# Homebound Seniors' Experiences with Home-Based Oral Healthcare Services: A Qualitative Study

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# DEDICATION

To my parents, Ajay Akade and Sonal Akade, for their unwavering love and sacrifices that has shaped me into the person I am today.

To my uncle Samir Jariwala, whose support, guidance and encouragement has always inspired me to persevere.

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# ABSTRACT

## Background

The demographic shift, with the growing rise of Canadians seniors, poses significant challenges for the healthcare system, which struggles to meet seniors' oral health needs. Yet, oral health is essential to seniors' overall health and healthy aging. This neglect has led to persistent disparities in access to oral healthcare among seniors, exacerbated by complex and multilevel barriers stemming from personal, organizational, and systemic factors. To address this gap, the integration of oral health care into primary care using portable equipment has emerged as a promising alternative to enhance access to care. Based on this knowledge, an interdisciplinary team implemented the home-based oral healthcare project called "Dent Ma Maison" (DMM). However, the perspectives of homebound seniors with DMM are still underexplored, limiting the evidence on its ability to meet their needs and to align with their realities.

## Objectives

1. To understand the perceptions and perspectives of homebound seniors with home-based oral healthcare services.
2. To identify potential areas for improvement in the delivery of home-based oral healthcare services for homebound seniors.
3. To build on both previous objectives, we will develop recommendations to inform the spread of home-based oral healthcare services in Quebec.

## Methodology

A qualitative design with an interpretive description methodology was conducted to generate findings that can inform clinical practice and decision making. A purposive sampling strategy was used to select "information-rich" patients. The study participants who received oral healthcare services under the Dent Ma Maison project were invited to participate in the study if they met the inclusion criteria. The informal caregivers of seniors with severe cognitive impairments served as proxies for the interviews. The study participants were required to communicate in French or English. Data was collected using semi-structured, telephonic, individual and dyadic interviews between June 2023 and November 2023, as well as a sociodemographic questionnaire. Each interview lasted up to 45 minutes. Data collection and analysis were conducted simultaneously

and continued until saturation was achieved. Data were analyzed using descriptive and thematic data approaches. The Standards for Reporting Qualitative Research (SRQR) criteria for reporting qualitative studies have been followed.

**Results**

A total of eleven interviews (8 Female, 3 Male, mean age: 69.5 years) were conducted. For seniors with severe cognitive impairments, their informal caregivers (n = 6) served as their proxies for the interviews. From the pool of participants, there were English speaking individuals (n = 6) and French speaking individuals (n = 5). The study had participants from indigenous and visible minority (n = 7). Three overarching were reported as follows: oral healthcare hurdles faced by seniors, appreciation for home-based oral healthcare services, and enhancing home-based oral healthcare. All the participants expressed a positive experience with the services they received in their living environment. Additionally, they provided recommendations for the scale up of home-based oral healthcare in other regions of Quebec.

**Conclusion**

The findings highlighted the feasibility and the relevance of home-based oral healthcare in overcoming barriers faced by homebound seniors in accessing oral health care. The study participants' positive feedback, as well as their insights on key areas of improvement are valuable to inform clinicians and decision-makers in the implementation and the spread of this innovative care model to better address the specific oral health needs of homebound seniors. Our findings provide insights into strategies to address the unmet oral healthcare needs of individuals with cognitive impairments and/or reduced mobility, who are unable to visit private dental offices, an issue that has yet to be considered in the Canadian Dental Care Plan (CDCP).

# RÉSUMÉ


**Contexte**

Le changement démographique, avec l'augmentation accélérée du nombre d'aînés au Canada, pose des défis importants au système de santé, qui peinent à répondre aux besoins des aînés en matière de santé buccodentaire. Pourtant, la santé buccodentaire est essentielle à la santé générale des aînés et au vieillissement en santé. Cette négligence a entraîné des disparités persistantes en matière d'accès aux soins buccodentaires chez les personnes âgées, exacerbées par des obstacles complexes et multiniveaux découlant de facteurs personnels, organisationnels et systémiques. Pour combler cette lacune, l'intégration des soins buccodentaires dans les soins primaires à l'aide d'équipements portatifs est apparue comme une alternative prometteuse pour améliorer l'accès aux soins. S'appuyant sur ces connaissances, une équipe interdisciplinaire a mis en œuvre le projet de soins buccodentaires à domicile appelé Dent Ma Maison (DMM). Cependant, les perspectives des aînés confinés à domicile à l'égard de la DMM sont encore sous-explorées, ce qui limite les données probantes sur sa capacité à répondre à leurs besoins et à s'aligner sur leurs réalités.

**Objectif**

1. Comprendre les perceptions et les perspectives des aînés confinés à domicile qui ont reçu des soins et services de santé buccodentaire à domicile.
2. Déterminer les pistes potentielles d'amélioration dans la prestation des soins et services de santé buccodentaire à domicile chez les aînés confinés à domicile.
3. Prenant appui sur les deux objectifs précédents, nous élaborerons des recommandations pour éclairer la mise à l'échelle des soins et services de santé buccodentaire à domicile au Québec.

**Méthodologie**

Une étude qualitative avec une méthodologie descriptive interprétative a été réalisé pour générer des résultats qui peuvent éclairer la pratique clinique et la prise de décisions. Une stratégie d'échantillonnage intentionnel a été privilégie pour la sélection des participants « riches en information ». Les participants à l'étude qui ont reçu des soins et services de santé buccodentaire dans le cadre du projet Dent Ma Maison ont été invités à participer à l'étude, s'ils répondaient aux critères d'inclusion. Les proches-aidants des aînés ayant des troubles cognitifs graves ont servi de substituts pour les entrevues. Les participants à l'étude devaient être capables de communiquer en français ou en anglais. Les données ont été recueillies à l'aide d'entrevues semi-structurées,

téléphoniques, individuelles et dyadiques entre les mois de juin et novembre 2023, ainsi que d'un questionnaire sociodémographique. Chaque entrevue a duré jusqu'à 45 minutes. La collecte et l'analyse des données ont été menées simultanément et se sont poursuivies jusqu'à ce que la saturation soit atteinte. Les données ont été analysées à l'aide d'approches descriptives et thématiques. L'étude a été présentée en suivant les critères de rigueur les lignes directrices SRQR (*Standards for Reporting Qualitative Research)* pour la présentation des études qualitatives.

**Résultats**

Au total, onze entrevues (8 femmes, 3 hommes, âge moyen : 69,5 ans) ont été menées. Pour les aînés ayant des troubles cognitifs graves, leurs proches-aidants (n = 6) ont servi de substituts pour les entrevues. Parmi les participants, il y avait des personnes anglophones (n = 6) et des personnes francophones (n = 5). De plus, certains participants se sont auto-déclarées comme des personnes issues des communautés autochtones et de minorités visibles (n = 7). Trois thèmes généraux ont été identifiés comme suit : les obstacles en matière de santé buccodentaire auxquels font face les aînés, l'appréciation des soins et services buccodentaires à domicile, et les pistes d'amélioration des soins et services buccodentaires à domicile. Tous les participants ont exprimé une expérience positive avec les soins et services qu'ils ont reçus dans leur milieu de vie. De plus, ils ont formulé des recommandations pour l'expansion du projet de soins et services buccodentaires à domicile dans d'autres régions du Québec.

**Conclusion**

Les résultats ont mis en évidence la faisabilité et la valeur des soins buccodentaires à domicile pour surmonter les obstacles des aînés confinés à domicile avec l'accès aux soins buccodentaires. Les commentaires positifs des participants à l'étude, ainsi que leurs perspectives des pistes d'amélioration, peuvent éclairer les cliniciens et les décideurs pour la mise en œuvre et la mise à l'échelle de ce modèle novateur de soins, afin de mieux répondre aux besoins uniques en matière d'accès aux soins buccodentaires des aînés confinés à domicile. Nos résultats apportent un éclairage sur les stratégies visant à combler les besoins non`comblés en matière d'accès aux soins et services buccodentaires des personnes ayant des troubles cognitifs et/ou une mobilité réduite, et qui ne peuvent pas accéder aux cliniques dentaires privés, une question qui doit être prise en compte dans le Régime canadien de soins dentaires (RCSD).

# CONTRIBUTION OF AUTHORS

**Grusha A. Akade,** MSc. Candidate, Faculty of Dental Medicine and Oral Health Sciences, McGill University, Montreal, Quebec, Canada: carried out interviews, conducted data analysis, interpreted findings and wrote manuscript and thesis.

**Dr. Pascaline Kengne Talla,** Assistant Professor, Faculty of Dental Medicine and Oral Health Sciences, McGill University, Montreal, Quebec, Canada: Primary supervisor of the candidate, conceptualized the study, contributed to data collection, data analysis, data interpretation and writing.

**Dr. Elham Emami,** Professor, Faculty of Dental Medicine and Oral Health Sciences, McGill University, Montreal, Quebec, Canada: Co-supervisor of the candidate, conceptualized the study, contributed to data analysis, data interpretation and writing.

# LIST OF ABBREVIATIONS

- AHRQ: Agency for Healthcare Research and Quality
- AHS: Alberta Health Services
- CCOMTL: Integrated University Health and Social Services Centre – West-Central Montreal
- CCSMTL: Integrated University Health and Social Services Centre – South-Central Montreal
- CDCP: Canadian Dental Care Plan
- CHMS: Canadian Health Measures Survey
- CHSLD: Centre d'hébergement et de Soins de Longue Durée
- COHS: Canadian Oral Health Survey
- DDC: Domiciliary Dental Care
- DMFT: Decayed, Missing and Filled Teeth index
- DMM: Dent Ma Maison
- HA: Healthy Ageing
- HCAHPS: Hospital Consumer Assessment of Healthcare Providers and Systems
- HBOHC: Home-based Oral Health Care
- LTCF : Long Term Care Facilities
- NHS: National Health Service
- OHRQoL: Oral Health Related Quality of Life
- OSDCP: Ontario Seniors Dental Care Program
- POHC : Primary Oral Healthcare Approach
- PX : Patient Experience
- PREMS: Patient Reported Experience Measures
- PQSBSH: Programme Québécois de Soins Buccodentaires et de Soins D'hygiène quotidiens de la bouche en CHSLD
- SHA: Saskatchewan Health Authority
- WHO: World Health Organization

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**For Manuscript:**

# CHAPTER 1: INTRODUCTION

Over decades there has been a global rise in the aging population, of key relevance to the issue of healthy aging.[1] According to the World Health Organization (WHO), in 2019, the number of people aged 60 years and older was 1 billion.[2] This population is expected to rise to to 2.1 billion, 22% of the global population by 2050.[2] This demographic shift presents unprecedented social and economic challenges to the society, putting significant pressure on healthcare systems that are unable to cater to the healthcare needs of the aging population, including oral health needs.[3]

Oral health is essential to seniors' overall health and healthy aging.[4, 5] Studies have shown that seniors are living longer and retaining more of their natural teeth.[6] The change could bring important benefits in terms of nutrition and general wellbeing, but it could also bring with it a great deal of dental diseases and the need for complex care.[7] However, disparities in oral health outcomes and access to oral healthcare are more pronounced among seniors compared to other population subgroups.[8] Depending on their living arrangements, whether at home or in long-term care facilities, seniors face significant oral healthcare disparities due to complex and multilevel barriers stemming from personal, organizational, and systemic factors.[9-12] For instance, physical and cognitive conditions, low perceived value of oral health,[9, 12] healthcare providers' attitudes toward oral health,[11] shortage of qualified dental professionals,[11] uneven geographical distribution;[10] unattractive compensation models,[10] and ageism[11] influence their equitable access to care. Common oral health diseases and conditions such as root caries, periodontal conditions, partial tooth loss, and dry mouth complexify the existing chronic diseases and comorbidities, affecting their quality of life and wellbeing.[13] Poor oral health outcomes have impacts as avoidable adverse events and hospitalizations, as well as increased costs that negatively impact the sustainability of healthcare systems.[13, 14] As a result, it is crucial to develop and implement innovative solutions to strengthen healthcare delivery systems for patient-centered care[3, 15] and to achieve the quintuple aim: enhancing patient experience, improving population health, reducing costs, promoting workforce wellbeing, and advancing health equity.[16]

Effective and efficient care for seniors requires integration oral health into primary care, along with the contribution of multidisciplinary stakeholders as members of community organizations, decision makers, patients' partners, clinicians and caregivers.[3, 14] With the growing focus on

"healthy aging"[17] and "aging at home,"[18] an equitable oral health system integrating the delivery of oral health in the living environment represents the future of dental practice for seniors.[19, 20] This alterative model of care offers a promising approach to ensuring timely, person-centered oral healthcare by delivering the right services to the right individuals, at the right time and place, by the appropriate healthcare professional.[4, 21]

In partnership with an interdisciplinary team of policymakers and decision makers, a research team from the McGill University Faculty of Dental Medicine and Oral Health Sciences has developed and implemented home oral healthcare services in two Quebec health institutions. This integrated oral healthcare project, called "Dent Ma Maison" (DMM), offered free of charge preventive and curative oral care services to seniors over 65 years with loss of autonomy in their living environment.

Despite the anticipated benefits of this innovative project in terms of access and continuity of care, along with their wellbeing, it remains unclear whether and how home-based oral healthcare is respectful of and responsive to seniors' needs, realities and values. Therefore, the project aims to understand the experiences of homebound seniors with the Dent Ma Maison Project.

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# CHAPTER 2: LITERATURE REVIEW

## 2.1 Aging

### 2.1.1 Epidemiology

The population of Canadians aged 65 years and older has been increasing from to 6.6 million (17.5%) in 2019 to 7.8 million (18.9%) in 2024.[22, 23] By 2040, this number is projected to reach 10.7 million, which will be approximately 25% of the total population.[22] Among seniors, people aged 85 years and over totalized 0.9 million, representing 2.4% of the total Canadian population in 2021.[24] This proportion is expected to triple in the next 25 years to comprise 2.5 million people in 2046.[24]

Canadian seniors are a diverse population group.[22] The proportion of females is seen to be higher in all the age groups above 65 years (65–74 years, 75–84 years, above 85 years).[22, 24] In 2017–2018, the percentage of seniors from different ethnic and cultural backgrounds were about 12.3% (East and South Asians, Arabs, Blacks, Latin Americans).[22] Almost one third (28.5%) of seniors were reported to be landed immigrants.[22] Approximately 1.9% of seniors are self-identified as Indigenous, including First Nations, Metis or Inuit.[22] Regarding living conditions, most Canadian seniors (92.1%) resided in private dwellings;[22] and among this cohort, 27.9% lived alone, while 72.1% lived with their partners, children or relatives.[22]

Many Canadian seniors were seen to be experiencing chronic diseases, with 37% of them having at least two of the top ten most common chronic diseases such as hypertension (83.4%) and osteoarthritis (54%).[22] More than half of seniors (52%) were affected with moderate to severe periodontal diseases.[25] The common reasons for disabilities among seniors aged 65 and older were issues related to pain (68%), mobility (63%), and flexibility (59%).[26]

In Quebec, the population of seniors aged 65 years and over has increased from 7% in 1971 to 20.2% in 2021, reaching 1.75 million.[27, 28] This number is projected to rise to 2.2 million (26%) in 2031.[27] According to Statistics Canada, Quebec has a higher percentage of seniors (85+) compared to other provinces.[24] Similar to the national level, the percentage of female seniors was higher than male seniors,[29] and increased with age from 51% for 65–74 years, to 64% for those aged 85 and older.[29] Regarding sexual orientation, 1.1% of seniors aged 65 and older in Quebec identified as homosexual and 1.1% as bisexual in 2021.[29] The percentage of senior immigrants increased from

11% in 2006 to 15% in 2021, with further growth expected.[29] The visible minority senior population, including Black, Arab, and Latin American individuals, were 6.1% of the total in Quebec.[29]

Regarding chronic diseases, 75% of seniors above 65 years suffered from at least one chronic disease in 2017–2018.[29] Women were seen to be more likely to have a chronic disease than men.[29] In 2021, 91% of seniors aged 65 and older lived in private households,[29] varying with the age (91% for seniors aged 65–74 years versus 62% for those aged 85 and older)[29]. Seniors in private households lived with partners (54%) or alone (28%).[29] Nearly one quarter (38% ) of seniors aged 85 and older resided in collective housing such as long-term care facilities and intermediary residences.[29] In 2015–2016 about 14% of seniors received home services (e.g. nursing, help with medical equipment).[29]

### 2.1.2 Definition

Aging is a complex and multidimensional concept, yet there is a lack of consensus in the literature on its precise definition and ways of its measurement, as well as a comprehensive theory of aging.[30, 31] Authors have based their definitions on social, behavioral, physiological, morphological, cellular and molecular changes,[30] as a feature of the human experience.[32] Moreover, aging definitions vary across diverse specialties, undoubtedly contributing to the confusion.[33] In addition, different terminologies are used to describe this aging population (e.g., seniors, older adults, seniors, the aged, older patients, older individuals, etc.).[34]
Despite the relevance of these conceptualizations, the nuances of aging are beyond the scope of this master's thesis. We will adopt the terminology of *seniors* across the thesis.

