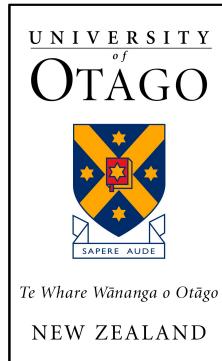


Clinicians' Perspectives on Special Care Dentistry in New Zealand.

Leonard Yit Fen Chia

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ABBREVIATIONS

ASMS	Association of Salaried Medical Specialist
CME	Continual Medical Education
DCNZ	Dental Council of New Zealand
DHB	District Health Board (New Zealand)
IADH	International Association of Disability and Oral Health
ICD	International Classification of Diseases
ICD-10	International Classification of Diseases 10 th Revision
ICIDH	International Classification of Impairments, Disabilities, and Handicaps
ICF	International Classification of Functioning, Disability, and Health
IPC	Interprofessional Collaboration
JACSCD	Joint Advisory Committee for Special Care Dentistry
NHS	National Health Services (UK)
NZDA	New Zealand Dental Association
PCC	Patient-Centred Care
RACDS	Royal Australasian College of Dental Surgeons
UK	United Kingdom
UNCRPD	United Nations Convention on the Rights of Persons with Disabilities
US/USA	United States of America
WHO	World Health Organization

ABSTRACT

Introduction: Special Care Dentistry in New Zealand is relatively underdeveloped. With its workforce persistently scarce, its training and career pathways remain unclear. Little is understood about the specialty's role within the New Zealand public oral health sector. With the ageing population and the increase in demand for public oral health services, it is perhaps timely to explore this specialty to understand its implications for the future of Special Care Dentistry in the context of New Zealand.

Aim: The aim of this research was to explore the perspectives of New Zealand clinicians who practise Special Care Dentistry on the current and future status of Special Care Dentistry in New Zealand.

Methods: A qualitative approach was used, and semi-structured interviews were conducted with nine registered Special Care Dentistry Specialists, a Dental Public Health Specialist, and a general dentist who predominantly practised Special Care Dentistry. Interview data were audio-recorded and transcribed. A general inductive approach was used to thematically analyse the data and emerging themes were identified.

Results: Three broad themes were identified: the profession, interprofessional interactions, and the issues in Special Care Dentistry. Under each of these themes, subcategories were further identified. This study revealed that the participants preferred 'Special Care Dentistry' to 'Special Needs Dentistry', which challenges the current term and definition used in New Zealand. In addition, the participants provided insights into career choices and their roles as Special Care Dentistry practitioners. Also highlighted were the career and training prospects of Special Care Dentistry and the associated limitations in New Zealand. Participants perceived that their professional interactions with their medical peers were better than their interactions with general dentists. Participants also indicated that there is a general reluctance of dentists to treat older people and patients who require special needs. The main barriers to provide Special Care in private practice were financial hurdles, time pressures, and limited medical knowledge. This study also identified critical issues such as older people's oral health and an increasing demand for Special Care

Dentistry in public practice, suggesting a greater need for the development of Special Care Dentistry in primary health care. Recommendations were proposed for the improvement of career and training pathways, Special Care Dentistry education among undergraduates and general dentists, and the promotion of the specialty within the medical and dental professions.

Conclusion: Special Care Dentistry is a specialty of dentistry in its own right. However, Special Care Dentistry in New Zealand is still in its infancy and there is much room for improvement, particularly in the aspects of education and career pathways to provide a healthy self-sustaining workforce. There should be a focus to promote Special Care Dentistry by all levels of oral health care stakeholders including the Faculty of Dentistry, NZDA, and the Ministry of Health. With the findings in this study, Special Care Dentistry can be defined as *a discipline that provides patient-centred oral health care for those within the spectrum of disabilities and activities restrictions that affect their oral health, within the personal and environmental context of the individual.*

1. INTRODUCTION

1.1 Population Changes

Our population around the world is changing. According to World Health Organization (WHO), the proportion of the ageing population is on the rise despite the declining rates of childbirth. Moreover, estimations showed that there is more than 1 billion of the world's population living with all range of disabilities (World Health Organization 2004; 2008; 2011). In addition, due to exponential health care advancements and betterment of quality of life, elderly population and those who require special care have longer lifespans while accumulating chronic diseases and medical complexities (Subar et al. 2012).

Recent population census not only showed that New Zealand's general population is ageing but also more disabled people are getting older (Statistics New Zealand 2013b). Furthermore, 14.4% of the population was reportedly over 65 years old and this percentage is predicted to increase substantially. The projected growth in this particular population group is expected to reach 23.8% of the total population by the year 2043. It is estimated that 24% of New Zealand's population suffers some form of disability and the proportion has risen since the country's last national census (Statistics New Zealand 2013a). Those who are over 65 years old are likely to suffer at least one form of disabilities than those who are younger. The incidences of experiencing more severe disabilities will increase as they grow older (Ministry of Health 2015b).

1.2 Oral Health Changes

With the dynamic changes in population, health care services will need to adjust their priorities and resources to meet the health care needs of the population, particularly for those who are vulnerable and older. In fact, a recent survey reported that older people in New Zealand are utilising health care services more than younger people (Ministry of Health 2015a). Although oral health services were not specified in the report, publicly funded oral health services are expected to experience a similar increase in utilisation. This is due to the increase in peoples' disabilities and

complexity of medical conditions, particularly from the older population. Because of increasing use of health care services, it presents a challenge to the dental community services to accommodate and meet the oral health care needs of this vulnerable population group.

Since the advent of introducing water fluoridation and improved awareness of oral health, the prevalence of tooth loss has fallen dramatically (Ministry of Health 2010; Thomson 2012). When compared with previous oral health national surveys, the most recent survey indicated that people are retaining more of their teeth (Ministry of Health 2010). The older people are reported to show similar results; on average, older adults aged 65 years and over are retaining more than half of their natural teeth. Although research findings have shown that the overall population's oral health has improved over time, oral health care needs are still high within Special Care populations in New Zealand (McKelvey et al. 2014). In the literature, the oral health of Special Care patient groups has been widely reported to be significantly poorer than the general population. They tend to have poorer oral hygiene, and more untreated caries as well as periodontal disease (Anders and Davis 2010; Gallagher and Fiske 2007; Morgan et al. 2012). They also tend to lose their teeth from extractions rather than restoring their teeth as a result of dental caries (Oliveira et al. 2013). However, unfortunately, there is little research been conducted about patients requiring special care in New Zealand and their oral health status in recent years. As a result, the Ministry of Health has identified the special needs population as priority action area for research in New Zealand Ministry of Health Government strategic document, 'Good Oral Health for All, for Life' (Ministry of Health 2006)

1.3 Access to Dental Services by Patients Requiring Special Care

Patients requiring special care, particularly in respect to Paediatric Dentistry, have been well researched and documented (Casamassimo et al. 2004; Charles 2010; Crall 2007; Estrella and Boynton 2010; Huebner et al. 2015; Lewis 2009; Sanders et al. 2008; Waldman and Perlman 2006a). However, children with special needs now are surviving into adulthood but continue to require special care (Borromeo et al. 2014). There are indications that children with special needs that survive into adulthood will continue to have high oral care needs (Lewis 2009).

Access to oral health services has also been widely reported to be poor among those who are vulnerable and require special needs (Dougall and Fiske 2008). Historically, the institutionalisation of patients requiring special care is considered a norm, especially those with intellectual and mental impairments. Furthermore, to an extent, these people are segregated from the community. The contemporary paradigm shift in the model of care led to many of these special needs groups being de-institutionalised and now live independently (or semi-independently) among the community (Glassman and Miller 2003). In New Zealand, patients with psychiatric and developmental disorders have been de-institutionalised and now live in the community. Unfortunately, this changed their accessibility to dental care, leading to a significant negative impact on their oral health (Stanfield et al. 2003). It has been reported that those with learning disabilities living in communities are less likely to seek regular dental treatment (Tiller et al. 2001).

In New Zealand, publicly funded dental services such as District Health Board (DHB) hospital dental departments and community-based clinics usually provide oral health care needs of patients with special needs. Depending on the complexity of their needs, public general dentists or Special Care Dentists usually provide the dental treatment. However, there is a general shortage of public sector dentists and Special Care Dentists in New Zealand (New Zealand Dental Association 2006). The continuous decline of dentists in the public sector does not reflect the increasing demand for Special Care oral health services. Consequently, access to oral health care for patients requiring special care and the medically vulnerable are limited. Sufficient resources and appropriate workforce must be allocated to address this demand.

These changes in the population structure and dental workforce will have implications for various areas of oral health service in New Zealand. Recent literature has shown that general dentists have reported challenges and barriers in providing Special Care Dentistry both in public and private practice (Derbi and Borromeo 2016). There is an unprecedented need (if not demand) of oral health care services to meet the needs of this underserved population. Out of necessity, there needs to be a refinement of the discipline of Special Care Dentistry to address the complex oral health care needs of this population.

1.4 Special Needs (Care) Dentistry in New Zealand

In New Zealand, Special Care Dentistry¹ is defined as a specialist practice of dentistry that pertains to the oral health care of people adversely affected by intellectual disability, medical, physical or psychiatric issues (Dental Council of New Zealand 2017). The terms ‘Special Needs Dentistry’ and ‘Special Care Dentistry’ are used interchangeably among different parts of the world, while some prefer one to the other (Derbi and Borromeo 2016; Ettinger 2000). Not only is there discrepancy in its nomenclature but also variation in definition among different countries and even among professional dental societies. Moreover, the terms used to define the patient group varies immensely among dental practitioners (Glassman and Subar 2008).

Relative to other disciplines of dentistry, Special Care Dentistry has been viewed as a young and underdeveloped branch of dentistry, due to its variability in vocational recognition, training, and career pathways (Faulks et al. 2012; Faulks and Hennequin 2006). It is therefore difficult to develop a benchmark for its teaching curricula, discipline recognition, career pathways, and define the specialty in oral health care. As a result, the discipline of special care dentistry may not be as well represented within the health care system, resulting in inconsistencies in service priorities, creating barriers to access oral health services and exacerbate existing disparities in oral health care among people requiring special care and those who are vulnerable. Just as health and medical care are important to all human beings, we should strive to reach equitable oral health care access for all.

Currently, there are only eleven registered ‘Special Needs Dental Specialists’ with the Dental Council of New Zealand (DCNZ) (Dental Council of New Zealand 2017). With the exception of two in the South Island of New Zealand, the others are based in North Island of New Zealand. The remaining one specialist is currently practising overseas. When comparing the number of Special Care Dentists between 2015 and 2017, there were only two newly registered specialists since 2015. Unfortunately, the total increase in the number of Special Care Dentists remains zero as two previously registered specialists had since retired. This lack of growth in the number of Special Care Dentists in New Zealand is a concern with respect to the increasing demand for

¹ In the Dental Council of New Zealand, this specialty is named ‘Special Needs Dentistry’.

Special Care Dentistry (New Zealand Dental Association 2006). A closer scrutiny of the characteristics of the registered specialists reveals that some Special Care Dentists are close to retirement age, suggesting an ageing specialist group, to which the New Zealand Dental Workforce Analysis of 2006 has concurred. The recent workforce analysis by Broadbent reported that there were no postgraduate trainees in Special Care Dentistry between 2011 and 2012 (Broadbent 2016). Special Care Dentistry arguably may not be as ‘popular’ as other disciplines of Dentistry. Certainly, this is an area worthy of an investigation.

The low number of registered Special Care Dentists in relation to the proportion of the population with disabilities may further suggest (a) there are unmet oral health care needs in the population with special needs due to limited access to specialist care, and (b) there are general dentists who provide this care for these vulnerable populations at a non-specialist level. This imbalance of supply and demand emphasises the need to explore issues such as career pathways, service provision, and the profile of Special Care Dentistry in New Zealand.

There is a paucity of research that has explored this area of concern, especially with respect to New Zealand. In fact, there is no study to date that has investigated the role of Special Care Dentists and their vocation in caring for those who require Special Care Dentistry. Recent literature demonstrated some studies that have investigated the perception of Special Care Dentistry among general dentists and undergraduate dental students. However, none had delved into the world of Special Care Dental Specialists to examine their beliefs and perception of their area of expertise, and with it, the barriers revolving around Special Care Dentistry. The understanding of their career choices and challenges of practising Special Care Dentistry remain unexplored. There is also the need to contemplate the future of Special Care Dentistry and how it will exercise its role in providing oral health care. Hence, to better understand the specialty and its role, there is a need to explore those who are working ‘in the field’ of Special Care Dentistry.

1.5 Aims and Objectives

This study aims to understand the foundations of Special Care Dentistry through the perspective of Special Care Dental Specialists around New Zealand. It seeks to review the definition of Special Care Dentistry and its effects within the specialty. In addition, this study hopes to establish the scope and the role of the specialty within the oral health of New Zealanders.

With its findings, this study hopes to contribute to the current literature in regards to the understanding and perception of Special Care Dentistry through a qualitative approach to investigate areas such as career and training pathways, undergraduate and postgraduate education, and oral health services.

Objectives of this study are:

- To interview dental clinicians who practise Special Care Dentistry around New Zealand.
- To gather information from clinicians who practice Special Care Dentistry in the aspects of Special Care Dentistry including the career and training pathways, and education of Special Care Dentistry.

1.6 Outline and Structure of the Thesis

The structure of this thesis is divided into five main chapters, which includes the introduction, literature review, methodology, results and discussion, and followed by the final chapters of summary, recommendations, and conclusion.

The second chapter aims to illustrate the evidence and review the literature of past and current research that has investigated Special Care Dentistry. It serves to identify and establish the gaps in the literature that this study hopes to address. The third chapter will present the methodology used in obtaining the data for this study. The fourth chapter will present the findings of this study. To keep within the spirit of a qualitative approach in this study, a semi-narrative discourse will be made concurrently along each theme of the findings, supported by the currently available literature. The fifth chapter will provide a summary of this study while the sixth chapter will present the implications for future research directions and recommendations, followed by the final chapter of conclusion.

Although broadly speaking, the use of the terminology of ‘Special Needs Dentistry’ and ‘Special Care Dentistry’ are synonymous and interchangeable, the author of this study will use the term ‘Special Care Dentistry’ throughout this study. It does not imply the personal opinion of the author but rather reflect the notions that arose from the findings of this study.

2. LITERATURE REVIEW

2.1 Definitions/Nomenclature

Defining Special Care Dentistry and those who have special needs have always been a challenge (Faulks et al. 2012; Glassman and Subar 2008). As a result, a myriad of nomenclatures and definitions are used to describe Special Care Dentistry. Although historically, dentists have used terms such as ‘Dentistry for Disabled’, ‘Hospital Dentistry’, and ‘Dentistry for the Disadvantaged’, and the most common variations used today are ‘Special Needs Dentistry’ and ‘Special Care Dentistry’ (Chalmers 2001). There are also variations of terms that are applied to describe the patient group, including ‘Special Needs Patients’, ‘Special Care Patients’, ‘Patients who require Special Needs or Care’ and ‘Patients with Special Health Care Needs’ (Ahmad et al. 2015; Glassman and Subar 2008). An editorial in 2000 briefly described how the term ‘Special Care’ was first used in 1981 when the Special Care in Dentistry Association was established (Ettinger 2000). The term ‘Special Needs’ was initially used to denote ‘Special Needs Education’ for those with learning and intellectual disabilities. However, it has now been used widely in the medical and dental field as well. A basic search on the PubMed database with the keyword term ‘Special Needs’ for the earliest use of the term will result in a 1947 Canadian medical journal article (Agnew 1947). The term ‘Special Needs Dentistry’ however, will date back a citation of a 1966 article from Journal of American Dental Hygienist (Fagergren 1966).

Although these terms seemed interchangeable to describe the same group of clinicians and patients, there is much debate among the clinicians and the patients themselves about how they are labelled. The point of discussion is often among the terms ‘need’ versus ‘care’. The definition of ‘need’ is described as *‘require because it is essential or important than just desirable’* whereas, ‘care’ is described as *‘provision of what is necessary for the health, welfare, maintenance and protection of someone or something’*². Derbi and colleagues (2016) discussed similar viewpoints and agreed that there is much inconsistency. One can debate about the interpretation of ‘need’ and ‘care’. It is viewed that the term ‘care’ as being the more holistic approach and

² Definitions taken from Oxford Advanced Learner’s Dictionary 7th Edition, by Oxford University Press.

implied the notion of supporting the well being of a person. To break down the phrase ‘Special Needs’ further, the term ‘special’ is defined as ‘*better, greater, or otherwise different from what is usual*’ and ‘*need*’ may be viewed as *obligatory or essential*³. The term ‘Special Needs’ is usually defined as (in the context of children in education establishments) ‘*particular educational requirements resulting from learning difficulties, physical disability or emotional and behavioural difficulties*’. Although the appropriateness or correctness of these terms is up for debate, for this thesis, ‘Special Care Dentistry’ and ‘patients requiring special care’ will be used to denote their respective counterparts.

2.1.1 Variations in Definitions in New Zealand and the World

Definitions of ‘Special Care Dentistry’ or ‘Special Needs Dentistry’ vary significantly among different countries (Table 1). Each may choose certain words or phrases to emphasise on a certain patient group that belongs under its definition of Special Care Dentistry. The current definitions, despite its variation in choice of wording, are similar in context. Most of these definitions are specific in terms of the categories of patient groups and they are described in four domains of a patient, which are intellectual, physical, medical, and mental. However, despite being specific in the patient group type, they do not take into account of the level of severity of the conditions or how the health-related condition is affecting the ability of the patient to receive oral health care. In other words, with these definitions, patients may be categorised as patients requiring Special Care Dentistry if they meet the mentioned conditions. This will have significant downstream effects on various aspects of oral health care provision, such as patient referral pathway to Special Care Dentistry oral health services.

It is worthy to note that some definitions adopted other previously established definitions. For example, the definition by the British General Dental Council is based on the definition that was initially proposed by the Joint Advisory Committee for Special Care Dentistry (JACSCD) in 2003 as way towards recognising the specialty. In addition, these two definitions are the only definitions that included ‘social

³ Definitions taken from Oxford Advanced Learner’s Dictionary 7th Edition, by Oxford University Press.

impairment' as part of their description of Special Care Dentistry. Additionally, apart from the definition by the BGDC and JACSCD, other definitions do not address the social aspects of health, which now established being important aspect of a person's wellbeing (Faulks and Hennequin 2006). On the contrary, it is fair to argue that patients who are socially disadvantaged alone do not necessarily require 'special care' and arguably should not be a defining factor in categorising these patients as 'patients with special needs'. On the other hand, patients who require special care might be socially disadvantaged due to various reasons.

However, the primary usage of the term 'Special Needs Dentistry' is found in New Zealand and Australia while others used 'Special Care Dentistry' (Chalmers 2001).

2.1.2 Models of Disability

The current thoughts on models of disability are underpinned by two main fundamental views: the medical model of disability and the social model of disability.

The medical model of disability defines disability or illness as a form of physical condition in an individual, resulting a reduction of the individual's quality of life. This medical perspective of disability is based on the medical model in diagnosing medical diseases (Laing 1971). However, there are criticisms of this model of disability as it focuses on reducing the impairments to allow people with disabilities to adapt in society rather than focusing on reducing societal barriers to allow full participation of disabled persons into society (Oliver 1996). The point of contention among disability rights advocates is the medical model of disability has also the unintended effect of 'victimising' people with disabilities, purportedly suggesting that people with disabilities is 'sick' and required to be 'cured' (Nikora et al. 2004). Because of the medical model's focus on an individual's condition, people with disabilities are inadvertently defined by their condition or limitations, without considering their environment or social context.

On the other hand, the social model of disability identifies society's barriers, negative attitudes and exclusion as the main contribution in disabling people (Oliver 1996). It focuses on reducing barriers in a physical and social context that prevent people with

disabilities to participant fully in their own community. However, some argued the social model of disability does not address the individualised need of a person with disabilities (Shakespeare and Watson 2001). The debate of each model of disability is still ongoing despite the introduction of the ICF (Levitt 2017; Oliver 2013; Shakespeare and Watson 2001).

In a human rights context, the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) is an international human rights treaty that was developed with the intent to protect the human rights and dignity of persons with disabilities (United Nations 2007). This provided a human rights approach towards disability. New Zealand was part of the development of this Convention and is one of the signatories of the Convention. The UNCRPD is an international human rights treaty of the United Nation Signatories of the Convention are required to promote, protect and ensure the full enjoyment of human rights by persons with disabilities. The UNCRPD would be appropriate to be adopted as a key principle in the development of Special Care Dentistry especially in the context of providing an equitable access to oral health care.

2.1.3 Current Work on Definitions

Previous works have illustrated the challenges of defining Special Care Dentistry (Davies et al. 1999; Faulks et al. 2012; Faulks and Hennequin 2006; Faulks et al. 2013; Gallagher and Fiske 2007).

Most dental professional bodies still use the medical model of disability to define ‘Special Needs Dentistry’ or ‘Special Care Dentistry’. There are concerns that with the current definitions (Table 1) miscategorise patients as ‘Special Care patients’, implying they need a ‘Special Care’ Dentist to treat them, without regarding their special needs or the severity of their medical conditions. General dentists may lay claim that these patients do not fall into their remit, indirectly shifting the care responsibilities from the general practitioners to dental specialists only (Waldman and Perlman 2006b). The authors also further argued that creating a specialty in Special Care Dentistry would further reinforce this notion among general dentists—one of the reasons that the United States of America has not established Special Care Dentistry

as a specialty. It may also have further implications for measures of patient access criteria to specialist care, state subsidy funding and referral pathways from primary oral health care to higher levels of health care.

Earlier works of Locker's conceptual framework towards measuring oral health created links between oral health, impairments, and psychosocial outcomes. This framework set key foundations to acknowledge the social components in oral health and disability (Locker 1988). Furthermore, the Oral Health Impact Profile was developed to measure seven dimensions of oral health impact: functional limitation, physical pain, psychological discomfort, physical disability, psychological disability, social disability and handicap (Slade and Spencer 1994). An extension from Locker, Slade and Spencers' work, Faulks and Hennequin (2006) set out to define those who require Special Care Dentistry using the biopsychosocial model of disability described by the International Classification of Functioning, Disability and Health (ICF) (Faulks and Hennequin 2006; World Health Organization 2001). In comparison to other known definitions, the authors approached the subject differently and described patients requiring special care as '*persons requiring Special Care Dentistry are those with a disability or activity restriction that directly or indirectly affects their oral health, within the personal and environmental context of the individual*' (Faulks and Hennequin 2006). In this definition, patients' impairments or disability do not define them but describe their required special needs. Using ICF criterion as a conceptual framework, they were able to identify three domains: body function and structure (for example, the mouth), individual activity (for instance, eating) and participation in society such as having dinner with friends. Using these three domains, they argued that this would help identify those who require special care without stigmatisation or labelling their behaviour. Moreover, the authors asserted that this definition is broad and yet it is universally applicable to each who required specific health care needs. There has been some support of utilising the biopsychosocial model of disability to define the population (Faulks and Hennequin 2006; Gallagher and Scambler 2012; Scambler et al. 2011). By appropriately identifying the population, in turn, the authors proposed that this would define what Special Care Dentistry is and its role in caring for the oral health of vulnerable populations. Using the ICF as a framework for a definition, it also complements the International Classification of

Diseases (ICD-10) by providing the functional status of a person, in addition to their diagnoses of their medical health and conditions

2.1.4 Significance of Current Definitions

The variability of definitions between countries and professional associations only reflect the complexity of defining Special Care Dentistry. It is well known even in countries with well-established public dental service (such as in the United Kingdom), Special Care Dentistry is still considered to be in its younger years, and much development is needed (Faulks and Hennequin 2006). Most dental disciplines are defined or limited by their scope of practice, specialty-related techniques and treatments (for example, Orthodontics), or a part of the orofacial anatomy such as in Oral and Maxillofacial Surgery, and to an extent, specialised in a certain age group such as Paediatric Dentistry (Dental Council of New Zealand 2017). On the contrary, Special Care Dentistry is uniquely different as it is their patient group characteristics that defines it; in other words, patient-centred approach. The acceptance of the biopsychosocial model of disability as a method to define Special Care Dentistry would arguably be appropriate and in line with patient-centred model of care (Gallagher and Scambler 2012; Mac Giolla Phadraig et al. 2014; Scambler et al. 2011). This alternative approach to redefine Special Care Dentistry is worthy of investigation as it would have downstream impact on how patients requiring special care access oral care services but also to develop a teaching framework for the curriculum of Special Care Dentistry.

Table 1 Variation of definitions of Special Care Dentistry among different countries and professional societies.

Country/Societies	Definition
Dental Council of New Zealand	The branch of dentistry that is concerned with the oral health care of people adversely affected by intellectual disability, medical, physical or psychiatric issues ⁴ .
Dental Board of Australia	The branch of dentistry that is concerned with the oral health care of people with an intellectual disability, medical, physical or psychiatric conditions that require special methods or techniques to prevent or treat oral health problems or where such conditions necessitate special dental treatment plans ⁵ .
British General Dental Council	Special Care Dentistry is defined as the improvement of the oral health of individuals and groups in society who have a physical, sensory, intellectual, mental, medical, emotional or social impairment or disability or, more often, a combination of these factors. It pertains to adolescents and adults ⁶ .
American Dental Association	Patients with special needs are those who due to physical, medical, developmental, or cognitive conditions require special consideration when receiving dental treatment. This can include people with autism, Alzheimer's disease, Down's syndrome, spinal cord injuries and countless other conditions or injuries that

⁴ <http://www.dcnz.org.nz/i-practise-in-new-zealand/dentists-and-dental-specialists/scopes-of-practice/#Special-needs-dentistry-specialists>. Accessed on the 30th of September 2015

⁵ <http://www.dentalboard.gov.au/documents/default.aspx?record=WD10%2f87&dbid=AP&chksum=5hr77jgW%2fEZootW6eXgkQw%3d%3d>. Accessed on the 30th of September 2015.

⁶ <http://www.gdc-uk.org/Membersofpublic/Lookforaspecialist/Pages/default.aspx>. Accessed on the 30th of September 2015.

can make standard dental procedures more difficult⁷.

Special Care in Dentistry Association

Special Care Dentistry is that branch of dentistry that provides oral care services for people with physical, medical, developmental, or cognitive conditions, which limit their ability to receive routine dental care⁸.

Joint Advisory Committee for Special Care Dentistry (JACSCD)

The improvement of oral health of individuals and groups in society who have a physical, sensory, intellectual, mental, medical, emotional or social impairment or disability or, more often, a combination of number of these factors. (JACSCD 2003)

Royal Australasian College of Dental Surgeon (RACDS)

Special Needs Dentistry supports the oral health care needs of people with an intellectual disability, medical, physical, or psychiatric conditions that require special methods or techniques to prevent or treat oral health problems, or where such conditions necessitate special dental treatment plans⁹.

⁷ <http://www.ada.org/en/Home-MouthHealthy/az-topics/s/special-needs>. Accessed on the 30th of September 2015.

⁸ <http://www.scdaconline.org/?SCDADefinitions>. Accessed on the 30th September 2015.

⁹ https://www.racds.org/RACDS2013/Education/SPD/RACDSNEW_Content/Education/Specialist_Dental_Practice.aspx?hkey=fe749662-5344-4b9d-b74c-3752173030f0. Accessed on the 30th September 2015.

2.2 Education, Attitudes and Beliefs

2.2.1 Studies on Dental Students' Perceptions of Special Care Dentistry

2.2.1.1 Education

Dental students have always been an excellent source of study samples for various dental research projects. There have been numerous studies that investigated Special Care Dentistry education in dental schools (Ahmad et al. 2014; Ahmad et al. 2015; Alkahtani et al. 2014; Glassman 2014; Humza Bin Saeed et al. 2012; Mac Giolla Phadraig et al. 2015; Marinelli et al. 1991). Most of these studies, however, focused on undergraduate dental programmes and their students.

There is a plethora of studies shown that those who had clinical experience or been taught in Special Care Dentistry during their undergraduate years are more likely and willing to treat those who require Special Care Dentistry during their practising career (Alkahtani et al. 2014; Chavez et al. 2011; Dao et al. 2005; McQuistan et al. 2008; Subar et al. 2012; Wolff et al. 2004). Chavez and colleagues (2011) reported that those who valued their undergraduate Special Care Dentistry education tend to treat more complex and medically compromised patients in their future careers. However, the converse is true; those who did not have any training or teaching in Special Care Dentistry felt uncomfortable or unwilling to treat patients who have special needs (Ahmad et al. 2015; DeLucia and Davis 2009). In a study, Alkahtani and colleagues who investigated the differences between a Saudi Arabian dental school and an American dental school found that although both dental schools had didactic teaching in intellectual disabilities, they concluded that the American dental students were more amenable towards patients with special needs. They believed this was due to the requirement of American dental students to attend a one-week clinical experience programme in caring for adult patients with special needs. The authors further suggested both didactic teaching and clinical experience are essential to foster positive attitudes towards these patients.

A recent study investigated the level of undergraduate Special Care Dentistry education between Malaysian and Australian dental schools (Ahmad et al. 2014). This survey reported that more than 83% of the Deans of these dental schools agreed that

Special Care Dentistry should be taught in the undergraduate dental programme. Moreover, there is a general consensus that there is a shortage of expertise to teach Special Care Dentistry (Ahmad et al. 2014). Approaching this from a different viewpoint, the same authors explored the educational experience of Malaysian dental students and found that half of the dental students perceived that the undergraduate Special Care Dentistry training is insufficient while almost all of the students felt Special Care Dentistry should be part of their curriculum. This notion is similarly reported by another study in Irish Universities (Yeaton et al. 2014). It was found that despite the Universities' undergraduate curriculum having hands-on clinical training in Special Care Dentistry; it failed to instil confidence in their undergraduate students in providing Special Care Dentistry. Interestingly, the Irish students showed significant interest in learning Special Care Dentistry and emphasised that it should be part of their undergraduate curriculum (Yeaton et al. 2014).

While the wealth of literature demonstrated that Special Care Dentistry education is much needed, the inconsistencies in Special Care Dentistry such as limited curriculum content, lack of expertise, and the discrepancies of vocational recognition as a dental discipline still remained at large (Ahmad et al. 2014; Faulks et al. 2012).

Despite the challenges mentioned above, there have been some significant developments in the undergraduate and postgraduate curriculum for Special Care Dentistry, based on the International Classification of Functioning, Disability and Health (ICF) by World Health Organization (WHO) (Dougall et al. 2013; Dougall et al. 2014b; World Health Organization 2001). The International Association for Disability and Oral Health (IADH), with the collaboration of an expert panel of Special Care dental specialists, educators and academics, produced a set of curriculum teaching outcomes for both undergraduate and postgraduate Special Care Dentistry programmes (Dougall et al. 2014a; Dougall et al. 2014b). These open-sourced documents allow dental education institutions to have a standardised framework for developing undergraduate and postgraduate training programmes.

2.2.1.2 Beliefs and Attitudes

Many facets of health care, including dentistry have studied the attitudes towards the underserved and the vulnerable. An American study found that only about half of the dental students are willing to treat patients with disabilities after they graduate (Smith et al. 2006). Since 2004, accreditation standards of the United States (U.S.) require all dental schools to teach Special Care Dentistry to their undergraduate (pre-doctoral) students (American Dental Association 2004). In the present time, all dental schools in the US have implemented a component of Special Care Dentistry in their pre-doctoral dental programmes. In 2011, researchers explored behavioural intentions of dental students regarding treating patients requiring special care in the future since the implementation of the accreditation standards (Vainio et al. 2011). The study found that the students are more positive and feel more comfortable in treating patients requiring special care.

Another American study investigated background and sociodemographic characteristics of dental students and how it correlates to their motivation of treating patients requiring special care (Baumeister et al. 2007). The authors found that factors such as family education background, social consciousness, and previous experience in interacting with vulnerable communities correlated to positive attitudes towards special needs populations. They further postulated that the dental students who had previous interactions with special needs populations in their lives (before entering into dental training) were more aware of disabilities, hence more comfortable treating patients requiring special care than those without any experience. In contrast, a recent Korean study investigated four dental schools' dental students' attitudes towards patients requiring special care and found their attitudes were more negative than their western counterparts (Lee et al. 2015a). While it did not investigate the students' perception of Special Care Dentistry education, the authors suggested that it was due to negative cultural views towards people who have special needs requirements.

Two separate studies showed that short-term Special Care dental programmes improved the attitudes of students towards patients requiring special care (Alkahtani et al. 2014; Mohebbi et al. 2014). However, Mohebbi and colleagues discovered that more than half of the students believed that only Special Care Dental Specialists

should be treating patients requiring special care and almost one-third of the students felt it should only be provided in hospitals. Nonetheless, another Irish study which evaluated the value of an undergraduate Special Care Dentistry programme found that there were no statistical differences (for better or worse) when comparing the attitudes of dental students before and after implementing the Special Care Dentistry component into their undergraduate programme (Mac Giolla Phadraig et al. 2015). Although they did not offer any explanation, the authors concluded that their results were unexpected because other studies that used the same validated psychometric instrument to measure attitudes towards disabilities had shown an overall improvement over time for nursing students, where their results on dental students did not.

Although not specifically related to Special Care Dentistry, recent New Zealand studies have investigated dental student perceptions in various fields of dental education (Anderson et al. 2012; Foster Page et al. 2013; Kang et al. 2015; Murray and Chandler 2014; Tan et al. 2013). However, there are no known New Zealand studies to date that have investigated the experience, attitudes, and beliefs of dental students towards Special Care Dentistry.

This body of evidence (or more lack of) strongly suggests the need for refocusing research interest in Special Care Dentistry and educating undergraduate dental students in Special Care Dentistry in New Zealand.

2.2.2 Studies on Dental Clinicians' Perceptions of Special Care Dentistry

2.2.2.1 Experience and Education

Dental literature has established that dentists are reluctant to care for patients requiring special care, due to a number of factors. The type and amount of undergraduate training and clinical experiences seem to underpin the kind of patients they care for in their practising career (Dao et al. 2005). A study was conducted to ascertain the general dentists' perception on Special Care Dentistry for children (Casamassimo et al. 2004). The study reported that older dentists, dentists in smaller communities and those who provide subsidised dental care are more likely to treat

patients who require special needs. Furthermore, those who have had more experience in providing care to patients requiring special care were less likely to consider the patient's disability as a barrier to care and more willing to treat them. Another similar study reported that the participating dentists in Ireland had a low level of training in Special Care Dentistry but interestingly enough were shown to have high interest in learning Special Care Dentistry (Smith et al. 2010b). The authors postulated that there is a demand for Special Care dental education among general practitioners but lack they the opportunity or resource to learn, perhaps reflecting the limited career and training opportunities in their region.

