socioeconomic changes occurring throughout the lifespan.

This theoretical framework is congruent with the constructive stance of interpretive description and my disciplinary orientation as a dental hygienist. As a dental hygienist I recognize the influence of individual, environmental, social and historical factors on the oral health status and experiences of older adults and their perceptions of oral health. Constructivism assumes that there are multiple and equally valid realities.[59] This is consistent with the SOC model recognizing the heterogeneity of older adults oral health experiences across the lifespan.

Researcher as the research instrument. In qualitative research the researcher is the primary research instrument for data collection and analysis.[53] Consequently, the researcher has a meaningful role in shaping the nature of findings. Thorne[53] asserts data collection techniques in conventional descriptive research involve answers to carefully framed questions such as, scores on an index. Thorne argues these data collection techniques narrow the range of participant responses, limit researchers' understandings and minimize researcher curiosity at probing further.[53] Thorne explains that interpretive descriptive studies may differ from one another in relation to data collection and analysis and discusses the common qualitative methods of data collection; interviews, participant observation and focus groups. In the present study, semi-structured face-to-face interviews were selected as the data collection technique that would highlight commonalities and variances of older adults oral health experiences and obtain a meaningful understanding of the issue of poor oral health. Semi-structured interviews would allow the researcher to probe further about new ideas and information emerging from interviews to achieve a deeper understanding compared to information gained through indexes and surveys.

As a dental hygienist, clinical practice involves a daily conversation with patients, establishing rapport, creating a trusting environment and the ability to comprehend nonverbal communication. Initially, I believed my role as a dental hygienist provided me with skill set to conduct research interviews due to my clinical encounters with patients. However, Thorne explains clinicians who engage in qualitative health research hold an "erroneous assumption" that clinical interviewing will prepare them for the skills required in a research interview.[53] Thorne explains that reflexivity is important to ensure researcher's preconceptions and personal factors are not steering research interviews in a specific direction. As a dental hygienist, it was important to learn not to lead the conversation with participants, which can occur in clinical encounters with patients. In order to remain focused on participants' perspectives, it was important to reflect on my personal preconceptions stemming from my cultural background, age and gender throughout the research study. A reflexive journal served as both a data source and a strategy to ensure rigor, which was crucial to the research design.

Ethical Considerations

The present study was reviewed and received ethical approval from the University of Alberta Human Research Ethics Board Panel B on September 17, 2014 (#Pro00044963). Administrative approval was attained from Millwoods Cultural Society of Retired and Semi Retried, St. Michaels Long Term Care Centre, and Covenant Health Research Centre. Interested and eligible participants received an information letter and a copy of the consent form (see Appendices A & B). Written informed consent was received from all participants, which included an explanation of the nature of the study, their involvement, any benefits and risks, confidentiality and withdrawal clauses, and the researcher's contact information. Participants were also given the research supervisor's and the University of Alberta Human Research Ethics

office phone numbers in case any questions or concerns arose about the manner in which the study was conducted. During the research project, participants were told that they could withdraw from the study at any time with no consequences.

The information letter explicitly detailed confidentiality and participants were further verbally informed about confidentiality before each interview. Prior to the commencement of the interviews, all participants read the information letter, completed the consent form, and provided their age, full date of birth, place of birth, and full name. Participant names were replaced with pseudonyms on all transcripts; transcripts were numbered and identifying information regarding name, age, full date of birth, country of birth, and telephone numbers was recorded on an electronic document that was password-protected and stored on an external storage device. Interviews occurred in a closed-door room in the facility that participants accessed. Confidentiality was further assured through the use of a confidentiality agreement with a hired transcriptionist (see Appendix C). All electronic and in print data are securely stored in a locked cabinet that remains in the principal investigator secure office.

Sample and Recruitment Activities

According to Thorne[53], researchers will not have access to all individuals who have experienced the phenomenon of interest. Therefore, it is important to construct a sample from the angle of the phenomenon that is selected by the researcher because of the lack of research evidence available concerning that phenomenon. A purposive sample was selected for this study, comprised of older adults aged 70 years and above who resided in community dwellings in Edmonton and were able to speak English. Community dwellings were defined as any housing outside of long-term care or other supportive living facilities. Community dwellings were further

explained to be either one's home, a home of a loved one, or a residence outside of an institution providing rehabilitative and nursing assistance.

Qualitative methods highlight the importance of sampling individuals who are available, willing to participate, and able to communicate in an articulate, expressive, and reflective manner.[63] The sample arose from limited literature examining older adults in community settings but instead focusing on institutionalized older adults. Existing literature on older adults has defined this population as comprised of broad age categories of 55 years and above and there is limited consistency across studies. Current literature available has a sample that predominately represents the voices of older adults aged 65-74. [25,33,38,45-48,50,52] The present study aimed to highlight voices of an older cohort of older adults not predominately represented in existing literature therefore, a sample of older adults aged 70 and above was selected.

Adult Day Support Programs are commonly accessed by older adults who reside in the community. Participants were recruited from Adult Day Support Programs offered through Alberta Health Services at St. Michaels Long Term Care Centre and St. Josephs Auxiliary Hospital in Edmonton, Alberta. Adult Day Support Programs offer a variety of therapeutic services, social and recreational activities in a group setting at select locations across Alberta. The programs are intended to optimize on individuals functioning and play a role to help individuals remain residing in a community setting as opposed to long-term care or a supportive living institution. Participants were also recruited from Millwoods Cultural Society of Retired and Semi-Retired in Edmonton, Alberta. According to Thorne[53], the ideal study participants must have great insight on the topic under investigation and be willing to share their experiences with the researcher. Older adults who visit Millwoods Cultural Society of Retired and Semi-Retired are predominately from a Sikh cultural background, which is the same cultural background of the

researcher. Participants were purposefully sampled at this location because of ease of access into the research field. Thorne describes the benefits of "insider privilege"; the researcher understood Sikh cultural norms and language of the older adults, which enhanced the older adults willingness to share their experiences.

Administrators of Adult Day Support Programs and the president of the retirement centre were contacted to gain approval to conduct an information session at these facilities. An information letter detailing the study objectives and procedures was sent to administrators of the adult day support programs. Once administrators reviewed the information letter, the researcher was contacted and a recruitment information session was scheduled. The president at Millwoods Cultural Society of Retired and Semi-Retired preferred to schedule a recruitment information session rather than review the information letter prior to the session. During the recruitment sessions, an overview of the study procedures and research objectives were explained and study information letters were distributed to all attendees. All of the attendees read over the information sheet and five individuals asked questions. All interested and eligible persons were asked to contact the researcher by telephone or email. However, at the recruitment sessions, interested attendees preferred to sign-up and arrange an interview time on site. Interested attendees who met inclusion criteria signed up with the administrators of Adult Day Support Program and the president of Millwoods Cultural Society of Retired and Semi-Retired. This information was relayed to the researcher. Administrators of Adult Day Support and the president preferred to be informed of the date and time of each interview. Interviews were scheduled onsite at the location of the Adult Day Support Program and set on select dates and times convenient for older adults.

Inclusion /exclusion criteria. Specific criteria for inclusion / exclusion of participants was established prior to commencement of data collection: 1) adults aged 70 years and older; 2) resided in community dwellings of Edmonton; and 3) had the ability to speak and comprehend English. Older adults with cognitive and hearing impairments, residing in long-term care facilities or institutions, and were not able to speak or comprehend English were excluded, because the interview questions required older adults that would be able to understand and articulate in manner that the researcher could comprehend.

Sample size. According to Thorne[53], the sample size of the research study should be able to produce the knowledge researchers are seeking to answer the research question. Thorne[53] notes that studies that employ interpretive description are likely to have smaller sample sizes, but larger sample sizes may be required due to the complexity of the research question. In this study, 12 participants were purposefully sampled. Eight participants were recruited between from October 2014 - December 2014, from two research sites. An additional four participants were recruited from April 2015 – May 2015, two from the secondary research and two from a tertiary research site, in order to increase the number of women recruited in the study. One of the methodological design decisions had been to sample until saturation. Thorne[53] argues that saturation is often noted as justification for leaving the research field and claiming the gathering of sufficient data to understand the research phenomenon. Sampling of individuals at three research sites occurred to determine possible variation or correspondence in older adults experiences across Edmonton. A sample of this size allowed for an in-depth rather than surface-level understanding of participants' experiences.

Data Collection & Analysis

Individual semi-structured interviews were conducted in-person, audio taped, and transcribed verbatim. Data was collected and analyzed concurrently using a constant comparative approach.[61] This iterative process helped identify emerging themes and informed the open-ended nature of the research questions.[64]

Semi-structured interviews. Semi-structured interviewing allows the co-creation of knowledge between the interviewee and interviewer, which aligns with Lincoln and Guba's[55] view of a qualitative inquiry. An interview guide was constructed prior to the start of data collection (see Appendix D). The interview guide served to promote an open-ended discussion around the research questions, while also allowing for follow-up and probing questioning. According to Patton[56], a semi-structured interview allows the researcher to vary the order and wording of the questions and ask additional questions, achieving a conversational style during the interview. Furthermore, since data collection and analysis were concurrent, as analysis progressed, additional questions and prompts were posed to the participants that reflected emerging ideas from the existing data. This addition of interview questions represents the "deliberate naivete" in qualitative research, which attempts to harness openness to new and unexpected phenomena.[65] Interviews were audio-recorded and lasted between thirty minutes and one hour and twenty minutes. Due to the iterative nature of qualitative research, a break in data collection occurred from January 2015-March 2015 to allow initial data analysis, which allowed the researcher to achieve full immersion, more clarity and created an additional pathway for data collection.

While interviewing served as the primary method of data collection, Thorne[53] acknowledges that multiple data collection strategies reflect interpretive description. A reflexive

journal was kept and served as an additional source of data; entries were helpful in tracking the researcher's thought processes during the research process. A reflexive journal provided information about methodological decisions, acknowledged researcher's biases early in the research process, allowing an understanding of the researcher's position .[66] After each interview, the researcher wrote about overall impressions of the interview, strengths and weakness of the interview process, which helped inform consecutive interviews. Lastly, data collection across 3 sites was thought to provide variation and diversity in the data. The recruitment of participants from different locations was used to broaden the scope of demographics of the sample, to include a range of ages, ethnicities and dental statuses.

Constant comparative analysis. Constant comparison involves the systematic comparison of data to all other data in the data set.[67] Interpretive description requires the researcher to comprehend data, synthesize meanings, theorize relationships, and re-contextualize data into findings.[68]

Interview transcripts were concurrently examined while listening to audio-recordings of interviews, in order to fully comprehend data and understand the contextual nature of data. Passages of transcripts were labeled with an in-vivo code, a term based on the actual words of the participant .[54] The concurrent listening of audiotapes during the coding procedure allowed the interpretation of the interview in the context of the entire story.[69] Broad codes were generated from in vivo codes through examining fragments of a single interview within the whole interview. In vivo codes that referenced similar concepts and thoughts were given a broad code.

As soon as more than one interview had been conducted, interviews were compared to one another. Similar ideas across interviews were given the same broad code that was determined for the initial interviews. New ideas or concepts that emerged from interviews that

were not present in subsequent interviews were coded with different broad terms. Broader codes that were similar were clustered together to form categories. Associations and distinctions were identified within codes, allowing codes to be categorized into expansive categories.[69] Relationships and core meanings among the categories were identified to help group categories into a few key themes. Three investigators KK, LK and SC reviewed the preliminary themes emerging from the data analysis, synthesized meanings of existing categories and themes, and re-formulated one theme into separate themes. This ensured that categories were exhaustive and exclusive of the theme they represented in order to characterize older adults' oral health experiences.

Strategies to Achieve Rigor

Thorne, Kirkham and O'Flynn-Magee argue it is the researcher who holds authority over determining what is considered data and the structure of the final intellection of research findings.[61] Strategies to demonstrate the legitimacy and rigor of the qualitative research process were employed.[63] The credibility of research derives from researcher's presentation of analytical decisions and the explicitness of a researcher's interpretive lens.[61] Criteria to ensure trustworthiness in this qualitative study included credibility, transferability, dependability and confirmability.

Credibility was adhered to through member checking and peer debriefing. According to Patton[56], it is essential that the researcher return to the data to determine whether researcher's interpretations are an accurate representation of the participants' realities. Member checking is an activity that allows the testing of congruence between research findings and participant's accounts.[55] Once data analysis ceased, member checks were conducted. A summary of the findings was discussed with three participants. Participants reviewed the findings and provided

feedback. Member checking allowed the researcher to ensure conceptualizations were grounded in the data rather than personal assumptions.

Peer debriefing was an additional strategy used to ensure credibility. Peer debriefing is the review of the data and research process by someone who is familiar with the research.[55] The supervisory committee provided guidance prior to and throughout data analysis process. Throughout the analysis, both members of the supervisory committee (SC/ LK) reviewed the coding of transcripts, and formulation of categories and themes to reach consensus on coding and categorization processes. This peer reviewer process provided support, challenged the researcher's assumptions, and helped prevent "premature closure" during the research process.[61]

Transferability refers to the applicability of inquiry in other contexts .[70] Thick descriptions were intended to allow readers to make transferability judgments. Thick descriptions involved the inclusion of direct quotes and detailed descriptions to allow readers to hear the voices, feelings and meanings of participants and consider the relevance to other individuals and contexts. A part of the iterative nature of qualitative research involved transcripts being reviewed after each interview to determine whether questions posed were clear, and to search for additional prompts and probes to achieve thick descriptions from participants.

Dependability was achieved through creating an audit trail to ensure the research process was logical and traceable.[70] Reflexivity was central to the audit trail and was achieved through writing in a reflexive journal, which illuminated underlying biases and assumptions.