The conceptualization of aging has gained importance in recent years. Authors have reported its interconnection with the concepts of frailty and age.[35, 36] The first debate on "Age" and "Aging" was published in 1972.[37]

While age is often defined as the "chronological number of years a person has lived,"[38] it has been conceptualized in multiple ways. (1) Chronological age is the most commonly used definition, referring to "passage of time from birth onwards".[30] Over the past century, chronological age has become attached to institutionalized practices and societal norms, reinforcing the notion that aging

is a social construct.[30] (2) Biological age refers to the "presence or absence of pathological processes", and it considers development of diseases as a normal part of aging.[30] (3) Sociological age refers to "expectations of altered roles for individuals within society" [30] and accordingly, alters roles as age advances. Age-related diseases, however, are multifactorial and often interconnected, resulting from a complex interplay of various determinants.[39]

Frailty is a multifaceted concept associated with aging.[32, 38] It is characterized by the decline in overall physiological function and an increased vulnerability to illness with age.[35, 36] This biophysiological disorder affects many activities of daily living, leading to adverse health-related events such as falls, injuries, disability, hospitalization, institutionalization, and dementia.[38] The concept of "oral frailty" has emerged in recent years with the term "oral hypofunction" applied to the oral manifestations of aging-associated sarcopenia and dry mouth.[40] It suggests an abnormal oral structure and/or decline in multifaceted oral function, accompanied by decline in physical, cognitive and social functions.[41] However, adequate oral functioning is considerably broader than the biomedical notions which have largely predominated to date, underscoring the relevance of the life-course lens to better understand aging and oral health.[42] Oral health in old age refers to any adaptation to the burden of oral diseases, accumulated over the years, meaning the ability to chew, taste, and enjoy food, and to smile and speak comfortably and without social embarrassment.[32]

Aging is associated with the increased risk of chronic diseases and cognitive decline over time, presenting unique challenges in daily activities.[39, 43] Gilbert (2000) has defined it as "time-related deterioration of the physiological functions necessary for survival and fertility".[44] Aging is a dynamic "time-related" process [33] referring to biological, psychological and social processes that promote gradual decline in functional capacity of an individual over time.[30, 45] Two people of the same age might experience aging differently, as it is a highly individualized process, differentiated by physical and cognitive function and comorbidities,[38] underscoring the relevance of various perspectives on aging.

### 2.1.3 Healthy Aging

Healthy aging (HA) is complex, multidimensional, and heterogeneous,[46] and forms a central pillar of healthcare systems worldwide.[17] It is interchangeably used with other terms and concepts such as active, well-adjusted, graceful, healthy, sustainable, positive, productive, resilient, optimal, and

successful aging.[46] For instance, in 2002, HA replaced "active aging" adopted by the WHO in the late 1990s, defined as "participation of older persons in activities that contribute to their quality of life and well-being".[47, 48]

HA in literature has been defined by two approaches used in combination or separately.[46] Firstly, it is conceptualized throughout health outcomes across cognitive, physical, social, and psychological dimensions, primarily characterized by the absence of disease and disability at the individual level.[49] Secondly, it refers to developmental adaptation processes involving lifelong, dynamic interactions between a person and their environment in response to changes associated with aging across various dimensions.[49] According to the WHO, HA refers to "maintaining a functional ability that enables individuals to meet their needs and contribute to society within their environment". [46, 48]The WHO has adopted the plan for a Decade of Healthy Aging 2021–2030, focusing on seniors and encouraging governments, civil society, international agencies, professionals, academia, the media and the private sector to improve the lives of older people, their families and their communities.[17] The Decade of Healthy Aging 2021–2030 is based on human rights and a global strategy and action plan on aging and health (2016–2030).[17] This approach aligns with the Sustainable Development Goals' vision to leave no one behind, following the principles of the Global Campaign to Combat Ageism,[50] while recognizing disparities in longevity and unique challenges that seniors face in accessing essential care, obstacles that prevent their full participation in society.[49] These difficulties are exacerbated for older people living in settings with limited resources.[49] To foster healthy aging and to improve the lives of older people, their families, and communities, the WHO recommends a shift from viewing healthy aging as the absence of disease to an approach fostering the functional ability that enables older people to be and to do what they value.[17] Actions to improve healthy aging will be needed at multiple levels and in multiple sectors to prevent disease, promote health, maintain intrinsic capacity and enable functional ability.[17]

### 2.2 Impacts of Aging on Oral Health, General Health and Wellbeing

With increasing life expectancy, seniors are retaining their natural teeth longer, but the prevalence and the incidence of oral diseases remains high.[51] Root caries, periodontal disease, fractured teeth, periodontal diseases, untreated dental abscesses, extensive tartar buildup, tooth mobility, tooth

loss, dental caries, periodontitis, dry mouth and oral pre-cancer/cancer are prevalent among this population.[52, 53] Complementing this disease-related focus is the notion of oral-health-related quality of life (OHRQoL), that may be poorer among seniors who wear dentures, have higher numbers of missing teeth or decayed teeth, or have dry mouth.[53] Poor dentition and unstable dentures can lead to poor nutrition and a decline in overall health and quality of life.[54] In addition, the maintenance of oral health is often challenging due to cognitive impairments, reduced saliva production (often medication-induced), and a lack of cooperation, all of them leading to the incidence of oral health diseases.[55] Oral frailty refers to a change in various oral health functions and conditions (e.g., number of teeth, poor oral hygiene, difficulty chewing or swallowing, etc.), causing an increased vulnerability to other oral health diseases.[40, 41]

Aging increases the likelihood of developing multiple chronic conditions, comorbidities and increased polymedications due to progressive physiological loss and increased susceptibility to diseases.[2, 56] Age-associated complex multimorbidities can affect a person's oral health.[57, 56] In addition, geriatric syndromes present common conditions for seniors as delirium, falls, incontinence and frailty, influencing functional ability and impacting their overall wellbeing.[36, 58] Chronic conditions such as diabetes, hypertension, kidney disease, and cardiovascular diseases often have oral manifestations including periodontitis, caries, dry mouth, and candidiasis.[59, 60] They often necessitate polypharmacy, with many medications increasing the risk of xerostomia and the susceptibility for dental caries and periodontitis.[59, 60] Medications taken for chronic conditions can have a significant impact on oral health.[58] For instance, the medications used to treat rheumatoid arthritis increase the risk of periodontitis, ultimately leading to tooth loss and edentulism.[59, 61] Evidence indicates a bidirectional association of systemic noncommunicable diseases (NCDs) with oral health diseases that may complicate seniors' overall health and quality of life.[59, 62] Also, cognitive decline impairs seniors' ability to communicate their oral health needs, and the loss of independence hampers their ability to perform certain tasks such as brushing teeth and cleaning dentures; these factors contribute to a rapid deterioration in dental and overall health of seniors.[52, 55, 63] Poor oral health worsens management of chronic diseases by altering the immune system and increasing inflammation.[41, 60]

## 2.3 Oral Health Status of Canadian Seniors

In Canada, the oral health status of seniors experiencing loss of autonomy, particularly those living at home, is poorly documented but often severely compromised.[64] Several national empirical studies reported disparities in oral health status and access to oral healthcare services for seniors.[63, 65] According to the oral health component in the CHMS survey conducted in 2007–2009, the mean od teeth decay, missing, filled (DMFT) of people above the age of 60 years in Canada was 15.67.[66] In 2019, about half (52.0%) of seniors aged 65–79 years have moderate to severe periodontal diseases.[22] More recently, results from the Canadian Oral Health Survey (COHS) (2024) highlighted that approximately 11% of adults aged 60 years and above were completely edentulous.[67] The prevalence of complete edentulism in seniors aged 65–79 years is significantly higher among disabled seniors (16%), compared to those without disability (10%). [26] One third of seniors reported experiencing persistent oral health problems, including mouth pain and avoiding certain foods because of these issues.[67]

The oral health status of seniors in Quebec is concerning.[28] The province has the highest percentage of people wearing prosthesis.[28] About 25.2% of seniors above 65 years in Quebec were edentulous in 2020–2021.[28] Among these seniors there is not much difference in edentulism in males (23.3%) and females (26.9%).[28] Seniors aged 85 and older had a higher rate of edentulism (46.8%) compared to those aged 75–84 (31%) and 65–74 (19.1%).[28] The percentage of edentulism seems to be decreasing in this age group of 85 years and over from 39.6% in 2008 to 25.2% in 2020–2021.[28] Approximately 33.5% of seniors aged 65 and older perceived their oral health as good, while 16.4% viewed it as poor.[28]

## 2.4 Challenges Faced by Seniors in Accessing Oral Healthcare Facilities

Several studies have reported significant disparities in access to oral health by seniors.[68, 12, 69, 70] As of February 2025, 3,329,199 people have been approved to receive dental services through the Canadian Dental Care Plan (CDCP).[71] Of these, 1,503,195 received care across all provinces, and in Quebec, 481,264 approved individuals received dental services.[71] However, a significant portion (56.3%) of Canadian seniors reported not visiting a dentist because they deemed it unnecessary, according to the latest Statistics Canada reports in 2024;[65] and 20.9% of Quebec seniors above 65 years had not visited a dental professional within the past 12 months.[72]

Multilevel and complex factors ranging from personal and organisational to policy levels hinder seniors' access to oral healthcare.[10, 12, 68] Among personal factors, low oral health literacy and negative attitudes toward seeking oral care play a significant role.[12, 63] The lack of perceived need for dental visits and the misconception that tooth loss is an inevitable part of aging may lead individuals to seek oral healthcare only in cases of pain or emergency.[10, 68] Past dental experiences and interactions with the dentist, and previous difficulties faced in accessing dental clinics, contribute to fear and dental anxiety amongst seniors.[73] Significant gender differences appear in the perceived need for oral healthcare, with senior women often demonstrating a greater desire to preserve and maintain their teeth, which influences their utilization of dental services.[74] Physical impairments make seniors depend on adapted transports, increasing the existing barriers in access to oral health.[74-76] Among organizational factors, the shortage of specialized dental professionals with knowledge and experience in geriatric care[11, 77] and the quality of the patient–dentist relationship are often important barriers to accessing oral health for seniors.[68] A lack of understanding of patient needs, poor communication and the approach of dentists while dealing with seniors can severely impact their access to care.[10, 63] Ageism and negative attitudes among some dentists toward seniors with special needs create additional barriers to receiving proper care.[77, 78] Limited coordination between multidisciplinary or interdisciplinary teams further complicates the delivery of comprehensive oral healthcare.[10, 12, 52] Systemic factors that contribute to increasing oral health inequalities for seniors include private dentistry practices and the high cost of dental treatments.[70, 75, 79] Additionally, inaccessible infrastructure and extended travel distances pose substantial obstacles for seniors seeking oral healthcare.[64, 80] Furthermore, many private dental clinics are not adequately equipped to accommodate individuals with mobility impairments.[69] For instance, narrow doorways, the absence of ramps, and inaccessible dental chairs further exacerbate these challenges, often requiring seniors to rely on assistance or avoid seeking care altogether.[9, 64, 69] Additionally, prolonged wait times in the clinics can be physically and mentally exhausting, particularly for those with chronic pain, cognitive impairments, or other health conditions that make extended periods of waiting uncomfortable or distressing.[70, 80] The high prevalence of oral diseases among seniors underscores the need for prevention and early detection with an interdisciplinary team involving dental and non-dental healthcare providers, to overcome barriers and leverage facilitators to improve patients' quality of life, oral health outcomes and experiences.[52]

## 2.5 Implementation Strategies to Promote Oral Healthcare Services Delivery for the Geriatric Population

Various initiatives differing from traditional pathways (e.g., private dental practices) have been implemented to overcome seniors' needs in oral healthcare, to respond to their aspirations to "Age at home"[18, 81] and to achieve universal health coverage.[82] The WHO Global Oral Health Action Plan 2023–2030 urges countries to implement strategies enabling individuals and communities to enjoy the highest attainable state of oral health, thereby contributing to healthy and productive lives.[83] Thus, developing national policies to promote oral health and strengthening efforts to integrate oral health into universal health coverage are reported as effective and promising solutions.[83]

### 2.5.1 Policy Dental Programs for Seniors in Canada

#### 2.5.1.1 Governmental Dental Care Programs for Seniors in Canada

In Canada, dental programs for seniors vary across provinces, which offer a range of dental services. After the presentation of the federal dental program, the next sections will present available provincial programs for seniors' oral healthcare (Quebec, Ontario, Alberta, British Columbia, and Prince Edward Island).