There has been some debate whether Special Care Dentistry should be taught in the undergraduate or the postgraduate dental programme (Thierer and Meyerowitz 2005). A comparison study was made between undergraduate (pre-doctoral) and postgraduate (post-doctoral) practise patterns in Special Care Dentistry (Subar et al. 2012). This study found that those with postgraduate Special Care Dentistry training were more likely to work in the public sector (for example, in a hospital setting) and treated significantly more complex patients who require special needs. Interestingly, the postgraduate group already had significant experience in treating patients requiring special care before their pursuit of postgraduate training. The findings suggested that the clinical experience prior to their training has already set them on a path towards further postgraduate training. Conversely, those who work in private practice tend to see more medically compromised older patients if they had previous Special Care Dentistry experience (Subar et al. 2012). Chavez et al. also reported that dentists' practising career reflected by their undergraduate clinical experience and training (Chavez et al. 2011). They found that those who valued their undergraduate experience in Special Care Dentistry are more likely to continue to treat patients requiring special care in their career. In a different perspective, a study investigated working experiences of dental house surgeons in New Zealand (Kim and Antoun 2010). These new dental graduates worked as dental house surgeons in hospital dental departments all across New Zealand. These graduates felt their early involvement with public hospital dentistry prepared them well in areas such as Special Care Dentistry due to the constant exposure to various specialties and diverse patient groups.

More recently, a study examined the general dentists in Western Australia and their perception of Special Care Dentistry (Derbi and Borromeo 2016). Although the study found that more than one-third of their sample self-reported that they had some training in Special Care Dentistry in their undergraduate dental programme, it was reported only about half of the dentists felt they are ‘somewhat confident’ in managing patients who require special care. This study further reaffirms findings from other studies that those who had Special Care Dentistry training at undergraduate training are more likely to treat patients with special needs in their dental practice (Chavez et al. 2011; Dao et al. 2005). It is worthy to note that seven of their participants were graduates from New Zealand and they considered themselves ‘somewhat confident’ with managing patients requiring special care. Although slightly ambiguous (and only a small proportion of New Zealand dentists), this study arguably indirectly gave a ‘sneak preview’ of the perception of New Zealand-graduated dentists in respect to Special Care Dentistry.

2.2.2.3 Beliefs and Attitudes

Barriers to dental care including clinicians’ attitudes towards special needs patients have been well reported in the literature (Gallagher and Fiske 2007; Scambler et al. 2011; Smith et al. 2010b). Dentists acknowledged that their attitudes towards patients requiring special care are due to various factors including their training, experience, clinical setting, time and financial value, physical access, behavioural management and communication skills (Bindal et al. 2015; Smith et al. 2010b). On the other hand, a qualitative study investigated professional attitudes of dental staff (clinical and non-clinical) that predominantly work with patients requiring special care (Scambler et al. 2011). This study suggested that those who are well trained in Special Care Dentistry and had exposure to patients requiring special care understood the ethos of Special Care Dentistry, which in turn enabled them to overcome issues such as barriers and equality of access. An American study investigated general dentists’ undergraduate education in Special Care Dentistry and its patients (Dao et al. 2005). Although most of their respondents reported that they did not receive adequate training in Special Care Dentistry, those who self-reported that they had good exposure to Special Care Dentistry were more likely and willing to treat patients with special needs. Interestingly, it was also noted that those who like to treat patients requiring special

care would set up their private practices to be more accommodating for patients requiring special care, which reflects their positive attitude towards treating patients requiring special care.

A quantitative study surveyed private dental practitioners in Malaysia and reported that more than 80% of the surveyed dentists were willing to treat these patients, but further scrutiny revealed that most of them only encountered less five patients requiring special care per month. More than half of them also experienced difficulties with behavioural management, limited specialist access, and insufficient training and expertise (Bindal et al. 2015). This study showed that, with the appropriate experience and training, dentists are willing to treat patients requiring special care. On the contrary, there is an argument that ‘willingness to treat’ and ‘desire to treat’ are two different matters at large (Ackerman 2013).

There is a scarcity of research in New Zealand that has examined dentists’ perception of the professional beliefs and attitudes towards the vulnerable and the old (Antoun et al. 2008). Antoun and his colleagues explored the attitudes of New Zealand dentists towards oral care provision for older people. Although their research was invaluable, it revealed the rather bleak insight of dentists towards the above-mentioned population. They reported that only 10% of their respondents are willing to provide domiciliary visits for their patients. Although more than half of the dentists believed that it is within their scope of practice to treat older people, but also just over half of them felt that only specialists should treat those with complex health conditions. It is worth noting that about a quarter of them felt that there should be more attention towards education in Special Care Dentistry and Geriatric Dentistry (Antoun et al. 2008). A review article on the ageing population stated that the number of Special Care Dentistry specialists is scarce and yet their service in demand due to the steadily ageing population (Thomson and Ma 2014). Given that there are only a small number of Special Care Dental Specialists and about one-quarter of New Zealand population declared to have some form of disability and may require Special Care Dentistry, this underpins the critical role of general dental practitioner to be competent and willing to treat patients with special needs in New Zealand.

2.3 Qualitative Method

2.3.1. Rationale of Method

Quantitative surveys are used to provide a snap shot of current perspectives. Recent studies of perception, attitudes and the understanding of Special Care Dentistry have been mostly quantitative studies (Ahmad et al. 2014; Ahmad et al. 2015; Dao et al. 2005; Derbi and Borromeo 2016). Qualitative research explores social phenomena through the participants' frame of reference to provide insight into perception, beliefs and attitudes, which quantitative studies may lack (Edmunds and Brown 2012). It allows researchers to ask the 'how', 'why' and 'what' in their research question. Using a qualitative approach in this area of study would complement the existing quantitative literature.

Thomas (2006) proposed a general inductive approach method that allows a convenient method to analyse qualitative data without the constraints of other structured methodologies. The purpose of such approach allows the researchers to condense raw qualitative data into a summarised format, establishing relationships between the evaluated data and their research objectives. In addition, Thomas's approach allows the development of a framework or theory regarding the data evaluated. Although it is considered different from the traditional qualitative methodology such as discourse analysis or phenomenology, the general inductive approach is used in health and social science research (Thomas 2006).

The general inductive approach is suitable for this study because there were no prior assumptions or theories regarding the perspectives of the clinicians' in Special Care Dentistry and it allows the researcher's findings to emerge from repeating themes within the data and identifies any significant unanticipated (but important) findings.

This study will enrich the current literature by obtaining a richer and in-depth understanding of an observed phenomenon—which in this case, the perspective is of Special Care Dentistry (Bower and Scambler 2007).

2.3.2. Examples of Qualitative Research in Oral Health

Social studies research commonly use qualitative methods for research, which is valuable in understanding perspectives and insights of people in various issues and context. A number of dental studies have used qualitative methods to explore oral health issues in depth (Bedos et al. 2013; McKelvey et al. 2003; Smith and Thomson 2017). Recently, Scambler and her colleagues (2011) explored the professional perspectives of patients requiring special care among dental staff. This approach highlighted the dental staff's ethos on equality and barriers to patient care. Their study focused on the attitudes of staff that treat patients with disabilities in community clinics and hospitals. Using semi-structured interviews and focus groups, they were able to demonstrate their participants' feelings towards patients with disabilities. The in-depth information showed an underlying ethos of care for patients with disabilities and explored the social aspects of disability and oral health. Furthermore, the authors were able to display how their participants approach patients requiring special care with dignity and respect and without judgement of their disabilities. Arguably, this is one of the strengths of qualitative studies, highlighting the social aspects of oral health care provision in patients requiring special care, in which quantitative studies are unable to do so.

Closer to home, a study on Orthodontists provided a rare insight into their working lives and Orthodontic practice (Soma et al. 2012a; 2012b). There is a need for a similar exploration of Special Care Dentists, especially in their views on career pathways, education, older people, and service provision.

Perhaps with the increase in the ageing population and people with disabilities, it is a crucial time to ascertain how Special Care Dentistry can play its role within New Zealand to meet the challenges of these special populations.

2.4 Rationale for Research

Although there is an increase in people with disabilities and an ageing population, research on these populations remains scarce and understudied especially in regards to oral health (Ministry of Health 2006; Statistics New Zealand 2013a). Moreover, most

of the available studies in the literature are quantitative studies that have explored perspectives and attitudes of dental students and general dentists towards Special Care Dentistry and patients with special needs.

However, there is limited data on Special Care Dental Specialists' perspectives on their professional vocation—certainly none of New Zealand. Little is known about the reasons behind the career choices made by these specialists. There is also a scarcity of evidence of the roles of Special Care Dentist within the medical and dental communities. Furthermore, this area of study has not been explored using a qualitative approach in New Zealand. This study seeks to address this gap in the literature.

The objective of this qualitative research project is to utilise semi-structured interviews to explore dental clinicians' views on the definition of Special Care Dentistry and how Special Care Dentistry impacts their careers, education, practise challenges, and attitudes towards the population with disabilities.

2.5 Significance of This Research

This qualitative investigation yielded various viewpoints on the discipline of Special Care Dentistry. It readdressed the limited literature on specialist's perception of their roles as clinicians practising Special Care Dentistry and provided a better understanding of key issues such as attitudes and clinical challenges in caring for special needs patients. The common perspective helped synthesise new ways of understanding patient access to oral health care, patient ownership and workforce development.

This study explored the clinicians' views on current undergraduate and postgraduate education in Special Care Dentistry. Because most of these clinicians are not academics in the University of Otago School of Dentistry, this study provided invaluable 'outside-in' perspective on the current curriculum. Some of the clinicians who are recent graduates of the School of Dentistry shared their training experience and their recommendations on improving the current undergraduate and postgraduate programmes.

In summary, this research enhanced previous work done in similar fields especially in the dental education of Special Care Dentistry. The findings provided new perspectives on the role of a Special Care Dentist and its implications for oral health care of communities who require Special Care Dentistry. In addition, this also gave a rare insight into clinicians who practise Special Care Dentistry as part of their everyday career.

3. METHODS

3.1 Selection of Participants

The number of participants selected was determined by the number of dentists registered with the DCNZ as a ‘Special Needs Dental Specialist’ and meeting the criterion that they are or had been practising under the vocational scope of Special Care Dentistry in New Zealand (Figure 1). The DCNZ website was searched using the key words ‘Special Needs Dentist’ or ‘Special Needs Specialist’, and ten specialists were identified¹⁰. However, at the time of selection process, it was known that only nine out of the ten specialists had been working or actively working as a Special Care Dental Specialist in New Zealand.

Two dentists who are known to the researchers to practise Special Care Dentistry (one from North Island and another from the South Island) were also selected to take part and included in the list of participants. One of these two is a registered specialist in Dental Public Health (Master in Community Dentistry). The selection of the two general dentists who predominantly practise Special Care Dentistry allowed some comparison of Special Care Dentists from the viewpoints of general dentists.

Eleven participants were finally selected for interviews. Their names, qualifications and current contact details were obtained from the DCNZ register (Figure 1).

¹⁰ ‘Special Needs’ was used here as a search key word because New Zealand identifies ‘Special Care Dentistry’ as ‘Special Needs Dentistry’

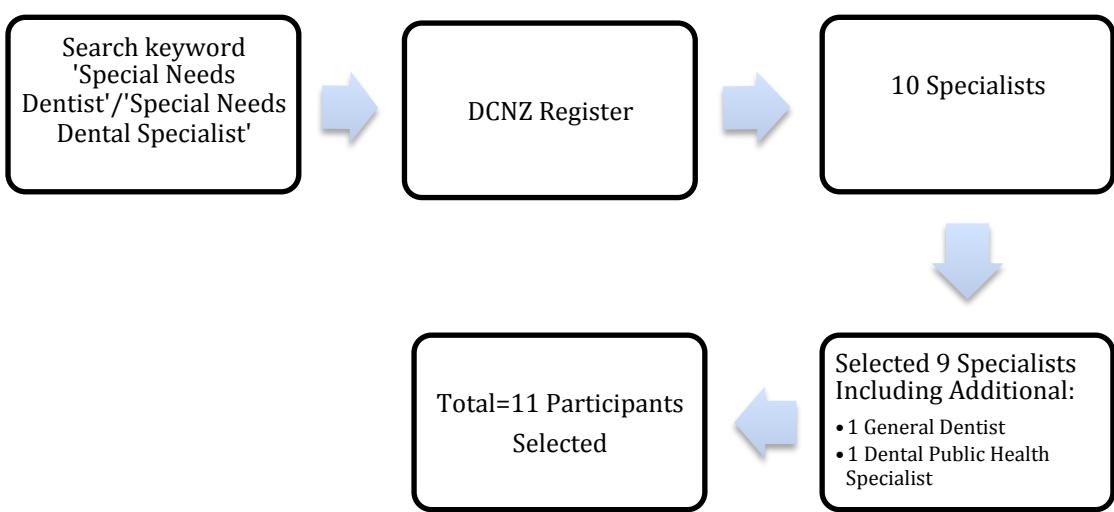


Figure 1. Selection process for interviews.^{11,12}

¹¹ Excluded one specialist, as they had not been practising in New Zealand.

¹² The general dentist primarily practises Special Care Dentistry.

3.2 Approach for Interview

The participants were approached in various ways, including email and telephone. They were informed about the objectives and the overall structure of the interviews. An information sheet and consent form were emailed, and all acknowledged receiving them and consenting to be part of the study (Appendix C). Each participant was given enough time and opportunity before the recorded interview to ask questions or voice any concerns. Participants were informed that all efforts would be made to render their interviews anonymous and their privacy preserved. All participants again verbally consented to participate in the study before their interview.

3.3 The Interview Guide

An interview guide was used to list domains to be explored during the interviews (Figure 2). The interview guide allowed the interviewer to maintain consistency by having the same lines of inquiry during each interview. The guide comprised a framework of questions concerning the profession itself, along with topics on specialist qualifications, definitions, and the workforce, along with perceptions of the specialty and barriers to entry. The guide also included common themes drawn from a comprehensive search of the international literature featuring the specialty of Special Needs/Care Dentistry (Ahmad et al. 2014; Ahmad et al. 2015; Derbi and Borromeo 2016; Scambler et al. 2011).

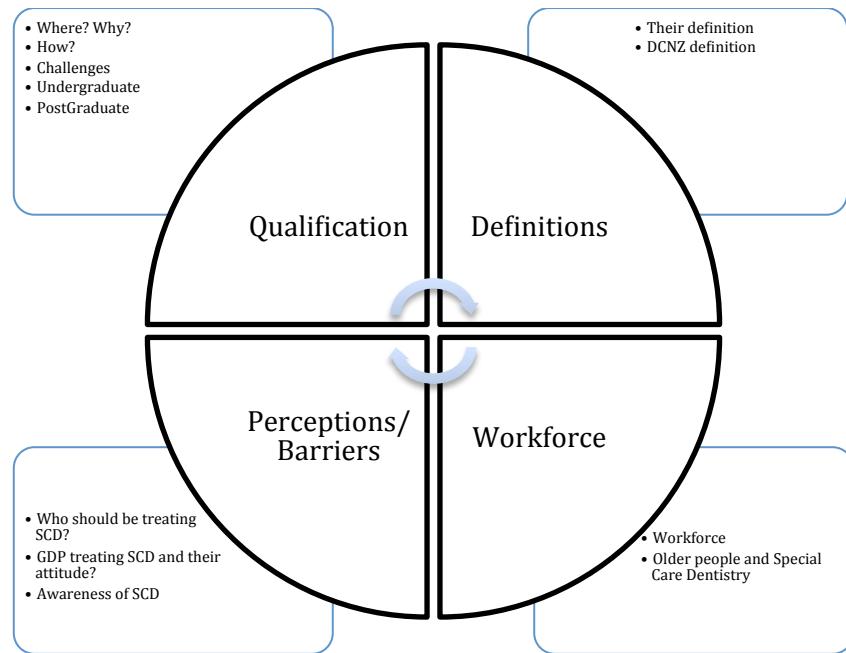


Figure 2. The interview guide overview.

3.4 Interview Process

Once each participant had been contacted and an appointment time set at the convenience of the participant, a single interviewer (LC)¹³ conducted the interviews. In all, the eleven semi-structured interviews were carried out over the course of four months (April to July 2016). Interviews were conducted by face-to-face interviews, audio-video conferencing services (SkypeTM, FaceTimeTM) or by phone. A second audio recording device was used simultaneously as a contingency plan to cover the failure of the primary recorder.

Five interviews were conducted via audio-video conferencing services (SkypeTM, FaceTimeTM) and recorded on a digital audio recording device. Three of the interviews were conducted as face-to-face interviews, while the remaining three were held over the phone.

The interviews were conducted using a semi-structured approach with open-ended questions, while maintaining a non-leading manner, allowing participants to answer freely. Follow-up questions were used when required to maintain dialogue and pursue further details.

3.5 Transcription of Interview Data

The primary interviewer assessed the audio recording for sound quality before the transcription phase of the audio recordings. Raw audio recordings were then collected and sent to a contracted professional transcribing service, where the data were then transcribed verbatim over the course of a month. The returned raw transcribed data was then prepared for data cleaning. This process involved de-identification of any personal identifying information. The transcription format were also standardised for ease of close reading. Transcription data were crosschecked with raw audio recordings for amendments and accuracy. All transcribed data files were also backed up onto a secure cloud-based storage service.

¹³ Leonard Chia

Each of the transcribed interviews was sent to each of the corresponding participants via email for member checking. Each participant was allowed to authenticate and verify the accuracy of his or her interview data. Each participant was given ample opportunity to edit and clarify the data if necessary.

3.6 Data Collection and Confidentiality

A simple coding system was used to preserve anonymity and confidentiality, whereby each participant was assigned a number (for example, interview 1). Each assigned number was recorded on the corresponding master sheet and used only for this study. Each interviewee's transcribed data were also annotated with the assigned number for identification purposes. Excerpts and quotes used in the results reporting are referenced only with each participant's designated number. The master sheet contains the names of participants, code number assigned, qualifications, age, sex, contact details, years of practice, practising region, and year of graduation from both undergraduate and postgraduate qualifications.

The interview transcripts were de-identified by means of removal of personal details such as names and reference to other named persons or identifying places. For each interview transcript, the interviewer and interviewee were simply designated as 'A' and 'B'¹⁴. To distinguish among interviews, the transcript was assigned a unique number that has been pre-designated for each participant (for example, [P7] for participant number 7). The audio-recording data and transcribed data were stored in a password-secured cloud-based server, with only the researchers having access to it.

3.7 Thematic Analysis

A general inductive approach was used to analyse the transcribed data thematically (Thomas 2006). This allowed most important emerging themes to be identified from the data. A single researcher (LC) was designated to analyse the data to allow early analysis of data at each subsequent interviews conducted. The initial process involved several close readings of the prepared transcribed text. This allowed the reader to gain

¹⁴ A: Interviewer. B: Participant

a general understanding of and familiarisation with the text. Multiple rereads were done over the course of 2 months while emerging themes were identified.

Repetitive occurring themes led to the creation of specific broad categories. The theory building of the presentation of findings was limited to the most significant categories (Thomas 2006). These categories identified generalised themes as a collective phrase, which then encompassed lower sub-categories. In each of these major themes, data were systematically allocated with initial codes. Coded segments of the data were then collated under each emerging theme. These data segments were then crosschecked within each theme for refinement, by checking their relation to the coded data that were assigned to them. Emerging subtopics were also identified under each theme, including those with contrasting views and outlying insights. Links between themes were identified and established. Excerpts were selected to support the core of the themes and their subthemes. Themes were then named and defined.

A working theoretical framework was then constructed to illustrate the themes that emerged from the data, along with the links among themes as part of the reporting of findings.

3.8 Ethical and Funding Approval

According to University of Otago policies on Ethics Practices in Research and Teaching, this study fell under the category of University of Otago Human Ethics Committee (UOHEC) due to the involvement of human participants. Ethical approval was granted (Ethics Ref: 15/140; Appendix D).

Māori consultation was sought from Ngāi Tahu Research Consultation Committee and written support was obtained (Appendix A).

Funding for the research was provided through a grant-in-aid from the Ministry of Health Oral Health Research fund. (Ref: MOH 8.02.105; Appendix B).

4. RESULTS AND DISCUSSION

The data analysis identified three broad themes: **the profession, interprofessional interactions, and the issues in Special Care Dentistry** (Figure 3). Under each of these domains, subcategories were further identified.

4.1. Sample Characteristics

Eleven dentists, seven males and four females, participated in this study (Table 2). Nine identified themselves as European Caucasians while two identified as Asians. At least six of the participants hold one Fellowship of the Royal College of Dental Surgeons (Australasian, Glasgow or Edinburgh). Nine participants had received their undergraduate dental training from University of Otago while the remaining two were trained in the UK. However, only five of the participants received their specialist postgraduate training in New Zealand.

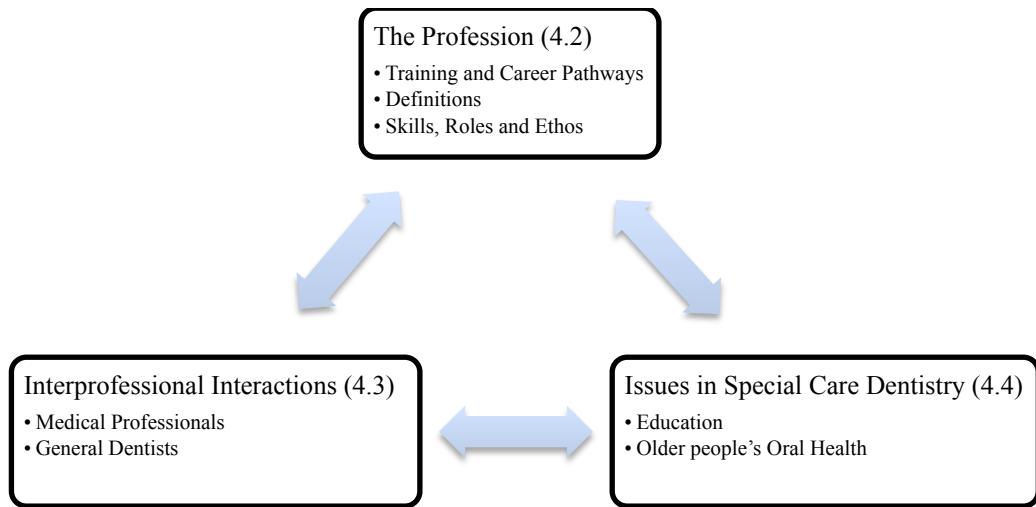


Figure 3 The broad themes identified and its subcategories.

Table 2 Summary data on participant's characteristics.

Characteristics	Number
Sex	
Male	7
Female	4
Age range	
30-39	1
40-49	2
50-59	5
60 and above ¹⁵	3
Workplace	
University institution	2
DHB	5
Full time private practice	0
DHB and private practice	4
Experience as specialist clinician	
Years	
0 to 5	0
6 to 15	1
16 to 30	5
31 or more	5
Practice before qualified as specialist	
Years	
0 to 10	2
11 to 20	7
21 or more	2

¹⁵ Two of the participants have since retired.

4.2 The Profession

4.2.1 Training Pathways and Career Prospects

Special Care Dentistry is recognised as a dental specialty in New Zealand. Specialist clinicians are required to have attained at least a postgraduate qualification that is equivalent to a Masters or Doctoral level degree in Special Care Dentistry at a tertiary institution that is accredited by the DCNZ or the Dental Board of Australia (Dental Council of New Zealand 2017). In addition, through Trans-Tasman Mutual Recognition¹⁶, Special Care Dentists who are recognised as dental specialists in Australia are also designated as such in New Zealand.

Dental practitioners (both specialists and non-specialists) chose to practise Special Care Dentistry for a variety of reasons, such as preference to work in a team environment, career satisfaction, and the unique patient group for which it caters. However, their career choices have their challenges and barriers. During training, most of them had to leave their employment while needing to support families. There was also uncertainty about employment availability after qualification as a specialist, particularly in New Zealand.

4.2.1.1 Career Characteristics

Despite the variation in age and the number of years practising as Special Care Dentists, there are some common characteristics of the participants. Their careers before specialisation were diverse, in that most were previously involved in community-based clinics, dental outreach programmes, military, or working overseas. However, at one point or another, all participants had been employed in private practice as general dentists. While taking into consideration their working experience, patient groups, and workplaces, one key factor was their early exposure to patients requiring special care in their career. The early exposure to patients requiring special care perhaps was a key factor in their choice of vocational specialty.

¹⁶ The Trans-Tasman Mutual Recognition Act 1997 is a law in New Zealand and Australia that recognises the principles of goods and occupation. For example, a dentist registered in New Zealand is recognised as a dentist in Australia without undertaking any further examination or training.

4.2.1.1.1 Working and Life Experience before Specialising

Most participants started their dental career working in a hospital environment. They attributed their choice of career pathway to their early exposure to Special Care Dentistry, almost exclusively referring to their first professional employment as dental house surgeons in hospital dental departments after graduation. They also expressed how much they enjoyed working in the hospital setting as a dental house surgeon, both in New Zealand and overseas, as one reflected their time as dental house surgeons: *“I loved it and pretty much from the year I graduated, I worked at the hospital as a house surgeon. It was something that I thought I really wanted to do and I went back for the second year.”* [P5]

In New Zealand, dentists working in DHB hospitals have a broad range of roles within respective dental departments. These include the management of oral and maxillofacial trauma and infection, providing emergency relief of pain, and delivering oral health care for those who require Special Care Dentistry. The participants who enjoyed their working experience (especially in their early years as house surgeons) gained a range of clinical experiences. One participant remarked how much they enjoyed their work that they continued to pursue hospital appointments to remain working in hospitals:

“I enjoyed it so much, I went into a couple of hospital jobs, and I did two years of hospital jobs in Oral and Maxillofacial Surgery. I was a house officer then a senior house officer in the UK, so which gave me a huge experience of treating medically compromised patients in the hospital departments.” [P3]

When asked what they most enjoyed about working in the hospital, the majority highlighted the variety of patients and in the dentistry involved. One commented that the patient groups in the hospital setting often present with a wide range of medical conditions and thus require the Special Care Dentistry approach:

“Working in the hospital is always quite varied. For inpatients, cardiac patients work up for valve replacement. I do quite a lot of head and neck cancer patients get them ready for radiotherapy and the chemotherapy patients beforehand. Transplant

patients, you know just getting them dentally fit for their procedures and things. And if there's space and we're not over too busy with the in-patients, we see the (intellectually disabled) patients and mentally compromised patients, and see low-income patients.” [P10]

Over time, they have amassed clinical experience from a wide range of patients and clinical scenarios. In their early career years, they felt their colleagues and consultants at the hospital mentored and supported them well. One participant believed that this guided them towards Special Care Dentistry:

“So (mentorship) actually played a big part of my of career pathway really. So, I spent two years as a house surgeon and then I really enjoyed Hospital Dentistry sort of thing and having good mentors (who were Special Care Dentists) at the time. They helped me along and it is very rewarding, yeah.” [P1]

In private practice, even in a group practice, dentists would not have encountered this type of diversified clinical experience of Special Care Dentistry. Hospital clinical experience is unique in its own right. Dentists working in a hospital environment in New Zealand—dental house surgeons and senior dentists—are often working in a dynamic environment, gaining a broad range of clinical experience from Oral and Maxillofacial Trauma to Paediatric Dentistry, and of course Special Care Dentistry (Kim and Antoun 2010). In some ways, this creates a general dentist with a varied skillset which some may view as the beginnings of a Special Care Dentist. Their early career work experience as dental house surgeons perhaps has directed them towards the career choice of Special Care Dentistry.

4.2.1.1.2 Specialising Later in their Dental Career

Interestingly, none of the participants commenced their postgraduate training until they had had some years of clinical experience, with an average of about 15 years working first as a general dentist. There are some possible explanations for this. When they entered their specialisation training, the participants reported that they were competent in their clinical skills and well rounded in all aspects of dentistry,

particularly Oral Surgery. They had honed these skills from their years of wide clinical experience. Subsequently, those who entered postgraduate studies in Special Care Dentistry were confident and proficient in their clinical dentistry skills, which allowed them to focus on Special Care Dentistry rather than having to hone their clinical skills first. Anecdotally, this may be true for New-Zealand-trained Special Care Dentists, but it may not apply to overseas-trained specialists. It is possible to consider the participants who are mature students may approach their training differently. Their confidence in their clinical skills may also enhance their confidence with patients requiring special care during their postgraduate training.

Through years of clinical practice, participants would have gained life experience as people and as clinicians. They would have met people of all ages from all walks of life, in both the clinical setting and in their social life. One participant commented: “*I don't think people should start specialist training in Special Needs (Care) Dentistry until they've been through it for a bit and I think they're setting themselves up really to be very very unhappy about what they're trying to do (if starting postgraduate training in their early career). I think you get better at people reading and better at thinking at ‘big picture view’.*” [P9] Participants with their life experience and time may have naturally become more adept at communicating with people, and establishing rapport more easily; this is an essential element of Special Care Dentistry. Being ‘seasoned’ clinicians, they might approach patients differently where over time they become more holistic rather than focusing on the ‘teeth’ of the patient.

Some participants, especially those who graduated during the period from the 1970s to the 1990s, commented that there was no career pathway for Special Care Dentistry in the early years of their career: “*The first year I graduated and at that time, they had no Special Needs training pathway but they were discussing it at the hospital conference.*” [P5] Even though there was significant interest in Special Care Dentistry, there was simply no established pathway for specialisation or advancement during those times. As a result, some of the participants were part of the ‘pioneering’ group of clinicians who were the first generation of recognised Special Care Dental Specialists. It was during the late 1990s to early 2000s that accredited postgraduate courses for Special Care Dentistry emerged, particularly in New Zealand and the UK

(British Society for Disability and Oral Health 2003; Chalmers 2001). However, there was a political setback, whereby the Faculty of Dentistry of University of Otago failed to obtain accreditation for its Master of Dental Surgery (Hospital Dentistry)¹⁷ in 2000 (Punshon 2015). As a result, it rendered the postgraduate course unavailable for a number of years, which explained in part why some of the participants delayed their specialty training in Special Care Dentistry to later in their career. Most participants applied to train only when the postgraduate course was established again, or at least recognised as a specialty by the DCNZ. Additionally, these participants possibly could not initiate their training early because they needed to accumulate sufficient savings to fund their postgraduate tuition and expenses during training (New Zealand Dental Association 2006). They knowingly probably surmised that their career after training would be based mostly in public practice especially when private practice is perceived to be more lucrative. There is also the possibility that some participants may have had student loans for their undergraduate degree and had been required to work and pay off their loan before being financially able to further pursue their postgraduate studies.

4.2.1.1.3 Overseas Experience

Another background characteristic of the participants is that at some point in their career (although usually earlier in their career), they have ventured out of New Zealand for ‘Overseas Experience’, working as a dentist. In this study’s sample, most of the New Zealand graduates who went overseas had graduated before 2001¹⁸. This perhaps reflects the heyday of dentists travelling overseas for experience in the 1980s where a significant portion of New Zealand dental graduates would travel overseas to work (particularly in the United Kingdom and Australia). A New Zealand study investigated working and travelling experience in dental graduates and reported that 58.4% of their sample had practised overseas, with those who had graduated before the year 2001 more likely to have worked in the UK in particular (Wong et al. 2006). However, the study sampled only practising general dental practitioners in the year 2005, and arguably this may not be a true reflection of ‘overseas experience’ among

¹⁷ During this period, the ‘Hospital Dentistry’ specialty was the predecessor to ‘Special Care Dentistry’. The specialty of ‘Special Care Dentistry’ was not recognised in the year 2000.

¹⁸ In 2001, The UK General Dental Council began its registration requirement for all New Zealand and Australia dental graduates to undertake the International Qualifying Examination (IQE).

those who pursued specialist training. The working experience of some of the participants in this thesis is consistent with the study mentioned.

As part of their overseas experience, two of the participants were involved in providing dental outreach services through the New Zealand Defence Force (NZDF) in various countries such as Singapore, Malaysia, Papua New Guinea, and Pacific Islands. One participant attributed their opportunity for training in hospital dentistry in the UK to their service in the NZDF, who funded their postgraduate study.

Most participants travelled to the UK for their overseas experience. Participants found their overseas experience to be beneficial to their overall career and perhaps to have played a part in their choosing Special Care Dentistry as a career. Apart from working in private practice, participants also involved themselves in institution-based practice such as the hospital or community-based clinics where they are salaried dentists. These environments provided them with a diverse scope of patients. This early exposure to Special Care Dentistry overseas allowed clinicians to develop a wide spectrum of skills and clinical experience with various patient groups, as one shared their experience:

“I went to work in England for about three and a half years. In England, I worked in public health and their national health system, kind of in their community clinics at the primary care trust, that sort of thing, not the larger hospital sort of stuff but just the routine care for children and adults with kind of special needs and medical problems. I always wanted to do Special Care Dentistry.” [P5]

In the UK, the National Health Service (NHS) provided subsidised dental care services to all of their citizens, including patients requiring special care. To meet the demands for oral health services in the population, the NHS structured oral health services in community-based clinics and hospital dental departments. Especially in tertiary or quaternary level hospitals, dentists who work in these areas would be exposed to high-level specialist dentistry, while treating patients with complex medical and social histories.

As mentioned, participants who went overseas not only gained experience working in larger health systems such as the NHS but they also had opportunities to be exposed

to complex patients with specialised dental needs, treating patients in a team-based environment. This perhaps ‘opened their eyes’ to the world of Special Care Dentistry. Dentists who work in publicly funded dental departments are aware of the increasing demand for Special Care Dentistry as the population who require special needs are growing and surviving longer despite their disabilities and medical conditions (Gallagher and Fiske 2007). One participant believed that there was a ‘call’ for the specialty in New Zealand and felt that there “*was an area of a vacuum (in Special Care Dentistry), so felt that was an area of service need.*” [P8]

There is also the possibility that some of these participants favoured working overseas because of the potentially higher earnings elsewhere at that time. The favourable exchange rates (such as in the UK) would finance their travelling and living expenses, while being able to service their New Zealand student loans (New Zealand Dental Association 2006).

It appears that working overseas was a ‘rite of passage’ for these participants (although not exclusive to Special Care Dental Specialists). They chose to work overseas to gain experience in different clinical settings and health care systems or simply gaining ‘life experience’ through living in various countries. Nonetheless, it seems to have been an important part of the participants’ career journey before returning to New Zealand to settle and live (either as a specialist or to pursue a career in Special Care Dentistry).