Confirmability is concerned with establishing interpretations derived from the data.[70] A research log included field notes, the reflexive journal, memos and defining criteria for codes, categories and themes. This ensured that the research was derived from participants and avoided

what Thorne refers to as "bloodless findings".[61] This audit trail allowed the researcher to solicit further participants from research sites, and add additional prompts and further questions for participants.

This chapter detailed the research methods used to explore and describe data collected from twelve older adults living in community dwellings in Edmonton, Alberta. Data highlights specific oral health experiences of this target group. In the following chapter, older adults perspectives are presented in detail.

Chapter Four

Findings

Older adults shared their oral health experiences and views affected by different life circumstances, while each interview was unique there were certainly consistencies among them. Three central themes surfaced from the data: 1) life course influences on oral health; 2) transparency in delivery of oral health service; and 3) interrelationships of oral health. All interview quotes displayed in this chapter were assigned a pseudonym, representing each study participant and brackets were used to add clarifications to selected quotes. The present chapter provides an overview of the participants and the three themes that emerged from conversations with older adults.

Overview of Participants

As previously noted, the sample was comprised of adults aged 70 years and older. Twelve adults took part in this study. Six were male and six were female; they ranged in age from 71 to 90. Statistics Canada acknowledges that life circumstances of seniors vary significantly and presents statistical information in groupings of 65-74 years, 75-84 years, and 85 and over. Therefore, during analysis of findings, data was examined to determine similarities and differences between different age categories of seniors. Table 1 indicates each age category and represents a range of immigrant groups, dental status, and dental utilization of participants. In this study, three participants ranged in age from 65-74 years, six participants ranged from 75-84 years of age, and three participants were 85 years and over. Three participants were born in Alberta, two were born in Manitoba, and one in each of the following locations: Greece, Ukraine, Germany, Italy, Hungary, Guyana and India. Four participants had retained their natural teeth, six participants were partially edentulous, and two were fully edentulous and wearing dentures. Despite all participants having insured dental benefits, seven participants routinely

utilized dental care, three were symptomatic attendees, and two participants did not seek any dental care in their older adult years. Routine users were identified as those who sought oral care once or twice annually during their older adult years.

Table 1

Overview of participants

Age Category	Pseudonym	Age	Place of Birth	Dental Status	Dental Utilization
65-74 years	Dan	71	Greece	Natural dentition	Routinely utilizes
	Fred	72	Manitoba	Fully edentulous	Routinely utilizes
	Emily	74	Germany	Partially edentulous	Symptomatic attendee
75-84 years	Greg	75	Alberta	Fully edentulous	Does not seek care
	Bob	78	Alberta	Partially edentulous	Does not seek care
	Ida	78	Italy	Partially edentulous	Routinely utilizes
	Josephine	79	Hungary	Partially edentulous	Symptomatic attendee
	Avtar	80	India	Natural dentition	Routinely utilizes
	Kay	80	Guyana	Natural dentition	Routinely utilizes
85 and over	Charlie	85	Manitoba	Partially edentulous	Routinely utilizes
	Helen	90	Ukraine	Partially edentulous	Symptomatic attendee
	Lucinda	90	Alberta	Natural dentition	Routinely utilizes

The analysis of the interviews resulted in the construction of themes representing participants' common oral health experiences. The first theme encapsulates how the life course influences oral health experiences and different circumstances during life serve as barriers or facilitators from childhood to adulthood. The second theme explores the transparency in the

delivery of dentistry, surrounding affordability of oral health services and relationship with dental practitioners. The last section presents a discussion of the interrelationships of oral health, outlining the reciprocity between the mouth and body and older adults utilization of oral health services and health services.

Life Course Influences on Oral Health

Changing circumstances across the life span influenced older adults' utilization of oral health services. There were four distinct phases of life, identified as facilitating or inhibiting use of oral health services: 1) Initial dental experiences, 2) care-giving responsibilities during adulthood; 3) knowledge attainment during middle age; and 4) dependency on others in older adulthood. Participants' initial oral health experiences occurred in either childhood or adulthood, which influenced accessing care in their later years. During adulthood, care-giving responsibilities resulted in limited time to seek professional oral care and engage in self-oral care. As participants entered middle age, increased knowledge resulted in them seeking dental services. However, as participants aged and became increasingly dependent on others, they harbored feelings of being a burden on loved ones resulting in delays for seeking dental care.

A diagrammatic portrayal of the theme 'life course influences on oral health' is provided in Figure 1. The arrow used in this figure represents a time line highlighting key life events or categories identified from participants' narratives that served as facilitators or barriers to oral health utilization.

Figure 1. Life course influences on oral health

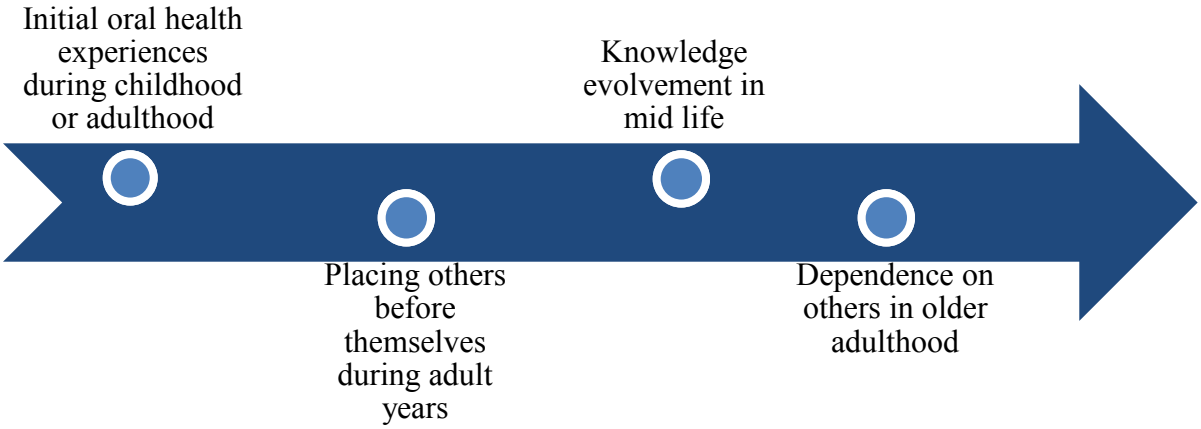

Figure 1. Diagrammatic overview of life course experiences serving as facilitators or barriers to oral health utilization.

Initial oral health experiences during childhood. Initial dental experiences set the stage for dental utilization in later years. Four participants' initial oral health experiences occurred as children but for the majority of participants initial experiences occurred as adults. Childhood dental experiences for three older adults Bob, Greg, Lucinda occurred in Alberta while Josephine encountered the dentist as a child in Hungary. All four participants described their parent's authoritarian role in taking them to the dentist and influencing their oral home care habits. Greg referred to his mother as "the boss" who would ensure that Greg and his sibling's teeth were brushed and looked after. Bob shared similar views of the authoritarian approach of his father and mentioned:

> Now my dad dragged me in and said, "Okay sit down there and shut up." And of course you didn't talk back to my dad.

Compared to the other three participants, Bob's childhood oral health experience was unique because Bob's father was his dentist. During Bob's childhood years, he sought routine oral care from his father and this routine pattern of care continued until he was 65. Routinely seeking oral

care was viewed as a normative behaviour since this belief was instilled during childhood. Similarly, Lucinda's routine use of oral health services in older adulthood was a continuation of a pattern of seeking oral care during her childhood. Lucinda recalled groaning in the dental chair at the age of 6 while her mother laughed outside. Despite an early dislike of visiting the dentist, Lucinda maintained this pattern of utilization because it was an established behaviour from childhood.

Unlike the other three participants, Josephine's childhood experience occurred in Hungary, where at the time national health care funded dental care. Despite free dental care, as a child a "toothache" was Josephine's stimulus for seeking oral care. Similar to Lucinda, Josephine mentioned an early dislike of visiting oral health practitioners:

> When you went into the dentist's office and they made that noise and you smelled that, I didn't like that but my mother still took me to the dentist.

Josephine's pattern of seeking care in childhood set the stage for dental attendance in later years, as she remained a symptomatic attendee after immigrating to Canada. Similar to Josephine, Greg was a symptomatic attendee as a child, but unlike Josephine he transitioned to become a non-user of dental care at the age of 55 and for the past 20 years he did not seek oral health care. Greg's lack of attendance stemmed from a dental experience during middle age where the dentist did not meet his chief dental concern. Established patterns of visiting oral health professionals in childhood have led to a continuation of that pattern of visitation in older adulthood.

Initial oral health experiences during adulthood. Majority of participants first encountered oral care as adults and a stimulus of pain initialized their first visit. Two Canadian born men Fred and Charlie resided in rural communities, where the way of life did not highlight the need for dental care and oral care services were not readily available. For example, when

inquiring about the explanation for not seeking dental care as children, Charlie explained this was common for families living on a farm, where there was "no dentist to begin with." Charlie highlighted the oral care norm in a rural community:

> In a small town, you'd lose a tooth, your parents would pull it out, hey? [Laughter] And you had a nickel under your pillow. I kid you not. You know, that's the way it was.

Fred affirmed Charlie's view and believed there was a lack of need to visit the dentist in rural communities:

> I didn't go to a dentist until I was in my late 20s. I had no need to go and my teeth were good. Coming from the farm, I guess our water was good or something was good about it, but I had wonderful teeth.

Charlie and Fred's lack of visiting oral health professionals during childhood related to the lack of access to care and common oral care norms in rural communities in Manitoba. Compared to their Canadian born counterparts, Bob and Lucinda routinely visited the dentist as children. Their dental seeking pattern may stem from the fact that they were born in urban cities, Edmonton and Calgary respectively, where access to dental care was readily available. In older adulthood, both Charlie and Fred routinely utilized oral health services. Fred became a routine user of dental care following his initial experience with oral care services in his late 20's. However, Charlie was a symptomatic attendee until his later years, where a knowledge evolvement occurred stimulating him to become a routine user of oral health services.

Initial dental experiences for non-Canadian born participants Avtar, Dan, Emily, Helen, Ida and Kay occurred as adults and not as children. Dan, Emily, Helen and Ida first experienced oral health services in Canada in their 20's, while Avtar and Kay had their first dental visit as an adult, which occurred in their native countries of India and Guyana, respectively. Both Avtar and Kay immigrated to Canada in their 50's, compared with other non-Canadian born participants who immigrated in their 20's; this explains the differences in age when initial dental experiences

occurred in Canada. Dental pain was mentioned as the stimulus that led all immigrant older adults to seek dental care in Canada. Immigrant older adults shared evocative recollections of initial dental experiences in Canada where initial emotional experiences set the tone for oral health care utilization patterns in later years.

As mentioned earlier, Josephine was the single non-Canadian born participant who visited a dentist as a child in Hungary. Despite Josephine's prior childhood experience she reported feelings of fear associated with her initial dental experiences as an adult in Canada:

> I was scared because you know it's a different language and it was a little bit too much…just like everything else when you come to a new country, you are trying to find something that you are familiar with. So instead of calling the university [and asking] what dentist would you recommend? I went to friends who had a German doctor and then some other friends who wouldn't go anywhere except a British doctor and so on, and that was how I followed.

Helen reinforced this tendency to confide in friends and co-workers for referrals and information about dental practitioners. As a child, Helen had not visited the dentist in her native country of Ukraine; her first exposure to dentistry was in Canada. Helen's initial dental experience occurred as a result of a co-worker taking her to the dentist since she expressed dental pain resulting in an inability to eat. Her initial experience resulted in the removal of several decayed teeth, which Helen found to be painful. Helen's initial visit with the dentist resulted in a strong dislike of the dentist and dental procedures, which influenced her utilization of oral health care services in later years. For example, Helen indicated:

> If you tell me to go to dentist, I'd rather work very hard or anything but go to the dentist. I don't like it, what he is doing, fixing teeth…not I don't like it, I hate it!

Helen's feelings of hatred towards a dental visit coincided with symptomatic attendance throughout her lifetime and deterred her from seeking routine care. Similar to Helen, Ida first

encountered an oral health professional in Canada and shared her initial emotion filled experience:

> I remember I had this cavity so finally, I don't know how many months pass, over six months, I told my father, "Okay dad, take me to the dentist." [I was] 19, 20 years old, so he came with me so he [the dentist] had the x-ray and everything and then only once he let me sit down on a chair where, you know, this nurse, one nurse start to put things, I say, "What are you doing?" "Oh, we're going to take your tooth out." "Oh no you don't! I'm not going to take them out! Oh no," I said, "I didn't come here to take my tooth out." [She] Say, "I'm very sorry, the dentist said if you came six months ago, I would have saved it for you because you have beautiful teeth but you have to think about that or else you're going to ruin the other ones." [I said] "Okay but not today." I had a headache, I couldn't stand when they said that to me. I couldn't, I went crazy. "Oh no, no, no, not today, oh no, I had a headache." I couldn't so, but "Don't be too late," he said. So after one week I said to my daddy, "Let's go back to the dentist, I gotta…" and then he pulled them out [and] he gave it to me, "Here, take them home with you.

While Ida's initial dental experience came as a surprise, it did not deter her from using dental services and rather she routinely sought dental care afterwards. Her routine utilization stemmed from Ida's realization of the importance of routine maintenance in prevention and preservation of a person's natural teeth. Despite both Helen and Ida losing teeth after their initial dental experiences, Ida's tooth loss facilitated her in seeking routine care; whereas, Helen was deterred from seeking routine care.

Dan also spoke about his first encounter with a dentist in the North West Territories resulting in his tooth being extracted. Dan's initial experience with the dentist was not positive and he discussed his feelings of distrust towards the dentist:

> Well the dentist was very old. He could not handle my…I didn't trust him to work on my teeth. He was really old. He had his wife to help, he pulled the tooth out.