##### 2.5.1.1.1 Canadian Dental Care Plan (CDCP)

The Canadian Dental Care Plan is a government initiative designed to improve the affordability of dental services for specific subgroups without private dental insurance and with an adjusted family net income of less than $90,000.[84] Launched in May 2024, the program is initially covering seniors adults with disabilities, and children under 18 years, but by 2025, all remaining eligible Canadians will be included.[84, 85] Covered services include diagnostics, preventive care, restorations, endodontics, periodontal treatments, removable prosthetics, oral surgery, anaesthesia and sedation, and orthodontic services [84]. However, some dental services like crowns and prosthetic removal services require a pre-authorization by the CDCP, while other services such as fixed tooth replacements (e.g., implants, bridges) are not covered. Eligible providers include dentists, denturists, dental hygienists, dental specialists, and dental schools.[86] Only registered oral health providers can bill and receive reimbursement for covered services.[86] The impacts of CDCP will not only improve oral health but also have a significant impact on overall wellbeing and other

systemic diseases. There is not an overlap between services covered in the CDCP and the provincial program. In Quebec, the dental services that are already covered by the Régie de l'assurance-maladie du Québec (RAMQ) will not be reimbursed by the CDCP.[87] However, CDCP may cover for services that RAMQ does not provide.[87] For dental services covered by RAMQ, the providers will have to bill RAMQ first, while non-covered services can be claimed through CDCP, which only pays for services after the patient's CDCP coverage start date [86] or from the program's coverage date.[87]

2.5.1.1.2 Dental Care Programs Targeting Seniors in Quebec

2.5.1.1.2.1 Quebec CHSLD Dental Care and Daily Hygiene Program / Programme Québécois de soins buccodentaires et de soins d'hygiène quotidiens de la bouche en CHSLD (PQSBSH)

Implemented in 2019, the PQSBHB aims to improve and maintain the dental health of seniors living in residential and long-term care facilities (LTCFs) by ensuring that they have good oral hygiene, no untreated pain or oral disease, and eat painlessly and enjoy eating. It is a patient-centered care program provided in residents' rooms or a dedicated room using portable equipment.[88] Examinations, oral evaluations, daily oral health hygiene, prophylaxis and preventive care are provided free of charge by dentists, denturists, dental hygienists, nurses and nurse assistants.[88] Quebec residents annually receive $1000 for dental coverage under the Oral Health Care Program, and any costs for curative and prosthetics care exceeding this amount have to be paid by seniors based on their financial situation.[89]

2.5.1.1.2.2 Dental Care and Denture program in Quebec

This program provides free dental care, including denture fabrication, to individuals on social assistance or the Social Solidarity Program for 12–24 months.[90] These financial assistance programs are provided for single adults or those without severely limited capacity for employment, meaning they do not face serious health problems that restrict their ability to work.[90] To qualify, individuals must have had a valid claim slip for at least 24 consecutive months between March 16 and September 1, 2020, and have received specific denture services between June 1, 2020, and October 26, 2021.[90]

2.5.1.1.3 Dental Care Programs in Ontario: Ontario Seniors Dental Care Program (OSDCP)

Implemented in 2019, the OSDCP offers free dental services to Ontario senior aged 65 years and over.[91] The eligibility criteria include having an income of $25,000 for single people or $41,500 for couples, and receiving no dental benefits through private or government insurance.[91] Dental examinations, preventive care, restorative procedures, endodontic treatments and periodontal services are the covered services.[91] Prosthetics are partially covered under this program.[91] Limited information is provided on the availability of these services at home or in LTCF's. [91]

2.5.1.1.4 Dental Care Programs in Alberta

2.5.1.1.4.1 Dental Assistance for Seniors Program in Alberta

Introduced in 1973, this program provides a financial support up to $5000 every five years for basic dental services to seniors aged 65 years and older.[92] Covered services in this program include: dental check-ups, cleanings, restorations, extractions, endodontics services and basic dentures.[92] Dental check-ups, cleanings, restorations, extractions, endodontics services and basic dentures are among the provided services.[92] Limited information is provided on availability of these services at home or in long-term care facilities.[92]

2.5.1.1.4.2 AHS- Provincial Oral Health Action Plan in Alberta

This plan aims to provide dental treatments to the low-income and underserved population of the province such as children, adults and seniors. [93] This program provides residents with oral hygiene twice a day and other dental services are provided free of charge. [93]

2.5.1.1.5 Dental Care Programs in British Columbia: Coverage by the Government of British Columbia

Individuals are eligible to receive dental coverage up to $1000 for two calendar years.[94] The eligibility criteria for getting this coverage are that individuals must receive disability assistance and be qualified as a person with multiple barriers. [94] No information has been made available on the age criteria to receive these . [94] The financial coverage is provided for services like restorations, extractions, preventive services, partial dentures, denture replacements, and relining of dentures. [94]

2.5.1.1.6 Dental Care Programs in Prince Edward Island

2.5.1.1.6.1 Long-Term/Community Care Preventive Dental Care Program in Prince Edward Island

This program provides annual dental screenings for seniors of LTCF's.[95] Dentists conduct oral assessments and offer services focused on relieving pain and infection. Prophylactic services are provided by a dental hygienist.[95] For extensive curative treatments, seniors are referred to dental offices.[95]

2.5.1.1.6.2 Provincial Dental Care Program

The Dental Care Program in Prince Edward Island offers subsidized basic dental treatment for low-income individuals and families.[96] To qualify, applicants must be residents of PEI, have an active PEI Health Card, and meet specific income criteria or be receiving financial assistance from the Department of Social Development and Housing.[96] The level of coverage is based on family income and size. Services covered by the program include examinations, preventive treatments (like cleanings, fluoride, and sealants), appliances (such as mouthguards and TMJ appliances), restorations, root canals, extractions, and denture fabrication and repairs.[96]

2.5.1.1.7 Dental Care Programs in Saskatchewan: SHA – Saskatchewan Health Authority Additional Programming

This program provides dental care to vulnerable adults and long-term care residents. It includes services such as oral assessments, referrals, preventive services, daily care and staff education; also in certain areas of the province some services are provided by private dentists in seniors' homes. [93]

### 2.5.2 University Dental Programs for Seniors

A few universities in Canada have initiated dental care programs to improve access to oral health services for seniors in their home.[97,98,99, 100]

2.5.2.1 McGill University Mobile Dental Clinic

The Mobile Dental Clinic collaborates with community groups and agencies on the island of Montreal to offer free dental care and promote oral health education to vulnerable populations. Each year, the mobile clinics provide basic dental care to over 300 patients.[97] They visit community

locations and set up a dental clinic with 15 portable chairs throughout the academic year.[97] Treatments offered include examinations, cleanings, fillings, extractions and partial and complete dentures (acrylic only).[97] However, these oral health treatments are offered in universities clinics after initial assessments in community centres.[97]

#### 2.5.2.2 University of British Columbia (UBC) Geriatric Dentistry Program

Established in 2002, this program is a collaboration between the Providence Health Care and the UBC Faculty of Dentistry. It offers a "fee-for-service-model".[99] It provides clinical services to frail and functionally dependent seniors in 27 dental clinics within the LTCF's.[99] Oral health assessments, dental hygiene and denture-related treatments (cleaning and adjustments) are provided within the LTCF's, whereas restorative and surgical procedures and denture fabrications are provided at clinics.[99, 100] The clinic operates at reduced fees, approximately 20 to 40% less than those in the British Columbia Dental Association Fee Guide.[99]

#### 2.5.2.3 University of Manitoba Home Dental Care Program

Established in 1985, this outreach program is an initiative of the Centre for Community Oral Health at the University of Manitoba.[98] The target population includes individuals with mobility constraints and those who faced challenges in accessing traditional dental clinics. Services are provided by three mobile dental vans, by a group of dentists, dental hygienists, and dental assistants, in long-term care facilities and homes of homebound seniors.[98] They provide services like examinations, dental hygiene procedures, restorations, extractions, denture repairs and fabrication, and crowns,[98] with charges based on the current Manitoba Dental Association Fee Guide.[98] These charges vary depending on the level of dependence. The initial oral health assessment fee is approximately $76 for residents of personal care homes, while it is around $234 for homebound individuals living independently or in assisted living facilities.[98] A complimentary oral health assessment may be available for new patients or those who have not received one in the past year.[98]

### 2.5.3 Integration of Oral Healthcare Services in Primary Healthcare

Integrated care has been defined as bringing together inputs, delivery, management and organization of services related to diagnosis, treatment, care, rehabilitation and health

promotion.[101] Integrated care refers to care coordination in long-term care, rehabilitation, palliative and end-of-life care, matched to the unique and often complex needs of people throughout the life course;[102] here there is a shift from inpatient care to ambulatory and outpatient care, and to more community-based interventions.[102, 103]

Integration of oral health into primary care or the primary oral healthcare (POHC) approach has been identified as a promising solution in dental service delivery, particularly for underserved populations.[103] POHC aims to promote and preserve oral health, to prevent oral disease, injury and dysfunction, and to provide a regular source of care for acute and chronic oral diseases and disabilities.[101, 103] Integrating oral healthcare into primary healthcare can improve oral health outcomes through various strategies, including care coordination, innovative care models, and community-based oral health promotion programs.[104-106] Additionally, innovative care models in the community settings include mobile dentistry with or without teledentistry implementation, management strategies based on prevention, and early treatment of dental disease; all considered essential to achieve benefits in oral health.[7, 104, 105] By implementing these strategies, oral healthcare can become more accessible, efficient, and patient-centered within primary care systems. [107] Interprofessional collaboration helps deliver coordinated and patient-centered care, improving overall health outcomes.[104, 105]

#### 2.5.3.1 Teledentistry

In an aging society, ensuring timely and equitable access to oral healthcare services to homebound seniors and those residing in LTCF's is crucial.[107, 108] Teledentistry is envisioned as a promising and reliable approach, to improve access to oral healthcare services and enhance seniors' overall health outcomes.[107] Defined as "the use of technology and various devices (e.g. video, audio, secure message) for remote oral healthcare delivery between patients and oral healthcare providers or between healthcare providers, teledentistry aims to facilitate access to care, reduce oral health inequalities, mitigate the economic impact of oral diseases and treatment, and foster interprofessional collaboration".[109]

A limited number of studies have been published on teledentistry with seniors.[107, 110, 111, 112, 113] Typically teledentistry in nursing homes involves remote consultations between caregivers and dental professionals for virtual screening of oral conditions, diagnosis and treatment planning.[107]

It supports assessing oral function and denture-related lesions, along with regular assessments of chewing abilities and oral rehabilitation status.[107, 112] Authors have reported several benefits, including improved access to dental care for seniors, reduced need for transportation,[107] shorter waiting times,[113] improved oral health knowledge and attitudes amongst patients,[111, 112] improved oral hygiene maintenance, and providing timely advice.[111, 112] Studies have also reported an improved coordination between dental professionals and the caregiving teams for the seniors.[107] Teledentistry has also proven to be beneficial in cases of emergency related to tooth pain for seniors.[110, 111]

Despite its numerous advantages, teledentistry faces several challenges to its implementation in seniors' living environments.[113, 111] At the individual level, seniors may struggle with cognitive decline, impaired vision, limited access to technology, and resistance to change, making virtual consultations challenging.[107] However, they may also experience anxiety due to this relatively new method of consultation.[113] Organizational-level barriers include proper training for healthcare providers, and efficient coordination for patient assessments and data sharing.[113] On the contextual level, concerns over confidentiality, data security, and the lack of clear medical–legal frameworks create uncertainty in its implementation.[113] Finally, structural barriers such as poor internet connectivity, low video quality, and technological limitations can hinder the smooth functioning of remote dental consultations.[113] Some authors have reported on the incredible value of integrating teledentistry in mobile dentistry to improve timely and equitable access to care as well as the continuity of oral healthcare. [114, 107]

#### 2.5.3.2 Mobile Dentistry

Mobile dentistry broadly encompasses various outreach activities conducted outside of the standard dental office.[115] This term has been interchangeably used with concepts such as equipped dental van, portable dentistry, mobile dental care, mobile units, satellite units, portable dental services, and domiciliary dentistry.[116] Often called "out of office dentistry", mobile dentistry is particularly effective in improving access to oral healthcare services for specific groups of the population with special needs, such as anxious patients, children, and individuals with mobility issues and physical disabilities.[115, 117, 118] Mobile dentistry or mobile dental care is a mix of

domiciliary and portable services aiming to improve oral health generally by reducing unequal access to oral healthcare and contributing to a more inclusive and equitable healthcare system.[119]

These models facilitate oral health screenings, provide preventive and curative services in homebound settings, and deliver essential oral hygiene education.[21, 115, 118] By addressing access-related barriers, mobile and portable dental services can contribute significantly to reduce disparities in dental care delivery.[21, 115, 118] Seniors with mobility constraints, or with mental health conditions like Alzheimer's, can benefit from domiciliary dental care,[21, 115] considering their major challenges such as confusion and disorientation, anxiety, and fear of receiving oral health services in dental offices.[21]

#### 2.5.3.2.1 Home-based Oral Healthcare Services

Home-Based Oral Healthcare (HBOHC) refers to the provision of oral healthcare in patient living environments, such as private homes, assisted living facilities, or nursing homes.[21, 120] This concept can appear in the literature as domiciliary dentistry, domiciliary dental care, and home dental care.[21, 116]

HBOHC is a sub-component of the umbrella term "home-based care," referring to a range of services provided in the patient's home by different healthcare professionals and care aids to support their health and wellbeing.[121] For some authors, domiciliary dental care (DDC) refers to the provision of dental care in an environment where a person is resident either permanently or temporarily, as opposed to dental care delivered in a fixed dental clinic or a mobile dental unit.[73, 119] Home-based care or services vary in terms of different dimensions, including type of care provided, and degree of physician involvement.[121] Home-based care includes both formal and informal personal care services, Medicare skilled home health, physician house calls, and even "hospital-at-home" services.[121] Such services allow seniors with cognitive or physical impairments to receive care in a familiar environment, reducing their stress and giving them psychological comfort.[115]

HBOHC has gained an increased interest over time.[73] It has been implemented in many countries such as Switzerland,[122] Sweden,[123] the UK,[124] the USA,[115, 125, 126] Australia [127], and Taiwan.[120, 125] It uses a smaller and transportable dental system setup that can be moved into the senior's home

or care facility directly.[115, 126] Basic oral hygiene and education are the most common oral healthcare services provided through the HBOHC.[20] DDC is often restricted to non-invasive dental procedures such as removable denture provision, simple restorative treatment, and single tooth extractions, with its primary aim to improve or maintain oral health.[128] A newly proposed domiciliary risk assessment tool was published for delivering safe oral healthcare.[129] Authors have reported that home oral healthcare can be provided by a mix of oral healthcare providers with various skills including dentists, dental hygienists, denturologists and dental therapists.[73,105] For instance, many home resident seniors had treatment needs that could be wholly addressed by a dental hygienist (22%) or therapist (27%).[130]

HBOHC benefits to patients include better access to dental services, increased independence, and feeling less anxious and more involved in their dental care provided within a familiar environment.[73, 117] However, they have a limited choice of service provider, with less flexibility in times and days for dental appointments.[73] Multilevel factors related to patients, oral healthcare providers, and systemic barriers hamper the implementation of HBOHC. [20] Physical and cognitive impairments, transportation challenges, financial constraints, privatisation of oral health, a lack of awareness of DDC services, patients' attitudes toward oral health, and lack of family support all limit the access to seniors' HBOHC, resulting in poor outcomes to their oral health, overall health, and quality of life.[20, 73] While caregivers play a central role, especially for seniors with cognitive or physical impairments, some critical factors limiting their involvement include time constraints, lack of financial incentives, and insufficient support.[20] Additional factors include the lack of capacity among key oral healthcare providers and family members, their poor coordination and communication, their inadequate training and education, the lack of policy and guidelines, and limited access to dental equipment and materials.[20]

The need for home care services is very high in Quebec. [18] In that province, in 2020–2021, 397,702 people received home support services, among which 72% were seniors above 65 years old.[131] However, for the same period, more than 41,000 people's home care needs were unmet.[131] Nearly 61% of 24.4 million hours of Quebec home care services were utilized by seniors above 65 years of age.[131] Thus, home services is viewed as a revolution to improve the access and the quality of life of seniors across the world, and in Quebec.[132, 133] However, the integration of oral healthcare in home services is limited and underexplored. In addition, there are limited studies about patients'

perspectives on receiving home-based oral healthcare services. Failure to explore this experience prevents the opportunity to understand how best to support seniors in preventing dental disease and improving oral health.