4.2.1.1.4 *Miscellaneous Reasons for Specialising*

When working with patients requiring special needs in a hospital setting, dentists have to crucially consider the medical background of the patient before providing dental care. Accordingly, gaining medical experience and knowledge is a core component of a Special Care Dentist. Some participants viewed this area of dentistry to be an opportunity to extend their horizons of knowledge—particularly in medical knowledge:

“During my time at Dental School, I had a plan for graduation which I didn’t stick to. The plan was to go into a hospital for one or two years to find out about how I could best look after people with medical problems because my intuition told me that if I did that, then I’d be able to provide better care in general practice.” [P7]

Dentists working in a hospital without any formal postgraduate specialist qualifications are usually recognised only as general dentists. However, dentists who have spent a significant number of years working in the hospital naturally become more adept in Special Care Dentistry. Some of the participants in this study chose to specialise and gain recognition for their expertise in Special Care Dentistry. One participant stated: *“I took it up as a challenge. It was also full recognition for the work we’ve done over the last twelve years.”* [P4] By gaining specialist recognition, these clinicians are also upgraded from the Senior Medical Officer Salary Scale to the Specialist Consultant Salary Scale, which overall has higher salary increment steps. Participants considered this a significant incentive to specialise in particular for those likely to remain working in DHB hospitals for the longer term.

One participant stated that one of the factors that led them to work in the public health system (such as DHB hospitals) was the social responsibility he felt for his patients:

“I always felt guilty about charging so much (for private patients) and I enjoyed working with Special Care patients. That’s how I got into it. The cost of private industry was probably quite major for me. I would say its very satisfying work. It’s just the rewarding aspect of it is good and yeah if you work in a DHB, the pay’s still very good.” [P10]

There was a palpable sense of social conscience among all the participants. Working in the public health system meant that they are working as salaried dentists, which allowed them to focus on patient care, rather than becoming entangled by the complexities of private practice where the business model of service delivery is fee-for-service.

4.2.1.2 Training and Career Pathways for Dental Graduates and Dentists

Dental practitioners who are interested in pursuing a career in Special Care Dentistry have rather definitive but limited pathways. One participant explained although different pathways are available to pursue Special Care Dentistry, there were various barriers, such as the small number of house surgeon positions within New Zealand and the ability to retain a hospital-based job position to gain clinical experience.

4.2.1.2.1 Dental House Surgeon Training Pathways

Dental house surgeon positions in New Zealand are usually hospital-based positions with a fixed-term contract, with a variation of one or two years of employment. These positions are often given priority to new dental graduates who apply. These employment positions offer mentorship and clinical experience as dental departments are usually led by various dental specialists and experienced general dentists. This provides a unique learning experience for new graduates because it is often viewed as an attractive and supportive way to gain clinical experience especially in the fields of Hospital Dentistry, Special Care Dentistry, Oral Medicine, Paediatric Dentistry, and Oral and Maxillofacial Surgery. These jobs are highly sought-after by new dental graduates and are extremely competitive.

Unfortunately, there are limited career pathways for new graduates who wish to remain working in the hospital setting, especially if they have particular interests in Special Care Dentistry. As mentioned, DHBs employ dental house surgeons in New Zealand on fixed-term contracts. As a result, it allows house surgeon job positions to be re-advertised each year, giving opportunities to new dental graduates. Each DHB employs only a fixed number of house surgeons each year, as one participant illustrated:

“At the moment, you can graduate from the Dental School and go to a house surgeon post but you know there’s less than half the class actually get the opportunity to do that and it depends on how many house surgeons are staying on from the previous year so there may only be a few postings available.” [P7]

It is also uncommon for dental house surgeons to remain within the employment of the hospital for a longer term since most of their contracts are fixed to a maximum of two years. Moreover, these dentists with recent hospital experience tend to migrate into the private practice sector or pursue specialist training (Kim and Antoun 2010). One participant remarked that he was ‘lucky’ that in his career pathway in Special Care Dentistry, due to circumstances during his employment that he was offered a permanent position as a dentist in the hospital. He attributed his vast clinical experience and knowledge to this experience: “*I became a house surgeon, senior house surgeon and then I got offered a job as a registrar to come back for the third year and really fell in love with hospital dentistry.*” [P7] His use of term ‘lucky’ infers that he felt his career opportunities were by chance, underlining the assertion that employment availability in hospitals was scarce at the time.

4.2.1.2.2 Career Pathways for General Dentists in Public Practice without Specialising

Within the New Zealand public health system, DHBs employ some salaried general dentists (non-dental house surgeons) to work in hospitals and community dental clinics, providing oral health services to a wide range of patients, including patients requiring special care. Most of those dentists are employed by the Association of Salaried Medical Specialists (ASMS) Senior Medical/Dental Officer contract, with a stepwise remuneration salary scale. A participant who is a general dentist working in a hospital illustrated a potential pathway for a general dentist to practise Special Care Dentistry without specialising:

“I suppose if you’re like me (a general dentist), there’s probably a number of us out there. The career pathway is probably still there, you come in as a dental house surgeon and possibly stay on right through or you know get a couple of years experience overseas or in private practice. Then come back as a senior registrar or even on the senior pay scale like year four or whatever it is and then you can just go through that scale there which I’ve done.” [P10]

The mentioned pathway is common for general dentists who prefer to remain working in DHB hospital dental departments in New Zealand. Unlike the fixed-term dental house surgeon contracts, DHBs offer these general dentists permanent employment contracts, which may be in part-time or full-time positions. Those working part-time tend to supplement their income and work variety in a private practice. The same participant [P10] remarked: *“It’s not a bad way to do it and then you just pick up experience as you go. If you’ve got some senior clinicians who have been there a while you know they can help you out.”* [P10] It is viewed as an advantage to be working in a team environment, where general dentists can provide Special Care Dentistry for patients while enjoying clinical support from other specialists. Moreover, general dentists have collegial support not only from their dental specialist colleagues but also from medical specialists within the hospital. Medical support as such is invaluable when it comes to treating patients with complex medical histories. However, several participants also indicated that not all DHB dental departments have the same priorities for Special Care Dentistry, as participant [P10] further illustrated:

“If you wanted to have a career in Special Care (Dentistry) without actually having to specialise, you’d choose a particular DHB that has those unofficial career pathways. I don’t know if there is that many career paths within New Zealand health system. But then if you’ve gone through the house surgeon years, you’ve got to be working in a suitable hospital that would help (you gain experience).” [P10]

General dentists who are employed in DHBs have significant advantages. They can enjoy the employment benefits of their salaried position like other dental specialists while being able to practise Special Care Dentistry (without going through the toils of specialising). The current employment contracts of senior medical doctors and dentists (both specialists and non-specialists) shared the same level of benefits regarding annual and sick leave, Continual Medical Education (CME) funding, and study conference leave. The only apparent difference between a specialist and a non-specialist clinician is the salary scale.

These permanent positions are few and far between (New Zealand Dental Association 2006). Furthermore, general dentists who have permanent employment have to consider abandoning their jobs and livelihood if they decided to pursue a specialist qualification, with no guarantee of job security on completion of training. Likewise, the participants were also aware that each DHB dental department functions differently in service provision and the types of patients seen. The function of a hospital is dependent on the level of hospital care required (for example, secondary level hospital versus tertiary level hospital) and the service specifications of the unit (Ministry of Health 2017). In regards to Special Care Dentistry services, DHBs may not only have different service priorities but also differ in how the services are delivered.

As mentioned by the participants, general dentists who like to have a career in Special Care Dentistry through ‘unofficial pathways’ may need to acquire ‘inside knowledge’ on how a given DHB dental department functions. As one participant gave an example: “*For instance, (in) a dental unit that focuses on trauma management, you probably wouldn’t get much of Special Care Dentistry. So depending on which DHB and you would have had that from day one, one would hope. So I suppose you need to look at the different DHBs and the units that they’ve got and how they operate.*”

[P10] Indirectly, this highlights two possible consequences: (1) there are inconsistencies in service specifications among DHBs, leading to variations in Special Care Dentistry service provision; and (2) the variability means that clinical exposure and career opportunities in Special Care Dentistry are limited for general dentists who work in the hospital setting.

Despite the limitations and the barriers, the participants stated that the general dentists in their workplace enjoyed treating patients requiring special care and continued to remain working in the hospital setting, as one remarked:

“*There are quite a few Dentists up here at the hospital here. Well most of them are now full-time. My hospital employs two dental house surgeons, four or five community dentists who are working in the hospital but also doing community work.*

Some of these guys have been in the hospital or community for so many years. I think they're quite happy in their environment.” [P6]

4.2.1.3 Barriers and Challenges during Training

The participants had a range of seven to twenty five years of clinical experience before training for specialisation. Each of the participants' career pathways had their own unique trials and sacrifices, including relocating their families, financial setbacks and job insecurities, and simply the challenge of returning to a student lifestyle and studying.

Currently, the level of postgraduate education in clinical dentistry is considered equivalent to a doctorate-level qualification. Most participants had a substantial number of years without studying prior to entering their specialist training and felt that it was hard returning to pursue higher education. Being a slightly more mature student, the participants perceived postgraduate studying to be more challenging and requiring more time to learn. As one participant commented:

“I had been out of University for seven years so going back and studying, I did it very slowly because I thought I’m not as young as I used to be and I’m not going to absorb this quickly and I also don’t do late nights or anything like that very well.” [P5] She also had to compensate with alternative ways of studying: “I started studying in July for the exams in December and I had no life, oh I gave myself Friday nights off. You’d know, with a small child that they demand a lot of attention.” [P5]

4.2.1.3.1 Family Life and Support

Participants admitted that reverting to student life was challenging in its own right. Most had to juggle their studies while having to balance family and work commitments. However, participants attributed their success in their career from their much-needed family support, as one participant commented:

“I had a very supportive husband, I think he actually relished the fact that I wasn’t there because he absolutely loved the fact that you know, on the weekend I would do four hours worth of study on a Saturday morning while he was doing his kayaking. I

don't know how I did it but he did a lot of multi-sport events and I remember sitting in the car studying for exams while travelling all over the country to assist him." [P5]

Some participants reported that they were parents of young children during their training. They reflected that it was not easy, but they somehow coped with managing their study while bringing up their children. One participant recollected how she managed her studies when she had young children:

"I mean it was pretty tiring I suppose but my children were actually very good so they were good and I remember my six-years-old was particularly good. I mean she was an amazing child, she would sit opposite me at the table while I studied and she would not interrupt me, she would be doing her writing and drawing and whatever she was doing and she didn't interrupt me." [P3]

It was a trying time for most participants because their postgraduate training put stress on family dynamics, especially those with young children. Some felt that they had to sacrifice their time with their growing family. For some, it resulted in guilt and perhaps affected their relationship with their family, as the participant [P3] commented:

"I feel guilty about being away but she now says that I'm a fantastic role model because I worked hard. She is now just qualifying in law and languages but I'm really pleased to hear that because she never said that before. I didn't know; we get on very well but for her to actually say that, that she was glad that I did all that because it was really hard." [P3]

In contrast, one participant did not pursue further training because he felt it placed too much pressure on his family during his time: *"To get back in, by then I think I had a young family so I thought no didn't bother. You could go through the College. I didn't take that up because with a young family I thought it's too much with a young family." [P10]* This reflected one of the many challenges of pursuing specialty training late in a career especially when they have their family and mortgages to consider as well. Some participants uprooted their families and relocated as part of

their training. Consequently, it placed more domains of stress on the family; these might include the cost of living (without a steady income while paying tuition fees), education for their children, relocation costs and looking for a new home in which to live while studying. One participant recalled his time during training:

“Yeah it's, it's pretty demanding I guess, making that decision to actually move away from Auckland. I took the whole family down at the time. We had one son, he was only three at the time, and we had our second child in Dunedin. Yeah, so it was a bit of a demanding or challenging time.” [P1]

Pursuing a career while having a family at the same time is hardly perceived to be stress-free. The balancing act between spending time with the family while managing postgraduate studies certainly tested the coping abilities of the participants. Participants had to adapt and compromise to cope with the dynamics of family life and student life. Although it was challenging to all, none of the participants perceived that having a family was detrimental to their training and career. In fact, most expressively acknowledged the support particularly from their spouses and immediate family, who provided them with moral support and helped to raise their children during that time.

4.2.1.3.2 Finances during Training

Reflecting on their career, undergoing training was a challenging time for most because they had to compromise their financial stability. Some participants had to resign from their employment (and for some, sell or restructure their businesses) and had to forgo income during their training. While pursuing their career (locally and overseas), they had no guarantee of returning to a secured employment after specialist training. They had to fund their own postgraduate education while shouldering a financial setback (without a source of income) and supporting their own family. Those who had trained overseas particularly highlighted this fact. Some had resorted to working part-time as a general dentist in their busy schedule of training to supplement their livelihood during their postgraduate training, as one participant reminisced her time while training overseas:

“It was incredibly expensive so I had no funding at all. I had to resign from my job at the DHB. I had no guarantee of a job when we came back to New Zealand. The very difficult things were money and having to leave the country and having to quit my job but the positive (side) was that we had this amazing accommodation and supportive environment. I had to work to cover the fee so the job at the Camden Community was able to cover the fees but not the childcare.” [P8]

In New Zealand, postgraduate dental specialist students are usually required to be full-time students at the Faculty of Dentistry in Dunedin. However, some participants (particularly the recent graduates) were able to remain employed by their DHB while undertaking postgraduate training by distance learning, hence allowing them to have a steady source of income and retained their Continual Medical Education (CME) funding and paid study leave. This funding is allocated annually and to be used for educational purposes. The participants were able to mitigate part of the cost of their tuition fees through using their CME entitlement and utilised their study leave. Using their CME fund certainly alleviated some of the financial burdens of postgraduate studies, and being employed guaranteed a secure income. One participant appreciated this benefit of working in the DHB: *“Financially it was made possible by the DHB for me to use my ongoing education and CME funds to actually help fund and take time away from work.”* [P5] However, this also meant they had to compromise between their work in their respective DHB and their postgraduate study, which added another dimension of stress to their working lives.

4.2.1.4 Barriers to Specialising in Special Care Dentistry

In New Zealand, the growth in the number of Special Care Dentists can be easily considered one of the slowest among the dental specialties. Since 1999, only seven Special Care Dentists have graduated from the Faculty of Dentistry at the University of Otago, with two of these being overseas students who have since returned to their home countries. The other participants in this study had either trained overseas or pursued their specialty through the Royal Australasian College of Dental Surgeons (RACDS). A recent workforce analysis report of New Zealand dentists between 2011 and 2012, no active postgraduate students were studying Special Care Dentistry while

other postgraduate courses (such as orthodontics and prosthodontics) had at least four candidates each (Broadbent 2016). However, it is worth noting at the time this study was conducted, there were three postgraduate trainees in Special Care Dentistry. It may be that Special Care Dentistry is not as ‘popular’ as other dental specialty training. Participants admitted that various barriers could deter their colleagues from entering Special Care Dentistry as a specialist vocation. Accordingly, it is timely to consider these obstacles, which include financial limitations, job availability, and private practice limitations in Special Care Dentistry.

4.2.1.4.1 Financial Limitations

One of the key barriers that some participants identified was the financial aspect of Special Care Dentistry. Most Special Care Dentistry in New Zealand is practised within the public healthcare system. As a result, this limits Special Care Dental Specialists to working in salaried positions within the DHB sector. Although some postgraduate candidates can obtain a scholarship through various means, most dental specialty training is usually self-funded, through either student loan or personal income. As one participant pointed out:

“The problem was that anyone who wanted to do this specialty had to fund it themselves but then they couldn’t then go out and recoup it in private practice because it’s not going to earn you a lot of money; it’s not that kind of job. So that’s probably what put people off.” [P3]

Another participant stated: *“The other specialties, they’re in a situation where they know it’s going to be three years and ‘I’m not (going to have much) income but it’d be three years when I’m going to have to be very careful of my money and spending and stuff. Then after, I’m ok because the bank and medical insurance lend me money because they can project my income in the future.” [P9]*

This comment raised interesting views of how specialists perceived their future career prospects during training. As mentioned, Special Care Dentists in New Zealand are likely to be employed on a salary within a public health care organisation (that is, a

DHB). Unless they have the intention to venture into private practice, most do not require a business loan. However, their fixed income meant that Special Care Dentists might not have the same earning potential as other specialties (with the exception of Dental Public Health Specialists). Some clinicians might perceive Special Care Dentistry training to be disincentive. However, Special Care Dentistry training in New Zealand can be pursued by distance learning while working in DHB hospitals. It would help to reduce the potential loss of income during training and lessen the cost of tuition fees.

In other dental specialties, trainees can recoup their loss of revenue and pay off their student loan after their training more easily; this is particularly true for those who intend to predominantly practise in private practice. In addition, Special Care Dentistry—where it is mostly practised in public sectors—may not be seen to be financially on par with other dental specialties, as a participant succinctly put it:

“For Special Care Dentistry, that’s not going to happen (in regards to private practice). It seems to be that Special Care Dentist job is going to be a salaried specialty. But it is basically going to be ‘I’m comfortable but I’m not rich’, which I think is a reality. I mean look at the orthodontists for example, well that’s not bad going. So that makes it difficult. I’m not saying any of us are poor but we’re not (rich), you’re not using your three years (of postgraduate training) to get yourself out into a completely different earning bracket.” [P9]

Some participants acknowledged that moving away from stable employment to advance their career creates a significant disruption to their financial stability, even more so when they have dependent children:

“I think it’s difficult for people, once they graduated from dental school and they’re geographically in a different city. I should think it’s quite difficult for people who are already established somewhere. They want to train in Dunedin and then they’ve got family to feed and all that sort of thing, they’re established and they’ve need the job in

a hospital and they need to do this training, it's a difficult, I think it's quite difficult isn't it? I think that's the main problem." [P3]

However, once they have completed their training and employed as specialists in the DHB, they are entitled to concrete benefits such as Continuing Medical Education (CME) funding and sabbatical leave. Participants felt that it somewhat compensated for the financial gains in private practice, as one participant commented: "*I think that once you get funded using your CME money and you get to be a specialist on the specialist scale, the salaries and the remunerations are good and I think it's attractive.*" [P3] Although remuneration in the public sector is comparatively lower than private sector, participants expressed that there were other benefits that most private practice lack (Broadbent 2016). Apart from the benefits mentioned above, those with families appreciated the paid sick leave and annual leave, which were considered generous. Overall, they felt financially secure without the stress of running a private practice, allowing them to have a comfortable work life balance.

4.2.1.4.2 Job Availability and Limitations

Most dental specialty postgraduates would venture into private practice after they have completed their training and registered as a specialist. By contrast, Special Care Dentistry in New Zealand is predominantly a salaried dental specialty, due to its strong employment ties to DHB hospitals. The majority of patient groups in Special Care Dentistry are treated by the State-funded healthcare system, which includes hospital and community-based clinics. Therefore, employment opportunities are somewhat limited to public practice settings and there are no guarantees of job availability after specialisation in Special Care Dentistry in New Zealand. One participant remarked: "*You can't ask someone who is never going to be super rich or writing off that level of spending (for tuition fees) to come in and do that, then just sort of turn them back out at the end of the training programme, with no jobs in line.*" [P9] However, as one participant illustrated the career pathways are somewhat well defined albeit limited opportunities:

“There are really only two pathways that are viable: You either could go into academic dentistry within the Dental School or the places like in DHB hospitals, the Military. However, availability is very few and far between. This limited career pathway and opportunity still hold true today in New Zealand and it is often viewed as one of the hurdles of postgraduates in Special Care Dentistry.” [P7]

Although Special Care Dentistry has been widely agreed to be a much-needed specialty in New Zealand, one participant was pessimistic about the career opportunities that is currently available: *“I don’t know, is it easier to get a job in the DHB as a Specialist, even if it’s part-time?”* [P10] There was a perception that specialist jobs are not available: *“Unless someone retires because there’s just no money available at the moment. Therefore they don’t take on new specialist consultants, so that would concern me a little bit for guys like you to try and actually obtain a position somewhere.”* [P10]

This comment underlines two suppositions: (1) the lack of available public sector jobs for dentists remained at large as it was previously acknowledged (New Zealand Dental Association 2006); (2) those who work in the public oral health tend to remain working until they retire. This scenario somewhat depicts a paradoxical situation. It is evident that the long-term retention of these jobs by clinicians suggests that these public sector positions remain desirable. However, consequentially, it hinders the turnover of dentists within the public sector, which in turn could reflect (or at least partially explain) the limited availability of these jobs, and the reported issue of ageing public sector dentists (New Zealand Dental Association 2006). In the same NZDA workforce analysis, the authors reported contradicting evidence of declining full-time equivalent (FTE) hours of dentists working in the public sector, and yet reported shortage of employment availability. Despite the increasing need (and interests) in public sector dental positions, it is highly suggestible that perhaps the challenge lies deeper within DHB organisation level where there is little increase in FTE resource for additional employment of dentists. Stakeholders must identify this factor, particularly if succession planning and establishing career pathways for public sector dentists are concerned.

Despite the identified job limitations, most participants admitted they enjoyed their workplace and would continue to remain working in institutions like the DHB. This notion is similar with an American study that investigated the practise patterns of the undergraduates of general dentistry and the postdoctoral general dentistry programme (Advanced Education in General Dentistry or General Practice Residency)¹⁹ after they have completed their training. The authors found that those who completed their postdoctoral training were more likely to work in a public institution-based setting rather than private practice (Subar et al. 2012). They suggested that those who had undergone postdoctoral programmes had more experience working in non-private practice settings (for example, hospitals), therefore possibly feeling more comfortable and enjoy the challenge of working in unconventional clinical scenarios such as treating patients requiring special care.

4.2.1.4.2.1 Private Practice as a Career Pathway

Conversely, it can be argued that because Special Care Dentistry broadens the scope of practice (unlike other specialties), these specialists can venture into private practice as a general dentist but also provide Special Care Dentistry²⁰. One participant suggested an alternative career pathway:

“When you finish your Dental School training (for specialisation) and if you’re lucky, you get into a private practice where there’s a principal dentist or dentists that are happy to pass on their business management skills and their knowledge of general practice. Then, you’ve got a wide enough patient base to have lots of varied and interesting dentistry but it’s not necessarily Special Care Dentistry.” [P7]

In New Zealand, private dentists predominantly provide general dental care to the public. Some participants enjoyed working in both private and the hospital setting as this gave them the flexibility to continue practise general dentistry and some degree of

¹⁹ In the United States of America, there are no Special Care Dentistry postgraduate programmes. Special Care Dentistry is not recognised as a dental specialty.

²⁰ This may also be a double-edged sword. Some argued that Special Care Dentistry is no more than general dentistry for patients with special needs and therefore, not really a specialty.

Special Care Dentistry in a private practice setting. However, it was clear that there were significant contrasts between public and private practice in terms of cost for the patients and how care is delivered. Some participants expressed it was challenging for them to accept the stark contrast between private and public practice and how it impacts the cost of dentistry to their patients:

“Moving from public to private work, you learn to understand the value of money. And even seeing how expensive it was, relative to patients’ income and trying to work that out, I just, you know it really was difficult” [P3]

In private practice, the provision of Special Care Dentistry would be based on private dental fees, without any government subsidy. Participants perceived that Special Care Dentistry in private practice is financially prohibitive as a viable business because of the various challenges in providing Special Care Dentistry. Unfortunately, only a selected number of patients requiring special care could afford private dental fees and certainly would impact on the income of private practice, as one participant remarked:

“I was thinking about it the other day and you wouldn’t actually be able to survive. You’d certainly get enough patients but financially they’d never be able to pay their bills if you worked as a full-time Special Needs Dentist in private in New Zealand.”
[P5]

The same participant [P5] further commented: “*The value of our health services are oriented around you know, ‘bums on seats’ and what can be provided at certain fees.*” [P5] Unfortunately, this is undoubtedly true in private practice dentistry where it is driven by the number of patient turnover, and a fees-for-service model. However, patients requiring special care often require more time for their dental appointments and can be challenging in different ways (Dougall and Fiske 2008). Several participants admitted that seeing patients requiring special care in their private practice was not only uneconomical in terms of time but found it difficult to maintain a feasible income stream treating these patients in private practice. As such, clinicians may be forced to limit the number of patients requiring special care in their practices

for these reasons, as one participant admitted: “*I wouldn’t be able to make a living dealing with Special Care patients (in private practice).*” [P3]

One participant remarked that there are significant risks that need to be mitigated for a private practice that provides Special Care Dentistry to be financially viable:

“There’s a kind of a hump of energy to get over to be established. It does take two to three years to start getting numbers of patients up to enable your practice to become financially viable. There’s a big risk I guess, in that two to three years as to whether or not you can make it (private practice) to work.” [P7]

Other dental specialties that are based in hospital settings such as Oral Surgery has the potential to continue practising their specialty easily in a private practice setting. Unfortunately, in New Zealand, the practise of Special Care Dentistry may not be easily transferrable into a private practice business model as one participant remarked that it is a barrier: “*You can go and work in private as a general dentist. But if you do Special Care, you’re really restricted to the hospital environment, aren’t you? And that could be a deterrent for some people.*” [P6]

Participants who worked in private and hospital practice saw patients requiring special care out of a sense of community service and principle rather than financial gain. Conversely, one participant illustrated that seeing a Special Care patient in private practice could lead to potential patient base growth because the caregivers of the patient might see her for their dental care as well, as one participant gave an example:

“For example there’s a Special Care patient that I see. Then his mother came and had a number of crowns because she liked me, you know so you get the spin-off ‘cause you deal with their family. You deal with someone and then their family just love the way you behave and manage them and just want to come and see you.

Sometimes you can get the whole family in there all fine and you earn money from that, not that you've tried to but do you see what I mean...it's an offset really." [P3]

4.2.1.4.3 Attempts at Specialising in Special Care Dentistry

Two of the participants are not specialists in Special Care Dentistry but their clinical practise primarily consisted of patients requiring special care. They provided their experiences and insights when they were once planning to pursue their interest in Special Care Dentistry. Anecdotally, earlier in their career, there were significant interests in Special Care Dentistry among their colleagues in DHB hospitals. However, many of their colleagues were discouraged to specialise in Special Care Dentistry due to various factors and circumstances, which led them to pursue different career interests instead. There were also anecdotal accounts of their colleagues who attempted to pursue the postgraduate training but failed to succeed²¹. One participant described their account in an attempt to train in the Special Care Dentistry postgraduate course:

"I did (attempt to do postgraduate training) many moons ago. When I first arrived, probably eighteen years ago or something or rather, I enrolled for the Diploma of Special Care Dentistry through the School but it wasn't well run. Well I pulled out in the end because after two months into the course, we had a reading list and that was it. There was no assignments or anything. It was very poorly organised. I think someone before me did a Master, tried to do a Master and pulled out as well." [P10]

There was a clear expression of frustrated uncertainty by some participants when they were applying for the Special Care Dentistry postgraduate programme. They admitted that some of their colleagues either withdrew from the programme or reapplied to other postgraduate courses. This deterred one participant from investing into a programme where there was instability and uncertain employment opportunities:

"I was planning on specialising (in Special Care Dentistry), and I remember I went to Dunedin and they were talking about training modules and things. But couple of my

²¹ Anecdotally, some of their colleagues attained Master in Community Dentistry instead.

colleagues were in the programme and the thing (course) had fallen over. Another dentist was going to do the diploma and the course fell over. It was like it's just not worth the risk of giving up a secure job. I might've been in the military at that stage and risking to do a three year course that may not ever finish." [P11]

Dental clinicians who were still interested in pursuing Special Care Dentistry may have had to resort to other alternative methods of training in Special Care Dentistry because they perceived the postgraduate course is unstructured. General dentists had to attain their clinical skills and knowledge by attending Special Care Dentistry related courses to supplement their skills in treating patients requiring special care. One participant (whose specialty is not Special Care Dentistry) believed that a general dentist could be as proficient as a Special Care Dental Specialist could. He argued that a general dentist does not necessarily require formal specialty training to treat patients requiring special care:

"I guess what's funny when you've got Special Needs (Care) Dentistry as a course and you haven't actually done the course, you asked yourself 'what am I missing in my skill set? So, I think any port in the storm really to sort of cover off roughly to where you think you are. I did the IV sedation course, rotary endodontics, periodontal surgery, GA courses, I went to implant courses, and you know I've done some implant stuff. I've gone to various Special Needs Dentistry conferences so you're exposing yourself to the current contemporary thinking around how you manage things. For example, I'm not a paediatric specialist but I do lots of Paediatric (Dentistry)." [P11]

This sentiment may be agreeable by some general dentists who work in DHB hospitals and community clinics, where they practise Special Care Dentistry. Over years of practise, these general dentists would have attained significant clinical experience and training without formal training as specialists in Special Care Dentistry. It can be argued that these dentists are content with their career choices without the need to invest their time and money (and potentially sacrificing their jobs) to pursue specialty training.

4.2.1.5 Alternative Pathways

4.2.1.5.1 Grandfather Clause

Historically, the ‘Grandfather Clause’ has been used to recognise clinicians who had a number of years of clinical experience in a particular field of medicine or dentistry but were not specialty trained as such. For example, during the late 1980’s in New Zealand, one of the ways to gain a specialist qualification in Hospital Dentistry²² was through the ‘Grandfather Clause’ (Punshon 2015). This clause was considered a one-off opportunity that allowed general dentists to apply to the DCNZ to gain acknowledgement of their clinical experience and knowledge and to be awarded specialist recognition for their respective area of interests (for example, Oral Surgery). In another example of this clause being invoked was during the early development of Special Care Dentistry postgraduate programmes in Australia. Dental clinicians who were Fellows of the Royal Australasian College of Dental Surgeons (FRACDS) in Special Needs Dentistry were granted specialist status. These specialists then developed and initiated the accredited postgraduate programmes in Special Care Dentistry in Australia (Punshon 2015).

One participant in this study was recognised as a Dental Specialist in Hospital Dentistry through the Grandfather Clause. He provided an in-depth insight into its history and how it awarded him the specialist recognition Special Needs Dentistry. Interestingly, during this time, there was a stir of controversy in regards to specialist recognition:

“I think in 1990 they were rewriting the Dental Act. They were sorting (it) out. I think there were lots of problems with Orthodontists calling themselves specialists and the problems are still at large at that moment. There were guys doing oral surgery and calling themselves (Oral and) Maxillofacial surgeons. When they haven’t done a training course and the Oral and Maxillofacial surgeons are a bit upset that these guys can do a three years MDS (Oral Surgery) at Dental School and suddenly become a Oral and Maxillofacial Surgeon you know. The Dental Council wrote to

²² Hospital Dentistry is recognised as a dental specialty in New Zealand since the year 2000. However, the DCNZ has since renamed this same specialty to ‘Special Needs Dentistry’.

people and said look if you feel that you've got the expertise and you've been putting the time in and the hours in some particular aspect of dentistry. Like there were guys, who were just specialised in Oral Surgery but never actually had specialist recognition. So they asked people like that to apply. I had to have several referees and you had to give a list of your achievements and your reasons. So, I pointed out that I had been working at hospital for ten years. I had a list of the number of fractures I've done, the number of patients I've treated and I had a couple of referees who supported me and I became a registered specialist, which meant I could become a consultant. I happened to be at the right place at the right time." [P6]

This interesting brief anecdote implied that numerous dentists were working in hospital settings but were not recognised for their expertise and experience, as the same participant [P6] noted: "*I don't know how many there were but there were quite a large number of dentists around the country and especially people who had been working in hospitals for many years. But if you're not a specialist, you can't become a consultant.*" [P6] As mentioned, working as a specialist consultant in the hospital system has its benefits, which include a higher salary but also peer recognition by medical colleagues as a fellow specialist.

This participant was the first and only specialist recognised as a Hospital Dentistry specialist through the Grandfather Clause. However, due to the change in the Dental Act, his job title had a name change from 'Hospital Dental Specialist' to 'Special Needs Dental Specialist'. His situation is perhaps unique as he was the only participant who had been 'grandfathered' into the specialty of Special Care Dentistry without formal training. Even though he was recognised as a specialist in Special Needs (Care) Dentistry, he admitted that his everyday clinical practise did not involve Special Care Dentistry per se. When asked about his work, he admitted that he did not practise much of Special Care Dentistry but mostly practised Oral Surgery:

“To be honest, I don’t really (see much patients requiring special care), I’m a bit of an imposter here. I don’t really do a lot of Special Care Dentistry. The entire special needs and the children are done by a Community Dentist at the DHB. And I do a weekly clinic and a weekly theatre session on Oral Surgery since 1981.” [P6]

The Grandfather Clause is rarely applied in Dentistry today. It requires unique circumstances where there is a need to recognise clinicians (both temporarily and permanently) as specialists to further develop the area of specialty or simply to recognise their dedication and expertise in their fields of interests. Many dentists were initially acknowledged as specialists through the mediation of their clinical experience. In the UK, this similar pathway also occurred in the teething stages of formalising training programmes and specialisation of Special Care Dentistry (Gallagher and Fiske 2007). Today, most Special Care Dentists gain their specialty qualification through accredited postgraduate training programmes from universities and professional colleges.