This single experience didn't deter Dan from seeking care, but after this initial experience Dan became a symptomatic attendee until he found a dentist whom he trusted. The feelings of trust

Dan felt with his current oral health practitioner was the catalyst to him becoming a routine user of oral health care services. Initial dental experiences with dentistry coincided with feelings of dislike, shock, and distrust and these feelings affected the oral health utilization patterns of participants in years to follow.

Unlike other participants, Emily held a firm belief in self-preservation, the importance of maintaining autonomy, and not complaining about one's problems. It was this belief that resulted in symptomatic attendance from adulthood to older adulthood. Emily mentioned that her current dentures were causing pain while chewing but rather than Emily seeking dental care she asserted:

> You can't squawk, if you have a problem you should know your problem right away, you know what I mean? When you have a problem you should have it right away and then solve them as soon as possible, yeah.

When asked whether Emily would seek dental care to address the dental pain, she mentioned modifying her food choices and eating softer foods initially and only visiting the dentist if the pain didn't subside. While it was not explicitly shared during the interview, Emily's beliefs of self-maintenance may have developed early in childhood. Emily was born in Germany in 1940 and her parents lived in time of dictatorship and war, her parents may have passed along their beliefs of self-maintenance and gratitude for what one has after they immigrated to Canada when Emily was a baby. Therefore, beliefs learned in early childhood may provide insight as to why Emily remains a symptomatic attendee and seeks professional oral care as her last option.

Two participants, Avtar and Kay encountered dentistry first as adults both in their native countries and in Canada. As mentioned previously, Avtar and Kay's initial dental experiences took place in their native countries, of India and Guyana, which are known to be developing nations. Avtar and Kay's views of the delivery and standard of dentistry in their home countries

resulted in their symptomatic attendance. Kay and Avtar explained that in their native countries oral health care was sought only when in pain, compared with Canada where routine check-ups were the norm. Avtar discussed the Indian delivery of dentistry, which promoted symptomatic attendance:

> It is more professional and systematic here [Canada]. In India, whenever there was a problem we used to go to the doctor. Here, when there is no problem, then we go for checking.

Kay also alluded to the differences between Canadian and Guyanese dental procedures and her lack of exposure to local anesthetics in Guyana:

> Back home, back home because they don't have the things that [are] put in your mouth to get the teeth out over there, you know, it's worse, you know? You're scared of the dentist over there, yes, because they don't have the medicine nowadays, whatever they put in your mouth to numb the mouth, they don't have it there.

Upon immigration to Canada, Kay and Avtar routinely sought dental care and considered this to be a normative Canadian behaviour. It is evident that Avtar and Kay have adapted to Canadian culture and views of dental utilization. Perhaps this adaptation stems from their beliefs in a better delivery and standard of dental care in Canada and positive initial dental experiences.

Participants' initial oral health experiences during childhood or adulthood resulted in the development of feelings towards oral care and oral health professionals, which set the stage for dental utilization patterns in later years. At times, beliefs and feelings held by participant's stimulated or inhibited routine utilization. However, initial experiences were not the sole contributing factor affecting dental utilization. As participants journeyed through their lives, certain life events and situations impacted their utilization of oral health services.

Placing others before themselves. Some participants' initial dental experiences facilitated an immediate routine utilization of oral health services, while for others their oral

health care needs were a lesser priority. Care giving responsibilities at times prevented participants from visiting oral health professionals or engaging in adequate self-oral care. Charlie and Kay are two current routine users of oral health services but this routine utilization did not exist during their early adult years. Charlie placed his wife and nine children before himself, and while his children and wife would regularly seek dental care, he was a symptomatic attendee. Charlie acknowledged his challenges of achieving balance with affording dental care and providing for a large family when he was questioned as to why he was the sole person in his family who did not seek routine dental care:

> You know raising a bunch of kids, I mean you know, you kind of have to watch your dollars a little bit there too.

Similar to Charlie placing the needs of his family before his oral health needs, Kay also placed others before her oral care needs. When questioned as to how Kay felt about her oral health, Kay discussed the impact of care-giving responsibilities and how this reduced the time available to seek routine dental care and engage in self-oral care:

> It's not bad but I know it could have been better but at my age now, you know, a time when I should take care of [my mouth], I didn't have the time I had six kids. I had grandchildren to look after, I have my husband's brother, his wife and brother passed away. They had three children, I had to look after them. My sister passed away and leave four, I had to look after them, so it was a busy life for me.

Kay's familial responsibilities as a primary caregiver caused her to place her family before her own needs. Kay also acknowledged the importance of time in her assertion, indicating that her oral health status stems from cumulative years of disregarding her oral health needs.

Similar to Kay and Charlie, Helen also mentioned placing her children before her needs and revealed in her early life she lost her husband and was the sole caregiver to three children. Helen revealed that the costs of seeking dental care were too high and her family was a priority:

> You can't go all the time to them [dentists], cost lots of money and I didn't have that much money. I had three kids. My husband died and it's not that easy for me to go to dentist and pay so much money. I care more for kids than for myself.

A contributing factor to Helen's life long symptomatic dental attendance alongside her dislike for the dentist was her care giving responsibilities. However, Helen is also one of the eldest participants and the insecurities and instability she faced in early life have led her to continue to be a symptomatic attendee. Comparatively, for Charlie and Kay a knowledge evolvement occurred in their mid-life that provoked their routine dental utilization.

Knowledge evolvement in midlife. The common phrase "the older you get the wiser you become" ran through some interviews. Participants Charlie, Kay, and Dan mentioned a knowledge evolvement that occurred in their midlife that led them to become routine users of oral health services. Charlie mentioned that he now has a "steady dentist" as an older adult and routinely seeks care twice a year. Charlie discussed his transition from symptomatic attendance resulted from both his acquisition of insured benefits and a change in his thought process. Charlie sought routine care in his later years when he realized the importance of seeking care to maintain his oral health status and prevent further tooth loss or oral health problems. For instance, when inquiring as to whether Charlie would have routinely sought dental care in early adulthood if he had insured benefits he asserted, "I don't know if…[Laughter] I had enough brains to do it, you know?" Charlie's realization of the importance of oral health care during middle age was a key facilitator in seeking routine oral care.

Similar to Charlie, Dan was also not routinely using oral health services after his first dental visit at age of 27 years. Dan mentioned his symptomatic attendance was a result of not realizing the importance of oral health care in his younger years:

> Well, when I was young, like everybody, when we are young we don't feel like…we don't think about our health. We don't think about our teeth. We eat, we throw the rest of the food, we throw this food away, forget it. We disease our teeth regularly, we didn't do any care, so then when we age is when we look after our bodies, ourselves, more.

Dan's realizations in his later years stimulated him to become a routine user of oral health services and also influenced him to quit smoking. Dan acknowledged the detrimental effects of tobacco use, "smoking can destroy the teeth, can destroy the lungs, can destroy everything in the body and not for me!"

Kay transitioned from a symptomatic dental attendee to a routine user of oral health services upon immigrating to Canada in her midlife. This transition was a result of her learning the importance of oral health care. Kay attributed this knowledge expansion stemming from her involvement in the workforce in middle age where she learned the importance of seeking dental care and dental coverage provided through employment:

> Because it's good for you. Your teeth, I mean you get your teeth looked after all the time in your mouth you don't have to worry they're rotting or you got to take or anything, you know, it's good and you feel good.

Josephine remained a symptomatic dental attendee during the course of her lifetime, this pattern of utilization stemmed from a belief system established in childhood. When asked why Josephine would not seek routine care, she stated:

> What would I go for if I have no teeth, only dentures? I cannot see taking up the doctor's time just to have that conversation. I would find it a little misusing his time because after all, I don't have a toothache or anything like that.

Josephine had been wearing partial dentures for several years and explained that her dentist extracted a few teeth since "they were rotting and he felt that getting rid of them the sooner the

better." However, Josephine revealed her acquisition of partials and residence in Canada influenced her thinking and her feelings toward oral care changed:

> Well I was an adult in Canada long enough, like I would never tell my daughter to go to the dentist to have a tooth pulled, but you have it fixed or look after it. I was always going to the dentist as soon as I had a problem but I never bothered to go when I didn't have a problem and I didn't know that oral health, per se, is ever going to, you know, come into my head that maybe I should think about it.

Life experiences and circumstances altered a few participants' beliefs during midlife influencing their transition to become routine users of oral health care. While for others, a routine pattern of utilization was established as a result of early dental experiences in childhood or adulthood.

Dependence on others in older adulthood. As participants entered older adulthood, some became increasingly dependent on others for transport to oral health appointments. Five female participants and two male participants (Bob and Dan), mentioned dependence on others for transport in older adulthood. All women participants were widows and five of the six women mentioned dependence on their children for transportation now that their husbands were deceased. While this dependence on children wasn't necessarily viewed as a barrier or deterrence to seeking dental care it was accompanied with feelings of being a burden on children and trying to schedule dental appointments in accordance with loved ones schedules. Ida was the sole woman participant who didn't mention a dependence on anyone for transport. In early adulthood, Ida and her husband both sought oral care from the University of Alberta's School of Dentistry. As Ida aged and her husband passed away she no longer drove to the school but rather became a regular user of public transportation. Ida explained taking the bus was normal for her and gave her a sense of independence and pride:

> Oh no I go every place I want to go in Edmonton, with the address, take the bus and I go. Oh yeah, I don't get lost, no. I like to be independent.

Comparatively Emily, Helen, Josephine and Kay never drove during their lifetime and always relied on their husbands for transport; after their husbands passed away they became dependent on their children. Emily and Helen both reported that for sometimes they were experiencing oral pain and discomfort, yet both had not visited an oral health professional. When questioned as to why they had not sought dental treatment, Helen and Emily mentioned that their daughters would have to take them to the dentist. Helen explained, she was concerned about interrupting her daughter's work schedule and therefore never informed her daughter about requiring transport. Helen asserted, "I don't want to take her from work to go with me. She have to take time off." Similar to Helen, Emily also had not informed her daughter about her oral pain and she explained that her daughter would take her to the dentist but it would have to be according to her daughter's schedule. While Emily didn't mention feelings of interrupting her daughter's schedule, she was reluctant to seek dental care because of her strong belief in self-maintenance and autonomy. Kay also mentioned a reliance on her daughter to take her to the dentist and a difficulty using public transportation since she had a walker. She stated that it's hard for her daughter to take her since she doesn't get time off from work. However, unlike Emily and Helen, Kay was a routine user of dental care despite difficulties in transport and coordinated appointments around her daughter's schedule.

Comparatively, Lucinda, a routine life-long user of dental care mentioned her son taking her to dental appointments but did not mention the need of coordinating schedules with her son or feelings of being a burden. Similarly, Bob and Dan had their wives drive them to dental or medical appointments and didn't convey feelings of being a burden. While the majority of participants were dependent on others for transport, this dependence was not viewed as a barrier to oral care, rather it resulted in feelings of reluctance to inform loved ones about oral pain and

feelings of being a burden for some women participants. Changing circumstances across the life course were facilitators and barriers for older adults in seeking oral health services.

Transparency in Delivery of Oral Health Services

The second prevailing theme evident in participants' accounts of their oral health experiences was the transparency in the delivery of oral health services. Participants discussed the affordability of oral health services and their relationship with oral health practitioners over the years as contributing factors to their experiences with the health care profession. Figure 2 represents a funnel where two key categories: affordability and relationship with practitioners are portrayed in opaque circles in the funnel. The two circles represent key entities that are needed to channel out the funnel in order to produce a transparent delivery of oral health care (see Figure 2).

Figure 2. Transparency in the delivery of oral health services

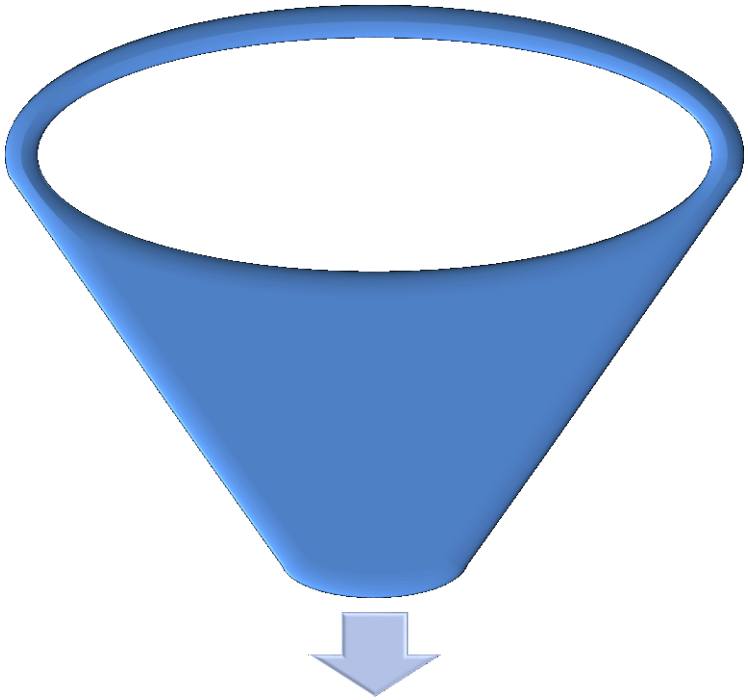

Figure 2. Diagrammatic overview of key categories: 1) affordability 2) relationship with practitioners, contributing to a transparent delivery of oral health services.