## 2.6 Patient Experiences with Home-Based Oral Healthcare Services

### 2.6.1 Paradigm of Patient Experience

Despite the growing emphasis on patients' experiences, the oral health field remains deeply anchored in a biomedical vision, with little interest in understanding patients' lives and preferences.[114, 134] According to Scambler et al. (2016),[134] the concept of person-centered care is neither clearly understood nor empirically and systematically assessed in dental settings.[134] There is little literature empirically assessing seniors' sharing decision-making or its practical outcomes in dental settings, though the delivery of person-centered care is an essential aspect of quality of care in dentistry. As a part of lived human experience,[135] patient experience is an integral element of patient-centered care, relevant in the paradigm of value-based oral healthcare, and one recurrent component of health reform initiatives (triple, quadruple and quintuple aims).[136-139]

### 2.6.2 Patient Experience Definitions

Patient-Reported Experience Measures (PREMs) is an essential component of patient-reported measures in quality improvement efforts.[140] They are valid and key indicators of the process of quality of care, helping to identify areas for improving and enhancing the quality of care.[139, 141] There is a growing research interest in patient experience in healthcare systems, with various definitions.[142] However, the majority of the studies on patient experience have a rather narrow focus either on specific disciplines, settings such as hospitals, or patients with specific diseases and conditions.[143] The importance of person-centered care in defining healthcare quality was notably emphasized in the Institute of Medicine's (IOM) 2001 landmark report, *Crossing the Quality Chasm*, which identified patient-centeredness as one of six key domains of healthcare quality. [143] This recognition marked a significant shift, reinforcing the strong link between patient experience and healthcare quality. [143] The Picker Institute led to the development of patient experience measures to assess the quality of person-centered care from the patient's perspective. [144] Alongside Picker, The Beryl Institute, founded in 2010, has been instrumental in advancing research and best practices to enhance the patient experience in healthcare. [143]

Patient experience was first defined by the Beryl institute in 2010, as "the sum of all interactions between the healthcare providers and the patients, shaped by an organization's culture, that influence patient perceptions across the continuum of care".[145] According to the Agency for Health-care Research and Quality (AHRQ, 2017), patient experience "encompasses the range of interactions that patients have with the healthcare system [and] includes several aspects of healthcare delivery that patients value highly when they seek and receive care such as getting timely appointments, easy access to information and good communication with healthcare providers." [146] Despite different definitions, quality of life, interaction, value perception and continuum of care stand out as the common keywords in such definitions.[147]

Patient experience begins before entering the healthcare system and continues throughout the care pathway.[148] At the heart of these efforts is recognition that the patient is the expert of their illness and health condition,[149] and is the best person in assessing both care delivery and patient outcomes,[150] and knowing their feelings about the care they received.[136-139]

Many countries are actively collecting periodic data on patient experience for developing and advancing their healthcare system and improving the quality of care; these include the UK, Norway, Sweden, Finland, the Czech Republic, Denmark, France, the USA, and Canada.[151-153] The concept of patient experience is referred to by related terms such as patient perspectives, preferences, feedback, report, and satisfaction.[154]

Patient-reported experience measures (PREMs) differ from patient-reported outcome measures (PROMs), which aim to measure patients' health status.[154] PREMs are composed of three domains: effective communication, respect and dignity, and emotional support, themselves shaped by patients' needs, expectations, expressed needs, and values.[137] They are governed by the organization's culture, providing a holistic experience in the healthcare system.[145] PREMs are often measured by instruments like standardized questionnaires (e.g., CAHPS survey and the Picker Patient Experience Questionnaire) and qualitative tools (patient interviews and focus groups).[141] More than patient satisfaction, patient experience includes different dimensions, ranging from dissatisfaction (the illness experience, poor customer service) to coping/dealing with the condition (the lived experience of the illness), to satisfaction (responsiveness to treatment and care).[155] Satisfaction is an indicator of a period of time, but experience captures all that someone

encounters, the perceptions and the stories they tell as a result, their impacts and their importance.[155] The domain of responsiveness includes autonomy, choice, communication, confidentiality, dignity, prompt attention, and quality of basic amenities.[155, 156]

### 2.6.3 Benefits of Understanding Patient Experience

Findings in terms of patients' experiences can be used by researchers, healthcare organizations, policymakers, and educational decision makers to evaluate the current healthcare delivery system, and to identify areas of improvement for a more patient-centered healthcare approach.[137, 157-159] In recent years, PREMs have been utilized to guide pay-for-performance (P4P) and benchmarking initiatives, alongside other healthcare quality domains such as clinical quality/effectiveness, health information technology, and resource utilization.[137, 146, 160] There is a strong correlation of positive patient experience with better healthcare outcomes, as a positive experience is significantly associated with patient engagement and higher compliance with the treatment.[158, 159] Despite these benefits, patients' experience has received limited attention in dentistry and especially for marginalized populations such as seniors, who face unique challenges in accessing healthcare services including oral healthcare.[161, 162]

### 2.6.4 Patient Experience Frameworks

Several conceptual frameworks have been developed to understand patient experience in healthcare. [163, 164, 148, 165, 166, 167] To our knowledge, there is no existing review of these frameworks in the literature. Among these frameworks, the Experience Framework by the Beryl Institute,[163] the National Health Service (NHS) patient experience framework,[164] Patrick Oben's patient experience conceptual framework,[148] the Mayo Clinic's patient experience framework,[165] the Warwick patient experience framework,[166] and the 5P holistic framework[147] reported several relevant concepts related to the conceptualization of person-centered care in dentistry. [114, 134]

#### 2.6.4.7 Patient and Human Experience: The Beryl Institute

Patient experience is a core component of human experience.[155] Grounded on expectations, perspectives and perceptions, patient experience is individual and personalized; it is not limited to a specific care setting or the clinical encounter of care.[163] Patient experience encompasses their perspectives and perceptions of all encounters throughout the continuum of care.[163] The human

experience in healthcare integrates the sum of all interactions—every encounter among patients, families and care partners, and the healthcare workforce.[145] It is driven by the culture of healthcare organizations and systems that operate within the breadth of the care continuum in the communities they serve and the ever-changing environmental landscapes in which they are situated.[145]

#### 2.6.4.2 Warwick Patient Experience Framework

Based on a comprehensive review of the literature,[166] seven key themes are crucial for a high-quality patient experience: patient as active participant, responsiveness of services, an individualized approach, lived experience, continuity of care and relationships, communication, and information and support. [168] These themes provide a structured way to assess and improve patient-centered care, ensuring that healthcare services align with patients' needs and expectations. [168] This framework played a significant role in shaping the structure and content of the NICE Patient Experience Guidance. [168]

#### 2.6.4.3 The National Health Service (NHS) Patient Experience Framework

Adapted from the Picker Institute's Principles of Patient-Centered Care,[164] the department of health and social care of the United Kingdom in 2011 published their own framework outlining important areas of patient experiences,[164, 169] including effective communications, patient-centered care, involvement of family members in decisions, and access to timely and coordinated care. [164]

#### 2.6.4.4 Patient Experience Conceptual Framework by Oben

Each person is an individual whose life experiences shape their views of health, illness, and health services.[148] These experiences influence patients' needs and expectations of healthcare, including dental care.[148] The holistic way of the patient journey is presented through three distinct phases: person, patient, and user.[148] It starts with a healthy individual with no experience of disease, followed by transiting to the phase of being a patient with the onset of disease, and finally the "user" phase, where the patient becomes a consumer of healthcare services.[148] The patient experience is shaped by interactions with the healthcare providers and the system.[148]

#### 2.6.4.5 Patient Experience by Mayo Clinic

The Mayo Clinic's patient experience framework focuses on three components to deliver optimal patient experience: communication, expertise, context and connection.[165] Communication refers to the style and manner of interaction between patients and the providers and care teams.[165] Expertise reflects patient expectations of receiving medical advice from highly skilled professionals, thus fostering trust and confidence in care delivery.[165] The component context and connection highlights the importance of meaningful interactions, where care team members provide empathy, offer hope, and understand the patient's personal and medical circumstances.[165]

#### 2.6.4.6 The 5P Holistic Framework of Patient Experience

The 5P framework can be used by healthcare professionals to better understand the driving factors of patient experience and to create a strategy to improve patient satisfaction.[167] Five critical dimensions influence the patient's experience: provider (e.g., policies, regulations), healthcare providers (e.g., communication, skill, trust), patient (e.g., treatment type, relatives), personnel (e.g., nurses, receptionist) and periphery (e.g., transportation, location).[167] This framework provides a holistic picture, which integrates the perspectives of patients, healthcare providers and experts including scholars and researchers.[167]

In summary, patient experience encompasses different domains, most commonly comprising communication, expectations, family support, trust, skills, patient-healthcare provider relationships, expectations, dignity, continuity of care, perceptions, and interactions.

### 2.6.5 Patient Experience in Quebec

Patient experience is increasingly being used in healthcare facilities in Quebec particularly as a requirement by Accreditation Canada.[170] Accreditation Canada has developed tools for acute care and mental healthcare sectors based on the standardized American Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) questionnaire, with additional questions on transition and continuity of care, cultural considerations, and emotional support for the patients and their families.[170] This standardized tool can be used across all facilities, yet many healthcare organizations in Quebec rely on customized "in-house" tools for patient experience evaluation.[170]

### 2.6.6 Patient Experience in Dental Care Settings

The studies have explored patient experience in dentistry including oral surgery[171] and in hospitals.[172] Authors focused on patient involvement in decision-making and intra-operative pain management. The Dental Practice Questionnaire and the CAHPS Dental Plan Survey are both valid and reliable instruments used to examine oral healthcare patient experience.[173] However, they are limited in their scope, excluding aspects related to expectations and care coordination, underscoring a call to action to increase the appreciation of these essential components of oral healthcare quality in dental practice.[173] Most studies have been conducted on patient satisfaction, which is not the same as assessing the experience of care,[173] and high satisfaction ratings may not indicate good experiences with the service.[173, 174] In a study on patient experiences of dental care in private dental offices in Australia, patients cited the importance of having a supportive and caring dentist and a dedicated dental team, who respected them and listened to their concerns, along with emphasizing person-centered care.[175] In a recent paper on healthcare experience of seniors in dental care settings, the authors highlighted that seniors may have varied views and attitudes regarding dental care.[174] Thus, understanding their experiences can be useful to support them when they are seeking care.[174]

### 2.6.7 Seniors' Experience in Home-based Oral Healthcare Services

A few studies have explored the experiences of seniors and caregivers for the dental services delivered to patients in their living environment. In a study exploring the experiences of seniors and caregivers for services received from two mobile dental clinics in seniors' homes or in long-term care facilities in Quebec,[116] the participants expressed deep appreciation for these services, highlighting both the quality of care and the competency of the dental teams, and the benefits of domiciliary dental care in improving accessibility to dental services.[116] In British Columbia, Ardenghi et al. (2017) conducted a study to understand the experiences of family members of dental services (e.g., basic oral care services, specialized care) provided to their home-bounded seniors in the province .[176] The family members of the seniors expressed a significant concern and stress over the unavailability of specialized dentists for dental care in seniors' homes.[176] The availability of domiciliary dental services improves access to essential oral healthcare services without the challenges of travelling to a clinic.[176] In a scoping review on challenges and opportunities of domiciliary oral care, the authors highlighted the importance of recognizing the

barriers in accessing oral healthcare for seniors, and the relevance of implementing services that also address the individual needs, preferences, and challenges of seniors.[20]

### 2.7 Gaps in Knowledge and Need for Research

Population aging is a global phenomenon, resulting in the crucial need to manage the specific oral health needs of seniors. The oral health of homebound seniors is a significant concern, as it directly impacts healthy aging. Beyond the challenges associated with aging and geriatric conditions affecting oral health, homebound seniors face complex and unique barriers in accessing oral care services. [12] To address these oral healthcare disparities, mobile dentistry with mobile units has been suggested as a promising solution to bring oral healthcare services to seniors' living environment, influencing patients' outcomes.[117] However, in Quebec's home care services, which involve an interprofessional team including social workers, case managers, occupational therapists, specialized education technicians, physicians, nurses, and speech-language pathologists, oral healthcare has yet to be integrated.

Under the leadership of an interdisciplinary research team and the strong collaboration with decision makers, a demonstration pilot project called the project Dent Ma Maison was implemented in two Quebec health centers: the Integrated University Health and Social Services Centre – West-Central Montreal (CCOMTL), and the Integrated University Health and Social Services Centre – South-Central Montreal (CCSMTL).[177, 178] Through this pilot phase, all oral healthcare services were provided free of charge to homebound seniors with specific criteria, by a dental team using portable equipment. However, seniors and their caregivers may have significantly different views about what is satisfactory or good quality of oral care. Several multilevel factors can positively or negatively influence the provision of home-based oral healthcare, highlighting the need to understand how seniors perceive this new service model.

Despite various efforts done to improve patient experience across healthcare services in Quebec, there is no formal and standardized tool used to capture patient experience in oral health in the province. Studies on patient experience in dental care settings have emphasized hospitals, or seniors in general, but lacked focus on homebound seniors. Some studies targeted this subgroup but only covered a limited scope of patient experience.

Therefore, it is crucial to address this gap as an important component of dental practice, education and research.[161] There is still a lack of research on homebound seniors' perspectives on home-based oral healthcare services, making it essential to assess whether this pilot study meets their needs and expectations, as well as their acceptance of it, perceived benefits, and challenges in access.

# CHAPTER 3: STUDY OBJECTIVES AND RESEARCH QUESTION

The aim of this study is to explore the experiences of homebound seniors regarding home-based oral care services they received under the Dent Ma Maison pilot project.

This study seeks to understand their challenges with accessing oral healthcare services, expectations with these services, perceived benefits, and overall satisfaction of home-based oral healthcare services.

Objectives:

1. To understand the perceptions and perspectives of homebound seniors with home-based oral healthcare services.
2. To identify potential areas for improvement in the delivery of home-based oral healthcare services for homebound seniors.
3. To build on both previous objectives, we will develop recommendations to inform the spread of home-based oral healthcare services in Quebec.

Research Questions:

1. How do homebound seniors perceive and experience home-based oral healthcare services?
2. What are the key challenges and areas for improvement in the delivery of home-based oral healthcare services for homebound seniors?
3. What recommendations do home-bound seniors have to enhance and improve the expansion of home-based oral healthcare services?

# CHAPTER 4: METHODOLOGY AND RESULTS: MANUSCRIPT

The article, titled “Homebound Senior’s Experiences with Home-based Oral Healthcare Services: A Qualitative Study”, was written following the analysis of the interviews conducted.

The article was written by me and was reviewed and revised by my supervisor, co-supervisor and co-authors Pascaline Kengne Talla, Elham Emami, Yves Couturier, Seeta Ramdass, Marie-Ève Poitras, Élise Bertrand, Stéphanie Morneau, Sandra Verdon.

# HOMEBOUND SENIORS' EXPERIENCES WITH HOME-BASED ORAL HEALTHCARE SERVICES: A QUALITATIVE STUDY

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## Abstract

**Background:** Oral health is vital to healthy aging, yet empirical studies have reported persistent oral healthcare disparities among seniors. Home-based oral healthcare services have the potential to facilitate homebound seniors' access to dental care.

**Objective:** To explore experiences of homebound seniors with a home-based oral healthcare pilot project in Montreal.

**Methods**: A qualitative study using an interpretive description methodology was conducted. Purposive sampling was used to recruit study participants, who received home-based dental care via the pilot project. Data was collected using audio-recorded, virtual, semi-structured interviews 45–60 minutes in length, and continued until saturation was achieved. Qualitative data was analyzed using a thematic approach. The Standards for Reporting Qualitative Research (SRQR) for reporting qualitative studies were followed.

**Results:** Eleven interviews (8 F and 3 M, mean age: 69.5 years) were conducted, and three themes emerged: oral healthcare hurdles faced by seniors, appreciation for home-based oral healthcare services, and enhancing home-based oral healthcare.
Pain was a common problem among the seniors. Participants appreciated the home-based oral healthcare services and reported a high level of satisfaction as it met their expectations. They provided useful recommendations for the future implementation and scale-up of home-based oral healthcare services.

**Conclusion:** The findings of this study highlight the efficacy of home-based oral healthcare services from the perspective of homebound seniors. The patients' positive experience indicates its clinical relevance and the importance of expanding such programs. The seniors' recommendations have important policy implications and provide guidance for scaling up these oral healthcare services.


**Keywords:** Aging, Home-based oral care services, patient experiences, qualitative study

## Background

Oral health is a key component of healthy aging, as it significantly affects overall health and well-being of people throughout their life course (1-4). The population of seniors above the age of 60 is expected to rise to 22% of the global population by 2050 (5). In Canada, seniors represented 18.9% of the total population in 2024 (6). The province of Quebec has a relatively higher percentage of seniors in Canada compared to other provinces; in 2024, one out of five (21.1%) of Quebec's population were seniors above 65 years old, and this proportion is expected to rise to 27% by 2066 (7). To address the challenges of an aging population, the United Nations has declared the period of 2021–2030 as the Decade of Healthy Aging (8).