4.2.1.5.2 The Controversy- the Master in Community Dentistry

Dental practitioners who do not hold a postgraduate specialist qualification within the DHB are usually on the non-specialist salary scale. However, those who have gained specialist qualifications such as Special Care Dentistry and Oral and Maxillofacial Surgery are recognised as specialists. As mentioned, these specialists are usually on a different (and higher) specialist salary scale. To be acknowledged a specialist, dental practitioners within the DHB organisation are required to pursue some form of postgraduate qualification. As an alternative, some dentists chose to advance their career in DHBs by attaining the postgraduate qualification in Master in Community Dentistry (MComDent), as one participant who is a Dental Public Health Specialist:

“You know the MComDent in Public Dentistry covers off the whole political sides, population planning, advocacy for oral health so you know, that was a component of the Special Needs Dentistry course, and then go off doing the Fellowship with general dentistry with a bit of restorative and prosthodontics type thing sort of covered off that more advanced stuff.” [P11]

In DHBs, regardless of specialty type, dental specialists in DHB tend to hold leadership roles. It can be argued that a qualification in MComDent would be more suited for these roles as it often involved with public health advocacy and service planning. However, not all participants agreed and voiced their concerns that Dental Public Health Specialists compete with Special Care Dentists for employment positions in DHBs. There were also concerns about the confusion of their roles within the DHB; those with MComDent qualification may be misidentified as Special Care Dentists. One participant stressed: *"I think some of those problems are... *hesitated* and please without offending anybody, this is something I believe very strongly in, if I can say it correctly, is that I don't want us confused with Community Dentistry."* [P4]

There was also a notion that the dental specialists with the MComDent qualification should not take on clinical roles, especially in roles that involve Special Care Dentistry. One participant expressively remarked that:

"Quite a number of individuals did Master in Community Dentistry and then go back to where they are working and they're doing clinical dental work. I put it very strongly, I don't think that should be allowed to do clinical work... You know the (District) Health Boards know that they need somebody (dental clinician) to do fillings on difficult patients." [P9]

Another participant concurred and stated: *"So you've got people who've got Community Dentistry postgraduate qualification who take on the role as Special Needs Dentists. Now if you ask me, I'm sorry, Community Dentistry is about those people who are interested in Epidemiology, right? Who may want to do Community Dentistry, that's fine. But they should not be confused with Special Needs Dentistry."* [P4]

At a glance, it may seem agreeable by the participants that Dental Public Health Specialists should only focus on non-clinical work. However, historically, it was suggested that there was a period when DHB hospitals were lacking clinical

workforce, inevitably prompting Dental Public Health Specialists to provide Special Care Dentistry (New Zealand Dental Association 2006). During this time, Special Care Dentists were also scarce in numbers—or worse, not widely understood, which could have exacerbated the distinction or roles between the two specialties (New Zealand Dental Association 2006).

Nonetheless, some participants also negatively perceived that the postgraduate qualification of MComDent to be a more ‘convenient’ way of registering onto the ASMS consultant salary scale:

“You know the ones who have done the public health dentistry, a very big reason for them doing it is the money. I think there are some who are doing it as a backup, you know a way of getting onto a different salary scale, getting to do what they wanted to do.” [P9]

The MComDent could also be seen as a more amenable qualification as dentists can attain it through distance learning in a minimum of two years²³, which is significantly shorter course and less onerous course than the Doctorate in Clinical Dentistry course of three years. Notably, the MComDent does not have a clinical component, which some may perceive it to be arguably easier: *“They come down for two weeks twice a year for a block course I think and that’s it. You know the programme suddenly gets super attractive from there.”* [P9]

Despite the strong views from some participants, most acknowledged that in reality, the MComDent postgraduate programme might suit certain clinicians with family and work commitments. Few postgraduate dental programmes allowed full-time employment while training. The postgraduate programme for Special Care Dentistry and Community Dentistry are the few exceptions. This may also reflect the

²³ The Master of Community Dentistry (MComDent) degree is designed to be an appropriate programme of study for a person who wishes to pursue a specialist career in dental public health. It may be undertaken full-time over two academic years or part-time over three years. Information obtained from University of Otago website. Accessed on the 15th of June 2017: <http://www.otago.ac.nz/dentistry/postgraduate/dentistry/MComDent/index.html>

differences in the quality of the postgraduate programmes where clinicians may choose to commit into a more structured and well-established course such as the MComDent, as one participant remarked:

"I don't think it was easier to do MComDent, but I think it was more realistic to do it that way around. You know family reasons, money reasons, the rest of it and simply too that they were more in control because they obviously had assignments but they still could define their own sort of what they were doing, what they wouldn't do." [P9]

Dentists may not have necessarily pursued the MComDent qualification solely for financial gain but rather to enhance their public health knowledge to better advocate for their patients and oral health services. Dental Public Health Specialists are trained to have an ‘upstream’ view of oral health, where they focus on the ‘big picture’ of oral health such as service profiles and needs, identifying problems while and instigating potential wide-scale solutions to improve oral health within the community. In some aspects, Dental Public Health Specialists are arguably similar to Special Care Dentists as both specialties have a broader view of dentistry in the context of oral health. However, in contrast, Dental Public Health Specialists emphasise on community level interventions while Special Care Dentists underscore their strength in clinical dentistry.

4.2.1.6 Recommendations

Training pathways for Special Care Dentistry are now well established in New Zealand, UK, and Australia. Special Care Dentists chose Special Care Dentistry for a variety of reasons but also acknowledged the pathways is somewhat limited both during training and in the career as a specialist.

The number of Special Care Dentists in New Zealand and Australia are still rather insignificant in relative to the population, particularly when special sub-populations such as older people and those with disabilities are increasing (Derbi and Borromeo 2016). To promote growth of this specialty, participants acknowledged that an

improvement in training pathways is needed. Although it is not exclusive to the specialty of Special Care Dentistry, postgraduate training places a heavy toll on financial security and is disruptive of family life. However, the unique job prospects of Special Care Dentistry sets it apart from other dental specialties. Most of the participants work in public practice (DHB) in New Zealand. Due to the attributes of their patient groups and funding structure, they are limited to the public practice of dentistry or at least in an institution-based practice such as a University²⁴ or the Military. Job opportunities for Special Care Dentists are limited by the availability of employment openings in DHB hospitals. One participant admitted:

“So, to encourage people into the specialty, it needs to have a career pathway because of the population size within New Zealand. The fact that a lot of Special Care patients are referred to hospitals due to the medical needs of the patient’s more than anything. It’s going to put some quite severe limits on how career pathways can roll.”
[P7]

There was some palpable tension among the participants that patients requiring special care are often referred inappropriately to hospital dental departments for routine dental care. Consequently, patients who could be potentially seen in private practice would inundate hospital oral health services. However, it was widely agreed by participants that it is challenging to sustain Special Care Dentistry in private practice. There are significant economic and logistic hurdles to overcome to be financially viable. The accessibility design and requirement of dental clinics for Special Care Dentistry are among other things to consider. Overall, these factors severely limit the career pathways of Special Care Dentists in private practice. However, as an alternative, similar to the UK National Health Service (NHS), participants suggested the creation of community-based clinics for patients requiring special care, while supported by government funding:

²⁴ Currently, there is no Special Care Dental Specialist in employed at the Faculty of Dentistry.

“Maybe there’s a role in having community-based Special Care Dentists that have some funding. Perhaps, for clinical setups from the Government, where they can actually see the patients in an environment where there’s not so much financial pressure because some of the patients take a long time to sort out.” [P7]

The concept of government-supported community-based dental clinics is common in New Zealand. However, these nationwide dental clinics mostly cater for children and adolescents, usually staffed by dental therapists, and not designed to accommodate adult patients and even less so patients requiring special care.

While community-based Special Care dental clinics are potentially beneficial, several factors need to be taken into account. Patients requiring special care often require particular considerations when receiving dental treatment. Some may have physical disabilities and require accessibility support, while others may require careful attention to their medical and psychosocial wellbeing. Whether by retrofitting or building a brand new clinic, these factors need to be considered when designing dental clinics to accommodate patients requiring special care. Specialised accessibility features could include wheelchair ramps with ground level access, patient transfer systems, and disability-friendly dental chairs. Structural features including wider corridors, anti-slip floors, and accessibility washrooms are essential to Special Care dental clinics (Dougall and Fiske 2008). To support medically compromised patients safely, advanced resuscitation equipment and training for clinicians and staff are necessary. Community clinics may need to consider specialised services such as intravenous sedation and relative analgesia to provide the full spectrum of Special Care Dentistry.

Creating a clinic that can accommodate patients requiring special care would require specialised features, which would significantly increase the cost of building and maintenance, along with the additional training required to provide Special Care Dentistry. However, outcome measures must be considered to ensure these services are financially feasible and benefit the government and the public. Stakeholders and

service planners need to consider these factors when proposing business cases for funding.

Nonetheless, creating community-based Special Care dental clinics would have multiple beneficial impacts. Firstly, it could provide more job opportunities and career pathways for dentists (both non-specialist and Special Care Dental Specialist) treating patients requiring special care. Patients requiring special care who do not require hospital access could be seen in these clinics instead. Secondly, shifting some of the patients requiring special care to community clinics will decrease the patient load in hospital outpatient clinics, reserving the hospital clinics only for those who require hospital level care. This could also potentially reduce travelling for patients and improve access to oral health care services.

4.2.1.7 Job Satisfaction and Rewards

“I think in some ways, our work satisfaction is totally different to the traditional specialties. You know, we’re just not on the same brain wavelength” [P9]

Despite the challenges and barriers faced in their career and training, most participants do not regret their career choice and training. When asked about their training pathway, one remarked: “*It was hard but it was worth it and I’d do it exactly the same way again.*” [P5] Participants find treating patients requiring special care enjoyable and rewarding despite everyday challenges. Special Care Dentists perceived the rewarding aspect of their career is non-monetary. They felt a sense of achievement and job satisfaction when treating patients requiring special care. The overall feeling towards their career is positive and satisfying:

“I think that is the reward in managing those patients, that they are challenging, that you can take them on and think you know, you get the fuzzies that you’ve actually done something good for these patients and things.” [P2]

Most patients requiring special care (in particular those with long term conditions such as Autism) require long-term ongoing dental care. Patient rapport and trust are not built over one appointment but rather with time (and patience). It is often hard earned by Special Care Dentists, placing them in a unique form of professional relationship with their patients. Participants and their patients get to know each other well, and familiar with each other's unique characteristics. Some participants remarked how much they look forward to seeing some of their patients:

"Well, I'm prepared to admit that a few patients really light me up when they're coming in. You know it's going to be a good day. They're not in your favour or anything but, they're simply as good as you get in terms of interactions. I think anybody else though, if you didn't know the patient well, you would collapse." [P9]

The participants emphasised how important it is to have a good rapport and how it would help both the dentist and the patient to know each other well. This bond and trust of mutual understanding between each other could enhance the clinician's care delivery. Patients would feel more comfortable and empowered, and are more likely to accept and follow treatment regimes.

4.2.1.8 Conclusion

Most Special Care Dental Specialists have gained their specialist recognition through postgraduate training in tertiary institutions such as universities and to a lesser extent, through professional colleges. Participants attributed their career choice to their early exposure to Special Care Dentistry and how they have enjoyed working in a hospital setting. Others felt there was a significant need for such a specialty within their area of work. They acknowledged broadly that their journey of their training and career was demanding, each to their own version of challenges to overcome.

Financial setbacks, family dynamics and job insecurities were among the few hurdles of specialising in Special Care Dentistry. The limited availability of quality accredited postgraduate programme was also a concern among some of the participants, which in part could explain their delay in specialising. The participants also acknowledged the

career limitations of Special Care Dentistry, whereby most Special Care Dentistry in New Zealand is delivered in the public health care system. This restricted their potential to practise Special Care Dentistry with implications relating to financial remuneration. These limitations and barriers perhaps, had deterred a number of general practitioners in potentially pursuing Special Care Dentistry as a specialty.

However, the participants in this study did not regret their choice of the career in Special Care Dentistry and have always found their vocation in Special Care Dentistry to be deeply rewarding.

4.2.2 Definition of Special Care Dentistry

4.2.2.1 ‘Special Care Dentistry’ versus ‘Special Needs Dentistry’

The DCNZ defines Special Needs Dentistry as ‘the branch of dentistry that is concerned with the oral health care of people adversely affected by intellectual disability, medical, physical or psychiatric issues’ (Dental Council of New Zealand 2017). However, in countries such as the United States of America, the United Kingdom, and most of Europe, the term ‘Special Care Dentistry’ is used instead (Dougall and Fiske 2008; Glassman et al. 2009). In fact, the term ‘Special Needs Dentistry’ is almost exclusively employed in Australia and New Zealand (Dental Council of New Zealand 2017; Shnider 2008). Although it should not come as a surprise to expect the participants to have contrasting preferences among themselves, there was a resounding consensus among the participants that they preferred ‘Special Care Dentistry’ as the name of their specialty instead of ‘Special Needs Dentistry’. Their personal preferences are clearly at odds with the current name and definition specified in DCNZ, as one expressively remarked: “*I don’t like²⁵ the word, I don’t like the term Special Needs because I don’t think patients like it much either. I know in the United States there’s a bit of a trend against it.*” [P4] Some expressed their disappointment quite clearly against the term ‘Special Needs Dentistry’:

“Yeah I don’t like the term at all, I was really upset when they chose it, I wanted it to be Special Care Dentistry...I mean Special Needs Dentistry doesn’t make sense for one thing but that’s my beef and I always have to say that, I do.” [P3]

With more questioning, participants perceived that the term ‘Special Needs Dentistry’ does not align with contemporary views of the specialty especially when compared with their international peers and in the Special Care Dentistry community, one pointed out: “*A lot of the European (countries) or (United States of) America use the term ‘Special Care (Dentistry)’ more than ‘Special Needs (Dentistry). They probably don’t use Special Needs at all.*” [P1] Among the participants, although most were quite frank about their preferences with the interviewer (LC), for one reason or another, one participant believed that their colleagues’ true opinions are not openly

²⁵ Denote strong emphasis from participant.

expressed to others: “*I know a lot of (other Special Care Dental Specialists), although, secretly, quietly behind the doors, (they) don’t like the term (Special Needs Dentistry).*” [P4]

With a single word change, this fundamental shift of ‘Need’ to ‘Care’ impacts on the perception of this particular discipline of dentistry. It was perceived that the term ‘need’ to have an unfavourable undertone and felt it was “*an old-fashioned sort of term*” [P3] and “*has a negative connotation.*” [P1] For example, if a clinician says he or she is treating a ‘Special Needs patient’, it can be easily presumed that patient to have some form of disability. The term ‘Special Needs’ is commonly used in the context of education for children with learning impairments and intellectually disabilities. This term is sometimes viewed as a social stigma (by health professionals and the public) and not all patients who require Special Care Dentistry have intellectual disabilities nor someone with intellectual disabilities always require Special Care Dentistry (Kailes 2010). Moreover, it can also be argued that labelling a person who needs ‘Special Care Dentistry’ does not guarantee that it does not carry the same connotation.

Participants believed that the term ‘Special Care Dentistry’ does not label the patient but rather describes the ‘care’ the patient is receiving, regardless of their health condition. Additionally, ‘Special Care Dentistry’ can be seen as “*more friendly and you know people are more up front and positive about things.*” [P1] In fact, even though the DCNZ official term is ‘Special Needs Dentistry’, one participant commented that their dental department unit is called ‘Special Care Dental Unit’ to reflect their care ethos and alignment to the contemporary view of Special Care Dentistry.

There was a strong desire to change the name of their specialty, as one commented: “*If I had the chance to change anything...probably Special Care (Dentistry) would probably be better.*” [P1] Some believed that the term ‘Special Needs Dentistry’: “*is falling a little bit short of the mark because you’ve just identified the needs of that person. That is fine but if you’re thinking about the specialty in terms of doing*

something but it's actually doing more than identifying the needs of the person, we're actually delivering care for the patient.” [P7]

Some participants made a point to identify themselves as a ‘Special Care Dentist’ rather than a ‘Special Needs Dentist’ as they felt:

“Special Needs Dentistry basically just sort of implies that the patient is the problem and the patient is the special needs. Special Care (Dentistry) is about what we do and about what we can provide and a breadth of care of what we can do. You need (it) to be so ‘it’s what we do rather’ than defining what the problem is as the patient.” [P8]

In contrast, their Australian colleagues seemed to have a different view (Derbi and Borromeo 2016). They postulated that ‘Special Needs Dentistry’ focuses on the ‘needs’ of the patient rather than the clinician’s delivery of ‘care’. It may be argued that it is more ‘patient-focused’ because it addresses the patient’s individual needs²⁶. However, one participant countered that:

“Special Needs Dentistry describes what the patients are but it doesn’t describe what we do. Special Care Dentistry describes what you do which is, you know, when you’re a Paediatric Dentist it describes what you do; you see children. And so when you’re a Special Care Dentist, it describes what you do; you do Special Care for people.” [P4]

Recent medical care has moved away from a paternalistic patient care approach to patient-centred care, with the emphasis on actively involving the well-informed patient to make a shared health care-related decision (Institute of Medicine Committee 2001). However, it is also not unusual when a clinician finds him or herself where their patient abdicates the responsibility of their oral health to the clinician to make the ‘best’ treatment decision: “*You’re the expert (dentist), you know what is best for me. Special Needs (Care) Dentistry gives the notion of I’m (the*

²⁶ Interestingly, when the definitions of the Dental Board of Australia and the RACDS are compared, there was only a subtle difference of ‘health care needs’ versus ‘health care’.

(dentist) up there, you're (the patient) down there and I know best." [P9] In the eyes of the participants, the 'Special Needs Dentist' term gave the impression of a patriarchal approach or a sense of superiority over patients especially those who have intellectual disabilities, invoking an undesirable connotation (Mills et al. 2013). Admittedly, it can be fairly challenging at times with individuals who are intellectually disadvantaged and a power imbalance can impede suitable shared-decision making between the patient and the clinician (Faulks et al. 2012). Patients may find themselves 'powerless' to voice their concerns and preferences, in fear that it might compromise their relationship with their medical physicians (in this case, dentists) (Joseph-Williams et al. 2014). Nonetheless, this is also dependent on the ethos of the clinician and how the clinician delivers oral health care. In the case of patients with special needs, the perceived power imbalance compounded by various patient-related factors such as anxiety or intellectual impairments could only exacerbate the situation and hinder the exercise of patient autonomy. Consequently, it potentially compromises the quality of oral health care and its outcomes, both professionally and ethically.

Some participants expressed their reservations that the usage of the term 'Special Needs Dentistry' may misrepresent the appropriate range of individuals within the population that require Special Care Dentistry:

"Special Needs Dentistry evokes a small group of patients as I said, immediately people think of intellectually handicapped children and nobody else. So, the dentistry should be Special Care (Dentistry) and that can encompass a whole broader group of people really." [P3]

Conversely, 'Special Needs Dentistry' can be perceived in the same context of being too diverse and non-specific as one participant remarked that: "*Special Needs Dentistry for a start gave you was a broad terminology. So it included a lot of other people, those who did Paediatric Dentistry, Hospital Dentistry, Community Dentistry working in operating theatres and a few others in between.*" [P4] In a historical context, this comment is noteworthy because it reflected the evolution of Special Care Dentistry. Before the emergence of the specialty of Special Care Dentistry, patients

who require special care were often ‘adopted’ and treated by other dental specialties including Paediatric Dentists, hospital-based general dentists, and Oral and Maxillofacial Surgeons (Borromeo et al. 2014; Gallagher and Fiske 2007). The ‘adoption’ by other specialists inadvertently creates a barrier to access dental services, as health professionals who may have a limited understanding of Special Care Dentistry may not have referred patients to the appropriate specialist. This would have had a significant impact on various aspects of health care, including patient access criteria, funding and resources for patients.

4.2.2.1.1 Public Understanding of Special Care Dentistry

Public awareness and understanding of Special Care Dentistry are dependent on the education and promotion of oral health services. Several participants inferred that the term ‘Special Needs Dentistry’ may be easier for the public to understand as “*it implies most people think, oh you’re just going to be providing care for adults who are intellectually disabled.*” [P8] It can be interpreted as a branch of dentistry that only relate to people with intellectual and learning disabilities—even though in reality, the Special Care patient group is not confined to those with disabilities as such. The term ‘Special Needs’ is well used in the educational context for those who require special education needs especially in the United Kingdom (UK), whereas in the United States of America (USA), it is often referred to patients with disabilities (Gallagher and Fiske 2007; Glassman et al. 2005). Nonetheless, ‘Special Care Dentistry’ can be interpreted as more broadly and perhaps somewhat ambiguous as it does not refer to any particular group of patients. This can be confusing for the public and (even more surprisingly) for health professionals including dentists, as one participant indicated: “*I think in New Zealand if you said Special Care Dentistry, people wouldn’t understand quite so much to what group of patients you were delivering care to.*” [P5]

To a certain degree, participants admitted that they could accept a compromise with the name ‘Special Needs Dentistry’. In the public perspective, several participants believed that: “*most people understand what a patient with Special Needs is but they just sometimes don’t understand that Special Needs also takes in those patients with*

medically compromised you know, socially compromised, those sorts of things as well.” [P5] This reaffirmed that there is a need to improve public awareness and the profile of this specialty.

Interestingly, despite the obvious preference for the term ‘Special Care Dentistry’, all participants used assorted terms to describe their specialty and their patients, which include ‘Special Needs Dentistry’, ‘Special Care Dentistry’, ‘Special Care Patients’, ‘Special Needs Patients’, ‘Patients with Special Health Care Needs’, and Special Care Patients with Special Needs’. These diverse terms were used quite interchangeably throughout their interviews, with no clear distinction between them; similarly found in the literature where a variety of terms were used (Ahmad et al. 2015; Derbi and Borromeo 2016; Glassman and Subar 2009). This could suggest the possibility of confusion among health professionals on the use of these terms. The inconsistent use of terms clearly suggested the challenge of defining Special Care Dentistry.

4.2.2.2 Definition: Redefined by Skills, Roles and Ethos of Special Care Dentistry

Similar to the challenge of naming the specialty, the definition of Special Care Dentistry is an ongoing debate even among the participants. The variation among participants provided insights to its unique entities within this specialty. It also reflected the challenges of defining Special Care Dentistry and its broad scope of practise and patient spectrum.

During the interviews, one of the areas of interest was to explore the participants’ definition of Special Care Dentistry. It proved to be challenging, as their answers were not only variable in the choice of words to describe their specialty but also their approach to define Special Care Dentistry. Instead of a single statement or referring to an established definition such as one from the DCNZ, most participants shared their insights through a series of descriptions that are related to their ethos of practise, their current roles as specialists and their Special Care Dentistry skillset. These three themes are interwoven with one another and it was impossible to streamline or even isolate a definition of Special Care Dentistry into a single sentence. With that in mind,

the following sections describe the definition of Special Care Dentistry through two fundamental themes: the diverse skills and roles in Special Care Dentistry and the ethos of Special Care Dentistry.

4.2.2.2.1 The Skills and Roles of Special Care Dentistry

4.2.2.2.1.1 Diversity of Clinical Skills

Participants used the term ‘broad’ in various contexts throughout their interviews. ‘Broad’ denoting to their vast array of patient groups, their roles as Special Care Dentists, and to the skillset that are applied in their line of profession. It also shed light on how they defined themselves as specialists.

When asked about the definition of Special Care Dentistry, one feature was common among all participants—they simply described what they do as a Special Care Dentist. At the initial glance, they may appear to describe the skillset of a general dentist, but in a closer look, it reveals their expertise extending to a wider context that is applied to a diverse population. The participants acknowledged that the challenge to define Special Care Dentistry is due to its diversity, as one participant commented:

“Special Needs (Care) Dentistry as a specialty, it’s a lot more difficult to define. It’s a very broad subject because, in Special Needs (Care) Dentistry, we’re largely a jack of all trades and master of none, certainly within the technical skills.” [P2]

This comment neatly describes the participants who practise Special Care Dentistry, especially in the hospital environment. Special Care Dentists provide a comprehensive range of treatments to a wide variety of patients with different medical conditions and social backgrounds especially those who are vulnerable like the elderly and those with intellectual disabilities (Ettinger et al. 2004). Participants broadly believed that their dental skillset is unique that they see themselves in a somewhat oxymoronic way as ‘diversified specialists’ where they are proficient in all aspects of dentistry, as one commented:

“(Special Care Dentistry) describe people with a huge spectrum of talents. That is the exciting thing. You don’t just do one discipline like an endodontist or a periodontist. You’re a Special Needs (Care) Dentist who does Periodontology, Endodontology, Prosthodontics and Oral Surgery and as well as Paediatrics. So you do the whole lot.” [P4]

Another participant reiterated the diversity of skills in Special Care Dentistry: “*You know, we’ve got to be competent endodontists but we don’t have to be endodontic specialists, we have to be competent exodontists but we don’t have to be maxillofacial surgeons. We have to be competent restorative dentists but we don’t have to be restorative specialists. Special Care Dentistry could be covered individually by all the other (specialties). You know an oral surgeon can do the surgical things but an oral surgeon isn’t interested in doing the restorative.*” [P2]

This suggested that the participants believed that Special Care Dentists should not only be proficient in a wide range of dental disciplines but also extend their scope to include specialist-level skills in order to meet their patient’s oral health care needs. These comments are consistent with the findings of another qualitative UK study that investigated the attitudes of community-based Special Care Dental Specialists. The study reported that their participants also believed that ‘Special Care Dentistry is about a repertoire of clinical skills to manage any type of patient’ (Scambler et al. 2011). In other words, the clinical skills are not limited by their scope of practise but necessarily broaden to provide for patients within their specialty area. As a result, these clinicians are highly adaptable to any clinical scenario or patient type that demands a broader skillset than a general dentist does. One participant remarked on the heterogeneous skills and roles among the Special Care Dentists:

“For example, my Special Needs Dentistry friends like one of them in that works in a city, all they see everyday was treat people with coagulopathy while another based in Australia only does community outreach programme while I have another colleague who does domiciliary and Special Needs Dentistry in their own private practice. Then you have another who’s actually in an academic position in London.” [P4]

Although most participants are specialists, some of their comments appeared to be somewhat confusing as the participants emphasised about being “*a good generalist*” [P11]. Another participant remarked that “*because you have to do stuff under GA and you’ve got to be pretty good at doing minor oral surgery, that’s really important and you’ve got to be a good general dentist.*” [P3] It certainly begs the question: ‘Are these specialists just ‘super’ general dentists?’

On closer scrutiny and reflection on the roles of these specialists have at their workplaces; it became clearer that it is not the case. Instead of a specific technical skill, they were implying that they are dental specialists armed with a diversified set of skills so that they can provide a well-rounded comprehensive oral care in any clinical circumstances. Following on the participant [P3] example above, Special Care Dentists commonly provide comprehensive dental treatments under general anaesthetic for their patients, who are often entailed with complex circumstances, both in medical and social aspects. As one participant aptly stated: “*So you’re not really focused on one technique based skill, which quite a few of the other disciplines within dentistry are.*” [P7] Special Care Dentists are often required to think ‘outside the square’ for their patient management, as one participant commented:

“*Clinicians have to think and be challenged the whole time because it’s never the same, it’s a (dental) problem but it’s always got a slightly different twist to it because people are all different. And for me, that’s the beauty of Special Care (Dentistry).*” [P7]

For instance, one participant gave a likely scenario of a Special Care Dentist treating a patient with Down’s syndrome, who has cardiac problems presented with periodontal disease. The clinician has to take into account the medical characteristics of Down’s syndrome and the social dynamics of the patient’s family. To iterate further, the clinician needs to consider the patient factors such as cardiac risks, diabetes, and learning disabilities when planning for dental treatment. The clinician may also need to involve a wider circle of care from family members and caregivers to ensure that the patient has transportation to attend dental appointments and able to follow oral

hygiene instructions. Conversely, a general dentist may not have the background knowledge, training, and the resources to manage complex medical comorbidities. It can be debated that these specialists are no different from a general dentist. However, the participants identified themselves as Special Care Dental Specialists who have undergone postgraduate training and been exposed to a broader clinical experience, which enables them to practise and apply problem-solving skills beyond that of a general dental practitioner.

Among the participants, clinical surgical skills were perceived to be a vital component in Special Care Dentistry: "*I think one of the strengths of Special Care Dentists, for people like myself, most of us are trained in dentoalveolar surgery.*" [P1] This notion is further explained by another participant:

"The big advantage is we can take up, let's say with the IH (intellectually handicapped) or with the severe behavioural problems and things like that is you can't have a look in the mouth until you get them off to sleep. With the patient, you find that there are some difficult teeth impactions or extractions. If you can do it all yourself, I think it's a huge advantage to be able to be competent in dentoalveolar surgery." [P2]

This was further illustrated that in the same scenario, whereby the operating clinician (who may not be so inclined to perform difficult extractions) might have to abort the general anaesthetic. He or she would then have to refer to an Oral and Maxillofacial Surgeon for another separate general anaesthetic session or "*do the panic call down into the department and say hey look I've got this problem, anybody free come up and bail me out*". [P2] This reflects the emphasis by the participants that Special Care Dentists must be proficient enough in their clinical skills to overcome most clinical challenges.

There was also a notion that other dental specialists may not look beyond their area of specialty or interest, therefore excluding other aspects of available dental treatments that could potentially be performed in the same clinical setting (such as a general

anaesthetic setting). To elaborate further, one participant gave an anecdotal experience:

“A Special Care patient presented to ED (Emergency Department), big fat face, the Oral and Maxillofacial team go and they do an incision and drainage under GA and pull out four rotten teeth which are in the quadrant related to the initiation of the swelling. But when you look in the mouth, there are a whole lot of other things, which are about to go wrong. They only sort out the immediate problem which means again, you’re back to two general anaesthetics for other dental treatments.” [P2]

In most hospital services, access to general anaesthesia is often limited and must be justified appropriately due to the potential health risks and an ever-increasing service demand. From a dental infection standpoint, the treatment mentioned above may be deemed appropriate but looking from a Special Care Dentistry perspective, some may view the general anaesthetic to be a good opportunity to provide a more comprehensive care for patients requiring special care. However, acute episodes such as odontogenic infections may be life threatening and must be managed acutely without the luxury of comprehensive treatment planning and definitive dental treatment.

4.2.2.2.1.2 Communication Skills

It is clear that the participants believed that Special Care Dentistry is not a technical specialty in terms of dental skills: “*You’re not going to be a dental specialist per se; it’s not a dental specialty as such. It’s a specialist of managing people in relation to their dental care, you know, isn’t it?*” [P3] Most indicated that the uniqueness of Special Care Dentistry does not lie within the prowess of specific dental techniques but rather the overall approach to the patient while the patient is receiving oral health care.

Patients who require Special Care Dentistry challenge clinicians not just in the technical aspect of dentistry, but also in its wider social context. Participants believed that “*Special Care Dentistry is different from the other Specialty areas. You’re not*

learning some specific clinical skill.” [P8] Participants felt that their profession is not just a ‘drill and fill’ dental specialty but require them to hone their skills in interpersonal communication, building rapport and trust with their patients and caregivers, as one participant remarked:

“You are actually learning how to apply your skills in lots of different environments. Be flexible with how do you keep listening and how do you make sure that you are listening appropriately, talking appropriately, liaising with the other groups in a way that’s constructive. That means you have to listen actively so that you’re communicating well with families and with carers. This includes communicating with other health professionals and other dentists.” [P8]

Although it is appreciable that this can be applied to any areas of dentistry, one participant emphasised that managing and communicating with patients with special needs is one of the relevant and distinct skills in Special Care Dentistry:

“I think the reality is the way you manage people. I actually think that’s what most of it is, ‘cause a lot of the time it’s not actually about the technical side of it but rapport and trust with the patient. I think what happens is that people being too hung up on the actual technical side of it and forget about the patient there. It’s really how you manage them, so it’s actually coming up with a plan as we’ve got the luxury of doing probably appropriate treatment planning on most of them.” [P11]

In this current study, it can be argued that the enhanced level of communication skill is one of the key distinctions that set Special Care Dentists apart from other disciplines of dentistry. It can be postulated that it is complemented by their underlying principles of a holistic approach to oral health and acknowledging the importance of improving the overall wellbeing of a patient. As one participant simply puts it: “*It’s not just the act of dentistry, it’s the lobbying for care.*” [P8]

4.2.2.2.1.3 Beyond Clinical Settings

Although Special Care Dentistry training has a clinical focus, the roles of these specialists extend beyond the four walls of a clinical setting and usually involve with non-clinical responsibilities. As one of the specialists in their dental departments, the participants are perceived to have a more superior capability to take on other responsibilities. They are often ‘shoulder-tapped’ to various roles within their workplace and beyond, with high expectations to lead and advocate for their oral health service. However, it also may be reflected as part of succession planning of the department where senior consultants may ‘pass the torch’ of responsibility to younger colleagues:

“People do come up to you because you’re a specialist. You have more roles to play. At the moment I’m sort of verbally at the role of Clinical Lead in Special Needs, which means you’re leading a team so in a way you’re responsible for the others and they do come to you for (advice) and sometimes I have to make the final decision.”

[P1]

Some of the participants hold leadership roles within their DHB organisation with roles such as Clinical Director and Primary Approving Dental Officer. Others are involved in professional network and advocacy groups at a national level. In fact, some participants are more involved in their non-clinical roles while others involved themselves in multidisciplinary medical teams such as Head and Neck Oncology Multidisciplinary Team. However, several participants sometimes felt over-committed to various responsibilities, compromising their career in their workplace and perhaps their personal life. With limited number of Special Care Dentists in New Zealand, participants also felt that being a specialist does not equate to ‘superiority’ but rather seen as someone with professional obligation to lead and support their peers who are involved in education and research, particular in Special Care Dentistry. One participant indicated the responsibilities could be burdensome:

“Once you graduate and sometimes people start sending you things like they’ll ask you if you can mark a thesis or they’ll ask you if you can credential a paper or two. Then they start asking you to do these things and you feel very professionally responsible to do them. It starts to cut in on a lot of other responsibilities and then someone will put your name forward to support someone in a research proposal and all these little things just tally up and you just, you kind of think oh um, it’s quite a busy year.” [P5]

However, it is important to note that Special Care Dentists are not Dental Public Health Specialists but they often must take on the role of an advocate and spokesperson for oral health promotion and education within the community especially for vulnerable populations. These responsibilities are considered an integral part of Special Care Dentists within the health care organisations. One participant emphasised that:

“Special Care Dentistry should be the advocate for oral health services because it will have the broadest view of most people because you’ve got a more general type view of the world, you know you’re not a periodontist or an orthodontist or any of those things. I think that’s a critical part of the role and being the logical person as the clinical leader for a service.” [P11]

Being involved with public oral health care services, one participant remarked that Special Care Dentists also exercise their role as oral health educators and promoters in their work area: *“You know so actually going out into another area to provided public health kind of education.”* [P5] Most believed they have a role to play as an advocate for their patients, as the same participant [P5] indicated:

“I think that as a Special Care Dentist, we like the clinical side, working with the patient. But then, we also need to be really good advocates and I’m not particularly good at that side of it as in you know, going out there and advocating publicly. You’re kind of expected to look after the patient but then also a voice on behalf of the patient...pushing your opinion or pushing for policy on certain things and yeah that side can be quite hard, yeah.” [P5]

However, it was also expressed that providing dental education to health groups such as Plunket can “*sometimes be quite awkward or uncomfortable*” [P5] and difficult to justify their efforts as they “*find it hard to charge out time and services and for our professional opinion. Because we’re not doing something like building a filling, building a bridge, or pulling a tooth or that sort of thing.*” [P5]

Although oral health education and promotion were perceived to be important, there were some reservations among the participants of charging for their professional opinion and expertise when compared to other professions—where it is common to charge per hourly rates for their professional services: “*A lawyer or an accountant wouldn’t have an issue with that.*” [P5] This aspect raises questions regarding the reasons behind the reluctance to charge for their services and professional advice. Although it was not explicitly demonstrated in this study, it can be postulated that they are reluctant to charge for their professional opinions because they felt a sense of community service to the public as a health professional. In a different perspective, dentists who are trained with a clinical focus might feel their area of expertise lies in their ability to provide concrete interventions (such as restorative treatments) but not in promoting oral health beyond their clinical workplace. Perhaps, some clinicians undervalue their professional opinions and therefore reluctant to demand a fee for their service.