Affordability. The cost of oral health services contributed to anger, frustration and skepticism in majority of participants. While participants felt the costs of oral health services were too high, it was the lack of transparent information surrounding the dental costs that resulted in these negative feelings. All participants had some level of insured benefits where they were required to pay a portion of dental costs not insured by their insurance. The lack of transparency surrounding dental costs left participants frustrated with their oral health practitioner, seeking treatment elsewhere, or at times not seeking care and holding a negative attitude towards oral health services. Routine users of dental care were commonly mentioning the lack of transparency in delivery of oral health services, while symptomatic attendees Greg,

Emily, Helen, and Josephine did not mention the lack of transparency in dentistry as a contributing factor to their symptomatic attendance. Rather their symptomatic attendance stemmed from factors such as, maintaining established utilization patterns from childhood, maintaining autonomy, health status as a barrier, and a lack of understanding of importance of routine oral care.

Interestingly, all participants mentioned having dental coverage in their older adult years compared to their younger years. Charlie and Fred were both routine users of dental care in their older years. During Charlie's early adult years he sought care for "getting the odd tooth pulled out." Charlie's routine dental attendance in his later years stemmed from both a knowledge evolvement and attainment of dental insurance. Unlike Charlie, Fred routinely sought care after his initial visit in his 20's and despite high dental costs Fred chose to pay out of pocket. Fred described the affordability of dentistry as a challenge:

> You know, I was self-employed my whole life and it's a challenge, really. Not being insured is not good, you know? No insurance, dental care is extremely expensive for a barber or an average guy. It's just, it's huge.

Nevertheless, once Fred aged and attained dental coverage, he described the coverage provided as limited:

> I have Blue Cross Plus and it's so miniscule. The coverage from that plan, is really, really short, skimpy, yeah. A very small sliver of the real cost, is paid by the insurance, by Blue Cross, Blue Cross Plus, but it's grossly inadequate, yeah.

Avtar echoed Fred's feelings of inadequate coverage provided by insurance plans and explained that only select dental procedures were insured under benefit plans:

> As a senior, most of the things are covered, but for example, extraction is covered, then filling of those cavities is covered, but the cap is not covered, so that's very costly.

As a result of insurance companies providing coverage for select dental procedures, Avtar mentioned that he would attend routine dental check-ups in Canada but seek dental treatment in India. He explained that crowns were too costly in Canada and therefore, he decided to get his two crowns fabricated in India. While Avtar acknowledged that in Canada the delivery of dentistry was more professional and systematic, he felt that in India dental professionals were equally trained and there was no differences in quality of treatment. Avtar was the only non-Canadian born participant to access dental treatment from his native country.

Similar to Avtar, Kay immigrated to Canada in her 50's and like other participants understood the high costs of dental care. Kay indicated the relationship between employment in the work force and dental benefits. Kay highlighted this relationship when questioned as to when she began to see an oral health professional in Canada she asserted:

> We had to get money. We had to go find a job and if we don't have money you can't go to the dentist.

For Kay it took her several years in the workforce to attain insured benefits, which allowed her to seek oral health care routinely for years thereafter.

Participants Bob and Dan felt there was a lack of clarity surrounding dental charges and didn't understand how charges were assigned. Bob's feelings stemmed from a lack of understanding as to why his dental visits were so costly since he only had seven teeth. Bob described an experience where he decided to leave his dental office since they wanted to take x-rays:

> I told them that I am not going to get x-rays at this time and the dentist came and said, "Well it's our practice that we give x-rays." And I said, "Well not on me, goodbye," and I left.

He explained he had been visiting the same practice for several years, since it was originally his father's, and once his father passed away he continued to seek care from a dentist "who took training under" his father:

> It was a long time that I've been seeing this guy, and now he moved into a new practice with two or three other dentists and they figured, hey, we gotta make a pile of money right now and take x-rays.

Bob felt strongly about changes that he felt needed to be made surrounding dental costs and asserted:

> I'd like to phone and make an appointment to have my teeth cleaned and they [dental office] say, "Okay, come in. Now this is what we're going to do and this is how much it's going to cost. If you only have seven teeth, it depends on how long I have to take to clean your teeth, that's how it's charged." But to me that's being up front, instead of having prices set. There you are, $300 bucks no matter if you've got one tooth or a mouthful.

Similar to Bob, Dan felt dentists chose to do unnecessary dental treatment only to make money and that clear explanations as to why dental treatment was performed were not explicit:

> I saw a dentist here and I saw a dentist and he says, "I'm going to do some work with your teeth." I didn't know what he was doing, so he put fillings in about nine teeth [and] it hurt the tooth. So after I ask him, "Why do you do all this work?" He says, "Oh, just to make some money.

Furthermore, Dan and Bob felt that referral to oral health specialists such as, endodontists, and oral surgeons were additional unnecessary dental costs. Dan shared an experience where an unsuccessful root canal required him to visit a specialist:

> Well one time I had a tooth at the back that the dentist tried to do a root canal, and he was not able to do it very good, so I was sent to a specialist. And okay, I went to a specialist and to my surprise, my dentist charged me $900 and then the specialist to clean it up and finish it, charged $1500 and what can you do, you know? You have to pay it.

Similarly, Bob mentioned that since he was on the medication Coumadin, an extraction of a tooth required him to visit an oral surgeon, which he thought was another "cash cow." Bob also

felt excluded from dental programs targeting low-income people, where dental care was provided for marginalized populations at reduced costs and that he was being "penalized" for being in a different income bracket. As a result of an experience where there was a lack of clarity and explanations surrounding dental charges, Bob transitioned from a life long routine user of oral health services to not seeking care from age 66 onwards. It was evident that some participants were frustrated with the delivery of oral health services and found the transparency surrounding affordability of services to be lacking. Despite assertions of participants, most sought routine oral care because of their value for oral health and high regard of its importance.

Despite having insured dental benefits and requiring a new pair of dentures Greg never sought dental care because of a previous negative experience with a dentist. Greg's last dental visit occurred when he was 55 years of age. Greg decided not to seek care because the dentist wanted Greg to bring his old dentures to the appointment, which Greg had thrown out and "the dentist wanted money up front" which was why Greg never sought care afterwards.

Two routine users of oral health care services Lucinda and Ida did not mention any frustrations with the costs of oral health services. Rather when asked whether Lucinda found oral health care affordable she stated, "it's not cheap but you have to go." Her opinion was influenced from the fact that she was a retired nurse and valued all aspects of health and felt it was important to seek oral care. As mentioned earlier, Ida sought care from the school of dentistry, where oral health services were provided at a lower cost. Ida explained that she had insured benefits and the cost didn't prevent her from visiting the dentist because she paid a portion but the remaining was reimbursed from the government. It was clear from interviews that some participants were frustrated with dental costs however, they expressed more frustration with the lack of transparency surrounding the affordability of oral health services and lack of clear

explanations surrounding dental costs. Despite their frustrations with the delivery of dentistry, seven participants were routinely seeking oral health care services in older adulthood.

One interesting concept emerged from the data surrounding affordability of dentistry was the responsibility to pay a certain portion for oral health services for the collective good. While participants emphasized high dental costs, and concealed dental fees, they didn't have the expectation of free dental care. Rather they believed that paying a portion would help maintain the functioning of oral health services. Bob asserted:

> I mean not just this city. Just how much can the government, provincial and federal government, do? I mean, they can't keep giving everything away for nothing back and as people get older, like myself, should I expect them to do it? No, but a lot of people say, "Oh yes, I'm old and they should pay for everything." I don't really agree with that at all. I mean, I agree I should pay my fair share. If it costs me for Alberta healthcare, fine. Should I be covered to receive dentures, say, every five years? Yes.

Furthermore, Dan, who also strongly shared views of high dental costs and concealed dental costs asserted:

> I don't mind [paying]. Like our government needs the money to function, needs the tax, right, to function and I've got to pay my share.

Dan and Bob felt the delivery of oral health services needed modifications to produce an affordable transparent oral health system yet understood the need to pay for oral health care services.

Relationship between oral health practitioners and older adults. Participants emphasized their relationship with oral health practitioners during discussions about oral health experiences. All participants had seen multiple practitioners over their lifetime and some visited different practitioners both globally and across Canada. The relationship older adults held with

their oral health practitioner was at times viewed as close knit and described as a family, while other adults were distrustful of their practitioners.

Bob's relationship with his oral health practitioner differed from all other participants since his relationship with his dentist was a dual relationship of father and son and dentist and patient. Growing up Bob's relationship with his dental practitioner was an authoritarian relationship where his father was in a role of authority. Once his father retired Bob began seeking care under the dentist that took over his father's practice. Bob described his relationship with his dentist to be trustful and communal:

> Well first of all I knew the dentist. I trusted the dentist not to gouge me and we got along good together and his hygienist was the same, I knew her and everything went fine until they moved into this new clinic.

However, once there were changes in protocol at his dental office and the introduction of new practitioners, it caused him to walk out of his last dental appointment and refuse care. As mentioned earlier, Bob didn't understand the need for radiographs and began to lose trust in his practitioner since procedures were not well explained and there was a lack of transparency resulting in a lack of understanding. Bob's experience highlights the importance of clear explanations and how relationships can result in loss of trust when transparency doesn't exist.

A dual relationship between Fred and his oral health practitioner also existed. Fred described his initial experience with dentistry as a result of tooth pain and consequently sought care from one of his customers:

> I was in my late 20s…I was a barber for a long time and one of my customers was a dentist, so I went and saw him and had some work done.

Fred explained he sought care from his dentist for a long time but when his dentist moved he sought care from another customer of his. When conversing about his health practitioners, Fred used their first names, it was evident that he had established close relationships. For example, Fred asserted: "Yeah, I really liked Peter. He was a good guy. I thought, you know, I got along so well with him." Not only did Fred have a good relationship with his oral health practitioner but also his general practitioner, he asserted:

> And my general practitioner? Sure. I'm hooked on with the same guy and you know, a general practitioner, that is and I'm very happy with him. Luckily for me he's about the same age as I am, so he's not going to retire either so…and we're able to talk the same tune, you know? There is certain things that, in your 70s, that didn't even enter your mind when you were in your 30s or 40s, you know? And so he's very sympathetic or understanding to what it is. He's got the same issues, yeah.

The relationship Fred had with his health practitioners was a key facilitator in seeking care, his visits were comfortable, where he could chat with his practitioner and trusted their professional opinions. Similar to Fred, Charlie had established a positive relationship with his oral health practitioners. When asked how he felt about how his experiences at the dentist compared to other health care practitioners he asserted:

> Like the dentist especially, I go there and the girls, you know, I just get a big hug from them and it's just like family.

Comparatively, Lucinda was a routine user of dental care since childhood but unlike other participants her relationship with her oral health practitioners wasn't well established. During Lucinda's life span she lived in several parts of Alberta and as a result saw many different practitioners, she estimated that she had seen five different practitioners. Her routine utilization didn't stem from the comfort she felt when she visited her dental office or the trust she felt existed between her and her practitioner, rather she sought dental care because she deemed it

to be important. Currently, Lucinda had been seeing the same oral health practitioner for several years and it was a practitioner who had taken over the dental office once her original dentist in Edmonton had retired.

Similar to Lucinda, Dan had sought care from various oral health practitioners, his initial experiences with dentistry occurred when he came to Canada from Greece in 1969. Currently, Dan was seeking dental care twice/year. During the course of the interview, Dan was asked to share some memorable dental experiences. Dan shared vivid stories of his past dental visits and how he became distrustful of oral health practitioners:

> I had two teeth, they were too far apart and the food was going there, I was wiggling it all the time and I damaged them. So then there was a dentist up in Northwest Territories that I was very distrustful of, I didn't trust him, so he said to pull it out. He said, "Want to do this job?" I said, "Pull it out," and then after he pull it out, he said I have to pull the other one out. So I lost two teeth right there.

Dan's initial experiences with dental practitioners resulted in a lack of trust in dental practitioners because he felt that dentists chose to do unnecessary dental work to make money. His lack of trust with practitioners resulted in a skeptical attitudes towards dentists until he started to visit his current dentist. Dan shared that he liked to visit his current dentist, whom he has been seeing for the past few years. He explained that he trusts her because she does minimal dental treatment that he feels is necessary and the dental staff are "very, very very nice and very friendly." Dan's experience exemplifies the fact that older adults may have multiple practitioners over their life course and the oral health practitioner's approach can affect the level of trust and comfort the patient feels determining the longevity of the relationship.

Kay like Dan was an immigrant to Canada, but unlike Dan she had been seeking routine care from the same dentist for 25 years once she immigrated from Guayana. The proximity of

her dental office to her home was initially the reason she sought care from her current dentist. However, after suffering a stroke and moving into her daughter's home situated further from her dentist, she was adamant in seeking care from her original dentist. Kay did not seek care from her daughter's dental practitioner because she valued the relationship she had established with her current dentist. Kay explained she felt comfortable with her dentist, and valued her practitioner's kindness and the dental work she had done for Kay. Kay's level of satisfaction and comfort led to delayed visits to her dentist after her stroke because at times it was difficult to coordinate schedules with her daughter and the dental office hours.

As mentioned earlier, Ida's oral health experiences occurred at the School of Dentistry and resulted in encounters with different student practitioners and their instructors. Ida's relationship between her student practitioners wasn't key to her routine utilization rather it was the relationship she had established with the institution. She trusted the quality of care that she received over the years at the school. Acknowledging reduced fees at the School of Dentistry, when asked whether affordability was critical in Ida's decision to seek care at the School and not in private practice, Ida explained that she had insured benefits but liked seeking care from the school. Ida spoke about her value for the quality of care delivered at the School of Dentistry:

> I think they [students] do a good job. Matter of fact to me, I think because every time they [students] do something they have their superior to come and check, they take pride over those things so they do a good job.