Governmental surveys and empirical studies have reported significant oral health disparities among Canadian seniors populations (9). The oral health component of the Canadian Health Measures Survey (2007–2009) reported a mean DMFT (Decayed, Missing, Filled Teeth) score of 15.67 for seniors over 60 years old, with 25% of seniors being edentulous (10). The results from the 2023–2024 Canadian Oral Health Survey indicate that 59.8% of seniors aged 65–79 and 71.1% of seniors over 80 are uninsured, which acts as a significant access barrier to oral healthcare services (11). Compared to seniors in other Canadian provinces, Quebec residents are more likely to lack dental insurance, with 53% of them being without dental coverage (11). Seniors' oral health conditions are influenced by physical or cognitive impairments, poly-medication, and most importantly, frailty (4, 12-14). Furthermore, various factors at the micro, meso and macro levels contribute to oral health inequalities in geriatric populations (12, 15-17) including seniors' attitudes and behaviours toward oral health (4, 18), absence of support from formal and informal caregivers (15), lack of qualified oral healthcare providers (4, 12, 15, 18, 19), lack of insurance coverage, inadequate infrastructures, and lack of guidelines for geriatric dental care (4, 12, 20).

To address the oral health disparity among the seniors, approaches such as mobile dentistry have been used to bring oral healthcare services to the seniors' living environment. Mobile dentistry has been studied in various countries, including Switzerland (21), Sweden (22), the United Kingdom (23), Australia (24), Canada (25), and the USA (24). Accordingly, a lack of healthcare policies (26, 27), inadequate funding and resources (23, 27), and a lack of guidelines for oral hygiene in nursing home and long-term care facilities have been reported (28, 29) (25, 30) as barriers to dental care in the living environment (31).

Previous research in domiciliary dental care has indicated that informal caregivers and family members of seniors are concerned about the lack of oral healthcare workforce with training in gerodontology (23, 25, 30). A recent study conducted by Blasi et al. (32) shows that seniors' reduced mobility is associated with lower capacity in maintaining oral hygiene (32, 33). In that study seniors were concerned about both the quality of care and the limited scope of dental treatments received at their nursing homes (32). In the study conducted by Makansi et al., homebound seniors appreciated the domiciliary dental care and reported that the dental team's competency was an important element in the patient experience (25).

Patient experience is defined by the Beryl institute as "the sum of all interactions between the healthcare providers and the patients, shaped by an organization's culture, that influence patient perceptions across the continuum of care" (34). Patient experience is a crucial component of patient-centered care (35) and an indicator of high quality of care (36) including clinical and patient-oriented outcomes. It also guides healthcare polices and delivery care (37).

However, so far research has been mostly focused on exploring the perspectives, attitudes, and perceived barriers of oral healthcare providers (21, 23, 26, 27, 38, 39) and caregivers (28, 29, 40) in long-term facilities. Still there is a gap in knowledge regarding the experiences of homebound seniors receiving home-based oral healthcare services (36, 41, 42). Therefore, this study was conducted to explore the experiences of homebound seniors with home-based oral healthcare services provided through a pilot project entitled Dent Ma Maison.

## Methods

### Description of the Dent Ma Maison Pilot Project

The Dent Ma Maison project is a project led by the Faculty of Dental Medicine and Oral Health Sciences at McGill University. It aims to provide dental care to Montreal's geriatric population (aged 65 and above) who are homebound and cannot afford private dental care. In the pilot phase, funded by philanthropic contributions, the project was implemented in collaboration with the Quebec Ministry of Health and Social Services and its two associate Centers: the Integrated University Health and Social Services Centre – West-Central Montreal (CCOMTL) (45), and the Integrated University Health and Social Services Centre – South-Central Montreal (CCSMTL) (46).

In Quebec, general healthcare services are delivered at home by an interprofessional team that includes social workers, case managers, occupational therapists, specialized education technicians, physicians, nurses, and speech-language pathologists. Case managers assess patient needs, coordinate interdisciplinary services, and connect patients to healthcare resources.

Through the Dent Ma Maison project, oral healthcare services were integrated into the home care services for seniors with severe or moderate functional autonomy loss. Dental care included emergency examinations, complete oral examinations, oral hygiene, scaling, fluoride application, anterior and posterior composite restorations, and minimally invasive restorations. Services such as rebasing, relining, adjustment, cleaning, and polishing of dentures were included, but the fabrication of new complete, partial and fixed prostheses was excluded. All oral healthcare services were provided free of charge.

A team of McGill researchers subsequently secured governmental funds to study various aspects of this demonstration project. The study presented here was designed to explore the experiences of homebound seniors who received free dental care at their homes and agreed to participate in the study.

**Study Design**

The study used a qualitative approach and interpretive description methodology to gain a deeper understanding of the experiences of homebound seniors with home-based oral healthcare services (47, 48). The interpretive description was introduced by Sally Thorne in 1997, to generate findings that can inform clinical practice and decision making (47-50). The Standards for Reporting Qualitative Research (51) were followed to report this qualitative research.

**Study Participants and Inclusion Criteria**

The study participants who received oral healthcare services under the Dent Ma Maison project were invited to participate in the study if they met the inclusion criteria. Participants or their proxies (family caregivers) were approached by the clinical team providing the dental services. A purposive sampling strategy was used to select “information-rich” patients (52, 53). The data collection and analysis were conducted simultaneously and continued until saturation was achieved (54).

All recipients of dental care in the Dent Ma Maison project were eligible to participate in the research study. The participants were required to communicate in French or English. The informal caregivers of study participants with severe cognitive impairments served as proxies for the interviews.

**Data Collection**

Data was collected using semi-structured, virtual interviews between June 2023 and November 2023. A sociodemographic questionnaire and an interview guide were used to collect the data. The interview guide was developed based on existing literature and the research team's expertise. It was reviewed by the members of the research team including the patient partner, to ensure the relevance of questions. The interviews were conducted by research team members (GA, PKT) trained or experts in qualitative research and interviewing techniques. Because of public health restrictions of the COVID-19 pandemic, the interviews were conducted virtually using the Cisco Webex application (cloud-based platform for conference calls in private meeting rooms) or telephonic interviews.

The interviews began with general questions about the patients' oral health, followed by more specific questions about the seniors' perspectives, experiences and expectations with the dental services. Further questions were based on the participants' responses and mostly consisted of clarifications and probing for details (52). Each interview was audio-recorded and lasted 45 to 60 minutes. It was then transcribed and deidentified to ensure participants' anonymity. The interviews were conducted until data saturation (55) was reached. Data collection and data analysis were performed concurrently.

**Data Analysis**

The data analyses included transcription, debriefing, codification, data display, thematic inductive analysis, and interpretation. To ensure credibility and trustworthiness, transcripts were independently reviewed by two team members (GA, PKT). The memos were used to record the thought processes and decisions made by the members, thereby creating an audit trail to ensure the rigour and reflexivity of the research (56, 57). A multiple coding process was conducted to increase reliability (58, 59). The credibility and quality of the research findings was achieved by

triangulation of interpretations between research team members (60). Differences in interpretation were resolved by discussion until the common consensus was achieved.

## Results

Data saturation was reached after 11 interviews. Table 1 presents the sociodemographic characteristics of the study participants. The mean age of the study participants was 69.5 years. All of them had a low socioeconomic background, which was a requirement to be included in Dent Ma Maison. Study participants had diverse ethnic backgrounds. Five of them were using wheelchairs and all of them resided in their own homes. Three major themes emerged from the qualitative analyses to describe experience of homebound seniors: oral healthcare hurdles for homebound seniors; appreciation for home-based oral healthcare services; and enhancing home-based oral healthcare.

### Oral Healthcare Hurdles for Seniors

Study participants were informed about the impact of untreated oral health issues on their eating abilities, nutritional intake, and physical and mental health as well as social well-being. Pain was a common problem among seniors.

> *"He was in severe pain. He couldn't eat; he couldn't chew. He was complaining of a lot of pain."* (Participant 5)

> *"This is really a problem because it's affecting her well-being."* (Participant 3)

Seniors with a physical handicap or reduced mobility attributed their poor experiences with dental services to a lack of dental clinics, following the universal access guidelines (33). This limitation included transportation as well as the architectural design of clinics.

> *"A lot of problems when we go to dental offices, some of them don't have the necessary equipment, in terms of accessibility, it's a bit difficult to get around into the dental cabins. When we go to the dentist, they always have a problem adjusting their equipment to the fact that the person is in a wheelchair and can't get around."* (Participant 2)

> *"There's no infrastructure. It's not at all accessible for these people with wheelchairs that are quite big. There are small practices that have no access."* (Participant 1)

Participants also reported that during the COVID-19 pandemic, their problems were exacerbated.

> *"Nobody visited us because everything was locked down."* (Participant 11)

**Appreciation for Home-Based Oral Healthcare Services**

Participants appreciated the home-based oral healthcare service and reported a high level of satisfaction as it met their expectations. Their expressions of gratitude highlighted the free dental care as well as receiving oral healthcare at their home.

> *"And it was excellent service. I can't complain about the service; it was everything he needed… And then it was a good dental care. Finally, at home."* (Participant 1)

> *"It's given me back a little zest for life that was lost. It's easier to communicate with others when you have a nice smile."* (Participant 8)

In addition, the participants valued the dental team's attitudes, competencies and flexibility. They recognized the compassionate and empathic behavior of the healthcare providers.

> *"The care was provided at home. Once in bed, once on the chair, to make sure that oral health was really taken care of by real professionals who were concerned about avoiding certain inconveniences related to mobility."* (Participant 2)

> *"At home, it was perfect... it was excellent and easy, especially since I'm a disabled person. It was perfect for me; it came at the right time because I had a lot of problems. So, it was great to have it not only at home, but then free of charge, and with people who were really very kind, very efficient professionals. I really appreciated the experience."* (Participant 2)

> *"I thought this service was excellent, whatever she did was right because I would like all my mom's professionals to be like that."* (Participant 3)

> *"It was very above my expectations."* (Participant 5)

> "*So, for patients who are a bit disabled, it makes them suffer less, there's less pressure."* (Participant 6)

> *"He can eat, he wasn't complaining, he was happier, he enjoyed his food more."* (Participant 5)

### Enhancing Home-Based Oral Healthcare

Participants provided useful recommendations mostly related to the future implementation and scale-up of home-based oral healthcare services in the province. They suggested to use public advertisement to raise awareness about these services to help and benefit more people.

> *"There should be more advertising, a free service this extraordinary, maybe people just don't know about it."* (Participant 8)

> *"Awareness raising on the government side, to make aware to the whole province of Quebec."* (Participant 1)

Participants expressed some concerns regarding the range of services. They suggested a larger basket of services and strategies to guarantee the sustainability of these programs, especially for people with reduced mobility. The affordability of care was also highlighted.

> *"They were supposed to do my partials, and they didn't do them, but everything else is fine."* (Participant 2)

> *"There are things that need to be continued and cavities that I have to see another doctor about now to remove the cavity. So it's going to be better if the dentist comes back."* (Participant 7)

> *"People who can't pay, have physical problems should be included for home care services."* (Participant 9)

> *"It should be free, that's important for people on modest incomes. When it comes to insurance for someone who's retired, it's not easy to get coverage."* (Participant 1)

## Discussion

This exploratory study provides a deep understanding of the experiences of homebound seniors with home-based oral healthcare services provided under the project. To our knowledge, this is the first qualitative study that explores the experiences of homebound Quebec seniors with free dental care provided at their homes. Furthermore, this project was conducted in collaboration with various stakeholders, representatives of health policymakers, and patients, to ensure that the research

findings will be beneficial to implementation in the real-world setting and will respond to the unique needs of the aging population (61).

The study findings highlight the challenges faced by homebound seniors in accessing oral healthcare services. Our results show that the shortcomings of dental practices, particularly the lack of required infrastructure for people with reduced mobility, are major barriers to accessing dental care services. Furthermore, long travel distances and long waiting times for public transportation have aggravated these challenges. Several studies in literature have also underlined these barriers as significant contributors to the burden of poor oral health in seniors (4, 62, 63).

It is noteworthy that although all our study participants had different sociocultural backgrounds, they shared the same experiences regarding their oral health problems and the challenges in access to care. The barriers expressed align with Penchansky and Thomas's theoretical framework, where the five dimensions of access including accessibility, availability, acceptability, affordability and accommodation, play a significant role in care disparity (64). The study findings show that patients had a positive experience with the care received at home since it addressed all the five dimensions of access (64).

As reported by the study's participants, accessibility was improved through home visits, offering a solution for individuals with limited mobility who had difficulty accessing traditional dental clinics (64). Accommodation was reported in terms of the flexibility of the dental team, who adapted their care to the unique needs of each patient (64). Affordability was ensured by providing free services, which was highly appreciated by participants (64). Availability was reflected in the provision of care directly at home, removing barriers like transportation and mobility issues (64). And finally, acceptability was achieved by the compassionate and professional attitudes of the dental providers, creating a positive, supportive environment for patients (64). Participants' suggestions about raising awareness of these services reflects in the additional dimension of access, introduced in 2016 by Saurman et al. (65); according to their research, increasing awareness enables patients to effectively utilize needed healthcare services, improving access and health outcomes.

Several domiciliary dental care programs have been implemented. These include home dental care programs in Canada (30, 66), dental clinics in long-term care facilities in Scotland (67, 68), nursing homes in Sweden (69) and in Australia (70), and the Hong Kong Outreach Dental Care Program

(ODCP) for residents in long-term care facilities (71). The results of studies conducted to analyze the efficacy of the domiciliary dental services showed that they improve oral health outcomes in seniors (30, 71, 72). The findings of studies conducted by Makansi et al. (2021) (25) and Ardenghi et al. (2017) (30) show that the home-based dental services have a profound impact not only on oral health, but also on nutritional intake, physical and mental health, and social life as well as overall well-being of the aging population. Our study results confirm these findings and indicate that home-based healthcare could alleviate oral healthcare disparity among the aging population (25, 30).

Our study participants' appreciation and gratitude toward the benefits of receiving care in their living environments is in line with the Moral Affect Theory of Gratitude introduced by McCullough et al. in 2001 (73). This theory suggests that gratitude depends on social and cognitive factors (73). Accordingly, people express appreciation when they receive a valuable benefit without any relationship between the benefactor and the beneficiary (73). McCullough also notes that people are more likely to express gratitude when they feel their needs have been met in ways that exceed their expectations, particularly in situations where it was unexpected (73).

Homebound seniors recommended extending Dent Ma Maison dental services to people with restricted mobility regardless of age. They also suggested providing regular check-ups for ongoing oral health maintenance and increase public awareness to reach a larger population. Similar recommendations were found in studies by Makansi et al. (2021) and Yang et al. (2022) (25, 71). The participants' demand for inclusion of prosthodontic services (denture fabrication) in home-based oral healthcare services highlights the need for a tailored approach to care, especially in light of the high percentage of edentulous seniors in Quebec (74).

Our study results support the findings of Makansi et al. (2021) (25) reporting that dental team competency is a main success factor in domiciliary dental care (25). In addition, patients with special care needs value the positive attitude of the oral healthcare providers, as it helps alleviate dental anxiety and enhances the overall care experience. Thus, improving both professional competencies and interpersonal communication skills should be encouraged in dental schools and through continuing professional education.

Our study results should be interpreted with caution, given some limitations. The study only includes participants from Montreal and thus may not be generalizable to other geographical and

societal contexts. Additionally, the sample size was small and COVID-19 pandemic restrictions prevented in-person interviews. However, a minimum of eight interviews could be adequate to achieve saturation (52). Telephonic interviews helped reach this group of hard-to-reach people, with varying levels of cognitive problems as well, and we achieved saturation. This innovative study was developed with key stakeholders (61). The diversity in the participant pool strengthens the study's findings. The trustworthiness of results was ensured constantly by ensuring reflexivity and detailed documentation.

## Conclusions

The findings of this study highlight the efficacy of home-based oral healthcare services from the perspective of homebound seniors. The patients' positive experience indicates the clinical relevance of these services and emphasize system-wide adaptations including infrastructure, resources, techniques and technologies to better address the preferences and realities of seniors with mobility and cognitive impairments. There is a need to scale-up and implement largely home-based oral healthcare services across the province to address the oral health needs of homebound seniors.