However, some participants admitted their limited knowledge and experience in public health:

“*That’s the one thing that I didn’t get a lot of in my DClinDent²⁷ was in public health and you know, the management side of things within a DHB ‘cause most Special Care Dentists are going to work within a DHB or a Government orientated environment. You probably have to have an idea on how the Ministry of Health works and how to advocate and push for certain services and how services work.*” [P5]

²⁷ Doctorate in Clinical Dentistry (DClinDent) is a postgraduate specialist dental qualification.

When questioned about how they learned about public health, most indicated that it was all ‘on the job’ working experience and attending meetings within the DHB environment: “*I’m still only learning that and I’ve been at the DHB for the last ten years.*” [P5] This limited understand of public health was a cause for concern as participants see themselves as spokespersons for their patients yet they do not have the expertise or the experience to facilitate advocacy or service planning. Nonetheless, some participants had to independently pursue non-dental related courses to compensate this deficiency in their public health knowledge: “*I’ll go to public health conferences like the Pacific Quality forum that gives you that really broad overview and actually come back to the organisation knowing more.*” [P11]

The sample for this current study had a notable age range among participants (see Table 1), with majority (8) of the participants above 50 years old while the remaining others (3) are under 50 years old. In relation to their age and the number of years practised as a specialist, there seem to be three distinct phases of their career, which are further reflected by their roles and responsibilities in their workplace. Further scrutiny of career backgrounds showed that those who have at least 10 years of working experience as Special Care Dentists tend to be in leadership roles (and perhaps less focussed on clinical roles). In contrast, recently graduated specialists (less than 10 years) and those who are close to retirement age are more inclined to be in clinically orientated roles (or at least have fewer leadership responsibilities). In addition, when participants were defining their role and skills as specialists, those who had leadership roles within their DHBs tend to have a noticeably wider view of their role within the healthcare system. One group focus is towards ‘big picture’ public health view and advocacy, while others place more emphasis on a clinical focus. This suggests a chronological pattern of the career Special Care Dentists have.

In the early part of their career, they are more likely to hone their clinical skills but as they advance into the prime of their career, they more likely to have non-clinical roles to lead and advocate for their oral health services. Perhaps during this time of their career, they are viewed as senior specialists who are familiar with the organisational operations of the DHB. Towards the end of their career, however, as part of their role

succession planning towards retirement, they relinquish their leadership roles and mentor newly appointed clinical leaders.

It is important to note that most (if not all) would have little experience or training in non-clinical aspects of oral health, particularly with management and administration. Nonetheless, it is interesting to observe that most participants are expected to have a non-clinical role within their department, despite their lack of appropriate qualification and experience in management. To illustrate a point, for example, in a business enterprise, administrative managers are employed based on having the appropriate qualifications and experience in business management. However, in the ‘business’ of public oral health, succession to leadership or administrative roles is plainly different and in some ways, carried out in an apprenticeship-like tradition. Successors are expected to ‘learn as you go’ rather than being ‘qualified for the job’²⁸. This unorthodox culture of succession planning perhaps highlights the importance of mentorship and collegial guidance in the succession of non-clinical roles and revealed the intriguing practice of protégé-like culture within the public oral health.

4.2.2.2 Ethos of Special Care Dentistry—Patient-Centred Approach

It is acknowledged that Special Care Dentists have enhanced patient management skills. Participants interpret their specialty to be ‘special’ in a sense that it is also taken as a philosophical view, not just as a ‘technical dental specialty’. There is certainly a tangible ethos of their profession throughout the interviews: “*I think it's the philosophy with which we treat the patients and see a whole patient, not just teeth.*” [P2] The holistic approach to patient care is evident and fundamental among participants. The essence of patient-centred care (PCC) emanates throughout most of the interviews, as one of the participants commented:

“A general dentist may see a mouth with a person, we (Special Care Dentists) see a person with a mouth, in other words, we go from the broad to the specific. You may have a person who's got either a major behavioural problem or they've got a major

²⁸ Controversially, some viewed this as a point of contention for leadership roles, particularly with those who are Dental Public Health Specialists.

medical problem, you've got to consider the broader (aspect of the) patient before you can treat the specific dental problem.” [P2]

This concept of accepting a patient as a whole person—“*not just ‘teeth with a person attached’*” [P2]—reverberated as one of the principles of the PCC conceptual framework for dentistry by Scambler and Asimakopoulou (2014). The authors described that PCC should be ‘focusing on care that is tailored to the needs of patients in its broadest sense’ (Scambler and Asimakopoulou 2014). In a Canadian study, Loignon and colleagues (2010) examined dentists who worked within socially vulnerable communities and identified their certain skills and approach to care. To close the gap between dentist-patient relationships, they reported that the dentists took the time to know their patients and understood their patient’s social context. They discovered that these dentists showed empathy without judgement when treating these patients (Loignon et al. 2010). Interestingly, the authors pointed out that these dentists did not receive any training in PCC and yet display the principles of PCC in practice. Although admittedly not generalisable to all dental practitioners, the authors postulated that at least in practice, PCC in dentistry is achievable.

Although there is no universally acknowledged definition of PCC, it is defined as ‘providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions’ (Institute of Medicine Committee 2001). It was first described in a book *‘Through the Patient’s Eyes’* that discussed different models of patient care (Gerteis et al. 1993). Once just a ‘buzzword’ among health care services, PCC is gaining momentum to become a mainstream model of care. In New Zealand, the rights of all health care service users are protected by law under the Code of Health and Disabilities Services Consumer Rights that is regulated through the Health and Disability Commissioner Act (Health and Disability Commissioner 1994; 2014). In fact, the key principles of the Code of Rights reflect the foundations of PCC. Moreover, the Association of Salaried Medical Specialists (ASMS) has recently highlighted the concepts of PCC to the foreground of the medical (and dental) community, raising awareness of its potential benefits and implication for the New Zealand healthcare system (Keene 2016a; 2016b; 2016c). PCC is proven to be effective in improving health care

outcomes by means of reducing use and cost of health care, increase patient and physician satisfaction and enhanced health literacy (Bertakis and Azari 2011).

However, PCC has its unique challenges in making an indelible footprint in the practice of ‘real-world’ dentistry around the world, and it is still a ‘work in progress’ within the literature (Scambler et al. 2016). Barriers such as poor patient interactions and practice factors such as limited time and financial resources have been shown to hinder the implementation of PCC in dental practices (Asimakopoulou et al. 2014). Currently, most of the available dental literature on PCC is focused on vulnerable groups instead of general population, which suggests some difficulty in feasibility and application to everyday dental practice. Moreover, the concept is still poorly understood by many and how it is applied within the dental community to measure outcomes of PCC is yet to be investigated (Mills et al. 2014).

The traditional model of the clinician-focussed authority over health care of a patient is no longer considered acceptable. However, in a patient-centred approach, patients are empowered to improve their health with the support of a health provider (Mills et al. 2013). Although most of the participants did not overtly state this, one of their underlying principles in providing care for their patients seemed to reflect the need to treat the patient as a person in their own entity, which is one of the key principles of PCC (Gerteis et al. 1993). One participant commented that in Special Care Dentistry: “*there is a trend towards patient-centred care as it implies that we have looked at the person as a whole person, considered everything that's required to give them to a better quality of life and providing care based on those considerations. That's the crux of the specialty.*” [P7]

PCC is an important aspect of Special Care Dentistry. Clinicians need to consider the various biopsychosocial aspects of patients who require Special Care Dentistry. It was found that those with low health literacy, cognitive impairments, and who are socially disadvantaged tend to have the greatest need of PCC model of care to improve their health outcomes (Epstein and Street 2011; Mills et al. 2013). Applying the PCC principles as a foundation, patients requiring special care not only need to be respected and valued as a person but also usually require physical and emotional support with the involvement of their family and caregivers. Access to care and

constructive communication with reliable information are required for continuity and coordination of care (Institute of Medicine Committee 2001). These principles should not be exclusive to Special Care Dentistry but to be applied to all facets of oral health care.

However, a recent Cochrane review article highlighted that research in patient's perspective in PCC is still lacking (Gartlehner and Flamm 2013). As the concept of PCC is still evolving in dentistry and the wealth of knowledge how dental professionals perceived PCC is growing, it is also vital to explore PCC from a patient's perspective. In fact, exploring the patient's view of PCC would prove to be worthwhile and a logical area of research interest (Mills et al. 2014).

4.2.2.3 Alternative Definitions

4.2.2.3.1 International Classification of Function, Disability and Health (ICF)

The International Classification of Function, Disability and Health (ICF) is a classification of health and health-related domains, which is used as a framework to create tools for measuring health and disability at individual and population levels (World Health Organization 2001). The ICF provides a common language towards addressing the functioning, disability and health of an individual or population across different cultural context and settings. The ICF is intended to complement and serve as an extension to the International Classification of Diseases (ICD-10) to describe the functional status of a person while the ICD contains information on the diagnosis and health conditions. The current ICF supersedes the previous versions of the World Health Organization (WHO) framework for working with people with disabilities, which was the International Classification of Impairments, Disabilities and Handicaps (ICIDH-2) (World Health Organization 1999). The ICF focuses on the functional level of health through the context of two health domains, which are body functions and structures, and activities and participation (Figure 4). These two domains are further influenced by environmental and personal factors (World Health Organization 2001).

Some recent research explored the utilisation of the ICF in the context of Special Care Dentistry (Dougall et al. 2015; Faulks et al. 2013; Norderyd et al. 2014). An earlier study challenged the current definitions of Special Care Dentistry by using ICF as a conceptual framework to describe individuals who require Special Care Dentistry (Faulks and Hennequin 2006). The authors proposed that the ‘persons requiring Special Care Dentistry are those with a disability or activity restriction that directly or indirectly affects their oral health, within the personal and environmental context of the individual’ (Faulks and Hennequin 2006). They postulated that their definition is more appropriate and in line with the current ICF but also diverges away from the medical model of disability—the ICIDH, and acknowledging the emerging contemporary biopsychosocial views of disability. The authors argued that an established definition is relevant for populations with special needs especially for epidemiological studies as data collected would represent this population more appropriately and corroborate for allocation much-needed health care funding, workforce planning and access to health services. In fact, New Zealand Ministry of Health epidemiologists adopted the concept of ICF and designed the recent years of the New Zealand national surveys of health and disability based on the ICF framework (Ministry of Health 2007; Statistics New Zealand 2013a). As development of the ICF in Special Care Dentistry research ensued, the core set of ICF is now considered part of Special Care Dentistry teaching curriculums in undergraduate and postgraduate programmes (Dougall et al. 2014a; Dougall et al. 2014b; Faulks et al. 2012).

However, in this current study, only two participants referred to the ICF as a way to describe Special Care Dentistry. This reflected the limited awareness of using the concepts of ICF describing Special Care Dentistry within the dental community as one participant remarked: “*If you’re asking that question, that means New Zealand have not embraced the ICF and New Zealand is behind times. It’s been used all around the world at the moment.*” [P7] This perhaps also suggests the understanding of the dentists towards disability may not be in line with the current World Health Organization’s ICF model of disability. Despite the adoption and application by the New Zealand Government, this notion further indicated the lack of awareness of disability within the dental community, which may determine how dentists perceive individuals with disabilities and ultimately their oral health.

One participant explained the ICF concept is applied to an example of an individual who had a stroke by focusing on their body function and structures and how it related to their oral sphere—the mouth and the teeth: “*Someone that’s had a stroke may be able to brush all the quadrants of their mouth except the upper left. In terms of the ICF, functionally they can clean most of their teeth except for the upper left and it’s not focusing on the fact that they’ve had a stroke.*” [P7]

Using the concepts of ICF, the same participant [P7] illustrated that the individual is viewed as an entirety and treated as a whole person and: “*not focusing on the disability but it focuses on what that person’s ability to do for him or herself. As a profession, we (Special Care Dentists) would make up that deficit while taking considerations of their function on lots of different levels, intellectually and socially with their family, friends, work colleagues and within the community.*” [P7]

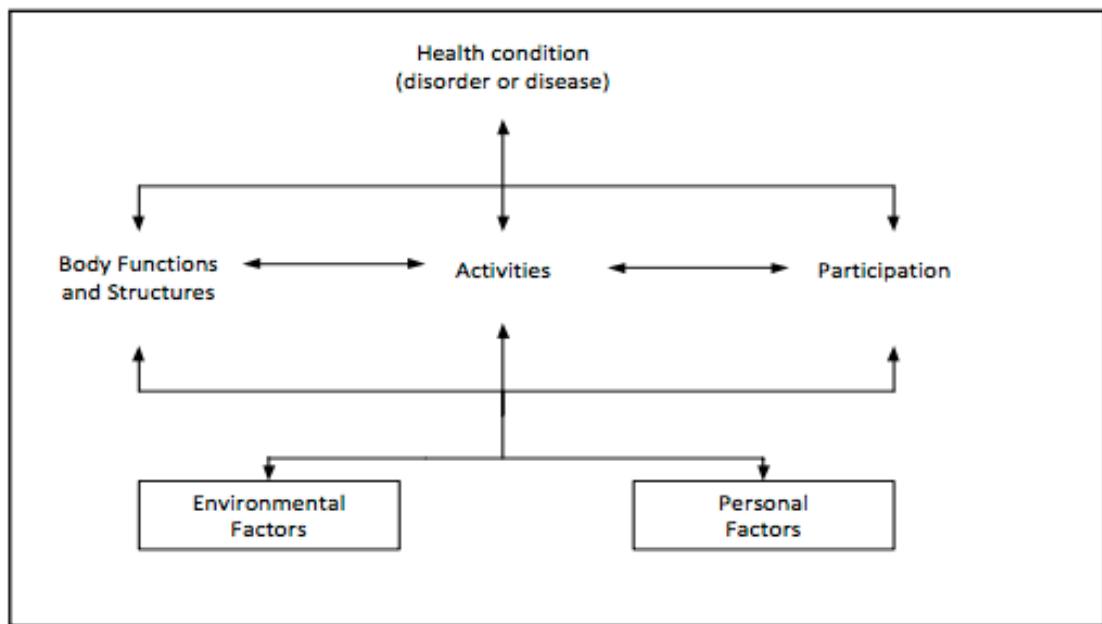


Figure 4 Diagram of the relationship within the international classification of function, disability, and health. Adopted from ICF, WHO 2001.

This illustrates that Special Care Dentistry approaches an individual with oral health care needs in its broadest sense—considering the social context of the person and not just the medical condition(s).

In contrast, while there are movements within the medical community to migrate away from previous models of disabilities such as the ICIDH-2 (1999) and ICIDH (1980), the medical model of disability is still considered to be widely used in dentistry (Scambler et al. 2011). These older conceptual models are perceived to emphasise on individuals' impairment as the cause of disability and handicap. Disabilities movement groups perceived this as a negative and archaic school of thought (Scambler et al. 2011). To iterate further, applying the medical model to the previous example of a patient with stroke:

“All you see is a cerebral vascular accident and infarcted brain tissue, you don’t actually see the functional ability or the person underneath whereas the ICF actually looks at function and it’s actually a much more rewarding way of looking and looking after people. It’s a much more empowering way of looking at disability.” [P7]

The current ICF acknowledges that disability is part of the human conditions, where it is temporal or activity dependent (Faulks and Hennequin 2006) as one of the participants commented: *“Disability can occur for a period of time where someone has mental health illness or is recovering from acute illness. For instance, a haematology patient.”* [P8] Participant [P8] gave an example—a patient who has a haematological disorder (for example, Haemophilia A) would require a Special Care Dentist and Haematological support in a hospital setting for an extraction of tooth. However, they would not require access to hospital services for routine dental examinations. In the context of ICF, the patient would not be considered ‘disabled’ in other occasions (temporal domain) but yet require specialist care when he or she requires a tooth extracted at a hospital (activity and body structure). This implied that disability is dynamic and fluid; and it is dependent on context and environmental factors.

Using the ICF as a framework to define Special Care Dentistry may certainly seem as unfamiliar territory to some. It has its challenges while it is still considered a theoretical model in the context of dentistry. A worldwide, two-round survey was recently conducted to explore the utilisation of the ICF as determinants of adult oral (by dental, medical and non-medical professionals) involving 74 countries²⁹ (Dougall et al. 2015). It reported that at least 80% of the participants agreed that the ICF would be an appropriate direction forward when the holistic aspects of oral health is applied as measurable outcomes because it describes broader aspects of oral health. How Special Care oral health services are delivered and who has access to it is dependent on how Special Care Dentistry is perceived in the near future. For Special Care Dentistry to be continually identified as a specialty that is holistic and patient-centred, ICF must be considered and embraced as part of the ethos of Special Care Dentistry.

4.2.2.3.2 Hospital Dentistry

“In 1990 when I got it on my certificate it says, Specialist in Hospital Dentistry. There’s nothing about Special Needs.” [P6]

The alternative term that some participants preferred was ‘Hospital Dentistry’, which in a historical context, was the term used in New Zealand before changing to the term ‘Special Needs Dentistry’ in 2001 (Punshon 2015). Some participants were recognised as ‘Hospital Dentistry’ specialists when they first gained their specialist qualifications. This term was not only exclusively used in New Zealand but also in other countries (Dougall and Fiske 2008; Glassman and Subar 2009; Sippli et al. 2017b; Yeaton et al. 2014).

To a certain degree, Hospital Dentistry appeared to be appropriate at a glance, as it denoted the physical clinical environment but also the patient group. A hospital patient treated in the hospital because they require hospital-level care. However, today, this term arguably no longer applies to this particular population. Historically, patients requiring special care (especially those with intellectual disabilities) and

²⁹ Unfortunately, New Zealand was not involved in this study.

hospital inpatients are treated within institutions, and commonly with those in long-term stays. Today, most of these patients are living semi-independently or independently within the community (Borromeo et al. 2014; Stanfield et al. 2003). Community oral health services such as general dental practices can easily care for a significant proportion of these patients. (Dougall and Fiske 2008; Gallagher and Fiske 2007). In fact, in the UK and to some extent in Australia, most patients who require special needs are treated in community-based clinics. Moreover, the patients of today that require Special Care Dentistry are defined in a wider context and are no longer limited to hospital level patients but also to those who are potentially vulnerable including older people, socially vulnerable and varying spectrum of mental health patients (Ettinger 2000).

However, those who preferred ‘Hospital Dentistry’³⁰ felt the name ‘Special Needs Dentistry’ somewhat confusing for other health professionals as the name itself may imply their scope of practice was only to treat those who have special needs (for example, those who are intellectually disabled). Subsequently, it made it harder to define their roles as Special Care Dentists working within the public hospital system, as one of the participants stated: “*When it was Hospital Dentistry, I think it was easy to define.*” [P2] However, one of the participants countered: “*I sort of like part of the old term 'Hospital Dentistry' because for where we are, having a good generalist dentist who can sort of stabilise a fracture and then go onto a screaming severely autistic 14-year-old and then manage that in the hospital.*” [P11]

Anecdotally, another commented that there was confusion about Special Care Dentistry at his workplace:

“In the District Health Board hospitals, we probably called ourselves Hospital Dentists more than Special Needs (Care) Dentists. It just makes things easier for everyone to understand what Hospital Dentists (are) and compared to Special Needs

³⁰ Interestingly, those who preferred ‘Hospital Dentistry’ are older participants, which reflected the historical context of Special Care Dentistry, when it was previously named as “Hospital Dentistry”.

Dentist because it takes them a while to understand the whole concept of the specialty. They know our role (as Hospital Dentists). ” [P1]

This perhaps reflected the level of understanding of the specialty of Special Care Dentistry by medical and dental professionals alike. This was also reflected in other countries, where Special Needs Dentistry may not be synonymous with Hospital Dentistry. One participant candidly shared an anecdotal experience of explaining his specialty to other overseas clinicians in a conference:

“I know when I go overseas to conferences, say the (United) States and I say I’m a Special Needs Dentist and they look at me like ‘what am I talking about, you know? Am I special needs? I say no, no, I’m not special needs. No, I say look I’m a Specialist Hospital Dentist’. It is confusing. I don’t know who came up with calling it Special Needs. I don’t know why they could have, I suppose you could call it Community Dentist or Hospital and Community Dentist.” [P6]

4.2.2.4 Conclusion

The striking feature of the definitions given by the participants was that none of them coincided with each other and they admitted that it was challenging to define. Although there were a few participants that quoted Special Care Dentistry definitions from the DCNZ and the RACDS, one defined Special Care Dentistry quite concisely: “*Special Needs (Care) Dentistry is really, in my view, you are the oral physician. So you need to have a broad overview of the whole of dentistry and be able to draw on more of those different components in a special way to provide special care.* ” [P7]

Another participant described: “*Special Care Dentistry is defined as a provision of oral health care services, and support for oral health care to people who have a range of limitations or (require) additional needs.* ” [P8]

At a glance, these two definitions appear to be quite dissimilar to one another and distinctly divergent from the DCNZ definition of Special Care Dentistry. However, at

closer analysis, these two definitions focus on the delivery of oral health care and do not emphasise the individual's disabilities. In fact, they did not use the word 'disability' in their definitions. In some ways, this can be perceived to be more 'disability neutral' and carry less perception of a 'social stigma'. Also, these two definitions can be said to have embraced the principles of the current definition of the ICF (World Health Organization 2001). Conceivably, this may indicate the changing winds of perception of Special Care Dentistry within the dental community—or at least, within Special Care Dentistry.

Despite their personal preferences of the name and definition of their specialty, all participants also agreed that it is the quality of care and outcome that is paramount, as one participant neatly puts it:

"The specialty (Special Care Dentistry) has got to take all those things into account. The care delivery and the improvement and the quality of life for that person for whatever the reasons, whether or not it's medical, physical, intellectual, psychosocial, whether or not they're homeless or a prisoner or a drug addict, it doesn't make any difference. It has got to take all these into account." [P7]

Special Care Dentistry is regarded as specialist dentistry that is holistic in its approach. It is complemented by a multidisciplinary clinical skillset that can adapt to care for the oral health needs of a diverse patient group. The term 'Special Care Dentistry' is perceived to take on a broader view of a patient care within a spectrum of patient groups. It is also viewed to be more acceptable by international dental communities. It can be debated that it is purely a semantic difference and yet a single word change can impact on how the participants perceived their profession and their approach to delivering oral health care. Most dental specialties are described by a particular set of specialised technical skills. As illustrated by the participants, Special Care Dentistry diverges itself from this for various reasons. Special Care Dentists defined themselves as dental specialists that approach patient care in its broadest context and yet able to individualise oral health care for their patients. Their roles and skillset are vast and far-reaching as they are involved in the grassroots level of delivering specialised dental care while having an overarching responsibility in

leading oral health advocacy at organisation level of health care. These valuable insights of the participants not only presented the challenges to define Special Care Dentistry but sheds light into their unique attributes such as their diverse roles and skills and their distinctive ethos of care.

The foundation principles of patient-centred care are found to be the underpinning cornerstone of Special Care Dentistry while embracing the ethos of ICF of the World Health Organization. Perhaps unintentionally, Special Care Dentistry challenges the current understanding of dental clinicians towards their own approach to people with disabilities and their principles of care. The quintessence of Special Care Dentistry is distilled down to one key element, the patient care. Conceivably, by incorporating the essence of ICF and the principles of patient-centred care, and borrowing the works of Faulks and Hennequin (2006), one could propose the following: *Special Care Dentistry can be defined as a discipline that provides patient-centred oral health care for those within the spectrum of disabilities and activities restrictions that affect their oral health, within the personal and environmental context of the individual.*

4.3 Interprofessional Interactions

4.3.1 Interactions with Medical Professionals

Interactions between health professionals working in an organisation such as DHB hospitals are part of day-to-day work. Patients that present to hospital are usually cared for by a team involving various fields of medicine to attend to their specific medical needs, which includes other health professionals such as physiotherapists, registered nurses and many others. Communication and interprofessional interactions for collaborative care are essential for providing quality health care. Special Care Dentists who work in hospitals are usually familiar with a team care approach because the care for their patients often involved other health care providers.

4.3.1.1 Specialist Recognition and Acceptance

Special Care Dentists are recognised as dental specialists in New Zealand DHBs through the ASMS. Participants felt that their medical colleagues accept them as specialists and acknowledge them as equals. One participant commented how he felt he was well respected among his medical peers:

“I found working in the hospital within dentistry, there are no challenges. Everybody basically accepted you as a person. They accept you as a person first. I’ve always had a very good relationship with medical colleagues working in a hospital. I certainly had no obstacles just because I was a dentist.” [P2]

It was encouraging to affirm that medical professionals see Special Care Dentists as their equal peers. General dentists and specialists working in the DHBs are recommended to be part of ASMS in New Zealand, allowing dental professionals to be part of the greater medical fraternity and to participate in the political issues affecting health care professionals³¹. As a valued part of the ASMS, it gave the dental profession a ‘voice’ among other health professionals, advocating for their dental

³¹ Those working for the university however, are excluded and are unable to join the ASMS.

profession and oral health services within the public health sector. Dental practitioners within the hospital share the same remuneration contract as the medical doctors, achieving pay equity and other concrete benefits, which in turn create a favourable work environment for collaborative care. Participants felt positive about having the opportunity to be recognised as equals and valued by their medical peers. It encouraged most participants to remain working within the DHB. One participant remarked that working in the hospital encouraged him to specialise in Special Care Dentistry:

I must admit it did, you know, a bit like you're saying you know you're doing the Hospital (work) and you'd like some recognition in doing Special Needs. It's a sort of a step up the ladder sort of thing. And I found you know it really did hoist and build me up and give me the incentive to stay on in the hospital, which has been a great part of my professional career, I must admit. [P6]

Interestingly, some participants admitted that their specialty might not be as well recognised when compared with other hospital-related dental specialties (for example, Oral and Maxillofacial Surgery) among their medical and dental colleagues: “*I find that a lot of people don't know who you are still, even in a small DHB.*” [P5] Perhaps this indicated the low profile of Special Care Dentistry within DHB, particularly in provincial hospitals, in which Special Care Dental Specialists are not readily accessible. In addition, Oral and Maxillofacial Surgery is also recognised as a vocational specialty by the Medical Council, which may have raised its profile within the medical community compared to Special Care Dentistry.

Despite being recognised well by their peers, some felt that some of their medical and dental colleagues refer patients to them as a ‘last resort’, where their peers perceived Special Care Dentistry as the terminal of dental care. They believed that their medical colleagues did not understand Special Care Dentistry’s role within the hospital, which could explain in part why some patients are inappropriately referred to Special Care Dentists as one explained: “*There wasn't a specific (role), nobody really knew what Special Needs Dentists should be doing. So it was a bit of a dumping ground, it was*

anything that was in the too hard basket, and it was everything for one person, i.e. me.” [P8]

The participant noted that the specialty was relatively unknown and new to most medical (and dental) professionals at the start of her specialty career. She remarked that when she was only (and the first) qualified Special Care Dental Specialist at her workplace, little support was available for her. Due to the lack of recognition of the specialty, the dental department services were not orientated for Special Care Dentistry as participant [P8] further iterated: “*There was no structure or leadership within the department about and there was nobody to really mentor me either. I was a bit of a dumping ground. I didn’t really have a mentor and it was quite a challenging sort of first five years probably.*” [P8]

Many others felt this notion in the early years of Special Care Dentistry because the specialty (and the specialists) was essentially non-existent in New Zealand. Several participants indicated that the hospital dental services in their early careers were mostly providing episodic relief of pain and emergency services, hence in an extent, most were orientated around Oral and Maxillofacial services. It suggests that Special Care Dentistry’s role in hospital services may not have been well defined. Many felt that they had to ‘trail blaze’ their career pathway and their role because of the lack of understanding of Special Care Dentistry. Unfortunately, it seems this disparity remains at large within the dental community and beyond. Unlike the robust and well-established discipline of Special Care Dentistry within healthcare systems such as the UK’s National Health Service, Special Care Dentistry in New Zealand is very much still in its infancy.

4.3.1.2 Interprofessional Collaborative Care

Interprofessional Collaboration (IPC) is described as a practice in ‘health care that occurs when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers and communities to deliver the highest quality of care across settings’ (World Health

Organization 2010). This approach was introduced worldwide to meet the demands of health care complexities and health workforce crisis. It is a concept that is applied in health care sectors and to a much lesser extent in oral health care (Glassman et al. 2016; MacEntee 2011; Southerland et al. 2016). A 2009 Cochrane study explored the impact on patient satisfaction and outcomes in health care practices that used IPC interventions (Zwarenstein et al. 2009). Albeit only five studies met their criteria, they found that IPC improved the overall clinical outcomes of patients such as shorter hospital stays, lowered cost, and safer medication use. Unfortunately, the Cochrane review did not include any studies relating to dentistry.

One of the unique features of dentists working in a hospital is that they have the opportunity to work with other non-dental health care providers such as nurses and medical doctors. Most participants stated that they enjoyed the camaraderie and the ability to develop synergistic collegiality with other health care providers.

In some areas of provincial New Zealand, health professionals provide visiting clinics to improve healthcare access to remote areas of the population. This service usually consists of a team of various health professionals catering a range of health care services. One participant is involved in such arrangement. Although she had initial concerns about her capabilities to be involved, she eventually enjoyed and felt essential to be part of the team, as she explained:

“The funny way we have achieved (collegial camaraderie) is we fly up to Kaitaia on the little plane, where a whole group of other (health professionals), there’s you know, anaesthetics, diabetes physicians and we do the clinic together. The team are excellent and all the people work hard and are into it. They are very accepting of me. I was a bit worried at the start but I’ve never had a problem, never. They are so grateful for us (dental) going there.” [P3]

Collaborations among interdisciplinary health professionals are common, and these have beneficial implications for patient care. Medical and dental specialists, each with their respective field of expertise provides clinical knowledge and experience in multidisciplinary teams for the best outcome for the patient, as one commented their experience:

“We’re in an outpatients centre so you’ve got the General Surgeons, the ENT³² Surgeons, the Ophthalmology all there and we’re all great mates and we all get on. The multidisciplinary team for head and neck, we are all there and we all work together. ENT might say ‘oh we’ve got some person we’re doing a procedure on, can you come check their tooth out or whatever. So that’s one of the best aspects of the job.” [P10]

Collaborative care is perceived to be cost efficient and reduces the waiting list for treatment (Glassman et al. 2016). Using the example of general anaesthesia, it can potentially decrease the number of accumulative general anaesthetic sessions that a patient requires to complete their global treatment needs. However, successful execution of collaborative work requires careful planning and collegial partnership. One participant agreed that this collaborative approach as one of the positive and rewarding aspects of their job: “*That’s probably one of the better parts of the job actually is working with your medical colleagues.*” [P10] Medical professionals and dentists in the hospital settings strive and work together to provide the best care for their patients. Collegial support from their medical peers was sincerely appreciated by all participants, particularly when participants are not familiar in certain aspects of health care. One participant illustrated how she was well supported by her colleagues in cases with social services:

“I’ve found Paediatrics really good lately, had three kids all from the same family on the general anaesthetic list and suspected a bit of neglect from the family. I had some responsibility to actually report them to CYFS³³ and that I actually needed to get other people involved and the Paediatrics guys have been really really helpful on how to do that sort of thing. Our DHB, they tend to support our dentists as if we are just another medical specialty. I’ve found that most of the interactions I’ve had are very receptive and very helpful and yeah it’s a give or take sort of thing.” [P5]

The consensus among the participants seems to have a positive outlook towards interprofessional collaboration with their medical peers. The participants perceived

³² Ear, Nose, and Throat Specialist Surgeon (ENT).

³³ Child, Youth, and Family Services (CYFS) is a government agency that helps to intervene to protect and help vulnerable children.

that the collaborative relationship shared is mutually favourable and beneficial. They cited that it promotes interprofessional camaraderie and enhances their delivery of health care. However, one qualitative study reported contradictory findings when they investigated collaborative experiences between medical general practitioners and dentists in Germany (Sippli et al. 2017b). Their findings indicated that there were differing expectations between the medical doctors and the dentists and identified substantial barriers that hindered collaborations. The dentists were interested in future partnerships; the medical doctors, however, did not welcome collaborations and concluded that it was unessential to their practice. Nonetheless, the study only explored the relationship between general medical practitioners and private practice dentists within the community rather than hospital-based health professionals. The study would be more relevant if it considered the interactions between dental and medical professionals within the same working environment such as the hospital.

4.3.1.2.1 Sustaining Professional Relationship

By being involved in multidisciplinary medical teams, dentists are able to raise the profile of dental services within the hospital organisations. This collaboration has not only improved the awareness and understanding of dentistry among medical professionals but also improved access to oral health services for patients through better referrals. By being constantly on the ‘radar’ of medical physicians, participants felt the quality of their patient referrals improved. One participant appreciated their relationship with their medical peers: “*We've got really good relationships with all the specialties in the hospital especially the Paeds team, if they get a new kid with special needs, they just refer it to us.*” [P11] However, several participants still felt that they had to proactively promote their services and their roles by being involved in various medical related committees. One participant commented, “*We make a lot of effort to attend multidisciplinary meetings and to maintain good relationships reasonably.*” [P8] Raising and maintaining the visibility of oral health services seems vital to sustaining their professional relationship with their medical colleagues. It was felt necessary to continue to promote oral health care services to their medical colleagues as an important aspect of health and easily accessible:

“Assertive isn’t the right word but that we’re always available for feedback, question and help. We will ask how much more can we help? We are a service that wants to be flexible and involved in patients. We want to be approachable (and visible), we work really hard.” [P8]

The participants implied that a high profile of oral health awareness within their workplaces must be maintained, with the participants seeing the benefits of such effort. The benefits are mutual for both the dental department and other medical departments. Dental and medical colleagues not only enjoy the positive professional rapport between colleagues, but their patients also have better access to care due to enhanced referral pathways between the medical and dental departments, as one participant stated:

“We have a really good relationship (with medical colleagues) and we have a thing called Pathways. It has really raised the profile for oral health especially within medical professionals. I think we get very good feedback and we get really good quality referrals from our colleagues within the DHB.” [P8]

4.3.1.3 Oral Health Knowledge among Medical Professionals

There is mounting evidence that there are associations between oral health and systemic diseases. Particularly in periodontal health, there is emerging evidence of risk factors that interact with chronic illnesses such as cardiovascular disease and diabetes (Rautemaa et al. 2007; Seymour et al. 2007). However, some participants expressed differing opinions about the level of understanding of oral health among their medical colleagues. One commented that their medical colleagues not only did not have an understanding of the oral health but also the lack of awareness of the role of dentistry in general health:

“It’s not great. They wouldn’t know what we do. Most doctors think of the human body as separated from the head but with an attached brain and that’s about it. So that’s where it stops. A lot of them wouldn’t really understand the role of Dentistry.