Participants who had established a relationship with their dental practitioners whom they trusted were routine users of oral health care services. Participants whose visits were accompanied with hugs, humor and comfort harnessed trust between participants and oral health practitioners. A relationship built on trust and transparency was the foundation and key to seeking routine care from oral practitioners. Participants who understood rationale for dental

treatment costs, felt their dentist had their best interest in mind and were treated with kindness were likely to be routine users of dental care. While the transparency in delivery of oral health services was a facilitator in seeking routine care, the interrelationships of oral health was a factor influencing utilization of oral health services.

Interrelationships of Oral Health

All participants believed oral health was important to some extent regardless of differences in accessing oral health services. Several participants believed oral health to be important because they acknowledged the interrelationship between the oral cavity and the body. Oral health was viewed as key to survival and for some oral health was related to one's dental status. Participants believed a reciprocal relationship existed between the overall wellness of the body and mouth health. This reciprocal relationship affected utilization of both health and oral health services. Participants who routinely sought oral health services likewise routinely sought health services from a multitude of health practitioners. Table 2 represents the broad theme of interrelationships of oral health. The significance of oral health in relation to survival will be discussed first.

Table 2

Interrelationships of Oral Health

Interrelationships of oral health		
Oral health and survival	Implications of dental status on oral health	Utilization of oral health services in relation to other health services

Oral health is key to survival. Participants viewed the mouth as key to their survival, and acknowledged that a reciprocal relationship existed between the body and mouth**.** Avtar exemplified this, stating that " the mouth is the source of everything for the body, every food goes through it, so it's very important." Similarly, despite Emily being a symptomatic attendee she shared Avtar's views and asserted, "if you don't look after your mouth, well you can't survive." The mouth was viewed as the entry point and key in gaining nutrition. Participants' Emily, Dan, Helen, and Lucinda also mentioned the mouth's importance in chewing and gaining nutrition. Dan indicated this by asserting, "you have to have a clean mouth to eat clean food and that's really important." Charlie mentioned a healthy mouth had "a lot of advantages," which he mentioned were allowing the tasting of food and ability to "kiss somebody."

Participants held a holistic perspective towards health and considered the mouth and body as interconnected entities. Avtar indicated this holistic attitude by asserting, "if the teeth are well the body is well." Similarly, Kay also indicated this interconnection between the body and mouth:

> I mean if you're healthy everything is okay. You don't want to be sick and have a bad mouth, like bad teeth in your mouth then you're not feeling well and are sick in your body, you don't like that. You want to be healthy, yeah.

Discussions of the reciprocity between body health and oral health at times resulted in affective responses from participants. Some participants expressed feelings of gratitude toward their oral and bodily health while others articulated unhappiness and loss of function. Touching on his own experiences, Dan described the impact his stroke had on his chewing, swallowing, and vision. Dan provided a vivid description of the interconnection between the health conditions such as, stroke and mouth health:

> Well I eat normal except the left side of my face, the lip is sort of sleeping right now and I get food stuck in there and I have to push it out. I always chew it up and choke, so I have to pull the lip up to pull the mouth, to chew it again, otherwise the lips don't work.

While the stroke negatively impaired Dan's bodily functions, the stroke also had a significant impact on Dan's feelings of his health. As a result of the stroke, Dan's speech at times was unintelligible and soft. However, when questioned as to how Dan felt about his overall health, his tone of voice changed in the interview to become firm and he asserted:

> I'm not very happy. I can't move my arm, I can't move my leg, I don't get balance, how can I be happy? I believe that it's very important to be able to walk, and have balance and do work around the house, do things that I used to do.

It was clear from Dan's assertion that his unhappiness resulted from declines in functionality as a result of the stroke.

Similar to Dan, Bob acknowledged health related declines, which also impacted his oral health status, however, his feelings towards his health status differed. Bob held a positive attitude and feelings of gratitude towards his current health and functioning and did not focus on health declines. Bob had suffered from a condition affecting his heart valve that resulted in him having an operation and retiring early from the work force at age 55. He described his health as going to "hell" after that incident. Despite his condition impairing his overall well-being, Bob asserted:

> I think I'm fortunate because there's a lot of people even here that are worse off than me. I can at least get up and walk around. I might hurt, but I sure get up. And you know, I've got arthritis in my hands, so they're curling. Well I'm not going to sit around and cry and whatever and do nothing. I'm going to do what I can. What I can't? Okay, I'll forget it, who cares?

As a result of Bob's stroke, his manual dexterity was affected but rather than focusing on his impairments, Bob held an attitude of optimizing on what he had. He indicated that despite his arthritis he did not require any special oral home care aides compared to other older adults who

were using “a special toothbrush.” Bob compared his health to others and this comparison fostered feelings of gratitude towards his health status.

Kay similar to Dan, suffered from a stroke and shared his feelings of impairments and explained that she didn’t feel healthy:

> I’m very slow now and I can’t do anything because I had it [stroke] on my left side, I could not walk, I couldn’t lift my hands, I could not talk, I couldn’t write because I’m a left-hander but now I can…you can see that I can write a little bit. I can talk better but I still feel weak on this left side, my hand and my legs especially and I have lots of arthritis pain.” I don’t feel very healthy because I’m 80 years old, and since I feel sometimes weak.

Kay discussed the implications the stroke had on her hands and how she had to learn to write, eat and brush her teeth using her right hand since the left side of her body became weak. Similar to Bob, the stroke resulted in Kay adapting to changes and modifying the way she brushed her teeth and ate. Participants indicated their belief in the interconnection between the body and the mouth, viewed oral health as key to survival, and discussions of their health and oral health resulted in emotional responses of unhappiness and gratitude.

Implications of dental status on oral health. It has been documented in the literature that a diversity of views exist surrounding natural teeth and dentures. Natural teeth were valued and deemed superior to dentures by participants included in this study. Avtar, Dan, Kay and Lucinda all maintained their natural dentition and did not wear any prostheses. For these older adults, the presence of natural teeth was deemed to be healthier and “normal” compared to wearing dentures. Avtar linked the presence of natural teeth as an indication of a healthy body and healthy mouth he asserted:

> Natural teeth are very important. They are the most important rather cause if you have natural teeth, certainly it also shows that you don't have any other infections also.

Similar to Avtar, Dan indicated oral health as "clean, no sores, and no false teeth." Dan associated dentures with a lack of health and asserted if the teeth were healthy there would be no need for a denture. Ida had maintained the majority of her natural teeth and explained that she had a 'partial denture' to replace a baby tooth that she lost at 31 years of age since a permanent adult tooth never erupted. She expressed she would only wear the partial when she left her home since the edentulous space would be visible if she laughed. Ida valued her natural teeth but at the same time asserted:

> I'm not against unnatural teeth because not everybody could keep their own teeth. Yes it's important to me to have my own teeth, yes, very important.

The majority of the participants included in this study wore full or partial dentures and discussed the implications of wearing dentures on chewing, food choices, and appearance. It was evident that wearing dentures resulted in feelings of loss and unhappiness. Participants described vivid stories of their tooth loss and each began wearing dentures at a different point during their lives. Charlie and Greg described their tooth loss as a result of lack of self-oral care, while Bob, Emily, Helen and Josephine described tooth loss as a result of dental diseases. Fred's story of tooth loss was unique and highlighted the reciprocity of oral and bodily health. Fred shared that he lost his teeth at 60 years of age in relation to ankylosing spondylititis, an autoimmune condition:

> My tooth loss was caused by a medication, [and it's] a really sad story, considering it was probably so not necessary. It's quite sad, it's a shame, I just wish I would have had my teeth.

Fred shared that he started to notice his teeth becoming mobile after his diagnosis, and decided to question his dentist. It was Fred's dentist who explained that the medication Fred was taking for ankylosing spondylititis was causing bone resorption in his mouth. Fred's tooth loss was the

foremost reason Fred understood the interconnection between the mouth and body. Despite Fred losing his teeth 12 years ago he continued to grieve the loss of his teeth and was extremely upset that he lost a piece of himself. When questioned as to why Fred felt it was a shame that he had dentures, Fred asserted:

> Well my teeth were so good! I had next to no…my first 60 years were pretty good. I didn't have a cavity until I was 28, you know? I'd say I was blessed with real good, strong teeth and an extra couple of teeth, yeah.

Fred valued his teeth and his teeth embodied who he was, therefore Fred asked the dentist to fabricate his complete dentures to look similar to his natural teeth:

> Yeah, I got one crooked tooth and I'm kind of pleased with myself there 'cause I always had a crooked tooth, you know? And when I had the dentures made, I said, "Make sure you make that crooked." Yeah, yeah, and I chose a color that's not brilliant white, like I think that's a mistake a lot of denture wearers make. They go with their pearly whites all perfect. It looks phony, yeah.

Kay who possessed the majority of her teeth and did not wear dentures also expressed feelings of loss and grief over the few natural teeth that she lost due to extractions. While the tooth loss did not result in functional limitations she expressed that she missed them.

Denture wearers, Bob, Emily, Greg and Helen expressed the effect that wearing dentures has on chewing, whereas Charlie and Helen felt their dentures didn't impact food choices or chewing. Bob wore both partial upper and lower dentures for the past four years, and mentioned the impact on his food choices and chewing:

> I can no longer chew corn off the cob…I can no longer take a big bite of a hamburger, 'cause' my plate will flip. Now I don't know whether that's me, dentures or the way they're made. I just have to eat different. I can no longer eat the corn off the cob. I have to take it off the cob, then I can eat it. And steak, I have to be careful in chunks that I bite off. Now, if it is too hard to bite off, I have to cut it smaller, so I guess I'm adapting.

Compared to Bob, Emily had been wearing her dentures for around 20 years and had a complete upper denture and lower partial denture, but similarly she mentioned modifications to food choices and adjusting to her dentures:

> The chewing is different. You have to adjust to it and you know I slowly, slowly adjusted to it. But if it's meat, you know, meat is not that easy to chew. So I'm always very careful. I would say "No, thank you, I can't eat that," or if it's hard meat or ham, if it's dry, hard ham or something to eat, how can I chew it?

Helen also expressed difficulties while eating with complete upper denture and partial lower denture. During the interview, she discussed her most recent dental visit, where the dentist suggested extracting Helen's remaining mandibular teeth and fabricating a complete lower denture since Helen was experiencing pain while chewing. Rather than accepting the dentist's suggestion Helen told the dentist, **"**If you pull out the three teeth, then I'll be really in trouble because I can't do that…my problem is I can't have that denture. I hate it." Helen was extremely opposed to wearing a lower complete denture and when questioned as to why she hated the denture, she asserted:

> I can't eat, I can do nothing. I can't sleep. Now sometime I have to pull out, put this into something because I can't stand it. I don't like it. I can't eat much. Something hard, I can't eat. [When chewing I] go from other side to other side. This one [points to right side of jaw] is not too bad but this one side, really bad.

Considering Helen had been wearing her dentures since the age of 30 years, more than half her lifetime, one would assume that she would have adjusted to them like Bob and Emily. However, Helen expressed extreme opposition or "hate" towards wearing dentures and chose to rather be in pain than lose her remaining natural teeth. Similar to Helen, Greg lost the majority of his teeth and had complete dentures at age 31. Greg asserted, "if you're true to your teeth, they won't be false to you." Greg explained that all his teeth were extracted due to his lack of self-oral care and

tobacco use, which resulted in "pyorrhea." Oddly, Greg only wore his upper denture, and had thrown away his mandibular denture more than 20 years ago since he felt the lower denture was not fitting well. Greg's last visit to the dentist occurred at 55 years of age where the dentist wanted Greg to bring in his lower denture. Since Greg had thrown out his lower denture he decided not to visit the dentist again. Greg complained his upper denture was loose resulting in food becoming stuck in his denture, causing pain and at times felt as though the denture was "blocking off [his] airway." Similar to Helen, Greg experienced pain yet was not willing to see the dentist and stated, "I'm too old to worry about it now."

Josephine and Charlie were the only denture wearers that did not mention changes to chewing or a dislike toward their dentures. Rather Charlie asserted he could eat corn off the cob and dentures did not impact his chewing or food choices. Similarly, Josephine asserted, "I'm so used to it [dentures] that I don't think getting my natural teeth back would be that important." A range of views among denture wearers existed, for some dentures were viewed negatively, others grieved the loss of their teeth and for a few they were able to adjust to their dentures over the years.

Utilization of oral health services in relation to health services. A pattern existed between accessing oral health care services and additional health services. Older adults who routinely sought dental care would routinely access health services from health practitioners in different disciplines. Older adults who did not access oral health care or were symptomatic attendees in turn would not routinely access other health practitioners. The majority of participants had suffered from acute health issues or chronic health conditions affecting their hearing, mobility, dexterity, eyesight, and gait.

Avtar, Emily, and Helen did not disclose any information surrounding health ailments or surgeries that they had undergone, while other participants mentioned health conditions. Participants who routinely utilized dental care understood the importance of seeking medical care. As declared earlier, a knowledge evolvement occurred in participant's later years and health declines highlighted the importance of maintenance and preventative care. Routine users of health and dental services often mentioned and stressed the importance of oral health and the interconnection between oral and body health. Comparatively, participants Greg and Josephine who were not routine users of dental health care services were not concerned about their oral health because they felt other aspects of health were more important. Greg was restricted to a wheelchair and had his doctor visiting him at home, rather than travelling to seek care. When asked how important his oral health was he responded:

> I don't know. I just figured I'm not going to be chasing a lot of women, I don't care about my looks or nothing right now. I got other problems.