## Declarations

### Ethics approval and consent to participate:

Ethical approval of the study was obtained from the Institutional Review Board (IRB) of McGill University as well from the Integrated University Health and Social Services (IRB study number A05-B57-22 / eRAP 22-05-048). Informed written consent was obtained from all study participants, specifying that their participation was completely voluntary. Ethical guidelines were respected to ensure the confidentiality and anonymity of the participants.

### Consent for publication:

Not applicable

### Availability of data and materials:

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

### Competing interests:

The authors have no conflicts of interest to declare


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### Authors' contribution:

P.K.T., E.E., E.B., S.M., and S.V. contributed to the conception of Dent Ma Maison project. P.K.T., E.E., Y.C., S.R. and M.E.P. conceptualized the research project. P.K.T., E.E. and G.A.A. wrote the manuscript. All co-authors reviewed the manuscript. They approved the last version of this manuscript.


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**Appendix:**

**Table 1: Sociodemographic characteristics of participants**

| **Characteristics** | **Number of participants (*n* = 11)** |
|---|---|
| Female | 8 |
| Male | 3 |
| **Age group** | |
| 50–64 years | 4 |
| 65–85 years | 6 |
| Over 85 years | 1 |
| **Ethnicity** | |
| Indigenous / Visible minority | 7 |
| Other | 4 |
| **Physical disability** | |
| Yes | 5 |
| **Language** | |
| French | 5 |
| English | 6 |

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# CHAPTER 5: DISCUSSION

This chapter summarizes key findings and discusses them with existing evidence on the experience of homebound seniors with home-based oral healthcare. Key areas for improvement are identified to address homebound seniors' needs and contribute to high-value home-based oral healthcare. The following sections highlight an overview of limitations and strengths of the study. Implications and future research needs are considered. Then, knowledge mobilization is discussed in the last part of this chapter.

## 5.1 Summary of Findings

Patient experience is a key component of the quality of care and is grounded in the person-centred care and value-based oral health paradigms.[161] In Quebec, this concept is especially valuable because of the demographic change of the population, the continued rise of seniors with reduced mobility, and seniors' aspiration to age in place and at home as long as possible.[29, 132] According to a scoping review on challenges and opportunities for domiciliary dental service for the seniors,[20] a strong partnership among key stakeholders is vital to enhance both access to and quality of oral healthcare for seniors.[20]

This participatory project with decision makers provides an in-depth understanding of experiences of homebound seniors with home-based oral healthcare services under the Dent Ma Maison project. Three major themes were highlighted: oral healthcare hurdles for seniors, appreciation for home-based oral healthcare services, and enhancing home-based oral healthcare.

The study participants  the burden of the geriatric syndrome and the physical frailty[58] characterizing homebound seniors, which may affect their functional abilities such as dental hygiene and flossing, contributing in turn to the higher prevalence and incidence of oral diseases. Homebound seniors expressed relief from the pressure, stress and the financial burden associated with accessing private dental clinics. They focused on eating-related issues from oral diseases and the impacts on their quality of life. In a narrative review on seniors oral health (2022), the authors reported on frequent dental diseases and conditions such as periodontal diseases, edentulism, oral mucosal lesions, oral infections and temporomandibular pathology with seniors.[179] Additional multilevel factors whether systemic (e.g., lack of policies and guidelines), or organizational (e.g.,

inadequate infrastructure), or associated with the dental oral healthcare provider (e.g., attitudes and beliefs) or caregiver (e.g., fatigue, seniors, lack of training)[20], may contribute to their unmet oral health needs and poor oral health. [68, 10, 69, 12]

All the participants in the study reported positive experiences with both the oral healthcare and the dental team's compassionate approach. They reported a high level of satisfaction with free services and for the oral care that was tailored to their needs.[138, 180] Communication, as well as the dental team's attitudes and competences, were identified as crucial factors in the delivery of oral healthcare services to this population with special care needs.[12, 116] The Dent Ma Maison project was perceived to represent the future of oral healthcare, with its capacity to respond to the preferences and expectations of homebound seniors. The seniors recognized it as timely, convenient and patient-centred care that provided basic oral health services to them in their living environment. They expressed how they were treated with dignity in a manner that met their expectations, preferences, and care needs. Their statements are also corroborated in a study on experiences of seniors showing that home-based oral healthcare provides relief from stress associated with extensive travel distances, making access to care more convenient and less burdensome for seniors, as well as reducing anxiety and discomfort, with care provided in familiar surroundings.[73]

Given the increasing preference of seniors for "aging at home," family caregivers play a crucial role in supporting homebound seniors.[181] Seniors' family caregivers help with everyday activities such as medical appointments, transitions between settings of care, self-management tasks, medication management, and foods.[181, 182] These responsibilities may significantly affect their physical, emotional, and financial health and life, as well as causing social isolation and work productivity loss,[181] further exacerbating caregivers' stress,[81] particularly when these caregivers are also seniors.[183] As reported by Ardenghi et al. (2017),[176] caregivers have expressed concern about navigating through the dental care system. Home-based oral healthcare alleviates their logistical related-stress, making their caregiving responsibilities more manageable while improving seniors' overall wellbeing.[176] A similar result was reported by the study participants regarding the physical, social and financial impacts of free home-based oral healthcare.

Among key areas for improvement, the study participants remarked on the sudden discontinuity of the Dent Ma Maison pilot project. The logistic challenges of this project were quite similar to other domiciliary oral health programs (such as the Outreach Dental Care Program in Hong Kong), particularly regarding the limited basket of services.[184] Similarly, authors of a recent scoping review on domiciliary oral care identified oral hygiene procedures and oral health screenings as the most common delivered services, with restorative care and prosthetic dental care less common.[20] A few study participants highlighted the lack of prosthetic services in the basket of services, even though the seniors were previously informed about which oral healthcare services were included under the project. Our basket of services included prophylaxis, periodontal scaling, fluoride varnish application, and periodic examinations as elements of preventive care, whereas restorations and extractions were considered curative treatments. In addition, there were emergency examinations and rebasing of prostheses, but the fabrication of prostheses was not included in the pilot study. However, the need for comprehensive dental care that goes beyond basic hygiene and screening and provides services for oral function restoration, and the need for tailoring interventions based on needs and demands of patients and their care environments, was also highlighted,[20] as well as the need to increase the study of geriatric dentistry within the scope of dental education.[52, 63, 64]

To improve the spread of home-based oral healthcare services for homebound seniors, the study participants made a few recommendations for equitable home-based oral healthcare. Firstly, they highlighted affordability, mostly for those with limited financial resources. Cost is still one of the major barriers in accessing oral healthcare, especially for marginalized populations such as seniors.[185, 65, 10] However, despite the implementation of the recent Canadian Dental Care Plan (CDCP) aiming to improve the affordability of oral healthcare, it focuses on independent seniors and gives limited attention to homebound seniors.[84] Secondly, the study participants suggested expanding this service to all the people with reduced mobility irrespective of their age. Thirdly, the frequency of dental checkups was identified as a strategy to ensure timely access to oral healthcare. Increasing the frequency of dental visits to 6 months was a strong recommendation to improve access to oral healthcare.[79, 184] Along with this there were strong recommendations to take measures for raising awareness to promote adequate utilisation of these services, thus ensuring they reach the population in need was strongly emphasised by participants. Awareness of preventive services has been seen to have a direct relation with their utilisation, as highlighted by

Chen et al (2013) reporting levels of awareness and utilisation of preventive services among adults aged 65 years and above under the Taiwan Government's National Health Insurance (NHI).[186] Finally, a focus was underscored on the inclusion of prosthesis fabrication in home-based oral healthcare services.

### 5.2 Limitations of the Study

While this study provides valuable insights into the experiences of homebound seniors with home-based oral healthcare services, several limitations must be acknowledged. First, the study sample size was relatively small, which raises concern over the transferability of the findings. However, according to literature, approximately 9–17 interviews are considered as sufficient to achieve saturation, making the number of interviews here adequate within the interpretive description methodology.[187, 188] Our findings reflect the vision of people receiving home-based care through the Quebec health regime and living in urban regions. However, they may not accurately represent the needs of homebound seniors living in rural and remote regions, or of homebound seniors receiving private home-based oral healthcare. Secondly, as an early researcher in qualitative design, having received a strong training on qualitative research, it was possible for me to skip some content for an in-depth data analysis. However, credibility was ensured through peer-debriefing with my supervisors and maintaining an audit trial to document research decisions and ensure transparency.[189] To ensure the trustworthiness of the findings, we maintained reflexivity and provided detailed documentation throughout the research process.[190] Additionally, the COVID-19 restrictions for in-person meetings, the medical status of this target population, and the ethical challenges for a multicentric study all led to a delay on the beginning of interviews, contributing to a potential recall bias and the unavailability of participants. However, we were able to conduct individual and dyadic interviews, as well as remote interviews to collect valuable data and achieve saturation.

### 5.3 Strengths of the Study

To our knowledge, this is the first pilot study on home-based oral healthcare services developed in partnership with key stakeholders in patient-oriented research.[191] Secondly, this project was built on the strong collaboration with key stakeholders involving the patients' partners, policymakers, and various other stakeholders[191, 192] to address the oral health needs of homebound seniors. The

involvement of the patient's partner helped to ensure contextual relevance of the project to the patient's needs.[193]

Strong partnerships are imperative to enhance relevance, credibility and applicability of the research findings.[194] Integrated care models improve accessibility, quality, and efficiency, ensuring that individuals with complex health and social needs receive comprehensive and well-coordinated support[103] contributing to a more responsive and sustainable healthcare system.[103] Thirdly, the diversity of the participant pool strengthens the study's findings, demonstrating that home-based oral healthcare services have the potential to reach vulnerable populations and deliver quality care. The findings of this study may be transferable to other contexts and settings, as we used purposive sampling to recruit participants. Finally, this project is innovative in focusing on a key indicator of the quality of care. Understanding the experience of seniors with healthcare delivery is crucial for improving care quality, patient satisfaction, and health outcomes. A positive experience fosters trust, enhances treatment adherence, and reduces dental anxiety, leading to better long-term oral health. Our focus on understanding the experiences of patients and caregivers with the Dent Ma Maison project in Quebec is essential for quality improvement and ensuring that these services address their unique needs and realities.

## 5.4 Future Directions

### 5.4.1 Future Directions for Practice

With an increasing preference for "Aging at home," home-based oral healthcare services are becoming an essential alternative scope of dental practice.[20, 125] Our findings highlight the importance of communication, the dental team's qualifications and competences, and the strong value of empathic and person-centered oral healthcare in dentistry. By ensuring strong communication between the healthcare team, dentists, patients and their caregivers, patients can receive high-quality, comprehensive care tailored to their needs, regardless of their location. While the study participants didn't point to the lack of training, this concern has often been reported as an obstacle to home-based oral healthcare. Future dentists should be aware of the societal challenges across the world, and of the aging population and its impact on oral health and be equipped to handle homebound seniors' unique and unmet oral health needs. Additionally, enhancing skills and knowledge of dentists in treating geriatric patients in the home setting can

improve the number of dental professionals in this domain, potentially improving service delivery. A lack of training in home-based oral healthcare and mobile dentistry in dental curricula has been seen as a major barrier limiting the willingness and ability of dental teams to treat geriatric patients in domiciliary care.[73] Specialized education in geriatric dentistry will help in addressing these workforce challenges.[73, 195] Involving other oral healthcare professionals such as dental hygienists can further expand access to preventive care. Their role in oral hygiene education and early detection of oral health issues can significantly contribute to better oral health outcomes for homebound seniors.[63] Moreover, training of caregivers in oral health has been seen as an effective method in daily oral hygiene maintenance.[20, 196]

### 5.4.2 Future Directions for Research

The Dent Ma Maison pilot project was implemented to identify the factors and the enablers to implement this project. These findings may inform new research questions, as the study participants highlighted many key points to improve the implementation of home-based oral healthcare. Future studies are needed to assess the effectiveness of these services. This pilot project serves well as a feasibility study aiming to evaluate the potential for scaling up such an innovation in other regions.[197] Additionally, comparative studies with other regions in rural Quebec or with different healthcare models may provide deeper insights for oral healthcare delivery improvement. The key components derived from this qualitative study could be used to develop a questionnaire on oral healthcare experiences of homebound seniors with home-based oral healthcare.

### 5.4.3 Future Directions for Policymakers

Integrating home-based oral healthcare services into the primary healthcare system is crucial to improve timely, equitable access to high-quality oral healthcare services. This initiative is a complement to the whole dental program for seniors in Quebec, and to the CDCP.[84, 89] Policies and guidelines are critical for the successful integration and support of home-based oral healthcare in the primary healthcare system.[20] Government should prioritize developing strong and cohesive policies that recognize domiciliary dental care as an important component of geriatric healthcare.[20] This pilot study serves as a foundational step in demonstrating the feasibility and benefits of such services. Finally, establishing regulations that ensure affordability and accessibility, particularly for low-income seniors, or other populations with reduced mobility regardless of

sociodemographic variables, will help make these services more inclusive and equitable. These results will inform decision-makers and policymakers on how to refine their strategies to leverage enablers and overcome barriers to improve the successful implementation of home-based oral healthcare for example, by offering a more comprehensive basket of services.

### 5.5 Knowledge Mobilisation

To effectively disseminate the study findings, they were presented at various provincial and national conferences, using different channels and targeting dental students, dental educators, researchers, decision makers and policymakers:

Oral Presentations:

- Oral Presentation at the Canadian Association of Public Health Dentistry Conference (CAPHD) on September 20, 2024.
- Oral presentation at Research Day organized by the Faculty of Dental Medicine and Oral Health Sciences in McGill University on April 24, 2024.

Poster Presentations:

- Poster presentation at the Canadian Oral Health Summit (COHS) in Halifax on July 21, 2024.
- Poster presentation at Network's Science Day by Oral and Bone Health Research Network (RSBO) on November 28, 2024.
- Poster presentation at Journee's dentaire internationales du Quebec (JDIQ) on May 28, 2024.

# CHAPTER 6: CONCLUSIONS

The findings of this participatory and qualitative study highlight the impact of home-based oral healthcare services on the oral health and overall wellbeing of homebound seniors. Participants emphasized the critical role of these services in overcoming accessibility barriers and addressing disparities in oral healthcare. The positive feedback on the Dent Ma Maison project underscores its efficacy as a patient-centered, community-based oral healthcare intervention for improving seniors' quality of life. Home-based oral healthcare delivery serves as a promising and vital alternative for delivering oral healthcare for vulnerable populations like homebound seniors and also addresses all five dimensions of Penchansky's theory of access to care.[198]

These study findings have some implications for practice, policy, and research. They may help oral healthcare providers to tailor their services to better meet the unique needs of seniors population and deliver it with compassion. Furthermore, they may provide insights to policymakers in exploring new opportunities to address the unique needs and barriers of homebound seniors in accessing oral healthcare services. Future research should further explore the scaling of this project in other regions with homebound populations. In addition, it will be relevant to explore other key partners' perspectives on the implementation of home-based oral healthcare. More collaborative efforts between oral and general healthcare providers, policymakers, and community organizations will be essential in optimizing home-based oral healthcare services and integrating them into healthcare systems.