Wouldn't really understand what they were looking at within the mouth 'cause they just haven't been trained and some of them, there's a minority of them who make mistakes." [P4]

This notion was expected for most as they widely agreed that their medical peers did not receive adequate input about oral health in their training. An American study evaluated the oral health knowledge of medical professionals, specifically surveying their predoctoral training and attitudes towards oral health (Shimpi et al. 2016). They found that only 16% felt that they had sufficient training in oral health related topics at their predoctoral training. Moreover, 68% of the sample infrequently referred patients to their dental colleagues. The study's low response rate of 14% (of the sample size of 1407) could also reflect the low-level interest in participating in oral health care (and its research) among the physicians. Conversely, the participants in this study admitted that dentists might also not be trained to look beyond the teeth and other aspects of health. One participant felt that this perhaps reflected the undergraduate training priorities (and deficits) for both of the medical and dental programmes as he commented:

"I think the other thing too; to bear on that one is that there is very little dental training in medical school. We always said that dentists saw what was in front of the anterior pillar of fauces and the doctors only saw what was behind the anterior pillar of fauces...in other words, you know so they (doctors) saw throats, while we (dentists) saw teeth and mouths but we didn't see tonsils and things like that." [P2]

Acknowledging that the medical training programmes have limited exposure to dentistry, the participants felt that it is the responsibility of the dental community to promote and educate the medical community because: "*Some (medical) programmes don't get any (dentistry lectures) you know so I think we could do. I think that, as a profession we could do a lot. Again, we come back to education.*" [P4]

At their workplace, the participants felt that they are recognised as "*experts on the teeth, mouth and oral function.*" [P2] They are regularly called among to be part of

other medical fields to provide expert advice, collaborating to support patients' overall health. One participant illustrated an example how Special Care dentists are involved:

"I've always found the medical practitioners very willing to learn from us. You'll get into certain areas, let's say like in an ICU where you have people chronically intubated and things like that. It's well known that prolonged intubation can increase the risk of ventilator aspiration pneumonia if they got poor oral hygiene. Therefore the ICU nurses are only too willing to learn to become involved, they would spend time so there was a lot of cross fertilisation of ideas going on and they wanted to learn about the oral side of things but that's in a hospital setting." [P2]

Although participants did not overtly indicate, the examples and anecdotal accounts of participants seem to suggest that registered nurses and other allied health providers were more likely to seek their advice rather than medical doctors. This is particularly true with other health care providers such as registered nurses are directly involved with their patients care. Perhaps this could reflect that there is some emphasis in oral health in the training curriculum of the nursing. Participants noticed that health professionals such as nurses recognised the impact of oral health in general diseases and disorders, leading them to be eager to learn or seek dental professionals for their expert advice, as one remarked: "*They value oral health for a lot of their patients. So even people like occupational therapists and nurses, you know Haematology nurses they all coming to us to ask for guidance*" [P1]

Hospital dental clinicians have a broad role within the hospital setting. Their role can be seen to be actively involved with other areas of health care. The interactions between the participants and their colleagues demonstrated their roles as champions and advocates for oral health within the hospital. The concept of '*cross fertilisation of ideas*' [P2] suggested that IPC practice among health care providers is a two-way learning among health professionals with the goal of providing the best outcome for their patients. Notwithstanding the observed limited understanding of their peers, the

participants were eager to share their wealth of knowledge and expertise with their colleagues, which will improve their patients' health outcomes.

4.3.1.4 Medical Knowledge of Special Care Dentists

Some participants admitted there were deficits in their depth of knowledge, especially in areas of medical and public health despite their postgraduate training. One participant remarked: "*Quite a lot of times I feel out of depth (medically), and I have to go and look it up.*" [P10] Although their training and experience provided them with the core basics of medical knowledge, they felt that their knowledge is still insufficient because they did not attain a medical qualification, as one participant stated:

"I do find it a wee bit limiting not having a medical qualification because we admitted, first of all in hospital dentistry, you're dealing with a medically frail, the medically unfit people largely and if you put them into hospital basically under general anaesthetic, you need to know more than just basics." [P2]

Special Care Dentists often treat patients with varying levels of medical complexities, regularly with compromised comorbidities. Patient's general health must be taken into consideration as part of their patient management. The participants felt the challenges of being well informed and keeping up with the contemporary practice of medicine. Without a medical qualification, the same participant [P2] commented: "*I found all medical colleagues have one thing in common is they've got an MBChB³⁴, they have a very wide scope of knowledge. It's very hard to keep yourself up-to-date on all aspects of medicine.*" [P2]

However, participants managed to cope with their perceived limited knowledge of medicine. It was apparent that they valued their collegial support immensely and enjoyed the benefits of working in a hospital where expert medical advice is readily accessible. Whenever they felt they were out of their depth, they can rely on their

³⁴ Bachelor of Medicine, Bachelor of Surgery.

medical colleagues for advice on managing their patients. Participant [P2] gave an example of his own experience:

“The kind of things are here (in the hospital) are great, so you can just give the doctors a ring or an email or something a rather and say I’ve got this patient that needs your input. The reality probably was that 98% of the time there were no problems. Generally, my fall-back position was I’d ring up the Medical Registrar and say we’ve got a patient on the ward or the house surgeon is struggling, I’m a dentist, can you go and have a look at the patient for us (laughs) so that was the way you got around it.” [P2]

4.3.1.5 Conclusion

Special Care Dentists being recognised as specialist consultants allowed them to gain an attractive remuneration from the specialist pay scales of the ASMS. They enjoyed the same privileges their medical peers, which include: CME funds, paid annual and sick leave, secondment and sabbatical leave. They also enjoyed the collaborative work in a multidisciplinary team environment, which often involved with other medical specialties. Participants admitted that there are some concerns regarding the expected level of oral health knowledge among their medical colleagues. It highlighted the need for better undergraduate education for medical students and continuing professional education for physicians in regards to oral health. However, in vice versa, this is also true where the participants admitted that there are significant deficits in medical knowledge among the dentists and specialists.

It was interesting to examine the interactions of Special Care Dentist with their colleagues. Special Care Dentists have the advantage of easy access to medical expertise and collegial support within the hospital environment, while in return the participants lend their oral health expertise to support their colleagues’ patient care. Participants enjoyed these unique attributes of working in a hospital setting because it enhances their delivery of oral health care and indirectly benefits patients’ access to other types of medical support. These invaluable collegial interactions between the

participants and their medical colleagues highlight one of the underpinning contrasts between public and private practice in New Zealand.

4.3.2 General Dental Practitioners and Special Care Dentistry

In this study, participants were also asked of their perception of general dentists in regards to Special Care Dentistry. The participants provided in-depth insights into their interactions with general dentists. There were particularly strong views about how general dentists treat patients who require special care especially those in private practice.

Albeit participants implied that there were very few, most acknowledged that some patients requiring special care are seen in private practice. However, when asked about their views of general dentists' attitudes towards patients requiring special care, the overall response was remarkably negative. They highlighted that general dentists tend to refer patients requiring special care to hospital level care (where most Special Care Dentists work) regardless the level of care needed by the patient, further inferring that private dentists are reluctant to treat patients with special needs. Nonetheless, most patients requiring special care seen in private practice are self-funded; there is no subsidised oral health care for Special Care adult patients in private practice.

The main themes that arose were their professional interactions with general practitioners, and the barriers practising Special Care Dentistry in private practice. These obstacles were perceived to be the major factors that drive the reluctance among general practitioners to see patients requiring special care. The interactions of general practitioners with the participants highlighted the challenges of the specialty and its role within the dental community—in communication, education, and specialty profile. It is worth noting that this discourse only pertains to the views of the participants and not representative of all general dentists and other dental specialists.

4.3.2.1 Professional Interactions

General dental practitioners refer some of their patients to hospital dental services for various reasons—usually due to the patient's health condition or simply being unable to carry out dental treatment safely in their practice. It was postulated that some private practitioners are not aware of the referral criteria and the types of dental

services provided at their local hospital. As mentioned, the participants expressed their frustrations that the patients were often inappropriately referred. Several participants implied that any general practitioner could have safely seen many of the referred cases. However, most acknowledged that private dental practitioners might have limited experience working in a multidisciplinary team environment, therefore have limited interactions and support with other facets of health care. Participants generally perceived that general dental practitioners are not proficient at communicating appropriate information to the recipients of their referral. One participant remarked quite critically:

“The general dentists are not good at communicating, and they’re not good at working within a multi disciplinary environment. They’re not good at picking up the phone or putting letters together. They’re not good at writing history and they’re not good at sharing information.” [P8]

The same participant [P8] emphasised that their dental department received more referrals from other non-dental health professionals than from their dental colleagues. Several participants felt their medical colleagues were better at referring because the medical doctors have a relatively better understanding of the role of Special Care Dentistry (or perhaps more accurately, Hospital Dentistry) than general dentists do. However, it can be argued that the medical practitioners simply referred more frequently because they are not trained treat dental-related problems. On scrutiny, it was implied that general dentists are actually reluctant to refer directly to hospital dental services. In fact, participants indicated that some dentists in their area would refer their patients to local medical practitioners so that it can be referred from a medical practitioner:

“And the dentists shoot themselves in the foot when they say to a patient you need to go to the doctor to get a dental referral for x, y and z. So, that’s a real problem area. We struggled with our general practitioners (in terms of the professional relationship with Special Care Dentists). I think they don’t know what we do and they seem to be intimidated by the hospital.” [P8]

It does seem somewhat unusual that the participants perceived that the general dentists are ‘intimidated’ by their hospital dental colleagues. Perhaps, some dentists perceived a medical referral might be more ‘credible’ in comparison to their referral from private practice. In an alternative viewpoint, given that the participants perceived dentists to be poor referrers, dentists might not want to further ‘jeopardise’ their reputation by referring patients to the local hospital. Notwithstanding their peculiar referral pathway, private dentists are generally not able to acquire sufficient information when referring to the hospital dental services because they do not have the same access to patient information as the medical practitioners and their patient may not be able to convey an accurate medical history, as one participant indicated:

“The challenges for adults were complex medical problems is when a patient doesn’t come to them with a clear medical history or access to those blood results or hospital information. I think that’s challenging for a dentist in the community who doesn’t have access to that information.” [P8]

The lack of access to patient medical information could explain this alternative method of referral. A dentist would rather refer to the patient’s medical practitioner so that the doctor can furnish their referral with the appropriate medical history. However, this is an inefficient referral pathway for the patient, and perhaps more expensive—with additional doctor consultation fees. In a different perspective, patients themselves might be more likely to seek their medical practitioner for a dental referral to the hospital because doctor visit fees are subsidised and therefore incur lower fees than visiting a private dentist (Jatrana et al. 2009; Schoen and Doty 2004). Dentists perhaps distinguish this unusual ‘bridging’ referral pathway through medical practitioners as an alternative to close the gap of insufficient information access or perhaps in a more cynical view, dissociating themselves from being professionally involved in the patient’s oral care. Additionally, general dentists may lay claim that these patients do not fall into their scope of practice, indirectly shifting the care responsibilities from the general dentists to Special Care Dentists only (Waldman and Perlman 2006b).

Participants felt that part of the problem with their referrals was that Special Care Dentistry might have a limited profile within the dental community. One participant remarked that when they started their career in New Zealand, they found that private practitioners in New Zealand dental community were not aware of the roles of the dentists working in hospitals and the types of patient seen. One participant perceived general practitioners believed that Special Care Dentists only treat patients with intellectual disabilities:

“When I first came out here, I really noticed those private practice dentists who grew up here and trained, they didn’t know what went on in the hospital. People don’t understand it if they’re not in it. They think we just treat intellectually handicapped children, that’s all they think we’re doing.” [P3]

The participant postulated that this limited understanding is more likely to be common in provincial areas where there is limited access to Special Care Dentists. As a result, patients requiring special care in smaller communities would inevitably have less access to appropriate oral services (McQuistan et al. 2008).

On a different perspective, one participant expressed that they felt morally obligated to accept patients even though the referrals failed to meet the hospital access criteria. Rejecting the referral would mean the patient would be diverted back to their dentist without receiving appropriate care:

“It’s a bit of a pain in the neck (when it comes to referrals from private practice to the hospital), the patient’s just going to get the run around. So I will often have to accept them, find out who the dentist is and write to the dentist just saying we’ve seen this patient but really there is no point for them to come here.” [P10]

Depending on the service specifications of the oral health service, access criteria are applied to patient referrals, and are triaged to streamline treatment priorities and refer to the appropriate clinician. Without the understanding of referral criteria, timely patient care can be delayed. Participants stressed the importance of private dentists understanding the service priorities and referral criteria of the hospital dental services.

4.3.2.2 Working in Silos- Barrier to Collaborative Care

Collaborative care in dentistry is considered uncommon among private practitioners (Glassman et al. 2016). However, in an institution—such as the Dental School—interdisciplinary approach is commonly practised on a daily basis to overcome complex dental cases. In private practice, interprofessional collaboration is often limited, particularly with other health professionals such as medical doctors. Dental treatments are usually provided by a single dental practitioner and usually supported by a dental assistant. It is uncommon for multiple clinicians to be working on a single patient at the same time. In a group dental practice, dental practitioners (including dental hygienists) technically do not work together; they may work in the same facility but provide treatment at independent clinical rooms for their respective patients. The working environment and system in a private dental practice do not encourage collaborative practice. Contrarily, particular with general anaesthesia, a team approach is essential for medical procedures to be provided, which may consist of operating surgeon(s), registrar(s), registered nurses, and the anaesthetic team at a hospital environment.

However, this collaborative care approach is limited within the realm of dentistry and does not venture into other areas of health care such as medicine. For most dental practitioners, one participant indicated that it is still predominantly an ‘isolated’ practice: “*I think that they haven’t been encouraged to work in a team environment. They’re being encouraged to work in silos.*” [P8] Participants used the term ‘silo’ to describe the isolation of private practice. This is considered to be one of the barriers of dentistry to working with other health professionals—discouraging communication and the healthy exchange of knowledge between dental and medical professionals (MacEntee 2011), as one participant emphasised the importance of communication: “*I think it’s a problem with it being private practice general dentistry. It makes it ‘silos’ or whatever they call them these days...we always need more communication.*” [P3] Interestingly, McQuistan and colleagues (2008) found that dentists who work in a team environment are at least twice more than likely to see and treat vulnerable patients than those who work alone. The authors postulated that those who work in a team environment or group practice had better opportunities for collaborative work, sharing of ideas, and collegial support.

This type of isolated work environment is not exclusive to private practice. In some ways, those who work at hospital dental services do work in isolation at outpatient hospital dental clinics as well. However, they are also often involved in other non-dental specific working environments such as operating theatres and medical wards, which allow them to collaborate with other non-dental health providers.

4.3.2.3 Barriers to Treat Patients requiring special care in Private Practice

Patients requiring special care often require a different approach in providing care due to various factors such as psychosocial aspects and their general health. In private practice, dentists are confined to a certain approach to providing oral health care, where the model of care delivery is mostly driven by a fee-for-service model to sustain the business enterprise of private dental practice. Therefore, various factors such as time constraints and financial viability have to be considered when providing Special Care Dentistry in private practice. Moreover, the confidence and clinical experience of private dentists in providing Special Care Dentistry could also play a part in their perception of patients requiring special care. Studies reported that management of difficult behaviour and communication are the main deterrents to provide Special Care Dentistry (Bindal et al. 2015; Smith et al. 2010b). These barriers were similarly reported by the recent Australian study (Derbi and Borromeo 2016). However, in this present study, the participants believed that financial limitations, time constraints, and limited education were the main barriers to provide Special Care Dentistry in private practice.

4.3.2.3.1 Financial Limitations

Among the participants, there was a palpable discontent about how some private dentists chose not to treat patients with special needs simply because of the limited potential ‘revenue’ from these patients. General dentists might perceive that patients requiring special care are not financially rewarding in comparison to non-Special Care patients, as one participant disapprovingly remarked:

“I don’t see any problem with general dentists treating them but obviously there’s financial considerations from the patients’ point of view. I mean there are quite a percentage of dentists who want to drive a Ferrari or a Porsche and they sort of look at you and say ‘well, what are you doing special needs for? God, there’s no money in that you know’. And they’re all about money.” [P6]

Unfortunately, the notion that providing care for those with special needs is not financially rewarding or viable was not groundless. Participants specifically those who also work part-time in private practice, generally agreed that there is a substantial financial pressure from private practice. They admitted that there are hesitations among private practitioners to treat patients with special care needs simply “*because they’ve got other things at the back of their minds like bills to pay and overhead costs.*” [P4] The running cost of private practice is considered high although it is dependent on various aspects—such as the size of practice, the number of employees, and the cost of a building lease. It was highlighted that as a private practitioner running a private practice: “*you’ve got to pay your running costs at hundreds of dollars an hour sort of thing. You need to make an average four or five hundred dollars (per hour).*” [P2] One participant also suggested that some private practitioners perceived that patients requiring special care might not have sufficient finances to receive private dental treatment:

“The thing is, you know if you’ve got a patient in the chair for half an hour trying to manage their behaviour and their medical condition and then they’ve got not much money. You don’t wanna see them in private practice” [P11]

However, it was agreed that practising full-time Special Care Dentistry in private practice might not provide the same earning potential because it might not generate enough income to cover the running cost of the practice: “*Special Needs (Care) Dentistry (in private practice) is not going to make you a very rich Dentist for sure.*” [P4] This does not come as an unanticipated finding as other studies that investigated the barriers to Special Care Dentistry reported similar results (Bindal et al. 2015). Despite the expressed negativity regarding private practice, participants

acknowledged that a Special Care Dentistry private practice clearly would not be financially sustainable.

On closer examination, these opinions reflect the deeper issues within of the provision of dental care in New Zealand. The majority of dental care in New Zealand is provided by private enterprises of dental practice while publicly funded oral care is primarily targeted only at children and adolescents (Birch and Anderson 2005). DHB hospital dental services are required to provide oral health care for specific groups of the population for comprehensive care while others are (depending on specific patient criteria) limited to relief of pain services (Ministry of Health 2017). Most adult dental care in New Zealand is self-funded and is provided by private dental services (Thomson 2001). It is a known fact that the cost of dental care in New Zealand is high and it is strongly corroborated by recent studies that examined the public perception of the cost of dental care in New Zealand and how it determines their utilisation of oral health services (Ministry of Health 2010; Smith and Thomson 2017). The recent New Zealand Oral Health Survey reported two out of five New Zealand adults delayed their dental care due to cost. Another survey examined the access to health care in five developed countries (UK, Canada, USA, Australia and New Zealand) and reported that access to dental care is costly in all five countries³⁵ and higher than visiting a physician (Schoen and Doty 2004). Furthermore, it also indicated that New Zealand adults were the most likely to see cost as a barrier to oral health when compared to the other countries in the survey. This further reflected the limited resources that are available in New Zealand for equitable access to oral health care.

Turning to patients requiring special care, unless they meet the access criteria delineated in service specifications of DHBs, they are inevitably left with little choice but to seek private practitioners who are willing to treat them and shoulder the full cost of private dental care (Ministry of Health 2017). With the perception that private dentist are reluctant to treat patients requiring special care and the insurmountable cost of privatised dental care by many, this can only be concluded that access to oral

³⁵ The health care systems between these five countries are substantially different to one another, with varying degrees of privatisation and state-funded health care services, including oral health services.

care for these patients are poor and needs to be critically addressed. Perhaps, it is timely to consider the case for oral health integration into primary health care (Jatrana et al. 2009).

4.3.2.3.2 Time Constraints

Dental private practice is usually managed optimally to deliver quality oral health services whereby patients are usually booked into allocated appointments for dental treatments. Several participants indicated that there is a constant pressure to examine and treat patients as timely as possible in private practice. However, patients requiring special care usually require more time in their dental appointments. Time limitations were perceived to be one of the major barriers in treating patients requiring special care in private practice, as one participant believed that this barrier is universal:

“I’ve seen this worldwide. It is difficult for general practitioners because they quite often have a business management pressure too, for one reason or another, only have 15 to 20 minutes to spend with a patient. If you’ve got someone for example with a profound learning disability, you could spend 20 minutes just trying to find out their medical history and let alone doing treatment planning.” [P7]

This sentiment perhaps reflected how private dentistry is practised in New Zealand, where “*time is money.*” [P5] Most dental practitioners can estimate how much time they require for a particular dental treatment, especially if a treatment plan has been established. This allows dentists to plan their daily appointments efficiently and minimise disruptions to their workflow. However, patients requiring special needs are viewed to be challenging and clinicians often book their patients for a longer appointment to accommodate any unexpected challenges, as one participant neatly remarked: “*You get a special needs patient, you’ve just got to forget about the time constraints, and it’s a whole different set of skills you’ve got to use.*” [P2]

This notion is consistent with recent studies on perception of Special Care Dentistry among general practitioners (Bindal et al. 2015; Smith et al. 2010b). Bindal and

colleagues (2015) investigated the provision of Special Care Dentistry among general practitioners and found that 20% of their sample reported ‘time constraints’ being one of the barriers to providing Special Care Dentistry. Despite the perceived obstacles in the study, two-thirds of their sample reported that they treat patients requiring special care on a regular basis. However, at closer examination, most of their sample treated less than five patients requiring special care per month.

Participants also understood that patients requiring special care are commonly referred because general dentists felt the patient management was too onerous and inefficient to provide treatment appropriately. One participant indicated that: “*If the patient can't get up and sit in the chair and pretty much do everything for themselves, then the dentists are referring them off to the hospital.*” [P5] Additionally, in a busy dental practice, clinicians may not have the time to contact patient’s general medical practitioner for more information. One participant illustrated the busy nature of dental practices is not conducive for effective communication with their medical colleagues: “*If you've got a busy private practice and stuff and you've got to spend a wee while sorting things out and talking to GP's and stuff, it might just be a pain in the neck.*” [P10] Practitioners might perceive this to be a time-consuming exercise and it would be more ‘efficient’ for them to refer the patient to the hospital. This was consistent with the findings of a study that explored medical and dental practitioners’ professional relationship (Sippli et al. 2017b). Perhaps, this could further rationalise the reasons why some general dentists refer patients to their hospital colleagues.

However, some participants agreed that certain groups of patients requiring special care are more appropriate to be seen at the hospital due to various circumstances. They felt it was not in the best interests of the patient (and the clinician) if the clinician was obligated to treat the patient. As one participant simply commented: “*You can't afford to spend an hour cajoling somebody so you can take out a tooth or do a little filling, you know. It's just not appropriate.*” [P6] Using an example of a regular attendee to a private dentist, the patient recently had a motor vehicle accident that has rendered him paraplegic and sustained a brain injury. The patient who is paralysed from the waist down would now require help to transfer from the

wheelchair to the dental chair. He might also have speech comprehension difficulties due to his head injury. His disabilities would significantly impact his next visit to the dentist. The process of transferring him from his wheelchair to the dental chair and updating his complicated medical history would certainly prolong his dental visits. To achieve the same quality of care, one can see how a simple annual dental examination now requires a longer appointment, let alone providing dental treatments.

One participant remarked that the financial and time pressure is less for clinicians who work in public practices: “*We also perhaps have had—I’ll put it in inverted commas “slight luxury” of having to spend a little bit more time in order to achieve the treatment planning and treatment outcomes that are best for the patient.*” [P7] Being employed as salaried dental clinicians, these participants felt that they can ‘take their time’ to appropriately assess their patient’s needs and allow for careful planning before treatment. These clinicians can assemble necessary patient information and consider all aspects for their patient oral health care. This also allows dentist-patient rapport and trust to develop over time, which in turn improve patient’s treatment experience and outcomes.

4.3.2.3.3 Education

Participants had the impression that general dentists are not confident in treating patients with medical problems and multiple medications. Limited understanding of pharmacology seems to be one of the key areas of concern among the participants, as one participant shared their experience in a recent continual education workshop:

“*Recently I went to a pharmacological update in dentistry in Auckland and I sat there...and I was scared by the questions some practitioners were asking from general practice, it made me anxious about their level of knowledge around some really simple things.*” [P11]

Few of the participants expressed their concerns over the management of patients with anticoagulants and bisphosphonates. Their concerns were similar with the

findings of a previously cited German study, which reported that general dentists are reluctant to treat patients if they are medicated with anticoagulants or bisphosphonates (Sippli et al. 2017b). With increasing complexities in patients' medical conditions, this highlighted that general dentists must continue to be well informed on pharmacology and its implications for everyday practice (Scully and Ettinger 2007). Anecdotally, one participant gave an example:

"There are a number (of dentists) in town who are just scared to touch anyone with polypharmacy or anticoagulants. I had a referral from a medical doctor about a patient who had a fractured tooth cutting her tongue and the doctor's quote was 'the dentist's too scared to do anything, can you please help and they're on warfarin.'" [P10]

It was implied that that patient was inappropriately referred to a physician from a dentist due to concerns of an anticoagulant, underscoring the level of pharmacology knowledge among some dentists. It is important to highlight that, instead of medical practitioners, the dentists are the ones who refer to the physicians, which may suggest that dentists are not aware of available support from their specialist colleagues. In addition, several participants implied that some dental practitioners are not up-to-date with contemporary views on management of patients with certain medications including anticoagulants.

'Polypharmacy³⁶', concerns were raised, in that the participants felt that general dentists would flippantly refer patients with multiple medications without assessing the patients' oral health care needs, as one participant commented: "*general dentists don't seem to either know or can't be bothered with any of medically compromised patients, they'll probably just try and flick them off to us (at the hospital).*" [P10] Polypharmacy, particularly in older patients are increasingly common (Fulton and Riley Allen 2005; Singh and Papas 2014). Patients with chronic diseases are now surviving longer and are able to maintain a reasonable quality of life through the help

³⁶ Polypharmacy is generally defined as the use of four or more medications by a patient, common among adults over 65 years old.

of their medications. Dentists are largely unfamiliar with medications prescribed by medical professionals, for reasons of not being medically trained but also dentists are only familiar with the narrow spectrum of medications that they regularly prescribe (Sippli et al. 2017a). It can be suggested that management of polypharmacy patients may be an unfamiliar territory to general dentists. This perceived lack of education in medicine among dental clinicians by medical professionals has been reported in the literature and has significant impact how dental clinicians practise dentistry (Sippli et al. 2017b). The authors further suggested that the limited knowledge of the dentists discouraged collaboration with their medical peers.

4.3.2.3.4 The Personality of General Dentists and Perception of Patients Requiring Special Care

As mentioned, treating patients requiring special care requires clinicians to have a distinct ethos and approach. The participants believed that it requires clinicians to be more empathetic and supportive when treating patients requiring special care. It was remarkable to highlight that several participants were quick to divulge practitioners who they deem unsuitable, as one remarked:

“I think you do need a particular empathy for people to be a Special Needs (Care) Dentist. There are a few private practitioners out there who, you know, who are probably not suited for treating special needs. You must know some general practitioners who wouldn’t be bothered treating someone with special needs. I mean we all know them.” [P6]

There was the notion that some general practitioners only treat patients requiring special care because they feel obligated rather than a desire to treat these patients. One participant commented: *“If you don’t want to treat those patients, you generally don’t treat them very well, I mean you’ve got to have a passion to treat patients properly, appropriately and all that sort of thing.”* [P2] This implied that some dentists might be willing to treat patients requiring special care but may not necessarily have the desire or interest in treating patients requiring special care, when another participant indicated that: *“There are some dentists who are more ‘tolerant’ (to Special Care*

patients) than others.” [P9] It is interesting that the word ‘tolerant’ was used to describe how general dentists might feel towards patients requiring special care, implicating that the general dentists feel burdened when treating patients requiring special care. When participants were asked whether it was acceptable to refuse treating patients requiring special care in private practice, there were differing opinions. Some participants expressed that they believed that clinicians have the social responsibility to treat all patients without discrimination, while others felt that general dentists must at least provide an alternative to the patient by referring for appropriate care. One participant illustrated that it is his principle of care as a clinician to treat all types of patients:

“You’ve hit a tender spot on me with that one. My philosophy when I graduated was that I wanted to be able to treat everybody that walked through my door and I know that’s an old fashioned aspiration. To my view, you learn and up skill yourself so that you can treat your patients. I mean that’s a very old fashioned view and it’s certainly not a contemporary view.” [P2]

Other participants also shared the same belief as most pursued their vocation in Special Care Dentistry to broaden their scope of practice and treat all types of patient groups. Although most admitted that general dentists should not be pressured to treat patients requiring special care, one participant recommended that general dentists should at least consider managing some patients requiring special care:

“I don’t think you can force people to do Special Needs. But, I think in general most dentists are fair-minded and realised that they have a bit of a role to play and if everyone does their bit, it makes it easier. You can’t send everything to the hospital but you can’t force general dentists to do Special Needs either, can you?” [P6]

All participants believed that dentistry as a profession should have a social responsibility to provide dental care for those who are most vulnerable, as one participant stated: *“I’ve got no beef with people earning a good living out of it or they want to pay for their kids to go through education and things like that. But I do think*

that there is a social responsibility.” [P2] Disappointingly, the participants largely agreed that most private dentists hold little value of treating patients requiring special care, and regarded them as “*a waste of time.*” [P9] Perhaps, this reflected the deeper social hurdles of the dental profession caring for those who are most vulnerable. As Ackerman carefully put it in an editorial: ‘*The barrier in the case of access to care is not one’s ability to learn how to provide dental care to patients with special needs but one’s desire to provide dental care to patients with special needs.*’ (Ackerman 2013) Whether this can be achieved through conventional means of education and training would be an interesting to investigate. With that in mind, it is conceivable to surmise that dentists simply have to be more caring for their patients.

4.3.2.3.5 Other Perceived Barriers to Special Care Dentistry in Private Practice

Comfort Levels

Treating patients who require special needs can be exceptionally stressful and challenging in private practice especially when it is out of the comfort zone for the clinician. Participants agreed that there is a degree of comfort that clinicians should have in their work, especially with patients requiring special care, as one commented: “*I can understand that you get dentists that just aren’t comfortable treating Special Needs patients.*” [P6] The level of comfort in treating patients requiring special care is dependent on various factors. The literature showed that clinicians who had early exposure to Special Care Dentistry in their undergraduate training are more comfortable with patients requiring special care in their career (Derbi and Borromeo 2016; Smith et al. 2010b). In a previously cited study, the authors investigated new dental graduates’ level of comfort in treating vulnerable populations after having an outplacement in community-based clinics (McQuistan et al. 2008). The authors reported that after two weeks of clinical exposure, the comfort levels of these new dentists improved. Interestingly, the study noted that those who valued their outplacement experience were associated with increased comfort with those who are vulnerable. This suggested that dentists could overcome their initial anxieties treating patients requiring special care if they had positive clinical experience in their undergraduate training (Ferguson et al. 1991).

Patient Group Type

Patients requiring special care often rely on other support services to attend medical and dental appointments, such as caregivers and transportation services. The simple task of attending dental appointments can be challenging for some, particularly those who are affected by various physical, mental, and emotional conditions. Participants acknowledged that certain patient groups are not suitable for private practice because of the unpredictability of these patients. A participant gave an example: “*Patients with psychiatric problems are another challenging group for a general dentist because they’re often poor attenders and that can be a financial burden for the dentist. That’s a really difficult group of patients to run a business model around because of their variability to attend.*” [P8] Although it may not be the patient’s intention, patients with special needs’ health status is often dynamic on a day-to-day basis, and this challenges their ability to function and perform tasks such as, visiting their dentist. This unpredictability inevitably puts significant pressure on private practices financially, which as a result, reduces access to private oral care for patients requiring special care.

Practice Setup and Types of Dentistry Practised

Dental clinics for patients requiring special care require specialised setups, allowing for better access to a broad range of patients. As mentioned earlier, dental clinics must be wheelchair accessible, with wider rooms and walkways (Dougall and Fiske 2008). Particular attention to clinical safety features is applied to ensure patient’s wellbeing and care while visiting their dentist. In New Zealand, new dental clinics designs are required to be compliant to New Zealand Standards Design for Access and Mobility-Buildings and Associated Facilities Building Code (NZS 4121:2001)³⁷. However, there was a general perception among the participants that some existing dental practices are not equipped or designed to be accessible, therefore becoming a barrier (intentionally or unintentionally) for patients requiring special care. One participant indicated that there were dental practices as such:

³⁷ <https://www.standards.govt.nz/assets/Publication-files/NZS4121-2001.pdf>. Accessed on the 3rd of July 2017.

“You know some of them aren’t set up to do Special Care Dentistry, you know. If you have to climb up stairs or you have a small surgery, forget it. If you’ve got a practice with ramps and big wide surgeries, it’s more conducive to treating them, you know.”

[P6]

This finding was a consistent finding with the previously cited Western Australian study. The authors reported 46.8% of their respondents felt their private practices were inadequately equipped for Special Care Dentistry (Derbi and Borromeo 2016). The nature of ‘chair-centric’ dentistry does not promote other methods of providing dental care. Most dentists are trained to predominantly work on patients that could lie in a dental chair. However, many patients requiring special care require assistance to transfer into the dental chair and sometimes require alternative methods to receive oral care, such as domiciliary visits. Antoun and colleagues reported that dentists feel awkward and reluctant to work outside of their comfort zone (Antoun et al. 2008).