Greg's assertion highlighted his view of the mouth and teeth in relation to aesthetics and not from a health standpoint. He also went on to say, "Well if I was in good health, maybe it would be important." Similarly, Josephine revealed that she had never thought of the importance of teeth and didn't think oral health was as important as bodily health. Furthermore, Josephine stated that her oral health would become important if there was a problem associated with her dentures. Josephine believed that after experiencing a stroke, she thought her heart was more important compared to her mouth. Josephine stated that after the stroke she began to see her family physician more routinely for prescriptions for medication and visited a physiotherapist for rehabilitation. However, this utilization of additional health services only began after Josephine experienced a stroke and was a result of her husband convincing her to enroll into a rehabilitation program. Josephine's and Greg's lack of seeking health services or problem-induced attendance

was similar to their utilization of oral health services. As discussed earlier, utilization patterns of symptomatic attendance in early life set the stage for attitudes and behaviours in later life.

Comparatively, Emily and Helen, who were also not routine users of dental care, both felt that oral health was important. Emily viewed oral health as key to survival and Helen linked the importance oral health in gaining nutrition. Yet, both women were symptomatic attendees of oral health services and other health services. Helen and Emily made no mention of experiencing acute or chronic health conditions and both mentioned reliance on loved ones for transport. This reliance can explain the lack of routine attendance for both health and oral health services.

Routine users of oral health services were also routine users of other health services and viewed the importance in seeking routine care. Dan is a routine user of oral health care services twice/year visits and seeks care from his doctor every 3 months, optometrist once/year and attends physiotherapy at the Day Support program. It was clear that he valued his oral health through his assertion, "I have diabetes and it's required to have tests every three months to make sure I have a healthy body." Along with Dan being diabetic, he had suffered a stroke, which had impaired aspects of his health such as his writing and gait. Dan viewed the seeking of routine care in relation to ensuring bodily health. His views stimulated him to seek both oral and general health care services. Furthermore, Dan also mentioned suffering from a stroke, and similar to other participants the stroke impaired aspects of his health:

> I never took the elevator, ran up the stairs. Ran, not walked, just ran and people would say, how you can run that much? Now I can't even go with a cane. It's hard. It took me a while because I'm left handed. I used to be left-handed and I have to learn how to do everything with the right hand.

Dan's experience and realization of implications of health conditions on his body influenced his utilization of both oral health and other health services.

As mentioned earlier, Fred is a routine user of oral health services, and visits his general practitioner routinely. Fred's routine utilization stems from the relationships he creates with his practitioners and the standard of care he feels is received. Fred explained an incident with a neurologist who he believed delivered wonderful health care and fulfilled his role as a health care practitioner:

> My balance has been a problem and eventually I got, just this year actually, I got to a neurologist who sent me…he's, you know, after all, you know, it took a while to get into there and then he referred me to another neurologist 'cause they don't take any responsibility for anything, hey? You get in the…it's kind of disheartening. Anyway, I stuck with it, I went from one to the other. I've seen every kind of doctor known to man and I finally wound up, by good luck, in the care of a neurologist surgeon who put a stent in for me, yeah. Yeah, wonderful guy. There's some of the specialists actually do something and other ones they don't want any responsibility, they want to pass you on to somebody else.

Fred's assertion highlights how older adults' views of practitioners are shaped by the delivery of health care. Fred viewed his neurologist as wonderful because of the level of care he received.

Ida explained that she had health benefits and great coverage. Similar to other participants she had fractured her knee and visited physiotherapist routinely, and a family doctor every three months. Ida valued her health and therefore, sought routine care and her desire to be independent influenced her continuation of seeking health and oral care services routinely after the loss of her husband.

Charlie was also a routine user of dental care, and visited other health practitioners such as his family doctor, optometrist and audiologist once a year. Charlie valued his health and these values, tied with an expansion in knowledge over the years, stimulated him to engage in health seeking behaviours. Similarly, Kay and Lucinda were visiting a physiotherapist at their day support program a few times during the week and had undergone knee and hip replacements,

respectively. These women were also routinely seeking medical care from their physician and attending dental visits yearly. Participants who routinely visited oral health practitioners also visited practitioners in other disciplines because of their acknowledgement of the reciprocity between the mouth and body. The utilization of oral health services and accessing health services from other health disciplines was interconnected for participants included in this study.

Summary of Findings

Findings from this study highlight utilization of oral health services is influenced by a series of related facilitators and barriers experienced during the life course. Older adults voiced the importance of clear explanations surrounding dental costs and establishing a positive communal relationship with their oral health practitioner to create a transparent delivery of oral care services. Participants believed oral health was key to survival and reciprocity between the mouth and body existed, influencing their utilization of both oral and other health services. In chapter 5, these study findings are examined and interpreted within a broader context of current literature. Implications for practice, policy, and study considerations and directions for future research will be presented as well.

Chapter Five

Discussion

The purpose of the present study was to better understand facilitators and barriers to oral health experienced by older adults and compare oral health service utilization with other health service utilization. The present chapter discusses findings in relation to Baltes and Baltes[62] theory of successful aging using selection, optimization and compensation strategies. Additionally, themes are discussed within the context of existing literature. The chapter concludes by presenting how findings can inform oral health practice, policy and future direction of research.

Life Course Influences on Oral Health

Four key stages during the life course were identified by older adults as key facilitators or barriers in seeking oral health care across their lifetime: 1) initial oral health experience in childhood or adulthood; 2) placing others before themselves; 3) knowledge evolvement in midlife; and 4) dependence on loved ones in older adulthood.

Initial oral health experiences in childhood or adulthood. Older adults who routinely sought oral health care throughout their lifetime, viewed this as a normative behaviour, instilled in childhood and progressing into older adulthood. For others, symptomatically attending in childhood or early adulthood was an established pattern that continued into older adulthood. Established patterns of seeking oral care in early life were viewed as the norm for participants since this belief was instilled during their earlier life. Astrom et al.[71] have found dental visit patterns in early older adulthood were related to corresponding habits in childhood. Children and adolescents who developed regular dental attendance patterns, maintained that habit into middle and early older ages.[71] These findings provide additional support of Kiyak's[32] discussion of

beliefs and attitudes that place importance on teeth and oral care are predictors of regular use of dental services.

In contrast with the present study, Borrenai et al.[37] found that older adults who recalled early childhood experiences contributing to anxiety and fears surrounding dental visits were symptomatic dental attendees in older age. Older adults in the present study did not mention childhood fears of oral care contributing to their symptomatic dental attendance. Rather some participants expressed a dislike of visiting dental practitioners due to the sounds and odours experienced at dental offices during childhood. Their dislike of visiting dental practitioners was not associated to be a fear but was a negative attitude they held from childhood. Supporting Ettinger's[34] finding of once attitudes are developed they are maintained and not readily changed. Furthermore, majority of participants first encountered an oral health professional in their early 20's rather than childhood. Participants who visited an oral health professional in their early 20's mentioned their lack of seeking care in childhood due to residing in a rural community or another nation where the importance of seeking oral care was not highlighted and there was a lack of dentists. It has been noted in the literature that rural children, have less access to oral health services and lower utilization of dental services compared to urban children.[72]

Information garnered in the present study indicated that the majority of participants who immigrated to Canada as adults had encountered oral health services for the first time in Canada rather than in their native countries. Participants who immigrated in their 20's learned the value of routine oral exams and credited their routine dental attendance as adhering to Canadian norms. Kiyak[32] highlighted the importance of promoting the value of routine oral health care into belief systems of individuals in youth and middle age in order for regular oral health care to become a part of an individual's behaviour pattern before reaching old age. While a few immigrants to

Canada chose not to routinely seek oral health care due to high dental costs, maintaining autonomy, and a dislike of practitioners, most became routine users of oral health services. Despite all immigrants attributing the seeking of routine care to Canadian norms, a male participant native to India utilized oral health services different from other participants. He chose to seek dental treatment in his native country of India and preventative oral care in Canada due to high dental treatment costs. The research supports MacEntee's et al.[47] findings; Punjabi-speaking immigrants return to India for dental treatment, due to lower treatment costs. Calvasina et al.[73] examined transnational dental care utilization in immigrant groups of 15-60 years of age. Transnational dental care is where immigrants return to their native country for dental care as a result of high dental costs.[73] This study found that 13% of immigrants received dental care outside Canada and lack of dental insurance was noted as the strongest financial predictor of transnational dental care utilization.[73] Calvasina et al.[73] conducted the first survey in Canada that provided information on whether immigrants received dental care outside Canada or not. While a lack of dental insurance was the strongest predictor for transnational dental care utilization in this study, older adults were not the demographic that was surveyed. Older adult populations have additional financial barriers since they are no longer employed in the workforce and have limited sources of income to fund visits to oral health professionals. Future research needs to examine transnational oral care utilization in an older adult age group to provide more insight on this rising Canadian demographic.

Placing others before themselves. In the present study, an initial dental visit sparked an immediate routine utilization of oral health services for some participants. Whereas for others, loved ones needs were given priority over participants oral health needs. Older adults mentioned balancing between seeking oral care, care giving responsibilities and financial status. Certainly,

previous studies[25,33,37,40,41] have commonly noted financial strains as barriers to routine oral care for older adults; researchers have not identified care-giving responsibilities as a deterrent to accessing oral health care services.

Interpreting the present finding in relation to Baltes and Baltes[62] theory for successful aging offers an explanation to explain the decision-making used by participants when placing others before their oral care needs. Baltes and Baltes theory involves the processes of selection, optimization and compensation strategies to maintain goals and adapt to changes occurring throughout the lifespan in order to successfully age.[62] The theory assumes that individuals engage in a process of selection when they are confronted with declining resources, in which existing goals are reevaluated and individuals select those that are most realistic, given their particular level of resources.[74] Furthermore, individuals engage in decision-making surrounding how to optimize certain resources or at the same time find ways to compensate for other limitations.[74]

The current study indicates that older adult's decisions regarding utilization of oral health services involved the use of selection, optimization and compensation processes. Some participants engaged in a process of selection when deciding to seek routine dental care across their lifespan. Acknowledging the financial challenges of affording dental care for themselves and their family, participants chose to contribute their money towards financing their children's oral health care needs as opposed to their own. Their selected goal resulted in optimizing their monetary funds for their loved ones and compensating for financial limitations by symptomatically attending oral health services for their own needs. In addition, at times participants acknowledged lack of time available to seek oral health care, and selected to spend time caring for loved ones and compensating for limited time by symptomatically attending oral

health services for their own needs. Gerontological literature entails multiple theoretical perspectives of aging driving research in various areas, yet theories of aging have not been used to understand oral health experiences in older adults. In order to gain a greater perspective of the issue of poor oral health in older adults, use of a psychosocial theory would be suited to expand the current literature.

Knowledge evolvement in midlife. Older adults who would symptomatically attend in their early years transitioned to become routine users of oral health care. Participants mentioned a knowledge evolvement in mid-life influencing their decisions to seek routine oral care. Participants attributed their knowledge evolvement to increasing maturity as they aged, influencing their realizations of the importance of oral care and gaining oral health literacy. Education is identified as a key determinant for health; it improves an individual's ability to understand health information and improves health literacy.[75] Lee et al.[76] found that having twelve years or more of education was associated with higher odds of dental care utilization. Similarly, Kiyak and Reichmuth found that high education is positively associated with the frequency of visiting a dentist.[28] The present study did not gather any information on participant's educational background, it would have been beneficial to understand the role education played in stimulating older adults to seek oral care and their level of oral health literacy.

A study by McQuistan et al.[77] examined the level of oral health knowledge in older adults aged 65 and older and examined associations between oral health knowledge scores and participants' demographic and dental characteristics. Results indicated participants who had a high school education or less were more likely to receive a poor oral health knowledge score than were participants who were more educated.[77] Also participants 75 years or older were more

likely to have lower oral health knowledge than younger participants.[77] Contrary to McQuistan et al.[77], in the present study, some participants who were initially symptomatic attendees transitioned to become routine users of oral care as a result of increasing oral health literacy during aging. Participants attributed the expansion of oral health knowledge due to interactions with colleagues and friends, oral health professionals and advertising messages through the media.

Dependence on loved ones in older adulthood. Dependence on loved ones in older adulthood for transport was found in the present study. Previous research has identified transportation issues as a barrier to oral health care and at times resulted in non-dental attendance.[25,33,40,41,42] Borrenai et al.[25] found the lack of a person to accompany older adults emphasized their social isolation particularly for those older than 85 years of age. In the present study, older adults mentioned differing levels of social support, and commonly mentioned their residence with either children or spouses. It has been noted that social support has an influence on dental care utilization among older adults in Canada. Campo and Yon found a statistically significant association between visiting the dentist once or more per year and the following variables: living arrangement, marital status and sense of belonging.[27] Campo and Yon's study found that the relationship older adults had with those living around them had an impact on visiting the dentist on a regular basis.[27] Furthermore, older adults who lived with a spouse and child together increased the likelihood of dental care utilization.[27] Campo and Yon recognized the fact that when more individuals reside in the household, there is an increased opportunity to take advantage of the social supports for information, emotional and transportation support. Researchers also found that older adults who were married would be more likely to visit their dentist once or more per year than those who were not married.[27] Supporting Campo and Yon's

findings, in the present study, male participants who were routine users of oral health services were all married and living with their spouses. Similarly, women participants who were routine users of oral care had a social support network from their children and two widows relied on their children for transport.

Contrary to Campo and Yon's[27] findings, the present qualitative study had three women who resided with their children and would symptomatically attend dental care and two men who were married and living with their spouses yet did not seek dental care. Despite all participants having a form of social support in their lives, their dental utilization did not correspond to Campo and Yon's[27] findings. The symptomatic attendees attributed their symptomatic attendance to a lack of need, dislike of the dentist, maintaining their autonomy and restrictions of activities of daily living.