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# APPENDICES

## 8.1 Appendix 1: Methodology

### 8.1.1 Study Design

This qualitative study used an interpretive description approach. Introduced by Sally Thorne. This methodology helps to capture the nuances of patient experiences in the healthcare setting and generates evidence-based findings to inform clinical practice and decision-making.[199, 200] This flexible approach is relevant in developing evidence based insights that can inform practice and improve patient care. [201, 202]

We reported our data following guidelines of Standards for Reporting Qualitative Research.[203]

### 8.1.2 Study Settings and Description of the "Dent Ma Maison" Pilot Project

The Dent Ma Maison (DMM) project provided community-centered home-based oral healthcare services designed to meet the oral health care needs of seniors. It was a pilot project integrating oral health care services in the basket of frontline-home care services for seniors in Montreal, in the province of Quebec, in Canada. Developed in collaboration with key interested partners, including the Faculty of Dental Medicine and Oral Health Sciences of McGill University, the home care services program in two Quebec health institutions - CIUSSS (Integrated University Health and Social Services Centre)- CCOMTL (CIUSSS West-central Montreal) [177] and CCSMTL (CIUSSS South-central Montreal) [178], and dental policy-makers from the Ministry of Health and Social services (MSSS). A patient partner was involved in the research component of this project. Each of these Quebec home care services programs is an interdisciplinary team including social workers, occupational therapists, specialized education technicians, physicians, and nurses and speech language pathologists. They were responsible for evaluating patients' needs and referring them to the dental staff. Among them, a case manager was responsible for connecting the patients to the dental team. Within the DMM project, oral healthcare services were provided free of charge by a dental team composed of a dentist working with her staff. Emergency examination, complete oral examinations, periodontal scaling and general oral prophylaxis, fluoride application, anterior and posterior composite restorations were included in the set of baskets of services. Prosthesis fabrication was excluded from the basket of services, while prosthesis rebasing, relining, adjustment, cleaning and polishing or prosthesis were included.

### 8.1.3 Sampling and Participants

Purposeful sampling was used to identify and recruit participants for data collection.[187, 204] The study participants were recruited with the assistance of dentist involved in the DMM project and case managers, they identified participants for the study based on their cognitive abilities and their capacity to engage in the interviews. Then, a pool of seniors received oral health care from DMM project. For participants with severe cognitive impairments, their informal caregivers served as proxies for the interviews.

Inclusion criteria

All patients with middle or severe cognitive and physical issues and with an oral health need were eligible to receive the oral healthcare services under the DMM project. However, they should be able to speak in French or in English to be considered in the research.

Exclusion criteria

Seniors below the age of 65 years were not considered, even though they received home-based oral healthcare services under the project. Even though our criteria were very well defined and presented to the clinical teams, the dental staff received few referrals for patients under 65 years, who have received some oral healthcare services. In addition, people who were not fluent to speak in French or English were excluded.

### 8.1.4 Data Collection

We consulted the patients' records to describe the oral healthcare services provided. For the second objective, two bilingual tools were used for data collection: a sociodemographic survey and an interview guide. The bilingual sociodemographic survey could be completed by the patient before or during the interview. It consisted of a set of eight questions regarding age, gender, ethnicity, the elder's disability and the participating sites. The bilingual interview guide was developed based on existing literature and the research team's expertise. It was reviewed by the members of the research team, including the patient partner, to ensure the relevance and the clarity of questions, as well as its length. It consisted of 14 open-ended questions with probes. We offered some accommodation during the interviews with seniors, such as doing it in two parts, giving breaks to participants, conducting interviews of their informal caregivers as proxies if the person was interested and available, or if the senior was comfortable with the attendance of the caregiver.

We have conducted 11 semi-structured, telephonic, individual and/or dyadic interviews between June 2023 to October 2023, via the Cisco Webex application (cloud-based platform for conference calls in private meeting rooms. Each telephonic interview approximately lasted up in average 45 minutes and was audio-recorded. Interviews were conducted until data saturation was reached, meaning no new or emergent information would add value to the project.[205]

### 8.1.5 Data Analysis

Descriptive analysis was conducted to describe the participants, and the basket of services offered under the DMM project. In addition, an inductive thematic qualitative analysis was manually performed involving transcription, translation of interviews, multiples readings, codification, recodification, debriefing, data display and interpretation.[187, 204, 206]

All audio-recorded interviews were deidentified to ensure participants' anonymity. Each patient participant was considered as the unit of analysis. Transcripts were read multiple times to become more familiar with data and initial codes were generated. Then, within each of these categories of data, we used an interpretive-description approach to analyze quotes inductively to develop subthemes in each construct.[207, 208]

To ensure credibility and trustworthiness, transcripts were independently reviewed by two members (GA, PKT) and a preliminary list of codes was developed. The memos were used to record the thought processes and decisions made of the members, thereby creating audit trail to ensure the rigor of the research and reflexivity. [190, 189] A multiple coding process was to increase reliability.[207, 208] Differences in interpretation were resolved by discussion until common consensus was achieved.

### 8.1.6 Ethics

Ethical approval was received from the Institutional Review Board (IRB) of McGill University as well as from the participating sites (IRB study number A05-B57-22 / eRAP 22-05-048). The participation was totally voluntary. Informed written consent was obtained from all study participants.

## 8.2 Appendix 2: Consent Form

**Title of the study: Dent Ma Maison**

Integration of oral health care into primary home health care for frail elderly/community dwelling elders home.

You are invited to participate in a research project. This study is being conducted to explore the experience of those involved in the implementation of Dent Ma Maison, a model of home-based oral health care at CCOMTL/CCSMTL. Before agreeing to participate in this project, please take the time to carefully read the information below. This consent form explains the purpose of the study, the nature of your participation, the benefits, advantages, risks and disadvantages, and your rights.

This consent form may contain words that you do not understand. If you have any questions related to your involvement in the project, you are invited to contact the principal investigator (Dr. Pascaline Kengne Talla) of this research project (or a member of the research team). You do not have to take part in this study if you do not wish to. Your acceptance or refusal to participate in the study will not affect your career or professional relationships.

Nature and Objectives of the Study

A growing number of elderly people aspire to "Age at Home" and receive health care services in their own environment. However, the current organization of home care in Quebec/Canada does not include oral care as a set of health care services. Concerned by it, this pilot demonstration project, called "Dent Ma Maison" is a model for the organization and delivery of oral health care at home to the population aged 65 years and older, who are not able to travel to receive oral health care. This study proposes to evaluate an innovative model centered on the needs and realities of patients and their caregivers, as well as the key knowledge users. Thus, this project aims to: 1) describe the portrayal of elders' oral health needs and evaluate the gain produced by the implementation of Dent Ma Maison in terms of improvement of oral health perceived by elders/caregivers and stakeholders; 2) evaluate the acceptability of Dent Ma Maison model on three levels (micro, meso, macro); and 3) identify the barriers and facilitators for the implementation of Dent Ma Maison model.

This project involves two participating sites, the CIUSSS du Centre-Ouest-de-l'Île-de-Montréal and the CIUSSS du Centre -Sud-de-l'île de Montréal. The participants are the users of home-based care (HC) of the Soutien à l'autonomie des personnes âgées (SAPA) program, their caregivers, clinicians, decision-makers, policymakers and the dental team that provides home-base oral care. Therefore, you are invited to participate in this project in one of these capacities. Please note that the acceptance or refusal to participate in this study will not impact on the care and services you receive, nor the existing therapeutic relationships with the dental team or care team.

Process of the Research Project

You are invited to participate in a 45-60 minute in-person or remote interview (by phone or through an electronic platform such as Teams or Zoom/Cisco Webex) with or without your caregiver. During the interview, we will ask you a series of open-ended questions about: 1) your experience with the home-based oral health care model (perception, relevance, expectations, interaction, communication with dental and HC teams involved, satisfaction with the care delivery model); 2) your experience with the oral health-related quality of life (e.g., masticatory status, nutritional status, functional status, etc.) and previous experience regarding the access to care (ex. last dental appointment, duration of appointment, previous oral care services); 3) benefits, barriers, enablers, strategies and suggestions for the implementation and the sustainability of Dent Ma Maison model.

Data collection will be conducted by the principal investigator or a research assistant with experience in conducting interviews and trained by the principal investigator.

Audio recording of interviews This research involves audio recordings of individual interviews. This recording will be led by the research team who will use either a recorder or an electronic platform such as Teams or Zoom or Cisco Webex. We will use audio recordings primarily for research purposes and to improve the flow of interviews, as it can be practically difficult at the same time to follow- you and take notes of everything said during the meeting. However, you do not have to consent to the recording to participate in this project. If you do not consent to this, the data will be collected in other ways, specifically through notetaking only.

Socio-Demographic Questionnaire: You are also invited to fill -out a socio-demographic data questionnaire, either before the day of the interview or on the day of the interview. If you complete it before the day of the interview, you will be asked to submit it electronically. This activity will take approximately a maximum of 5 minutes of your time.

Examples of questions included in the socio-demographic questionnaire could be:

- Can you indicate your sex assigned at birth? - Which gender do you identify with most?
- Do you identify yourself as a person living with a disability? - What age group do you belong to? - What is the sector related to the CIUSSS where you received home based oral health care?

Dental Record: This study requires consulting your dental record archived in a secure server at the Faculty of Dentistry of McGill University, available to the dental team. We would like to access the information needed to conduct the research project (Aim 1 of the study) on your dental status, dental procedures performed, as well as unmet needs. For instance, data extracted from your dental record could be:

- Number of teeth in the mouth,
- Number of missing teeth.
- Number of teeth treated.
- Number and nature of treatments carried out,
- Number and nature of unmet needs.

This information from your dental record will be used for research purposes only and with your permission. If you do not want the research team to consult your dental records, you can still participate in the study. It is also possible to give your consent to consult your dental records, without participating in the research project.

There is a possibility that we may contact you after the interview for further clarification on questions that were not fully developed.

**Table: Research Project Process (activities in which you will participate)**

| **Research activities** | **Frequency** | **Duration** | **By whom** | **Where** | **Audio recording** |
|---|---|---|---|---|---|
| Individual interview | 1 | 45-60 minutes | Research team | At your home or virtually | X |
| Socio-demographic questionnaire | 1 | 5 minutes | Yourself | At your home | No |

Duration of Participation in the Study: Your participation consists of giving 45-60 minutes of your time for a research interview.

What is Expected from You: As a research participant in this study, we invite you to:

- Complete a socio-demographic data questionnaire that will takes 5 minutes of your time

- Participate in a 45-60 minutes in-person or remote individual interview.

Risks and Disadvantages: There are no anticipated major physical, psychological, or confidentiality risks associated with your participation in this research project as it only involves questions asked during an interview. You may find the interview long, but short breaks will be taken in order for you to feel comfortable sharing your experience. Some questions may create unexpected emotions for you. If this occurs, some strategies will be done to mitigate potential harm or distress. You will be invited to discuss these emotions/distress with a member of the research team who will either give you a break, stop the interview or make other arrangements to deal with the situation, i.e., skipping the question. A member of the research team will be able to assist you or direct you to the appropriate resource needed. You are always free to decline to answer any question.

Information about you will be collected electronically, using devices, applications, and data transfer and storage tools over the Internet. The researcher responsible for this research is committed to protecting your personal data (see the "Privacy" section below).

Potential Benefits: You will not benefit personally from participating in this study. However, your contribution to the research project will be beneficial in analyzing the feasibility of this pilot study and potentially improving the implementation of this new innovative model of oral health care and services. In addition, you will be able to contribute to the advancement of the science of integrating oral care into primary care services, as well as improving the deployment potential of this model of care delivery. Ultimately, you will contribute to the final goal of improving access to care, quality of service, and health equity.

Conflict of Interests: The researcher responsible for this study has no conflicts of interest to declare, nor do the other members of the research team.

Compensation : You will not be compensated for your participation in this research project.

In Case of Prejudice**:** By agreeing to participate in this study, you do not waive any of your rights. Furthermore, you do not release the research team or the institution from their civil and

professional responsibilities. If you are harmed in any way as a result of any activity related to this research project, you will receive the care and services you require.

Confidentiality:

Data collection: During your participation in this research project, the principal investigator as well as the research team will collect, in a research file, data about you that is necessary to meet the scientific objectives of the research project.

Use of Technology and the Internet: During your participation in the study, data (information) about you will be collected electronically, using devices, applications, and Internet-based data transfer and storage tools. All technological tools (e.g., devices, applications, cameras) and means that will be used to collect, transfer, analyze and store data from research participants will follow a data security plan established by the principal investigator. This person is qualified to do so and to manage this data in a secure manner. Although the researcher responsible be committed to protecting your data by taking all possible precautions to avoid a breach of confidentiality related to the use of these technologies, it cannot be guaranteed that these safeguards will be 100% effective.

Participant access to the research file: You have the right to access your research file to verify the collected information and correct them, if necessary, until the data analysis begins. However, to do so, you must submit a request by email to the principal investigator.

Data access**:** For purposes of surveillance, control, protection and security, your research file may be reviewed by persons authorized by the Research Ethics Board of CIUSSS du Centre-Ouest-de-l'Île-de-Montréal, CIUSSS du Centre-Sud-de-l'île de Montréal or McGill University. These individuals will have access to your personal research data but will adhere to a confidentiality policy.

Coding: All data collected (including personal information) will be kept confidential to the extent permitted by law. You will be identified only by a code number. The code key (list) linking your name to your research file will be kept separate from other information collected by the principal investigator. The file containing this list will be password-protected (encrypted) and stored on a secure server under lock and key in a password-protected computer and secure server at McGill University. This computer is available in the office of the principal investigator for a period of 10

years after the end of the study, in accordance with the policies in effect at the CCOMTL/CCSMTL, after which they will be permanently destroyed.

Transcribers: Transcription of the interview recordings will be done by members of the research team. However, we may use the services of a transcriber for the information contained in the audio recordings in a written format. The audio files and documents will be transferred securely. This person must keep your information confidential and destroy it securely. This person will sign a confidentiality agreement with the research team.

Future Use of Data, Communication and Publication of Research Results

Future use of data: There is no future use of the data that is anticipated for this project. The data collected will be used only for the purposes intended and stated in the objectives of the project.

Communication and publication of research results: This research will present its results in the form of reports, publications and other research communications that may or may not contain quotes from research participants. Although these quotes do not directly identify you, it is possible that their content may contain unique details that would allow people who know you to identify you. In such a case, these elements would be modified to protect your identity. We will take all necessary steps to ensure that you will not be identified, for example by using a code or pseudonyms. You can obtain a summary of the results of the research study when it becomes available by indicating your choice to the research team during the interviews.

Volunteer Participation and Right of Withdrawal: Your participation in this research project is voluntary and ongoing. You are free to refuse to participate. You may withdraw from this study at any time, without giving reasons, by informing the principal investigator or a member of the team.

If you withdraw from the research project, no further data will be collected. Information already collected as part of this study will nevertheless be retained, analyzed or used to ensure the integrity of the research project, as specified in this document, unless you ask us to destroy it before the analysis of the research data begins.

Identification of Resource-Person

If you have any questions or problems related to your participation in this study, or if you wish to withdraw from the study, you can contact the researcher in charge or someone from the research team: Dr. Pascaline Kengne Talla, pascaline.kengnetalla@mcgill.ca

If you have any questions or concerns about your rights as a participant in this research project, or if you have any complaints or comments, you may contact:

- The Local Service Quality and Complaints Commissioner of the CIUSSS du Centre-Ouest-de-l'Île-de-Montréal at (514) 340-8222, extension 24222.

The Psychosocial Research Ethics Committee (PSY) of the CIUSSS du Centre-Ouest-de-l'Île-de-Montréal REC has given its ethical approval to the research project and will ensure its follow-up for the participating institutions in the Quebec health and social services network.

- The Local Service Quality and Complaints Commissioner of CIUSSS du Centre-Sud-de-l'Île-de-Montréal

Ms. Céline Roy
4675 Belanger Street, Montreal, QC, H1T 1C2
Tel: 514 593-3600
Email: commissaireauxplaintes.ccsmtl@ssss.gouv.qc.ca

Contact information for complaints, concerns and recommendations related to research involving human subjects at McGill University

- Associate Director, Research Ethics, Office of the Vice-Principal (Research and Innovation): (514) 398-6831
- Human Research Ethics Officer, Faculty of Medicine, McGill University: Ms. IIde Lepore, at 514-398-8302 or by email at ilde.lepore@mcgill.ca

### 8.2.1 Consent form for seniors

Title: Dent Ma Maison: Integration of oral health care into the primary home health care for frail seniors/community dwelling seniors

I have read the information and consent form. The research project and the consent form were explained to me. My questions have been answered, and I have been given time to decide. I will be given a copy of this consent form signed by a member of the research team. By signing this

form, I understand that I am not waving my legal rights. My participation is voluntary, and I may withdraw from the study at any time without having to give reasons or face any consequences. My withdrawal from the study during the study will not affect any dental care my family member is receiving or in the future. Upon reflection, I agree to participate in this research project under the conditions stated herein.