From a different perspective, one participant also remarked the differences in types of dentistry between private general dentistry and Special Care Dentistry: *“You know, dentists like doing wee fiddly things, in microns. (In Special Care Dentistry), it’s a good day if you’re working in millimetres.”* [P9] This implied that some might view Special Care Dentistry as ‘compromised’ dentistry because it was felt that certain types of dentistry are limited due to technical difficulties, ability to cooperate, and the patient’s finances. Although types of treatments were not specified, a study found that patients requiring special care tend to be treated only for relief of dental pain and emergency dental treatments (Bindal et al. 2015). Several participants admitted that certain treatments in private practice might not be appropriate and patients requiring special care may not receive ‘high end’ dentistry, which can be more technically sensitive and require clinicians to be working with high precision, as the participant [P9] iterated further:

“Special Care patients are not regular patients as in you know, walk in, sit down, open your mouth, you know that sort of stuff...and it is not really often that it’s

appropriate to provide, you know top of the range high-tech treatments for our population if you like.” [P9]

Conversely, public dental services may not be able to provide certain dental services that are readily available in private practice. One participant (who work in public and private practice) highlighted there are advantages of private practice in regards to providing wider treatment options to patients requiring special care: “*There are some services that we can offer in private practice that you can’t do through the hospital. I mean we’ve got soft tissue lasers and all the fancy stuff, sometimes you know we get a call from the hospital, ‘oh can you do something for so and so and we say yes send them down’.*” [P6]

4.3.2.4 Recommendations

In the current New Zealand dental workforce, there are only a small number of registered Special Care Dental Specialists. The participants admitted that public oral health services need the support of private practitioners providing accessible dental care for patients requiring special care. However, general dentists should be trained to provide care confidently for some patients requiring special care, as one participant recommended:

“I think they (general dentists) have to see Special Care patients. I mean you hit the nail on the head, you said that there are only nine currently practicing specialists in New Zealand, I don’t think you need to have a specialist care (for all Special Care patients), you need a very competent generalist to look after it and it’s only the higher end patients that you require the specialist.” [P2]

Patients requiring special care usually present to clinicians with a broad spectrum of conditions, with a range of severity and challenges. However, many participants stated that those with milder medical conditions could be easily managed in a private practice setting and should be encouraged. Gallagher and Fiske (2007) recommended

a similar proposal that the majority of patients requiring special care could potentially be seen and treated in private practice, as one participant concurred: “*Ninety-nine per cent of the time, for example, Special Care patients like Down’s syndrome patients are very accessible. They’re lovely patients. They’re very calm. They’re lovely patients to treat and you can treat them.*” [P4] Interestingly, a participant commented that well-established dentists and perhaps older dentists might be interested in providing Special Care Dentistry late in their career: “*I’ve talked to people that are well retired now, but they were in private and they started treating Special Care patients later in their career and they said it was incredibly satisfying with these clientele.*” [P10] This comment reflected the desire to treat patients requiring special care in some general practitioners—albeit mostly from older dental practitioners. This notion is supported by a study where they found older experienced dentists were more likely to treat patients with special needs (Casamassimo et al. 2004). Although their findings failed to provide evidence explaining this phenomenon, they postulated that older dentists are well established financially and have less concern of financial pressure in the later stages of their career. Older practitioners may have resolved their debts while younger practitioners may have commitments to various financial expenses and mortgages, as the participant remarked: “*I suppose at that stage they may not have needed the money anymore and they were looking for other areas (of interest). A bit bored with general dentistry possibly, which a lot of dentists are.*” [P10]

Participants believed one of their responsibilities as specialists is to advocate and disseminate continuous education for general dentists in aspects of medical knowledge and Special Care Dentistry. One participant commented: “*I think the other big thing to do is you need a core of specialists to keep up-to-date what’s happening internationally so that they can disseminate that knowledge back through the general practice community.*” [P2] Generally, the participants were supportive of general dentists treating patients requiring special care. Participants believed continual collegial support would help general dentists to be more confident and comfortable seeing patients requiring special care. It would also help foster Special Care Dentistry and improve collegiality within the dental community, as one participant welcomed the notion:

“If a general dentist has the will and the interest and the desire to provide oral health care for someone with a mild to moderate disability, that’s fantastic. And if they would like some support or advice then they should feel that they’re very welcome to ask for that.” [P8]

4.3.2.5 Conclusion

The perception of general dentists in Special Care Dentistry has been substantially studied. This current study provided a unique insight into the views of those who primarily practise Special Care Dentistry and their impression of private dentists in the context of Special Care Dentistry. Disturbingly (although not surprisingly), the overall impression was negative. The quality of collegial interactions between those who work in public practice and private practice was questioned, particularly in regards to patient referral pathways. Most felt their colleagues in private practice, for various reasons, were poor at referring with appropriate information. More importantly, many perceived that private practitioners did not understand referral criteria and the role of hospital dental services. Nonetheless, some pointed out that private practitioners might not have access to sufficient medical information.

The fee-for-service business model and isolating environment of private practice did not encourage collaborative practice or effective communication with their medical peers. Unfortunately, most felt general dentists are not only reluctant to treat patients requiring special care but attitudes of general dentists towards patients requiring special care were unfavourable. The barriers to care for patients requiring special care in private practice were obvious; most pointed out the main barriers were the factors of time constraints, financial limitations, and insufficient knowledge in Special Care Dentistry. These barriers are not unprecedented and have been well reported in the last two decades (Ferguson et al. 1991). The financial burden of providing (and receiving) dental care perhaps reveals a deeper fundamental issue in how oral health care is delivered in New Zealand, particularly for those who are socially vulnerable. Despite the mentioned hurdles, it was broadly agreed that private practice might not be conducive to the practice of Special Care Dentistry, with reasons such as the

unpredictability nature of some Special Care patient groups and accessibility infrastructure that is lacking in some private practices.

Nonetheless, participants encouraged their colleagues to treat patients requiring special care and welcomed their colleagues to seek support and advice. Underscoring the ethos of Special Care Dentistry, the participants emphasised the importance of having an empathetic and caring personality towards patients requiring special care.

4.4 Special Care Dentistry Issues in New Zealand

4.4.1 Education of Special Care Dentistry in New Zealand

The education of Special Care Dentistry in New Zealand is mostly taught as a postgraduate programme. It is a 3-year doctorate level postgraduate course in the Faculty of Dentistry at the University of Otago³⁸. It can be pursued either as a full-time postgraduate trainee or by distance learning with modular block courses. The Special Care Dentistry component in the undergraduate dental curriculum, however, is presumed to be extremely limited, if any.

Part of this study is to explore the participants' understanding and the perception of the current education of Special Care Dentistry, which includes both postgraduate and undergraduate degrees. Participants are well and truly aware of the challenges of the training programme in New Zealand. The pathway of training in Special Care Dentistry in New Zealand is perceived to be rather limited and can only be attained through the Faculty of Dentistry at the University of Otago. Several participants highlighted that Special Care Dentistry should not only be limited to a postgraduate course but also should be instilled in the undergraduate programme for early exposure to Special Care Dentistry. There were some concerns about the academic position of Special Care Dentistry, which during the time of this study; remained vacant. This chapter will illustrate the findings and discuss on the education of Special Care Dentistry and it is divided into three subsections: Undergraduate, Postgraduate, and the Academic Position.

4.4.1.1 Undergraduate Education in Special Care Dentistry

In New Zealand, the undergraduate dental curriculum is a five-year course. During these years, the undergraduate students are trained in all aspects of general dentistry before completing the bachelor degree. Upon graduating, most new graduates would either seek employment in private practice or work as a dental house surgeon in DHB

³⁸ Information obtained from <http://www.otago.ac.nz/courses/qualifications/dclindent.html>. Accessed on the 10th of June 2017.

hospitals. Other graduates would travel overseas or return to their country of origin to work.

When participants were asked about their opinions of the undergraduate dental programme, there were mixed responses in various aspects, especially in Special Care Dentistry. The main theme that arose among the participants with regards to the undergraduate course was the limited clinical exposure and teaching of Special Care Dentistry (Table 3). However, this is not surprising; the literature has shown consistent reports around the world where they have limited education on Special Care Dentistry and the clinical exposure in their undergraduate programmes (Ahmad et al. 2015; Ashar and Ahmad 2014; Dao et al. 2005; Derbi and Borromeo 2016). Several participants were rather critical of the current undergraduate course in regards to the Special Care Dentistry component, while expressing the need to be included in the undergraduate course:

“There is no undergraduate course for Special Care Dentistry. So, nobody knows what it is because they don’t get taught about it. They don’t have any exposure to it. That’s a whole generation of dentists. We need an undergraduate component (of Special Care Dentistry).” [P8]

Table 3 Participants perceived barriers to teaching Special Care Dentistry in the undergraduate dental programme.

Themes	Quotations
Understanding of Disability	<i>“I think it’s just that they need to develop a slightly better understanding of disability.”</i> [P5]
Minimal exposure of Special Care Dentistry	<i>“I think I doubt you’d get much as an undergraduate.”</i> [P3]
	<i>“My understanding having spoken to House Surgeons is that Special Care Dentistry teaching is extremely limited.”</i> [P8]
	<i>“In fact, there is an absence of it (Special Care Dentistry).”</i> [P4]
Teaching barriers	<i>“Special Care Dentistry is undervalued in some aspect. There is no one actively teaching Special Care Dentistry.”</i> [P1]

4.4.1.1 Limited Understanding of Disability

The lack of awareness and the understanding of disability among recent graduates was a concern for most participants. Several participants commented that the current undergraduate programme does not teach the principles of contemporary biopsychosocial views of disability—the ICF³⁹. It was apparent to the participants that the new graduates who work as dental house surgeons in their dental department have limited understanding of disability. Based on their observation of the new graduates, the medical model of disability is still evidently taught within the curriculum of the undergraduate dental programme, as one remarked:

“It doesn’t explore the social model of health or an understanding at all. It’s very medically based and functional based rather than questioning and developing sort of broader thinking about the issues related to the access to care for people with disability. They can’t even define what disability is.” [P8]

Although World Health Organisation introduced the ICF in 2001, there is limited evidence of ICF being taught in the undergraduate dental programme (Faulks et al. 2012). Faulks and her colleagues reported that Special Care Dentistry is still not predominantly taught in the undergraduate programme around the world, let alone teaching the concepts of ICF. There has been a recent establishment of an undergraduate teaching curriculum framework that incorporated the concept of ICF as part of the philosophy of Special Care Dentistry (Dougall et al. 2012). However, the utilisation of this framework has yet to be seen being integrated into the current undergraduate curriculum.

It was understood that the new graduates may have the sound knowledge of medical conditions but could not apply the understanding of disability into the context of the everyday practice of dentistry. One participant illustrated by giving an example of a patient with autism, whereby the dentist had a misconception that all special needs patients are ‘suffering’ from their condition:

³⁹ The ICF is previously discussed in Chapter 4.2.

“They’ll refer the patient to you and, says this patient ‘suffers’ from Autism and you’re sitting there thinking, well there’s probably no suffering going on. You’ll get comments about patients who have special needs as in ‘Oh yeah you know, it must be really horrible for these patients because they have to live like that all the time’. Well they don’t actually know that they’ve got some kind of disability, they’re probably not suffering and having a fantastic day most of the time.” [P5]

Interestingly, this notion is supported by various studies that investigated the experiences of students with their patients with disabilities (Lee et al. 2015a; Vainio et al. 2011). These studies postulated their dental students were reluctant to treat patients requiring special care because of the lack of understanding of disabilities. An American study surveyed about 300 students in five different dental schools, exploring their clinical readiness and attitudes towards patients with intellectual disabilities (Wolff et al. 2004). They reported that 68% of the respondents receive less than 5 hours of didactic teaching and a little over half of them did not receive any clinical training in managing the mentioned patients. The authors reported that the dental students with little exposure to patients requiring special care did not value their education on disabilities, resulting no interest in treating patients requiring special care. However, the authors stated that the converse is true; students who reported that they had some experience with patients with intellectual disabilities felt more comfortable with these patients. These findings indicated that exposure to Special Care Dentistry and its patients correlated to improvement in understanding of disabilities and the willingness to treat patients requiring special care.

4.4.1.1.2 Minimal Exposure and Teaching of Special Care Dentistry

When the participants were asked about the exposure of Special Care Dentistry in the undergraduate programme, the consensus among the participants is that the exposure is minimal at best, as one commented: *“Both in didactic teaching and in experience and teaching of the concept of what Special Needs (Care) Dentistry is very limited.”* [P8] With further inquiry, it was indicated that in the Dental School, patients requiring special care are seen separately from the general teaching clinics where the dental students see their patients. Most patients requiring special care in the Dental School

are treated in the Special Care Unit. Participants felt that this arrangement is not conducive to exposing dental students to Special Care Dentistry, as one critically remarked:

"I mean you don't really treat any Special Care patients as an undergraduate. So it's like we're still locking away a dirty little secret sort of thing. You know they get treated downstairs in a little room by a 'special' person." [P5]⁴⁰

This lack of integration into the undergraduate curriculum not only creates barriers to the exposure to Special Care Dentistry but also may inadvertently give the impression that Special Care Dentistry is a specialist practice only—that it is not part of their scope of practice. A similar notion was also reported by Mohebbi and colleagues (2014), where their participants believed so. Moreover, they reported that the undergraduate students assumed that patients requiring special care could only be seen in a hospital setting, reinforcing the belief in dental students that Special Care Dentistry is not in their scope of practice and therefore saw no reason for them to learn or even be vaguely interested in Special Care Dentistry.

Most felt that the overall undergraduate course was well taught except for the components of Special Care Dentistry. The participants admitted that their own undergraduate training had little input on Special Care Dentistry, regardless of when they graduated. Given the spectrum of years since they have graduated, this notion would strongly suggest that the emphasis of Special Care Dentistry in the undergraduate course remained the same—that is essentially lacking. Various studies reflected this same notion where dental students perceived that their undergraduate courses lacked Special Care Dentistry teaching (Ahmad et al. 2014; Ahmad et al. 2015; Alkahtani et al. 2014; Fuad et al. 2015; Mac Giolla Phadraig et al. 2015). Ahmad and colleagues (2015) investigated Malaysian students' perception of Special Care Dentistry in their undergraduate education in six different dental schools. They found that despite having Special Care Dentistry being taught in most Universities,

⁴⁰ Interestingly, this is somewhat reflective of the historical institutionalisation of people with special needs, who were once segregated from the main communities.

half of the respondents reported that they did not have sufficient teaching. It was also worth noting that almost all of the students felt that didactic teaching of Special Care Dentistry is essential while more than half felt that clinical teaching is important as well. Interestingly, nearly two-thirds of the respondents expressed interest in pursuing postgraduate Special Care Dentistry training. Given the lack of exposure to Special Care Dentistry, this study would have been more worthwhile if the reasons of interest in postgraduate training of Special Care dentistry were explored. It can be broadly acknowledged that both components of didactic teaching and clinical experiences are essential for the teaching of Special Care Dentistry (Ahmad et al. 2014; Ahmad et al. 2015; Mac Giolla Phadraig et al. 2015; Smith et al. 2006).

Some participants made the notion that the perceived lack of Special Care Dentistry teaching could impact on how general dentists practise in their career, especially in the aspects of treating patients requiring special care. Several existing studies reported similar findings (Al-Haboubi et al. 2014; Bindal et al. 2015; Derbi and Borromeo 2016; Estrella and Boynton 2010; Gizani et al. 2012; Humza Bin Saeed et al. 2012; Morgan et al. 2016; Subar et al. 2012). A study involving American general dentists investigated the effects of their undergraduate dental education in Special Care Dentistry in regards to their practicing behaviours towards patients requiring special care (Dao et al. 2005). Although most reported insufficiencies of Special Care Dentistry education in their undergraduate training, the authors concluded that dentists would have been more likely to treat patients requiring special care, if their undergraduate training had prepared them better in Special Care Dentistry. Interestingly, they also reported that most respondents had to rely on their (limited) undergraduate knowledge of Special Care Dentistry when treating patients requiring special care (Dao et al. 2005). This further suggests that some general dentists may not seek additional education on Special Care Dentistry after they graduate. These notions further reinforce the importance of integrating Special Care Dentistry in undergraduate curriculum. Supported by the evidence in the literature, it could be agreed that the undergraduate teaching of Special Care Dentistry could potentially translate dental students into practising dentists who are more confident and comfortable treating patients requiring special care.

4.4.1.1.3 Teaching Barriers of Special Care Dentistry in Undergraduate Dentistry

The Faculty of Dentistry in Dunedin is the only dental school in New Zealand and has its own unique merits and shortcomings pertaining to the dental students' training experience. The Dental School's patient base is dependent on the population of Dunedin and its surrounding Otago provincial population. Several participants remarked that this is one of the main limitations of the Dental School in Dunedin. They believed this limited the variety of clinical experiences of the undergraduate students (and postgraduate trainees) with the population of Dunedin being significantly smaller when compared to larger cities such as Auckland, as one participant criticised:

"I think the undergraduate course is very, very fragile. I think it's almost seems to me like final year is almost a waste of time. Clinical experience is minimum...there's not a lot of clinics available in Dunedin. There's not a lot of patients and I think the exposure they get with clinical dentistry is minimal." [P4]

The undergraduate dental programme in the Dental School is taught through various forms including didactic teaching, problem-based learning, and clinical training. However, one participant commented that the curriculum had too much emphasis on theoretical knowledge and was not sufficiently varied in clinical experience:

"I have wondered over the years if the theory might be a bit too much or because when you come out, its a hands on job and Dunedin being a small city I just wonder about the (limited) practical experience that you guys might get." [P10]

In addition, one participant implied that there is an overemphasis in teaching 'idealistic' technical dental skills: "*We get taught how to do the perfect cavity and the perfect filling and the perfect this and that.*" [P5] Certainly, teaching the basis of technical skills is essential to operative dentistry. However, this may not be applicable in teaching Special Care Dentistry. The concept of Special Care Dentistry differs from other disciplines of dentistry; it does not utilise a specific technical skill of dentistry.

As described by participants, it is rather a dental discipline that is able to “*draw all the different components of dentistry into a focus and apply to a patient that require special needs.*” [P7] It was largely perceived that dental students are not taught to consider the overall management of a patient and how it is applied in the context of Special Care Dentistry. This sentiment seems to echo on the previous remarks about how some general practitioners do not consider a patient as a whole patient but rather as “*teeth attached to a patient.*” [P2]

Despite the participants’ emphasis on the integration of Special Care Dentistry components into the undergraduate programme, they acknowledged the challenges of implementing it. Most felt that the current programme is already inundated by various disciplines of dentistry, leaving little room for the teaching of Special Care Dentistry: “*I don’t think you can have enough room (Special Care Dentistry). There’s so much pressure, time and space at dental schools these days because dental technology’s changing, the nature of dentistry is changing, the nature of the patients is constantly changing.*” [P7]

There was also a belief from the participants that some clinical tutors at the Dental School might be reluctant to treat a Special Care patient or supervise a student clinic with patients requiring special care: “*Some clinical tutors at the Dental School would say the patient is not suitable for the student clinic, it’s out of my scope of practice.*” [P9] Clinical tutors are usually required to simultaneously supervise several students in the student clinics, which in its own right, is demanding. It is also important to underline the nature of Special Care Dentistry in a clinical teaching context. As mentioned in previous chapters, Special Care Dentistry focuses on the wellbeing and the overall management of the patient while providing oral care for the patient. In addition, patients requiring special care often require extra time and assistance for their dental treatment, and can be challenging to treat. The broad spectrum of patients requiring special care should be acknowledged and taken into consideration when teaching Special Care Dentistry. The aspects of time, medical conditions, behavioural management, and requiring additional staff support would certainly complicate the treatment of a Special Care patient, let alone the teaching of Special Care Dentistry.

With these difficulties in mind, one can conclude why patients requiring special care are not seen in these student clinics. In the context of teaching Special Care Dentistry, clinical tutors need to be mindful of appropriate case selection for undergraduate students to gain experience favourably. On a different perspective, there were also anecdotes that suggested that the teaching of clinical tutors are not standardised, resulting in some students given the notion that the learning common medical conditions was unnecessary:

“I had this student come to me and told me that a clinical tutor said that she doesn’t need to know all that medical stuff because she might only see one patient with diabetes in a year. She was just really upset, having mixed messages and asking why are they learning medical stuff when it does not matter?” [P9]

Although this notion reflected some possible inconsistencies in the teaching standards of clinical tutors, it is noteworthy to point out that not all clinical tutors are academic Faculty staff of the Dental School. In fact, the local private dental practitioners and postgraduate trainees provide a significant portion of undergraduate clinical teaching in the Dental School. Unfortunately, the limited teaching of Special Care Dentistry in the undergraduate clinics suggested that it remained undervalued, but more disturbingly (and maybe more accurately), it also suggested that there is widespread lack of understanding or practice of Special Care Dentistry among teaching staff.

4.4.1.1.4 Special Care Dentistry in Dental House Surgeon Roles

Dental graduates in New Zealand enter the dental workforce through either working in a private practice or working as a dental house surgeon in DHB hospitals. As mentioned in previous chapters, the working experience of dental house surgeons is unique and often quite diverse in comparison to private practice. However, most of their employment contracts are limited to two years.

Most participants in this study work in DHB hospital settings and they were once dental house surgeons themselves. It is also interesting to note that the participants

have consistent exposure to new dental graduates as dental house surgeons. Conversely, participants have limited interactions with new graduates who are working in private practice. Thus, their views of new graduates may only be limited to dental house surgeons and not representative of other new graduates in private practice.

Patients requiring special care often require long-term care from their health care providers including dental clinicians. Some participants felt that the regular two-year turnover of dental house surgeons is not conducive for consistent oral health care for these patients. One participant believed that new graduates do not have the clinical experience to manage patients requiring special care but they are often obligated to treat these patients as part of their house surgeon role:

“I think there’s a real good bunch of students that are coming out of the Dental School at the moment and they have fantastic intentions. But as soon as they look at something that looks medically complicated or if the patient is frail, elderly or has slightly challenging behaviour, they tend to say ‘I wasn’t taught how to do this and therefore I can’t.’” [P8]

Certain types of patients requiring special care require good rapport and trust to allow clinicians to provide care and treatment for them. The limited employment contract of two years does not promote consistent care for these patients, as the same participant [P8] continued to illustrate:

“But dental house surgeons can’t really do much so for continuing care for adults with special needs. They are poor at that because they don’t have the experience. So, your adult with Autism, it’s not fair to give them to a first-year house surgeon every year. They need to develop a relationship with somebody who they’re going to see and their carers are going to see for a long time and so that’s the group of patients that we now have identified to be seen by dentists rather than, rather than house surgeons.” [P8]

The same participant [P8] further empathised with the challenges of a dental house surgeon, where she illustrated an example of a radiotherapy patient that may not be suitable for dental house surgeons:

“That’s a five to ten-year responsibility and again that’s not for house surgeons. So the house surgeon role is, I think, over (the years), they have been treated as a dumping ground. They’ve been outside their comfort zone with really complicated patients and also sometimes a poorer quality of care or care that is not necessarily in that patient’s best interests when there hasn’t been a continuity of care.” [P8]

Being thrown into the ‘deep end’ of clinical situations as such would be very unlikely to entice dental house surgeons to enjoy and have a positive experience in Special Care Dentistry. This may contribute to the lack of interest and numbers of dental house surgeons pursuing a career in Special Care Dentistry despite their experience (Kim and Antoun 2010). However, this presented a somewhat paradoxical phenomenon in respect of the role of a dental house surgeon, as most participants were once dental house surgeons themselves and attributed their interest in Special Care Dentistry to their early exposure during their house surgeon years. Notwithstanding the participants’ reservation of dental house surgeons treating patients requiring special care, this unique dental house surgeon work experience could potentially inspire some to follow the footsteps of their Special Care Dental consultants.

Interestingly, despite the limitations, there were some positive comments regarding the dental house surgeon experience. From their own experience, one participant believed that it has helped them to cope better with patients requiring special care because they were regularly exposed to patients who require special needs:

“When I was a house officer, I was a bit afraid of disabled people, I didn’t know how to manage them...they scared me but now I don’t know what I was afraid of. House surgeon job helps you choose to work with the Special Care patients, it did sort of help you not just become more confident but comfortable as well.” [P3]

On a positive note, some participants commented that the recent graduates in their workplaces have commendable qualities, that they are knowledgeable and have respectable work ethics. This reflected the quality of teaching and perhaps the selection process of dental students when they entered the undergraduate dental programme, as one participant remarked:

"I think one of the things which really pleases me about it is we've got a very high quality of graduates coming through, not just academically but they want to learn, they've got an ethos of hard work... I'm really impressed with the people coming through, they were a good bunch and I think that's reflected by the fact that a lot of them go on and specialise and if not, they end up very successful in private practice."

[P2]

4.4.1.1.5 Recommendations

Exposure- Integration of Special Care Dentistry in Undergraduate

All participants firmly believed that Special Care Dentistry components should be integrated or at least has the same emphasis on other disciplines of dentistry in the undergraduate programme (Table 4). One participant strongly recommended undergraduates to have an early exposure to Special Care Dentistry through didactic teaching and clinical exposure: "*It's not the moment that you graduate and suddenly you start seeing all these people (with special needs). You need to have the exposure to them as an undergraduate.*" [P7] The participants also felt that by exposing the undergraduates to Special Care Dentistry, the future dentists would have a different approach to patients who require special needs. The same participant [P7] believed that the workforce would have dentists who might be more comfortable in treating patients requiring special care but also holistically approach these patients and perhaps exercise more positive attitude towards them:

"I think if you want to change the attitudes of general practitioners to Special Care Dentistry, it is not so much knowledge. It's the comfort level and you only become

more comfortable looking after people with special needs by actually seeing them and treating them right from the beginning (in undergraduate). ” [P7]

Previously cited, Faulks et al (2012) proposed education in Special Care Dentistry as a possible solution to improve access to oral health care for patients with special needs. The authors postulated that improved exposure and training of dental students in Special Care Dentistry would not only increase the likelihood of dentists treating patients requiring special care but might encourage specialisation. Notwithstanding of the demands of the undergraduate programme, participants proposed that some components of Special Care Dentistry could be taught in the context of other disciplines of dentistry, especially in regards to providing care for those with disabilities or medical conditions.

Education and Teaching

When asked how Special Care Dentistry should be taught, participants recommended that it should be taught in a modular block course in which students are exposed to Special Care Dentistry for a length of time in various locales that provide Special Care Dentistry, as one participant recommended: “*Undergraduate curriculum with Special Care Dentistry component should be taught in a modular way. It should be small groups. It should be taking them outside the lecture theatre and away from the dental clinics.*” [P8] One participant proposed that the duration of the block course of Special Care Dentistry should be longer: “*It helps if there’s a block course, not just one day a week but you’re there for four weeks in Special care (which is) much more effective than dribs and drabs.*” [P7] The current undergraduate dental course has a 5-week outreach programme that allows the final year dental students visit private practices and hospital dental units to gain clinical experience. However, participants proposed that the exposure to different health care sectors would encourage dental students to understand the broader aspects of health, especially concerning access to care for vulnerable populations. When compared to the undergraduate medical course, one participant highlighted that the medical curriculum has a wider variety of outreach programmes including rural/provincial areas and residential rest homes:

“Well, actually even the medical students spend time working in rest homes. You know, it’s actually seeing how oral and health sits in with general health. It’s looking at barriers to care in a practical and pragmatic way. It is putting yourselves outside your comfort zone and challenging your prejudice.” [P8]

Others proposed that the Dental School and DHBs should have a mutual agreement to provide clinical experience for dental students. In fact, the current undergraduate curriculum does provide opportunities for final year dental students to visit a DHB hospital for a week during their mid-year semester break. However, these brief hospital experience programmes are relatively unstructured and are not exclusive for Special Care Dentistry. This arrangement however, has limited number of placements and it is not mandatory for all students to participate.

Communication

In previous chapters, the participants indicated that some general dental practitioners are not efficient at communicating with the hospital dental departments and their medical colleagues. The participants recommended that the undergraduate students should be taught how to collaborate with their professional peers, as it would foster collegiality and enhance their understanding of how oral health relates to general health. One participant believed that it would promote opportunities for collaborative care between medical and dental professionals:

“They should be looking at how they communicate, how they feel inside and out in terms of communication with others. Where are your limits as a practitioner because there’s such a cross section of disability? With good communication, there’s no reason why some of the patients can’t be treated out there under the specialist guidance. I just think that there needs to be a little bit more of an awareness of communication at the undergraduate level.” [P8]

Table 4 Participants recommendations for the undergraduate dental programme.

Recommendations	Quotations
Exposure in undergraduate	<i>"If you're exposed to special care and special needs dentistry in your undergraduate degree, you are more than likely to be comfortable with seeing those patients in your practice" [P7]</i>
Education and teaching	<i>"I think we just really need to spend a little bit more time focusing on teaching our undergrads a little bit more about special needs and geriodontology and the kind of things that they're likely to be actually heading into." [P5]</i>
Communication	<i>"Teach them how to start to just communicate a little bit more with their local specialists about whether or not these patients are someone that they could treat in their practice." [P8]</i>
Collegial Support	<i>"The new graduates also need to know that we'll back them up in the hospital."</i> [P10]

Collegial Support for New Graduates

Several participants agreed that new graduates should be made aware of the collegial support that is available to them from the dental community, especially dental specialists. Even more importantly, in regards to Special Care Dentistry, the new graduates should be well supported by their local experienced dental colleagues. One participant highlighted that they should be positively encouraged rather than criticised for their inexperience: “*The kind of support shouldn’t be like ‘oh, John the new dentist down the road had another go at one of those bleeding patients’ but really we should’ve saying, ‘good job, he had a go at that but we’ll manage them haematologically until they’re stable.*” [P11] One participant also recommended new graduates should be aware of their own limitations and be comfortable of seeking others for support when they are treating patients requiring special care: “*You need to have a comfort zone when you’re treating the people, you need to know that you’ve also got backup if you’re not able to manage something. You need to know your own abilities as to what you can do and when to refer.*” [P7] However, this is dependent on the availability of a Special Care Dentist within their region, which is currently rather limited in New Zealand.

4.4.1.1.6 Conclusion

The undergraduate programme trains dental students to achieve competency in all aspects of dentistry before graduating in the scope of general dentistry. The high calibre of recent graduates underscored the quality of the current undergraduate course at the Faculty of Dentistry, particularly in clinical knowledge and evidence-based practice. However, this study also suggested the much-needed emphasis of Special Care Dentistry in the undergraduate programme. It was highlighted that there was little or no teaching of Special Care Dentistry or exposure to patients requiring special care, which in turn limited the understanding of disability among dental students. However, it was acknowledged that teaching undergraduates students Special Care Dentistry is not easy. Within the confines of the intensive 5-year undergraduate programme, there is little leeway for the components of Special Care Dentistry to be incorporated and taught. The overemphasis of theoretical knowledge was a cause for concern while most acknowledged the spectrum of clinical experience is limited at the Faculty of Dentistry due to its surrounding population structure.

Interestingly, the findings in this study suggested that the teaching staff in the Dental School might have limited exposure to Special Care Dentistry themselves. As a result, it reflected the lack of teaching of Special Care Dentistry in the undergraduate programme.

4.4.1.2 Postgraduate Education in Special Care Dentistry

In this study, the participants were also asked about their perception of the postgraduate Special Care Dentistry programme at the Faculty of Dentistry. Interestingly, most of them admitted that they have limited understanding of the current postgraduate curriculum, with the exception of two participants, who graduated less than seven years ago. Others either trained overseas or attained their specialist qualification more than a decade ago. However, several participants eagerly provided their perspective and recommendations to certain aspects of the postgraduate course such as distance learning, adoptive teaching, and curriculum.

4.4.1.2.1 Distance learning

Several participants recommended distance learning, whereby the postgraduate trainee continues to remain employed (preferably in a DHB hospital) while gaining their clinical experience. It is important to note that the participants who attained their specialist qualification from the University of Otago trained through distance learning. One participant remarked that they gained better clinical experience from working at DHB hospitals than at the Faculty of Dentistry:

“The programme does lack a bit of clinical (experience). I guess purely because Dunedin is a smaller town, city and the kind of patients that you see in Special Needs is very broad. In Dunedin, you probably only seeing certain group type of patients, which in a way was part of the reason why I left, or I had the ability or I was granted permission to leave in my final year.” [P1]

There are obvious advantages in working in a DHB while training: (1) as mentioned, clinical experience in DHB hospitals potentially could be more varied whilst, being able to integrate with other health care services provides a unique learning experience; (2) trainees remain employed and are able to maintain their livelihood and mitigate the cost of tuition. In addition, a continuity of care for their patients could be sustained. However, distance learning has its negative drawbacks. Trainees would have to travel to Dunedin from time to time for their block courses, which would incur an extra cost of transport and accommodation, along with travelling time.

Trainees would also have to plan for leave from their work place and their family. Anecdotally, one specialist allegedly exhausted their annual leave each year for their training, leaving little or no remaining leave for leisure. Additionally, patients seen at the Dental School may not be seen in a timely fashion and most likely would not receive consistent care (as they may be treated by another trainee or staff). Postgraduate trainees being off-site from the Dental School might not encourage collegiality and support from their fellow postgraduate colleagues, and their clinical and research supervisors in Dunedin.

4.4.1.2.2 Adoptive Teaching

As mentioned in previous sections, Special Care Dentistry is not a technically focused discipline of dentistry. In respect to the current circumstances in the Faculty of Dentistry⁴¹, certain aspects of Special Care Dentistry education have been adopted by other disciplines to compensate the comprehensive curriculum that is required. For example, Special Care Dentistry can be taught with other disciplines of dentistry such as Oral Surgery and Oral Medicine. Acknowledging the challenges in teaching Special Care Dentistry, one participant gave an example of multidisciplinary teaching modules to teach a range of dental disciplines using a single case scenario:

“Teaching Special Care within the confines and constraints of a busy University course is not easy and as I said before, there are a number of elements that are already taught within the other disciplines and so perhaps it’s requirement for curriculum committee to sit down and say ok ‘let’s not duplicate teaching’. So, you don’t necessarily need to teach Oral Surgery to take teeth out of a demented 84-year-old lady, but there will be things that you might do from a Special Care point of view in terms of patient management. So, I think there’s economies that could be made.”