Burr and Lee found social support enhanced dental literacy and helped reinforce norms of appropriate self-care.[78] Burr and Lee studied the association between dental care service utilization and social integration and social support among older adults.[78] Routine users of oral care mentioned the role of social support in relation to seeking oral care.[78] Burr and Lee also interviewed immigrant older adults, who indicated that they relied on co-workers or friends to refer or recommend dental providers. Thus, more social integration with friends and family and other relatives is related to older adults using oral health care services.

While social support may be a contributing factor to seeking care, Marino et al.[79] suggest that the recent use of dental care services may be predicted by the level of social support. The present study did not examine the level of support participants received and rather this would be a future direction for research to qualitatively examine how the support network of older adults influences their utilization of oral care services. The present study did indicate that social support

networks have a facilitating role on seeking care, which was found when participants did not feel like a burden to their loved ones.

Transparency in Delivery of Oral Health Services

In the present study, establishing a trustful relationship and clarity of oral health costs were mentioned as facilitators to seeking oral health services within the context of the broader theme: transparency.

Trust as a foundation for transparency. A trustful, communal relationship between oral health providers and older adults was viewed as contributing to a transparent delivery of oral health services. Findings of the present study are consistent with findings by other researchers[25,33,40,41] who noted that a trustful relationship between dental staff and older adults was a deciding factor in accessing oral health services. Trust is used to describe the nature of therapeutic relationships and quality of interprofessional relationships.[80] Trust is an important concept for the caring disciplines, such as nursing, medicine, psychology and sociology.[80] Trust has been examined among these disciplines, yet has different conceptual definitions in each discipline. The concept of trust has not been studied in the oral health profession specifically. Within medicine, the definition of trust can infer that the patient feels that the physician is putting the patient's interest as the number one priority.[80] Due to the alignment between medicine and dentistry, our study's findings concur with medicine's definition of trust. In medicine, trust is established between health care practitioners and patients when patients expectations for care are met, and trust is lost if these expectations are unmet, resulting in refusal of care.[80] In the present study, participants did mention instances where they refused dental care due to the distrust they felt with their dental practitioner.

One study conducted by Muirhead et al.[81] examined the relationship with dental providers and older adult patients. The study specifically looked at the relationship between oral health related quality of life (OHRQoL) and dentist–patient relationships using quantitative measures. Researchers found older people who lacked trust or confidence in their dentist had poorer OHRQoL than those who expressed confidence and trust in their dentist.[81] This was the single study that specifically examined the trust between oral health practitioners and the older adult population. Muirhead et al.[81] found that trust in dental providers may be particularly important for older people who are traditionally less likely to engage in shared decision-making compared to younger patients.

Hupcey et al.[82] examined older adults expectations of care and found that when health care providers exhibited a sense of personal touch, technical proficiency, and spent time with older adults, and thus met older adults expectations of care, this created trust. Participants' who felt their provider cared for them as a person, spent time with them, listened to them and actually got to know them demonstrated having a personal touch, which established trust between older adults and health care practitioners.[82] Providers who failed to listen fully to older adults concerns, or regarded older adults as not knowing anything, resulted in lack of trust.[82] Older adults who felt their providers were being thorough in their care and following up on areas of concern, facilitated increased feelings of trust towards health care providers.[82] In the present study, participants who had established a relationship with their dental practitioners whom they trusted were routine users of oral health care services. Participants whose visits were accompanied with hugs, humor and comfort established trust, which laid the foundation for a relationship over a lifetime.

Social responsibility and affordability. Yao and MacEntee asserted that reducing inequity in oral care is a form of social responsibility and obligation to act for the benefit of the society as a whole.[15] Older adults in the present study also shared feelings of obligations to act for the benefit of a society as a whole. Older adults in the present study believed that it was their responsibility to pay a certain portion for oral health services for the collective good. While participants asserted high dental costs, concealed dental costs, they didn't have the expectation of free dental care. Rather older adults believed that paying a portion would help maintain the functioning of oral health services and benefit all Canadians. This novel concept was not found in previous literature, rather a study by Borrenai et al.[25] found that older adults indicated that dental care should be free to remove the barrier of affordability. Edmonton community dwelling older adults did not share these feelings, rather they believed in the importance of paying a portion for oral health services for the collective good. Previous studies[25,33,37,38] examining older adults experiences have indicated the delivery of oral health care varies from publically government-funded services to a combination of both private and publically funded services. This finding may not be found in previous research due to the privatization of delivering oral care in Edmonton, where most of the older adults are accustom to paying a portion of the oral care costs.

Older adults included in this present study had a form of insured benefits that resulted in them paying a portion of oral health care costs. While they were accustomed to paying a portion for oral care they discussed the high dental expenditures that resulted and the limited coverage provided from insurance companies similar to a study conducted by Slack-Smith et al.[33] While older adults mentioned expensive dental care, this was not a true barrier in seeking care as the majority of older adults in this study continued to routinely seek care. The lack of transparency

surrounding dental costs was the true barrier that caused older adults to become frustrated with their oral health practitioner and led to avoidance of professional oral care. Older adults did not understand the costs of dental treatment and wanted the costs of oral health to be clear allowing them to make informed decisions about their health. Older adults commented on dentists performing dental treatment for sole purpose of economic profit, resulting in distrust towards oral health practitioners. These views are aligned with a study conducted by Reid et al.[83] where researchers found the greatest gap between patients' expectations of ideal behavior demonstrated by dentists and their impressions of actual dentists' behavior centered on the concept of trustworthiness. Patients felt an ideal dentist would propose necessary dental treatment whereas, patients indicated that in reality dentists proposal of dental treatment was motivated by self-interest and economic benefits.[83] The lack of information on oral health costs left older adults in the dark and questioning the delivery of oral health services. It is imperative that more transparent information on oral health care fees and costs be disclosed. According to the Alberta Dental Association and College[84], dentists have a duty to assess and inform the patient of treatment and non-treatment options available including the significant risks and potential costs of these options. In the present study, participants did not feel they had enough information on dental costs and this left them frustrated. In order to create a transparent delivery of dentistry, oral health practitioners need to uphold the principle of beneficence, promoting health in patients and informed choice.

Interrelationships of Oral Health

Oral health is key to survival. Older adults held a holistic perspective towards health and considered the mouth and body as interconnected entities; if the mouth was healthy, in turn the body was healthy. Older adults associated the mouth as key to gaining nutrition, chewing, tasting

of food and in turn, the key to survival. These findings are similar to a qualitative study by MacEntee et al.[43]: older adults identified a sense of holism between oral health and general health. A few older adults believed that general health influenced oral health and that proper nutrition improved dental health and if general health failed, dental health would suffer consequently.[43] Similar to MacEntee's study, in the present study, older adults viewed the mouth as key to their survival, and acknowledged that a reciprocal relationship existed between the body and mouth**.** Oral health has been identified as an integral component of general health, whereby poor oral health diminishes overall general health and quality of life.[4]

Implications of dental status on oral health. The majority of the participants included in this study wore either complete or partial dentures and discussed the implications of wearing dentures on chewing, food choices, and appearance. It was evident that wearing dentures resulted in feelings of loss and unhappiness. A range of views among denture wearers existed. For some people, dentures were viewed negatively; others grieved the loss of their teeth; and for a few they were able to adjust to their dentures over the years. Previous research indicated that older adults who wore dentures also held negative perceptions of their dentures and regretted the loss of their teeth.[41] Researchers have also noted that having an attitude of hope in keeping teeth throughout one's whole life is strongly related to having better oral health self-perception.[51] Previous research found older adults who retained their natural teeth expressed feelings of pride because they felt maintenance of natural teeth signified oral health.[33,41] These findings were comparable with the present study, where participants with natural teeth indicated that natural teeth indicated an absence of disease and infection in both the mouth and body. Giddings et al.[40] found that older adults talked about their natural teeth and mouth appearing aged and old like their overall physical self, but that was representative of their authentic self and that was important. This

concept emerged in interviews in this present study whereby a participant had his dentures fabricated to look like his natural teeth that were extracted to avoid the appearance of false teeth.

Older adults reported avoiding eating hard foods and modifying food choices to prevent breaking their dentures similar to findings reported in other studies.[42,43,45] Referring back to Baltes and Baltes[62] theory of successful aging, SOC strategies were also used by participants when confronted with a changing dental status. Denture wearers described how they adapted to their dentures over time and made modifications in food choices and chewing. Participants stated that their goal was to be able to chew adequately and compensated for their loss of natural teeth by cutting their food into smaller pieces or avoiding hard foods such as meats. The SOC model of successful aging has applications in studying oral health across a lifetime; future research could use this theory to gain a deeper understanding of oral health in seniors.

Given the differences in dentate status, data didn't indicate an observable pattern of utilization related to dentate status. A previous study indicated that dentate older adults are more likely to visit an oral health professional and some older adults expressed the belief that edentulous individuals do not need to attend the dentist.[33] In the present study, dental status did not determine whether participants sought dental care. While those with their natural dentition were routinely utilizing dental services, their utilization stemmed from the value they placed on oral health. Participants who were symptomatic attendees attributed their lack of care to other factors such as: maintaining established utilization patterns from childhood; maintaining autonomy; neglecting oral care due to poor health status; and lacking an understanding of the importance of routine oral care.

Utilization of oral health services in relation to health services. In this present study, older adults who visited an oral health professional also visited health practitioners in other

disciplines on a routine basis. There was a relationship indicating that those who sought care from an oral health professional were likely to visit another professional linked to the level of importance they place on their health and general health. Participants who visited both oral and other health professionals, such as a general practitioner, audiologist, or rheumatologist, stated the importance of seeking care for overall health. Contrary, participants who visited a health professional occasionally were not seeking care from an oral health professional. Some participants who were not routine users of oral health care services felt other aspects of health were deemed more important. It would be valuable to understand whether a relationship exists between oral health service utilization and general health utilization.

Sabbah and Leake[23] conducted a comparative study identifying the determinants of utilization of dentists, and how determinants compared to determinants of visiting primary care physicians. This study examined the rate of dental and physician visits based on data from the 1994 Canadian National Population Health Survey.[23] The study found decreasing levels of general health increased the proportion of people visiting a physician but decreased visits to dentists.[23] Similarly, needing help with activities of daily living reduced visits to dentists for seniors but increased the probability of visits to physicians.[23] This was found to be true with one participant who was wheelchair bound and had home care services helping with activities of daily living. He was not using oral care services symptomatically or routinely and attributed this to restrictions in his health status. Furthermore, Sabbah and Leake[23] found that respondents who ranked their general health as good to excellent in turn increased the probability of visiting a dentist.[23] Participants in the current study who felt their overall health was healthy were in fact routine users of oral health services. Leake and Sabbah's[23] study is the single comparative study conducted in Canada, but it is based on dated national data. Unfortunately, the Canadian

National Population Health Survey examining dental utilization no longer exists and therefore, no national data exists on health utilization patterns of Canadians. The study didn't specifically examine the relationship between visiting an oral health professional and a general practitioner or other health practitioners. More research is needed to determine whether a relationship between these two variables exists in order to identify interdisciplinary interventions that can help encourage older adults to seek oral care services.

Implications for Practice

An important purpose of the present study is to inform clinical practice when delivering oral care to older adults. Oral health practitioners should establish a collaborative relationship with older adults when delivering oral health care. It is imperative that older adults be involved in treatment decisions to help aid in creating a trustful relationship. Moreover, oral health practitioners should be conscious of oral health literacy in older adults. Community dwelling older adults form a diverse cultural mosaic and cultural beliefs will play a role in oral health and understandings. Given, that participants included in the present study were comprised of immigrants, oral health professionals need to be culturally competent. Education institutions need to promote teachings of cultural competence for oral health professionals in order to promote client centered care for older adults.

The scope of the dental hygiene profession varies across each province and territory in Canada. In eight provinces, dental hygienists have gained the ability to open independent practices where dental hygienists are able to deliver mobile dental hygiene services to vulnerable populations, including elderly in the community, long-term care institutions and rural settings. The provision of mobile dental hygiene services helps promote oral health in older adults however, at the same time this creates inequities in oral health in elderly since not all jurisdictions across Canada allow dental hygienists to practice independently. Dental hygienists

need to continue to advocate for more continuity in the scope of the dental hygiene profession across Canadian jurisdictions to allow dental hygienists to promote access to oral health care for older adults and other vulnerable populations. Furthermore, dental hygienists should continue to advocate for this vulnerable population and work with both provincial and national governments and organizations, such as Alberta Health Services, Government of Canada, Canadian Association of Public Health Dentistry, to create tax incentives for dental hygienists or dentists providing mobile oral health services to serve older adults in community settings.

Implications for Policy

In Canada, variation exists in the oral health programs available for older adults across the provinces and territories.[85] Provincial governments determine which public oral health programs will be funded for select population groups. The first call for action to policy makers is to support and fund more research investigating oral health of older adults. As mentioned earlier, the Canadian Health Measures survey reported national baseline data, but there was no collection of oral health data of those above age 79. The need for future national surveys and data collection of oral health needs of this population is needed to build more evidence-based knowledge.

Currently, The Canadian Oral Health Framework[85] of 2013-2018 has established goals and strategies to improve the oral health status of Canadians. One of the current goals of the Canadian Oral Health framework is to ensure "good access to oral health services for seniors and particularly those residing in long-term care facilities who have difficulty accessing the private system" (p14).[85] It also strategizes to reimburse preventive and treatment services for residents of long-term care (LTC) facilities. Yet, these goals do not focus on community dwelling older adults and rather prioritize older adults living in long-term care institutions. Oral health

professionals need to encourage the Canadian Association of Public Health Dentistry to place an equal priority on both community dwelling and institutionalized older adults in future development of frameworks and oral health initiatives.