- I agree to the audio recording of the individual interview and/or the group discussion in which I will participate.
  YES NO INTIALS
- I would like to receive a summary of the results of this study when they become available.
  YES NO INITIALS
- I authorize the researcher responsible for this research to contact me to ask my wishes to participate in other research projects.
  YES NO INITIALS

Name of participant:

Signature: Date :

**Signature of person obtaining consent:**

I have explained the research project and this information and consent form to the participant and have answered the questions he/she asked me.

Name of person obtaining consent:

Signature: Date:

**Commitment of the responsible researcher**

I certify that this information and consent form has been explained to the participant and that any questions he or she has have been answered.

I agree with the research team to abide by what has been agreed upon in the information and consent form and to give a signed and dated copy to the participant.

Name of the responsible researcher:

Signature: Date:

**Signature of a witness**

YES NO NA

A witness signature is required for the following reasons:

- Difficulty or inability to read - The person (impartial witness or family caregiver) signing below attests that the consent form has been read and that the project has been accurately explained to the participant, who appears to have understood it.
- Misunderstanding of the language of the consent form - The person signing below acted as an interpreter (e.g., caregiver) for the participant during the consent process.

Name of witness:

Signature: Date:

### 8.2.2 Consent form for caregivers

Title: Dent Ma Maison: Integration of oral health care into the primary home health care for frail seniors/community dwelling seniors

I have read the information and consent form. The research project and the consent form were explained to me. My questions have been answered, and I have been given time to decide. I will be given a copy of this consent form signed by a member of the research team. By signing this form, I understand that I am not waving my legal rights. My participation is voluntary, and I may withdraw from the study at any time without having to give reasons or face any consequences. My withdrawal from the study during the study will not affect any dental care my family member is receiving or in the future. Upon reflection, I agree to participate in this research project under the conditions stated herein.

- I agree to the audio recording of the individual interview and/or the group discussion in which I will participate.
  YES NO INTIALS
- I would like to receive a summary of the results of this study when they become available.
  YES NO INITIALS

- I authorize the researcher responsible for this research to contact me to ask my wishes to participate in other research projects.
  YES NO INITIALS

Name of participant:

Signature: Date :

**Signature of person obtaining consent:**

I have explained the research project and this information and consent form to the participant and have answered the questions he/she asked me.

Name of person obtaining consent:

Signature: Date:

**Commitment of the responsible researcher**

I certify that this information and consent form has been explained to the participant and that any questions he or she has have been answered.

I agree with the research team to abide by what has been agreed upon in the information and consent form and to give a signed and dated copy to the participant.

Name of the responsible researcher:

Signature: Date:

**Signature of a witness**

YES NO NA

A witness signature is required for the following reasons:

- Difficulty or inability to read - The person (impartial witness or family caregiver) signing below attests that the consent form has been read and that the project has been accurately explained to the participant, who appears to have understood it.

- Misunderstanding of the language of the consent form - The person signing below acted as an interpreter (e.g., caregiver) for the participant during the consent process.

Name of witness:

Signature: Date:

## 8.3 Appendix 3: Sociodemographic Forms

### 8.3.1 Sociodemographic form for seniors

1. Can you indicate your assigned sex at birth?
    - Male
    - Female
    - Prefer not to answer
2. Please select the option that best describes you:
    - Female
    - Male
    - Gender-fluid, non-binary, and/or Two-Spirit
    - Prefer not to answer
    - Other, please specify_____
3. Do you identify as an Aboriginal person, i.e. First Nation (North American Indian), Métis, or Inuk (Inuit)?
    - Yes
    - No
    - Prefer not to answer
4. Do you identify as a member of a visible minority in Canada?
    - Yes
    - No
    - Prefer not to answer
5. Do you identify as a person with a disability?
    - Yes
    - No
    - Prefer not to answer

6. Which age group do you belong to?
    - 65-74 years old
    - 75-84 years old
    - 85 years and older

7. Where do you receive home health care?
    - Integrated Health and Social Services University Network for South Central Montreal (CIUSSS South-Central Montreal)
    - Integrated Health and Social Services University Network for West-Central Montreal (CIUSSS West-Central Montreal)
8. In which sector of this CIUSSS do you receive home based oral health care?
    - Jeanne-Mance sector (Faubourgs, Plateau-Mont Royal and Saint-Louis du Parc)
    - Verdun sector (Verdun, Côte Saint-Paul, Saint-Henri, Pointe Saint Charles)
    - Cavendish sector (CLSC Réné-Cassin, CLSC Benny Farm)
    - La Montagne sector (CLSC Métro, CLSC Par Extension, Parc Extension)

### 8.3.2 Sociodemographic form for caregivers

1. Can you indicate your assigned sex at birth?
    - Male
    - Female
    - Prefer not to answer
2. Please select the option that best describes you:
    - Female
    - Male
    - Gender-fluid, non-binary, and/or Two-Spirit
    - Prefer not to answer
    - Other, please specify_____
3. Do you identify as an Aboriginal person, i.e. First Nation (North American Indian), Métis, or Inuk (Inuit)?
    - Yes
    - No
    - Prefer not to answer
4. Do you identify as a member of a visible minority in Canada?
    - Yes
    - No

- Prefer not to answer

5. Do you identify as a person with a disability?
    - Yes
    - No
    - Prefer not to answer
6. Which age group do you belong to?
    - Less than 30 years old
    - 30-49 years old
    - 50-69 years old
    - Over 70 years old
7. Where does the client receive home health care?
    - Integrated Health and Social Services University Network for South Central Montreal (CIUSSS South-Central Montreal)
    - Integrated Health and Social Services University Network for West-Central Montreal (CIUSSS West-Central Montreal)
8. In which sector of this CIUSSS, did your elder receive home based oral health care?
    - Jeanne-Mance sector (Faubourgs, Plateau-Mont Royal and Saint-Louis du Parc)
    - Verdun sector (Verdun, Côte Saint-Paul, Saint-Henri, Pointe Saint Charles)
    - Cavendish sector (CLSC Réné-Cassin, CLSC Benny Farm)
    - La Montagne sector (CLSC Métro, CLSC Par Extension, Parc Extension)

## 8.4 Appendix 4: Interview Guides

### 8.4.1 Interview guide for seniors

1. What can you tell me about your oral health?
2. Why did you use Dent Ma Maison services?

   *Probes: How did you hear about Dent Ma Maison?*
3. Describe the services received through the Dent Ma Maison model.

   *Probes: transportation, infrastructure, type of services, quality and quantity of services*
4. What were your expectations in receiving services from Dent Ma Maison model?
5. What groups of people should benefit from the Dent Ma Maison model?
6. Tell me about your experience with the Dent Ma Maison model

   *Probes:*
   a. *Continuity of services (communication, appointment scheduling, flexibility)*
   b. *Shared decision-making (involvement in the choice of oral care and services)*
   c. *Patient-centered care (understanding your needs, considering your opinion in treatment choices, answering your questions).*
   d. *Development of knowledge to better manage your dental and general health,*
   e. *Approach to care: availability, planning, scheduling, waiting time, follow-up, free services, comprehensive approach to health, or focus only on the oral cavity*.
7. What are your benefits in using the Dent Ma Maison model?

   *Probes: for you, for your caregiver(s)*
8. What do you think of the current Dent Ma Maison model?

   *Probes: a set of services or services covered, need to improve?*
9. What barriers have you encountered in receiving oral health care through Dent Ma Maison model?
10. What would you like to see in the future for the Dent Ma Maison model (ex. services, free of charge)?
11. How do you see the benefits of continuing the Dent Ma Maison model?

    *Probes: the same as it looks now? with enhanced services?*
12. What strategies do you see to improve the provision of home-based oral health care for frail seniors? And the general population?

13. Do you have any suggestions for improving the implementation of Dent Ma Maison model and its spread across the Quebec province?

### 8.4.2 Interview Guide for caregivers

1. What do you think of the Dent Ma Maison model for frail seniors living at home?
2. What are the impacts of the Dent Ma Maison model on the health of frail seniors?
3. What are the impacts of the Dent Ma Maison model for caregivers of frail seniors living at home?
4. What were your expectations in participating in the Dent Ma Maison model?
5. What groups of people should benefit from the Dent Ma Maison model?
6. What is your experience with the Dent Ma Maison model?

   *Probes:*

   a. *Continuity of services (communication, appointment scheduling, flexibility)*
   b. *Shared decision making (involvement in the choice of services and oral care)*
   c. *Patient-centered care (understanding your needs, considering your opinion in treatment choices, answering your questions)*
   d. *Development of knowledge to better manage your dental and general health,*
   e. *Approach to care: availability, planning, scheduling, waiting time, follow-up, free services, comprehensive approach to health or focus only on the oral cavity.*

7. What are the benefits to you of using the Dent Ma Maison model?

   *Probes: for you, for your caregiver(s)*

8. What do you think about the current Dent Ma Maison model?

   *Probes: a set of services or services covered, need to improve?*

9. What would you like to see in the future for the Dent Ma Maison model (ex. services, free of charge)?
10. How do you see the benefits of continuing the Dent Ma Maison model?

    *Probes: with improved services*

11. What strategies do you see to improve the provision of home- based oral health care for frail seniors? And the general population?
12. Do you have any suggestions for improving the implementation of Dent Ma Maison model? As well as its spread across the Quebec province?

Centre intégré universitaire de santé et de services sociaux du Centre-Ouest-de-l'Île-de-Montréal

Québec

# Formulaire de demande de renouvellement annuel de l'approbation d'un projet de recherche

Titre du protocole : **DENT MA MAISON : Projet pilote pour l'intégration des soins et les services bucco-dentaires au panier de services de première ligne à domicile des aîné.e.s en perte d'autonomie**

Numéro(s) de projet : **MP-05-2023-3379**

Identifiant Nagano : **pktalla**

Chercheur principal (au CER Éval) : **Dr. Pascaline Kengne Talla**

Date d'approbation du projet par le CER : **2022-11-17**

Formulaire : **F9H-47894**

Date de dépôt initial du formulaire : **2024-10-31**

Date de dépôt final du formulaire : **2024-10-31**

Statut du formulaire : **Formulaire approuvé**

## Revue et Décision- Bureau d'Examen de la Recherche

1. **CCOMTL sous-comités du Comité d'éthique de la recherche**
   Psychosocial (Psysoc)

2. **Période de renouvellement accordée:**
   2024-11-17 to 2025-11-17

3. **Décision du CÉR:**
   Approuvée - Évaluation déléguée par le comité
   **Veuillez prendre note que cette approbation s'applique également aux établissements suivant:**
   CIUSSS-COMTL
   CIUSSS-CSMTL

4. **Date de la décision finale du CÉR et signature**

2024-11-01

**Signature**

Kathleen Blagrave
Spécialiste en activités cliniques
Bureau d'examen de la recherché
CIUSSS du Centre-ouest-de-l'île-de-Montréal
on behalf of
**Dr. Richard Margolese, C.M. MD FRCS**
Chair Research Ethics Board
Chair - Medical Biomedical (MBM) Committee
CIUSSS du Centre-Ouest-de-l'île-de-Montréal
FWA 00000796

## Renseignements généraux

1. **Indiquez, en français, le titre complet du projet de recherche.**

   DENT MA MAISON : Projet pilote pour l'intégration des soins et les services bucco-dentaires au panier de services de première ligne à domicile des aîné.e.s en perte d'autonomie

2. **Indiquez, en anglais, le titre complet du projet de recherche**

   DENT MA MAISON: Pilot study about the Integration of oral health care and services in the primary home care for frail seniors

3. **Indiquez le nom du chercheur responsable dans notre site (établissement)**

   **Le chercheur responsable doit avoir une lettre lui donnant des privilèges de recherche et ses privilèges doivent êtres actifs (non expirés). Pour des informations sur les privilèges de recherche, cliquez sur ce lien**

   Kengne Talla, Pascaline

4. **Y a-t-il des cochercheurs et/ou collaborateurs locaux qui collaborent au projet de recherche?**

   Non

5. **Veuillez indiquer pour quelle instance vous souhaitez faire le renouvellement du projet**

   Pour l'ensembles des établissements (Seulement si vous êtes le chercheur principal dans tous les établissements)

6. **Veuillez confirmer si la présente étude est un essai clinique relevant de Santé Canada pour lequel le recrutement est toujours en cours dans au moins 1 site participant au Québec.**

   Non

## Informations de renouvellement

1. **Date à laquelle le projet de recherche a commencé dans votre établissement:**
   2022-11-17

2. **Date à laquelle le projet de recherche devrait se terminer à votre établissement:**
   Date déterminée
   **Veuillez indiquer la date de fin prévue du projet**
   30-11-2025
   **Depuis la dernière approbation du projet, cette date a-t-elle été modifiée?**
   Oui

3. **Indiquez le statut actuel du projet de recherche dans votre établissement :**
   Projet en cours dont le recrutement et le suivi des participants sont terminé

4. **Précisez, en quelques lignes, l'étape à laquelle le projet de recherche est rendu:**

   Writing manuscript.

5. **Veuillez indiquer le type "participants" impliqué dans votre projet**
   Personnes
   **Nombre de participants à recruter initialement pour votre établissement selon le protocole et/ou le contrat :**
   37
   **Nombre de participants qui ont effectivement été recrutés (ayant signé le FIC) :**
   17
   **Nombre de mineurs :**
   0
   **Nombre de majeurs inaptes :**
   0
   **Est-ce que des participants parmi ceux-ci ont été exclus sur la base des critères d'inclusion ou d'exclusion?**
   Non
   **Est-ce que des participants parmi ceux-ci ont été retirés en cours de projet?**
   Non
   **Est-ce que des participants parmi ceux-ci ont abandonné leur participation en cours de projet?**
   Non
   **Est-ce que des participants parmi ceux-ci sont décédés durant leur participation?**
   Non
   **Nombre de participants dont la participation n'est pas terminée (suivi en cours actuellement) :**
   0
   **Nombre de participants ayant complété toutes les procédures de l'étude (suivi terminé) :**
   17

6. **En fonction de ce que vous êtes responsable de déclarer, au cours de la dernière année et par rapport à la situation au moment du dernier renouvellement (ou approbation initiale) du CÉR :**

**Y a–t–il eu des modifications non rapportées au CÉR touchant les documents d'étude?**

Non

**Précisez la version actuelle :**

V3

**Date approuvée par le CER :**

2023-11-17

**Y a–t–il eu des problèmes non anticipés (PNA), réactions indésirables graves, déviations majeures ou autre événement ou information modifiant l'éthicité ou l'équilibre entre les risques et les bénéfices du projet n'ayant pas été rapporté au CÉR ?**

Non

**Y a–t–il eu une interruption temporaire du projet?**

Non

**Les résultats du projet ont-ils été soumis pour publication, présentés ou publiés?**

Non

**Le CÉR doit-il être avisé d'une situation de conflit d'intérêts (de toute nature) et touchant un ou plusieurs membres de l'équipe de recherche, qu'il ne connaissait pas au moment de sa dernière approbation du projet?**

Oui

**Veuillez préciser:**

Exactement le CER doit en être avisé mais il n y a pas eu de situation de conflits d'intérêts.

**Y a–t–il eu une allégation de manquement à l'éthique (ex: plainte d'un participant, non–respect des règles relatives à l'éthique ou à l'intégrité) concernant un ou plusieurs chercheurs?**

Non

**Le promoteur exige-t-il la soumission des déviations mineures au protocole ou autre rapport n'identifiant pas d'impact sur la sécurité des participants ?**

Non

## Signature

1. **Je certifie avoir examiné toutes les informations et tous les documents inclus dans ce formulaire et confirme qu'ils sont corrects et cohérents.**

Dr. Pascaline Kengne Talla
2024-10-31 05:52