The second call for action to policy makers is to offer oral health services as part of interdisciplinary care, such as at Adult Day Support Programs. Currently, Alberta Health Services Adult Day Support Programs include nurses, physiotherapists and occupational therapists as part of interdisciplinary care teams that older adults can access. The inclusion of oral health professionals could play an integral role in reducing the barriers to oral health experienced by older adults. Inclusion of oral health professionals at facilities such as, Adult Day Support Programs would help reduce the dependence on family caregivers for transportation. In turn, this could help reduce feelings of being a burden on loved ones given that there would be no need to coordinate with their schedules. Additionally, direct access to oral health professionals at these facilities would create consistency with the practitioners who older adults sought care from. Consistency of oral health practitioners could ease the development of rapport between older adults and oral health practitioners and create a relationship built on trust. Oral health professionals need to highlight the inequities of oral health in Canadians and inform elected representatives to create more equitable programs that target vulnerable populations. Offering subsidized oral health services to older adults in Day Programs can reduce the barrier of affordability and older adults depending on family caregivers for transport to oral health appointments.

Another action for policy makers is to mandate dental offices to create dental fee guides outlining transparent costs of services that are accessible to older adult patient groups. This

information will allow older adults to make informed decisions about oral health services and reduce the experiences of frustration and skepticism towards dentistry that are currently held.

Study Limitations, Future Directions, and Conclusion

Despite the contribution of this study, it is important to bring attention to study limitations in understanding the depth of oral health experiences in community dwelling older adults. Firstly, the participants in the present study all had some form of dental insurance. While this was not the intent of the study, given the nature of the sampling strategies, readers are encouraged to consider the transferability of the findings relative to older adults who have no dental insurance. Going forward, it is important that research includes older adults who do not have dental insurance in comparison with those who possess dental insurance in order to effectively understand the perspectives and oral health experiences of the older adult population.

Data were collected from three settings that offered health promotion and interactive activities for older adults. Thus, participants included in the present study were relatively active and engaged in health seeking behaviours, skewing findings differently from older adults who may not be as active. The present study sampled older adults in a retirement centre and institutions that offered older Adult Day Support Programs; this was a strategy intended to aid in the access to older adults. Future research should involve sampling strategies that target older adults in settings that do not offer health promotion services: for example, shopping malls, coffee shops, grocery stores and in their own homes. Older adults recruited from their own home may have health and mobility issues, time constraints and familial responsibilities. Consequently, they may experience different facilitators and barriers to oral health compared to participants in the present study who accessed social programs outside their own home. Recruitment of older adults in settings that do not promote health such as, shopping malls and coffee shops may lead to

differences in health seeking behaviours compared to participants included in this present study. Furthermore, older adults were sampled in Edmonton; future research should conduct qualitative investigations in rural communities to gather perspectives of older adults often underrepresented in the literature.

Thirdly, the sample in the present study targeted only English speaking immigrants, therefore, immigrants who cannot speak English were excluded. Given that Edmonton is a multi-cultural city, a future direction would be to gain perspectives of non-English speaking immigrant older adults and conduct interviews in their native languages to gain a broader perspective. It is also important to recognize that the present study generates future research questions to explore from a qualitative perspective. To enhance the trustworthiness of the present study, it is recommended that both qualitative and quantitative investigations at both the local and national level be completed to gain a diversity of older adults perspectives. Focus group discussions with older adults in other communities using vignettes centering on participants' oral health experiences highlighted in this present study could help expand understandings of facilitators and barriers. A longitudinal cohort study would be important to understand the implications of cohort on oral health. With political and societal changes and new dental advances such as, implant technology, it would be important to note the implications of cohort on oral health experiences of older adults. A prospective cohort study following the baby boomer cohort over time who differ in terms of ethnicity, country of birth, date of immigration could further advance understandings of contextual factors impacting oral health. This would have important implications in the future, as the baby boomer cohort is aging and health care professionals need to be equipped with strategies to meet the health needs of this group.

The present study answered important questions concerning older adults' oral health experiences through their lifetime and to determine how utilization of oral health services compares to the utilization of other health care services. It is clear that the reasons older adults fail to seek routine oral health care are multi-faceted and stem from influences over their life course. Going forward, reforms and additions to existing oral health practice and policy are needed to help improve the oral health of a growing demographic of Canadians.

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Appendix A INFORMATION SHEET FOR PARTICIPANTS

Principal Investigator (PI): Dr. Sharon Compton
Co-Investigator: Kimi Khabra

Project: Oral Health in Community Dwelling Older Adults

Background:

Oral health influences a person's ability to taste, chew and swallow food. It helps people to speak and smile for communication and social interactions. As aging occurs, research shows older adults experiencing poor oral health. More older adults are staying independent and keeping their teeth for a longer time. As older adults remain in their own home, they will take care of their daily mouth care. As a person ages, there are collective effects of oral diseases and conditions, posing other health problems. Oral health in community dwelling older adults is a concern for the dentist and dental hygienist due to the link between oral health and overall health. The aim of this research study is 1) To understand the oral health experiences of community dwelling older adults, and 2) To identify facilitators and barriers to good oral health. This research study involves one interview with questions about thoughts, feelings, situations, events, places and people connected with your oral health experiences

Purpose:

The purpose of this research study is to better understand your oral health experiences. You are being asked to participate in this project because you are an English speaking adult, aged 70 years and above and are residing in a community dwelling in Edmonton.

Procedures:

Participating in this study will involve:

a. One in-person interview, conducted by a Registered Dental Hygienist. The interview will be approximately 60 minutes and will be recorded on an audiotape for purposes of the research analysis.

b. Interviews will be conducted in a private room at the facility which you attend. Upon conclusion of the interview, you will be asked whether you are willing to attend a follow-up session once the research analysis is complete.

c. Upon completion of the research analysis you may be contacted at a later date for a follow-up session. This session will involve the Registered Dental Hygienist sharing the research findings and determining whether they correspond with your experiences and views. This session will be approximately 30-45 minutes in length and conducted at the same facility the research interview was held. Information gathered from this session will be included a part of the final compilation of research findings.

d. At any point, you are free to withdraw or modify your participation in this research study.

Possible Benefits:

The potential benefit of this research is to contribute to a larger understanding of oral health for older adults. There are no immediate benefits to you for participating in this study.

Possible Risks:

There are no identified risks with your involvement in the project.

Confidentiality:

No personal information about you will be attached to the data that I collect for the study. Your full name, telephone number or email address, place of birth, date of birth will be gathered from you during the interview and recorded on a master form. This form will be stored in a secure, locked cabinet in the office of the PI located in 5-555 Edmonton Clinic Health Academy building at the University of Alberta. This information will be gathered in order for the researcher to contact you for a follow-up session after the interview. Your name and personal information collected will not be disclosed. Any report published as a result of this study will not identify you by name.

The records will not include any personal identifiers for any person involved in this study. The Co-Investigator on this project will explain confidentiality to the person who transcribes your interview, and this transcriber will be required to sign a confidentiality form indicating they clearly understand the terms of confidentiality as per University of Alberta guidelines. The interview transcripts will be given a number code, known only to the Co-Investigator.

The research data (including interview transcripts) will be stored in locked cabinets in the office of the PI located in 5-555 Edmonton Clinic Health Academy building at the University of Alberta. The original data will remain in locked storage for the mandatory five year time period following data collection. After this time period, all data collected (name, date and place of birth, age of participants, interview transcripts, researcher reflexive notes, member checks) will be disposed according to the protocol for shredding of confidential materials at the University of Alberta.

Voluntary Participation:

You are free to withdraw from the research study at any time during the research study and your status will not be affected in any way. Study procedures are estimated to cease on June 30, 2015. In the instance, you want to withdraw your participation in this study, please notify the Co-Investigator prior to this date and all records of your participation will be removed. If the study is not undertaken, or if it is discontinued at any time, you will not be affected. If any knowledge gained from this or any other study becomes available which could influence your decision to continue in the study, you will be promptly informed.

Contact Names and Telephone Numbers:

If you have concerns about your rights as a study participant, you may contact the Research Ethics Office at (780) 492-2615. This office has no affiliation with the study investigators.

Please contact the individuals identified below if you have any questions or concerns:

Kimi Khabra
MSc (Medical Sciences) Graduate Student
Dental Hygiene Program, Department of Dentistry
Faculty of Medicine & Dentistry
University of Alberta
780 909-7996 (24 hour call)
kimi@ualberta.ca

Dr. Sharon Compton
Professor & Director
Graduate Student Supervisor
Dental Hygiene Program
Faculty of Medicine and Dentistry
University of Alberta
780 492-6331
scompton@ualberta.ca

Appendix B CONSENT FORM FOR PARTICIPANTS

Title of Project: Oral health in community dwelling older adults

Principal Investigator: Dr. Sharon Compton **Phone Number**: (780) 492-6331

Co Investigator: Kimi Khabra

	Yes	No
Do you understand that you have been asked to be in a research study?	☐	☐
Have you read and received a copy of the attached Information Sheet?	☐	☐
Do you understand the benefits and risks involved in taking part in this research study?	☐	☐
Have you had an opportunity to ask questions and discuss this study?	☐	☐
Do you understand that you are free to withdraw from the study at any time, without having to give a reason?	☐	☐
Has the issue of confidentiality been explained to you?	☐	☐
Do you understand who will have access to any information you provide?	☐	☐

Who explained this study to you? _____

I agree to take part in this study: YES ☐ NO ☐

Signature of Research Subject _____

(Printed Name) _____

Date:_____

Signature of Witness _____

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

Signature of Investigator or Designee_____ Date _____

THE INFORMATION SHEET MUST BE ATTACHED TO THIS CONSENT FORM AND A COPY GIVEN TO THE RESEARCH SUBJECT

Appendix C Confidentiality Agreement

Title of Project: Oral health in community dwelling older adults

I, _____the transcriber have been hired to _____

I agree to -

1. keep all the research information shared with me confidential by not discussing or sharing the research information in any form or format (e.g., disks, tapes, transcripts) with anyone other than the *Researcher*.
2. keep all research information in any form or format (e.g., disks, tapes, transcripts) secure while it is in my possession.
3. return all research information in any form or format (e.g., disks, tapes, transcripts) to the *Researcher* when I have completed the research tasks.
4. after consulting with the *Researcher,* erase or destroy all research information in any form or format regarding this research project that is not returnable to the *Researcher* (e.g., information stored on computer hard drive).
5. other (specify).

_____	_____	_____
(Print Name)	(Signature)	(Date)

Researcher

_____	_____	_____
(Print Name)	(Signature)	(Date)

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by Research Ethics Board *(specify which board)* at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Appendix D Oral Health in Community Dwelling Older Adults: Qualitative Research Study Interview Guide

Introductory Script

Thank you for agreeing to participate in my study. All your answers are completely confidential and your name will not be shared or included in any reporting. All narratives will be assigned a pseudonym (different name/code name) and be combined with other narratives. This information will be used to understand the oral health experiences of older adults in the community of Edmonton.

I am asking participants to allow recording of interviews so I can accurately capture your experience in your own words. You are free to ask for the audio-recorder to be turned off at any point during the interview, and notify me if you would like any statements removed from the data. The interview will be approximately 60 minutes in length. All interviews will be transcribed and all names and locations will be coded to protect your identity and privacy. Do you have any questions before we begin?

1. Describe your current oral health practices. (How do you currently take care of your teeth and mouth?)

   Probes: Has anyone demonstrated to you how to take care of your teeth?
   Do you need help with taking care of your teeth and mouth?

2. Describe how you feel about your mouth? What do you understand as a healthy mouth and teeth?

   Probe: Can you tell me more why you chose these words to describe your feelings? Have your feelings about your mouth changed as you have aged?

3. How important is oral health to you?

   Probes: Is this different than how you feel about your general health? How important are natural teeth?

4. Tell me about going to a dentist, dental hygienist, denturist or another dental professional?

   Probes :How often do you go? Why do you go? Do your feelings differ depending on the dental professional you see? Can you describe a good experience? Can you describe a bad experience? Tell me about your most vivid memory with a dental hygienist, dentist or other dental professional. What makes this is a memorable experience compared to other experiences?

5. Describe your dental experiences when you were a child, young adult, adult, and older adult.

Probes: Is your experience with your (dentist, dental hygienist, denturist) better, worse or the same as it was when you were younger? Have your experiences as an older adult predominately been in Edmonton? In your experience, is there a difference in the quality of dental treatment between here in Canada, and back in _____?

6. I would like to know about any situations, circumstances, and people that help or prevent you from visiting a dental professional.

   Probes: How do you feel about that? What do you feel can be done to change those circumstances? Why have you not seen a dentist and or dental hygienist? [Specific probes: Any fears? Other priorities? Treatment by office staff? Relationship with dental professional? Affordability? Family?

7. Describe your overall health and wellness. How does your mouth health relate to your overall well-being and your life?

   Probes: Do you make any different decisions because of the condition of your mouth? Specific probe: Has oral health caused physical or emotional pain?

8. What would it take for you to continue to see your dentist or dental hygienist?

   Probes: What do you like about your dental care setting? What don't you like? What can be improved? What would help you come back for dental services?

9. Is there anything else that you would like to share about your oral health that you think would be helpful for me to know that we haven't discussed?

Concluding Remarks

Would you be willing to attend a follow up session to discuss findings from the research study once all interviews with all participants are completed? This follow-up session will be held within the next 3-4 months and prior to June 2015. This session will be held at this same location and approximately the same length of duration or shorter. If you are interested, I will be contacting you at a later point to arrange a convenient day and time for this session.

Thank you. It was a privilege to have you take time out of your day and share your experiences with me and enrich my learning. I hope that this research will help other seniors. If you have any questions or concerns with this study, please don't hesitate to contact me.