[P7]

Participants also believed that there are other alternatives to teaching Special Care Dentistry. Recognising that the DHB dental department units have different patient

⁴¹Currently, there is no registered Special Care Dental Specialist employed in the Faculty of Dentistry.

groups and service priorities, it could be utilised to provide the postgraduate trainees with a wider range of clinical experiences by visiting diverse teaching sites:

"It's such a big area (in reference to Special Care Dentistry). I mean New Zealand has established Hospital Dentistry through the different DHB's. I think it's a shame that the University not acting in this opportunity to work closely with each DHB and to train potential future Special Needs Specialists through different DHBs. So there is a wide range of clinical exposure in different DHBs. I think that the Universities should look at that." [P1]

Every DHB has different patient priorities, depending on the region's population profile, which in turn determines the variety of oral health services being delivered. Several participants who were trained through distance learning appreciated the value of their comprehensive experience in DHB hospitals but also recognised the challenges and logistics of accommodating a postgraduate trainee (or trainees) in their DHB. It would require careful planning and effective liaison with the Faculty of Dentistry. It was also emphasised that a Special Care Dental Specialist should be leading and coordinating the teaching curriculum:

"Ideally, it would be good to have someone in Otago in charge of the course but it needs to be a Special Needs specialist most definitely. I think it would work because Special Needs involves so many disciplines and involves your DHB set up as well. It involves theatre, and it involves community work etc. I'm not sure whether just sitting in a department in Otago really meets and fits the bill (in regards to Special Care Dentistry training)." [P4]

4.4.1.2.3 Quality of Teaching

The scope of Special Care Dentistry is broad, often involving all aspects of dentistry while considering the wide medical and the psychosocial dimensions of a patient to deliver appropriate oral health care. With that in mind, teaching Special Care Dentistry can be challenging due to its comprehensiveness. However, participants

believed that the quality of teaching is to be reflected in the delivery of clinical teaching, allowing trainees to experience a varied range of challenging case scenarios:

“So the training, the teaching staff and supervisors should be making sure that the trainee has a variety of cases. From relatively simple and straight forward that they can do pretty well with minimal supervision all the way through to one of two or a few complex cases that the trainee needs more assistance with, but there needs to be a blend all the way through.” [P7]

The same participant [P7] admitted that the postgraduate course has its own limitations due to the length of the course. However, it was proposed that the course should at least furnish a wide infrastructure of teachings and clinical experience of Special Care Dentistry, in anticipation to provide a framework for continual learning after specialisation:

I think that there's also a limit in what you can learn in a few years so people are going to be exposed to a wide variety of things and they should have the knowledge to know when to call for help, when to refer, what their limitations are. That knowledge should be sound enough that they can build further experience because it's the practice of dentistry...you don't come out of dental school being an instant expert in anything and same I think goes for Special Care Dentistry.” [P7]

The same participant also pointed out that there is a published standardised Special Care Dentistry curriculum that can be utilised by teaching institutions as a framework for teaching postgraduate Special Care Dentistry (Dougall et al. 2014a). The participants indicated there is a network of support among specialist societies that could provide guidance on improving the education of Special Care Dentistry: *“There's quite a bit of collegiality within the practitioners and people quite willing to share ideas so I think that's important. There are resources all over the world that can be drawn.”* [P8] Although this international teaching framework is applicable in the formation of a Special Care Dentistry training programme, the foundation principles of Treaty of Waitangi must be considered and applied in the development

of the Special Care Dentistry programme and acknowledge the cultural context of New Zealand. The development of the Special Care Dentistry programme must consider the full participation and partnership of Maori communities to ensure the equity of access to education and oral health care services for those who require it⁴².

4.4.1.2.4 Conclusion

It was noteworthy that most of the participants have either little to say or strong opinions regarding the postgraduate programme. Their responses were somewhat unexpected although it could also imply the specialists have little or no involvement in the formation of the teaching structure and curriculum of Special Care Dentistry. Perhaps this also indirectly reflected their varied training pathways, which could explain why only some of the participants (particularly those who trained in New Zealand) were more willingly to provide their insights and their experience on the postgraduate programme.

However, most participants agreed that training through distance learning seems to be the appropriate training pathway in Special Care Dentistry in New Zealand. Most believed that DHBs could provide a better variety of clinical experience than at the Faculty of Dentistry, albeit it was implied at DHBs in larger city centres. Furthermore, there is the advantage of remaining employed, allowing trainees to alleviate the cost of their training. However, it was emphasised that there were additional cost and logistical challenges such as travelling and scheduling time for block courses.

Notwithstanding the comprehensiveness of Special Care Dentistry, many suggested that it could be taught in conjunction with other disciplines of Dentistry but in the context of Special Care Dentistry. There were also suggestions of utilising DHB hospitals as learning sites for postgraduate trainees, where they can be seconded to different DHBs for the variety of clinical exposure. However, a mutual memorandum of understanding must be established between the DHBs and the Faculty of Dentistry

⁴² <http://www.health.govt.nz/our-work/populations/maori-health/he-korowai-oranga/strengthening-he-korowai-oranga/treaty-waitangi-principles>. Accessed on the 1st of November 2017.

to accommodate postgraduate trainees. Concerns over the quality of teaching in the Dental School were raised. Participants also admitted that there were teaching challenges due to the confines of the course.

Most participants emphasised that Special Care Dentistry postgraduates should be experiencing comprehensive and varied clinical case scenarios to learn from, which would provide a framework for comprehensive learning of Special Care Dentistry.

4.4.1.3 The Academic Position

Currently, there is an employment opportunity for an academic Special Care Dentistry position in the Faculty of Dentistry at the University of Otago. One of the areas of interest in this study was to explore the participants' view and their interest in the academic career. The participants' consensus suggested that there seem to be a degree of reluctance towards the position and they weighed in their perception of the academic role. This section is discussed in two parts: (1), qualities of a Special Care Dentist in academia; and (2), the barriers to an academic career in Special Care Dentistry.

4.4.1.3.1 Qualities of an Academic Special Care Dentist

Specialist Experience and Qualification

When the participants were asked about the qualities of what an academic Special Care Dentist should have, the participants expressed that the person should have relevant qualifications and teaching experience, and have appropriate qualities and personalities to teach (Table 5). Participants emphasised that the individual should be a specialist in Special Care Dentistry and is recognised by the DCNZ. It was crucial to have the appropriate postgraduate training and a good grasp of the teaching curriculum of Special Care Dentistry, as one suggested:

"They should have a specialist in the speciality doing the training or at least having some role within the training and coordinating it. I think that there should be someone with a Special Needs Dentistry specialisation recognised by the Dental Council leading and developing the programme." [P8]

Although most acknowledged that this position is essential, it is also perceived to be a challenging position because of various difficulties in the teaching curriculum, and in the political realm of academia. Most agreed that there are a limited number of specialists who would be interested in this academic position but also believed that it is fundamental, as one participant remarked: "*Academic is important but it's pretty*

hard to (fill this position), there's not many (of specialists) out there in that way."

[P1]

One participant felt that a New Zealand-trained specialist would be more suitable for the role. It was postulated that they would understand the New Zealand health system and how Special Care Dentistry is practised in New Zealand: "*Hopefully a New Zealand graduate and someone who knows the system, and got a lot of clinical experience who loves teaching.*" [P4] Employing a New Zealand-trained Special Care Dentist may seem to be the ideal solution. Additionally, their working experience in New Zealand would allow them to be familiar with nuances of New Zealand healthcare system and able navigate through the political waters of the health care system⁴³. It was acknowledged that they would have a 'home-ground advantage' because their ongoing supportive, collegial network in New Zealand. Most participants would have met this criterion, as they are working in the New Zealand healthcare system. However, the number of practising specialists that completed their postgraduate training from the University of Otago is small; there are only four qualifying specialists (if the criterion above is applied). On the other hand, employing an overseas academic would have different advantages. It can be argued that those who are trained overseas are able to provide a fresh perspective in areas of teaching, research, and clinical experience.

⁴³ Anecdotally, there is a substantial number of academic staff that are graduates of the University of Otago and are actively involved in various Ministry of Health initiatives and research projects.

Table 5 Participants recommendations of qualities of an academic Special Care Dental Specialist.

Recommendations	Quotations
Personalities	<i>“You need an incredibly pragmatic, practical, accessible and thick skinned person.” [P8]</i>
Specialist experience	<i>“Someone who is approachable by students and patients” [P5]</i>
Politically involved	<i>“Someone to fill this role should be a Specialist obviously so someone who you know, have the good experience in the field of special needs and need to be able to teach.” [P1]</i>
	<i>“I don’t think we should have a general practitioner running it.” [P2]⁴⁴</i>
	<i>“(You need) somebody to drive it, who’s prepared to most probably be politically involved in driving special needs ahead.” [P2]</i>
	<i>“Some of us need to actually be doing more advocacy side of things, so they probably need to be a good mixture of research plus clinical orientated plus public health minded.” [P5]</i>

⁴⁴ Controversially, the Dental Council of New Zealand 2011-2012 workforce analysis reported there was no registered Special Care Dental Specialist employed in the Faculty of Dentistry at the University of Otago. However, it was also reported there was no postgraduate trainees in Special Care Dentistry at this time.

Political Involvement

Interestingly, the participants believed the academic role within the Dental School goes beyond teaching clinical dentistry and research. The academic position is perceived to have wider implications and responsibilities for Special Care Dentistry as a whole, which includes specialty advocacy and asserting a political presence for Special Care Dentistry. The individual in this academic position is expected to be politically involved within the Dental School and within Government agencies such as the Ministry of Health. This academic position would oversee the education and the future of Special Care Dentistry in New Zealand:

“I think once you’ve got people who are passionate about it, they’re going to have to get into the Dental Council. It’s getting in there and making sure that Special Needs has got a profile within the NZDA conferences and things like that. Generally upping the profile of Special Needs (Dentistry). It’s outside the ordinary. It’s not gonna be your 8-5 type of job. It’s getting on committees, it’s being politically active and driving it.” [P2]

The same participant believed that this position requires firm leadership and to become the spokesperson for Special Care Dentistry in New Zealand: “*I mean because you’re not just running a course, you become the face of Special Care (Dentistry) in New Zealand.*” [P2]

Personalities

The participants believed that the person in the academic position should also have certain personalities. Most participants emphasised the social aspects of communication with patients and students. They commented that the individual should be passionate to teach, approachable by students and have compassion for patients:

“You want someone that is compassionate and can communicate obviously with the students and patient and plenty of experience in the area. I would have thought someone who was doing Special Care is probably quite a compassionate person with people in general” [P10]

Interestingly, these qualities certainly highlighted the communication skills and ethos of Special Care Dentistry that were previously discussed in the chapter ‘Definition of Special Care Dentistry’. Being approachable would mean students could learn more easily about Special Care Dentistry, particularly when seeking expert opinions and clinical advice. It was interesting to note that the participants saw compassion for patients as an essential quality. Patients requiring special care are often perceived to be more vulnerable than non-Special Care patients are. A recent New Zealand study that reviewed empathy in a dentist-patient relationship reported that effective communication and empathy could facilitate better patient satisfaction and treatment compliance (Jones and Huggins 2014). Perhaps, this type of personality may reflect the importance of being a role model for students to emulate and exercise empathy for patients.

One participant had a different interpretation on the qualities that an academic Special Care Dental Specialist should have. Despite research being part of the academic position, the participant believed that most Special Care Dentists are not research focused or career driven: *“Being an academic, you have to keep pumping out papers and things to keep abreast of everyone else. You have to do so many (research) papers over years or whatever if you want to progress up the ladder and stuff like that.”* [P10] When questioned further, the same participant pointed out there is an expected personality trait of a Special Care Dentist: *“People that tend to do Special Care (Dentistry) do it for the patients rather than the career I think.”* [P10] This could suggest that some clinicians who practise Special Care Dentistry may not see pursuing an academic career to be important and may choose to have a less ‘prominent’ career, hence may explain in part of the lack of interest shown by the participants.

4.4.1.3.2 Barriers to a Career in Academic Special Care Dentistry

It was well acknowledged among the participants that the academic role is hard to fill due to the circumstances that surround this role, both in a historical context and in its status quo. When asked whether they were interested in this career opportunity, there was an overall stance of non-commitment or at least a reluctance to partake in this academic position: “*I wonder, if yeah, I shouldn’t get involved.*” [P8] Some participants revealed that the University had offered the position to them, but they declined the academic position due to various reasons. Some of the perceived barriers were related to their current lifestyle, the challenge of uprooting their family, potential financial setbacks, and the responsibilities of the academic role. Most felt it would be a significant disadvantage if they had taken on this academic position and perhaps viewed it as detrimental to their career and reputation—at least among their peers.

The academic position is a clinical teaching position with an expectation to research as part of their job. However, Special Care Dentistry is a clinical focussed specialty, and some participants felt this can be a challenge for them to be involved especially in research. Moreover, most of the participants had little or no experience in teaching or working in an academic institute, as one participant remarked: “*I’ve seen the position and thought yeah that’d probably be quite a good position to look at kind of going forward, but it’s not in the same as where I am working. I don’t have any experience in teaching.*” [P5]

Participants felt that this academic position was not attractive enough for most of their colleagues—and themselves: “*The other thing as well is that the career option within academia needs to be attractive enough. If people are you know, moving house and family, and moving from different countries, there needs to be some certainty offered in terms of contracts.*” [P7] Most participants in this study are in secure employment in DHB hospitals, and they are well established in their area of work. To take on this academic position, participants would have to resign from their current work and relocate to Dunedin. The remuneration of the academic role is thought to be similar to their DHB salary although it was perceived that there were less employment benefits

such as CME funding⁴⁵. Moreover, there are other factors such as the unfamiliar environment of an academic institution and significant changes in career, social and family commitments:

"We'll all been offered it believe me and I'd love to do it. I would have dropped my hat and gone long ago to do it but unfortunately my wife doesn't think the same way. You can't just drop everything here. A lot of us would love to come down and do it but it's just other factors including social and family and that sort of thing which is just going to restrict us." [P4]

One participant suggested that part of their reluctance is due to the somewhat controversial history of Special Care Dentistry within the Dental School: "*What is that about? Is it because nobody's sort of really understood it? It's a bit woolly in some. I don't know, nobody's ever got their head around that.*" [P11] As a result, the academic position of Special Care Dentistry is perceived to be unattractive, and the participants did not want to be associated with this area of controversy, as one remarked: "*The people are just very scared of becoming involved in a bit of a no-win situation.*" [P8] Employing an academic Special Care Dentist is admittedly challenging because of the global shortage of academics in Special Care Dentistry (Ahmad et al. 2014). In turn, undergraduates and postgraduates have limited opportunity within their dental school to seek the expertise of a Special Care Dentist. This dire situation is currently similar in the New Zealand Dental School.

However, one participant remarked that this arduous evolution is expected for Special Care Dentistry, as it is reflective of how Special Care Dentistry is developed in other parts of the world, both in the aspects of oral health services and in the academic community. Special Care Dentistry was born out of the necessity of providing adult oral health care services to for those patients who require special needs that 'outgrew' the scope of Paediatric dental services (Borromeo et al. 2014). One participant

⁴⁵ As previously noted, academics are unable to join the ASMS to enjoy the employment benefits.

illustrated how the status of Special Care Dentistry in New Zealand reflects this development:

“I guess that our current situation at the Dental School probably reflects the nature of the evolution of Special Care Dentistry. Wherever you look at it in the world and at the beginning, it was mainly that our colleagues in Paediatric Dentistry that did a lot of the special care. There was a focus on medical problems in dentistry in children and of course, it was because they were children, because they had many other medical problems and they needed dental work done. I think there was a place for the beginnings for Special Care Dentistry.” [P7]

Nonetheless, some participants are optimistic and hopeful for the future of Special Care Dentistry at the Dental School: *“But things can change and I think that the changes that are happening at the Dental School at the moment are positive and exciting.”* [P8] Interestingly, despite their reluctance to apply or to accept an offer for this academic position, some participants were quite amenable to recommend their colleagues to take on this role. One participant commented: *“I know that some have shown an interest in that job but you need somebody to take it forward. I know one specialist who was approached on that one, who is very good, politically motivated, and has got a wide circle of contacts.”* [P2]

4.4.1.3.3 Conclusion

The academic position in the Faculty of Dentistry has been somewhat controversial. The participants believed the lack of leadership and advocacy for Special Care Dentistry unintentionally led to the underdevelopment of Special Care Dentistry in the current undergraduate and postgraduate dental programme. Consequently, it resulted in the belief that it deterred many who were interested in Special Care Dentistry from specialising. Despite their reluctance to undertake the academic position, they acknowledged that there are barriers that need to be addressed to attract a suitable academic.

Many felt the current position is not sufficiently attractive for various reasons, particularly when compared to their current employment in DHBs. Limited experience in research and teaching were the few reasons they felt the academic career was not their vocation. Several participants revealed some of the historical political controversies that surround this role.

Nonetheless, certain qualities were sought among the participants. Most felt that the academic person should at least be a specialist in Special Care Dentistry, supported by their international experience in Special Care Dentistry education and research. It was expected that this position would be politically involved and have a wide impact on the profile of Special Care Dentistry in New Zealand. Interestingly, the participants also commented on the innate personalities that the candidate should possess. They believed that he or she should be passionate to teach while approachable by students; but also pragmatic, empathetic and caring for patients. Perhaps, these attributes reflected their personal aspirations of how a Special Care Dental Specialist should be.

4.4.2 Older People's Oral Health

One of the unexpected themes that arose in this study is the concern of the future of older people's oral health. Although Special Care Dentists treat a broad range of patients that include those with congenital disabilities and medically compromised patients, the population of older people were the participants' main concern in this study. The participants expressed their concerns about the ailing oral health conditions that they have seen in their older patients. They further insisted that this not be the only an area of concern for Special Care Dentistry but should also be for health policymakers, Ministry of Health stakeholders, educators and all dental practitioners (Hopcraft 2015).

4.4.2.1 Population Changes

In recent decades, the world's population is steadily increasing despite the decline in birth rates because people are surviving longer and growing older. It has been predicted that the proportion of older people will continue to increase when compared with the younger population (World Health Organization 2015). In fact, the World Health Organization estimated that by the year 2020, the number of people who are 60 years and older would surpass those who are under 5 years old. The composition of the New Zealand population is also changing. In 2016, it was estimated that 14.9% of the New Zealand population consisted of those who are aged 65 years and over (Statistics New Zealand 2016). The population is projected to grow to as much as 23.8% of the total population by 2043 (Statistics New Zealand 2013b).

This dramatic shift of population profile will challenge national health care infrastructures, causing a sharp rise in the overall social and economic cost of health care due to the increasing needs of older people in health care. The recent New Zealand National Health Survey reported that older people used more health services than younger people—42% of the total expenditure of health care services—and it is predicted to rise continually in the coming decades (Ministry of Health 2015a). The spending on medical services utilised by older people is increasing at a rate faster than any others health care services provided by DHBs, particularly in support services for

home and residential care. DHBs will need to re-orientate their resources to meet the demands of this population shift and its health care needs.

The people of New Zealand are growing older and surviving longer, in parallel with the rest of the world. While getting older and surviving longer, chronic health problems accumulate over an extended life course. Those with chronic medical conditions will require long-term support including oral health services. It is also estimated that almost half of the older people in New Zealand would enter into a long-term residential aged care facility (Broad et al. 2015). This notion is further supported by the evidence of increasing expenses of health care services in residential care (Ministry of Health 2015a).

Oral health services are no different. In previous decades, Ettinger and Beck (1982) predicted that the consumption of oral health services by older people would dynamically change. The authors illustrated world historical, dental, and socio-economical events that occurred from the 1900's to the 1980's, influencing the oral health of older people, including the impact of World War I and II on oral health utilisation. Historically, older people were the lowest consumers of dental care, due to various reasons such as being edentulous at a young age and different attitudes towards oral health. However, since then, it has been widely acknowledged that the consumption of oral health services by the older people of today are now increasing, with more of them retaining their natural teeth (Ettinger and Beck 1982; Thomson 2014). Notwithstanding the advancement of understanding of dental diseases, the attitudes of older people are also changing where they demand better oral health and wanting to retain their teeth. The recent Oral Health Survey of Older People in New Zealand reported that just under half of their sample has retained at least one natural tooth (CBG Health Research 2015). It also has been reported that dentate older adults are about 6.5 times more likely to seek dental care than those who are edentulous (Manski et al. 2004). With these findings, there are implications for the dental community to focus on providing care for this vulnerable group.

The participants are well aware that the patient groups both in the community and within the hospital are changing and acknowledged the dental professionals needs to be able to adapt to this change. The participants noted there is a shift of the type of

patients seen in Special Care Dentistry, as one commented: “*Well, we’re talking about older patients who are sicker so on more medications and who are sometimes more fragile as well. Sometimes their mental conditions are quite complex.*” [P4]

In the past, their main patient group were younger and often comprised of those who have intellectual disabilities and other special needs. However, participants recognised that there is an increase of older patients presenting to secondary level health care services such as hospitals for dental care. Although the nature of dental treatment itself is not complex, the management of medical conditions of these older patients complicates the overall treatment. Literature has reported that older patients are presenting to specialist dental clinics with increasingly complex medical conditions and medications, particularly with mental health conditions such as dementia (Lee et al. 2015b). As a result, participants are concerned that treating older patients will inundate the hospital and Special Care dental services.

Participants anticipated an increase of referrals of older people (with chronic medical conditions and medications) by physicians, dentists, and other health care workers because the patients are more likely to require Special Care Dentistry within a hospital setting. This puts significant strain on the workforce and resources in State-funded oral health care services. It would inadvertently displace other patients requiring special care and impact on their accessibility to oral health services:

“So and I think that’s my concern is with the ageing population is the capacity we’ve got. We might start to get pressure on it because if we start filling up with everybody over 65 with a bit of a complex medical background, that’ll just clog our services up. But if we have to provide care to everybody over 65, well there won’t be enough resource I don’t think.” [P11]

When participants were asked about the status of the ageing population and their oral health, there was a resounding agreement—older people’s oral health is a critical problem in New Zealand: “*Be ready for them because the avalanche is coming of all these (older) patients.*” [P4] There was an overall ‘doom and gloom’ impression made by all participants; they were describing it with words—such as *avalanche*,

tsunami, wave, nightmare, and dilemma—suggesting a premonition to an impending oral health care crisis of the ageing population:

“Older health is going to be a huge...you know, all those things that people have been talking about for ages, which will just hit us, I think. Dementia, older health, polypharmacy, yeah it’s going to be a big thing in the future.” [P10]

Older people of today no longer fit the perceived stereotype. They are considered a diverse group of the population, with health status that can range from healthy to fully dependent on caregivers; their dentition can range from fully dentate to edentulous (Ettinger 1993). With the rising ‘tide’ older patients with more retained teeth, perhaps it is sensible to accept the stark reality: treating older patients will be part of the mainstream practice of dentistry—in both the public sector and private practice. Inevitably, all dental practitioners, specialist and non-specialist alike, will need to be prepared for this growing issue.

4.4.2.2 Vested Interest

Some of the older participants reflected their ageing as they are close to their retirement age and they expressed concern of their potential predicament of their oral health. “*Horrendous. Seriously, I’m one of them you know (laughs).*” [P9] As clinicians, they feel that they need to be involved in the future of older people’s oral health as it concerns their own future: “*I’ve got vested interests in this one (laughs). I wanna make sure they clean my teeth!*” [P3] Clearly, this dilemma of the oral health provision for older people strikes a personal chord with the older participants.

The older participants are aware of the challenges of getting old and the future of their health. One participant expressed rather cynically that if they ended up being in a rest home, they would like to have all their teeth removed and replaced with implant supported dentures so that they have less of a worry about the prognosis of their natural teeth. It was interesting to note that several participants—who are advocates for oral health themselves—have such bleak views of the future of their oral health if they were to reside in long-term residential care. They firmly believed that oral

hygiene is not a priority in residential care homes and many are neglected. This notion of poor oral health for those in residential care is neither unique nor unexpected. Numerous studies have reported that those who live in long-term residential care have poorer oral health (Gerritsen et al. 2015; Ghazal et al. 2015; Pearson and Chalmers 2004; Smith et al. 2010a). An Adelaide study that examined the caries incidence and increments in nursing home residents found more than half of their sample had active coronal caries and almost half had untreated root caries (Chalmers et al. 2005). Disturbingly, they also reported that almost three-quarters of those who lived in nursing homes developed new decay in their teeth after just one year of follow-up.

Some participants proposed the idea of integrated dental care within aged care facilities. However, it did not prove to be substantially beneficial, one study reported that only some residents had a reduction in dental treatment after a extended period of stay in such facility, while most persisted to have had high treatment needs (Gerritsen et al. 2015). Interestingly, they also reported that the dentists servicing the institutions were reluctant to provide restorative treatment for those who were considered most frail. Recently, a national level oral health survey of older people in New Zealand found similar results: there were high levels of unmet oral health needs in residential care—both in self-reported oral health and in clinical examinations. Nearly two-thirds of those who live in residential care had untreated coronal caries, and one-third had untreated root caries (CBG Health Research 2015). With these findings, it is evident why the participants are very reluctant to enter into residential care—or even more so to be insistently advocating for better oral health services for older people. It is a confronting reality that at least one of the older participants in this study will inevitably be in a rest home as it is estimated that about half of New Zealand seniors will end up in a long-term residential care (Broad et al. 2015).

4.4.2.3 Teeth for Life for Everyone

The term ‘Teeth for Life for Everyone’ was used by some of the participants. This term was coined as an aspiration to retain natural teeth in patients’ lifetime. It was widely promoted because of the high prevalence of tooth loss in the 1970s. Due to the advancement of dentistry and oral health, the participants noted their patients are able

to retain their teeth better. However, some of their patients are now ageing with their health deteriorating—to a point where they can no longer care for their teeth—creating another new dimension of clinical challenge in the participants' practice of dentistry.

Some participants expressed their concern regarding the philosophy of 'Teeth for Life for Everyone'. Most remarked that in the context of older people and patients who require special needs, it was not necessarily achievable or practical:

"Here we are struggling away, you know 'teeth for life for everyone' I mean how many (times you've heard) a dentist who has told the patient before you meet up with them that said 'oh you'll have your teeth for the rest of your life' and you feel like snarling 'who said it?! It's just not true!'" [P9]

The participants believed it was a philosophical idea at the time as "*there was a high expectation that they (patients) would lose teeth in their journey through life.*" [P6] It was considered an applicable concept because the rate of edentulism was high and it served its purpose to promote oral health among the population, as one participant explained:

"I think that it ('Teeth for Life') occurred in dentistry in my period of practice is that when I graduated (in the 1970s), 30% of people had lost their teeth by the age of 30. Now obviously my generation (of dentists), we were successful, we've kept them through, we've got now a large percentage of the people are in their 60s, 70s have retained their teeth." [P2]

Most participants agreed that it is still an achievable goal in oral health as long as the patient can maintain their oral hygiene and self-care. However, most believed that it is not applicable when debilitating disease such as dementia complicated their patients' general health: "*People spend thousands and thousands on their teeth and then it's like now their dementia's there, what do you do then?" [P9]*

As the participants admitted that “(*We’re*) *victims of our own success!*” [P3], they remarked that dental clinicians are facing a new dilemma with their older patients—who are surviving into older age with most of their teeth retained, while complicated by deteriorating health. In addition, participants noted the change in societal attitudes towards oral health. The older people of today have higher expectations to retain their teeth because they had invested their money and effort into maintaining their teeth and oral health. Individuals who had looked after their teeth well expect to do so for the rest of their lives (Bedos et al. 2009; Gallagher and Fiske 2007). There are benefits of maintaining dentition into old age. A Japanese cohort study reported that older people who can retain 20 teeth or more might live longer than their counterparts who had fewer teeth (Hirotomi et al. 2015). The authors, however, did caution that their findings might not be generalisable to other countries due to social cultural and health care system differences.

Interestingly, a recent qualitative study investigated dentists perspectives on the oral health of older people (Smith and Thomson 2017). One of their findings was related to the ‘Teeth for Life’ philosophy. The dentists involved believed that older individuals would require good access to oral health care services and support from their caregivers to maintain their teeth for life. Notwithstanding their findings, the authors proposed general practitioners should be prepared to discuss the future prognosis of oral health with their older patients.

Conversely, although their patients are growing older, the participants remarked that general dentists are not prepared or experienced enough in discussing end of life planning for their older patients. Participants perceived that general dentists do not recognise the health dynamics of their older patients, whereby their patients’ health can dramatically change from an independent individual to a frail and dependent person. In addition, dentists are not trained in providing end of life care. There were substantial concerns that clinicians are not prepared for these changes and expectations, let alone how to manage the oral health needs of patients when their health declines:

“It’s just that dentistry is only a tiny tiny little bit of healthcare but this is it. It’s right across the board, the country and the world hasn’t woken up to that. (Dentist are) absolutely not (prepared) for retirement or end of life planning for their patients and what’s more, I think some of it is just ‘don’t want to know’.” [P9]

Participants believed that dentists should exercise the concept of ‘Teeth for Life’ with caution when managing older patients. Although a worthy ambition, it may not be an appropriate and pragmatic approach for older patients—particularly those who are dependent and frail.

4.4.2.4 Dementia in Older People

Dementia (especially, Alzheimer’s disease) patients were a major concern for all participants, and they found it challenging due the complexity and impact of the disease to oral health. Dementia is a neurodegenerative disease that often afflicts the elderly, which leads to progressive neurocognitive decline resulting frailty, falls, sensory impairments and increase in other medical complexities (Robbins 2016). These impairments are considered part of the ‘geriatric giants’⁴⁶, and they are interlinked, where failure in one aspect can lead to failure in others (Folty 2015; Isaacs 1992). Even the healthiest person, once diagnosed with dementia, would eventually succumb to this unfortunate progressive disease, whereby they would require constant care and assistance with the most basic activities of daily living including cleaning their teeth.

Dementia is regarded as a global health challenge; WHO estimated that 47 million people are affected by dementia worldwide (World Health Organization 2017). In New Zealand, the Ministry of Health reported that 62,000 people are affected by dementia. The number of individuals with dementia is growing significantly in New Zealand; it was reported that there was a 29% increase of dementia patients from the

⁴⁶ The late Sir Bernard Isaacs first coined this, as he defined the five domains of ‘Geriatric Giants’: Immobility; Instability; Incontinence; Intellectual impairment, and Iatrogenic.

year 2011 to 2016. It is estimated that more than 100,000 people will be affected by dementia by 2030 and 170,000 by 2050 (Deloitte 2017).

Dementia patients substantially depend on various health care services to support their ailing health. This may include hospital services; caregivers support, and residential care services. Consequently, the demand will put a significant strain on services; workforce and financial resources on the public health care system. It was reported that in 2016, services utilisation for dementia care cost about \$1.7 billion New Zealand Dollars and it has projected to increase to a staggering \$4.6 billion by 2050 (Deloitte 2017). Disturbingly, according to the same report, aged care⁴⁷ spending dominated over half of the economic cost of dementia in New Zealand.

With the ageing population that is compounded by the increase in dementia patients, it can be asserted that this subgroup of older patients will become one of the key concerns in public health. Participants are well aware of the poor oral health conditions of dementia patients and acknowledged that this is an impending problem in the oral health care of older people: “*I mean you go into the Alzheimer’s wing of retirement homes and look into their mouths. You know it is a huge problem. I don’t know what the answer is.*” [P6] It is reported that dementia patients not only have poor oral health in general but also less likely to attend regular dental visits. The oral hygiene of dementia patients has been reported to be significantly poorer and they require more assistance for oral care than those without dementia (Chalmers et al. 2005; Pearson and Chalmers 2004).

There were concerns about the quality of oral hygiene care of dementia patients in residential care: “*You know once you get a bit dementia and you get into a home. You stop brushing your teeth and end up at the hospital with oral sepsis.*” [P6] Pearson and Chalmers’ critical systematic review in 2004 demonstrated similar findings across a multitude of studies. However, they pointed out that most of the studies conducted had a high degree of edentulism among their samples, which in turn may not be

⁴⁷ Aged care is defined in the report as residential care, continual care, dementia units, and psychogeriatric services.

reflective of today's older people dentition status. Most had low expectations of the caregivers to carry out effective oral hygiene for their patients. All participants broadly agreed that their dementia patients generally have poor oral hygiene care and often presented with neglected mouths. One participant gave an account how he/she determined the quality of attention from a residential home: "*You can judge the standard of care by how well the mouth is looked after by caregivers.*" [P2] When asked for further details, the participant inferred: "*that the mouth was generally the last place for caregivers to clean so that if you had a patient with a clean mouth instead of great big gloops (sic) of gob, then you could guarantee that the rest of the body had properly been cleaned*" [P2]. This implied that the mouth is the least prioritised area for care among dementia patients and often neglected by caregivers.

The participants also pointed out that the caregivers are often tasked with management of the general and medical needs of their patients. This notion is consistent with findings of studies that examined oral hygiene practices in residential homes (McKelvey et al. 2003; Pearson and Chalmers 2004; Smith et al. 2010a). These tasks are often time-consuming, and regular oral care is often not a priority. Similar findings were also reported by a recent study (Smith and Thomson 2017). Although personal hygiene policies are in place in residential care, it may not reflect whether actual oral hygiene practices are carried out (McKelvey et al. 2003). One participant pointed out that caregivers might not be comfortable or have sufficient time to provide effective oral hygiene care for their patients:

"We treat quite a few elderly and quite a few early Alzheimer's or dementia patients or even you know if you've had a stroke, you can't brush your teeth. You're in a home but you're still quite with it but the caregivers are paid a basic minimum wage, they're not hygienists. You can't expect them to spend ten minutes flossing and brushing an adult, can you? I mean especially when they've got about thirty patients to feed and get to bed." [P6]

Dementia patients can be unpredictable on a day-to-day basis and pose significant difficulties to caregivers because they can be uncooperatively at times and worse,

combative and aggressive. The literature has reported extensively about patient resistance to oral hygiene care in residential care (Chalmers et al. 2002; Chalmers et al. 1996; Ghazal et al. 2015; Risma et al. 2015). Chalmers and her colleagues (2002) reported caregivers had significant difficulties in providing oral care in at least half of the residents because the patient refused to open their mouth, did not understand instructions or became abusive. Risma and colleagues (2015) investigated the comfort levels of caregivers' management resistance patients in oral hygiene care. In their study, they reported that those who had experienced difficulties from patients were significantly more comfortable in providing oral hygiene care but were twice more likely to experience patient resistance. Surprisingly, caregivers anticipated resistance from patients, and the authors concluded experienced caregivers are more likely to persevere to provide oral hygiene care despite the challenges. However, in another study, time constraints, lack of support staff and limited training were considered as barriers by caregivers (Coleman and Watson 2006).

On a clinical level, several participants commented on the challenge of treating dementia patients. There were occasions where it became an ethical dilemma to treat due to the complexity and the health prognosis of the patient, as one participant gave an example:

“Probably more of a challenge or come up to the surface is the dementia patients seem to be more and more. I find challenging when to dive in (to treat) and do something. I think when their teeth are starting to break, should we be giving them a general anaesthetic? So it’s a bit of a dilemma.” [P10]

When asked how they overcome this challenge, most participants expressed that they have to approach their patient's oral health care in a rather pragmatic manner, whereby they have to consider the reality and the prognosis of their patient's general health and oral health. One participant illustrated this: *“We've sort of come to the point where if they're not in pain, they're eating, functioning well we might leave those fractured teeth as (it) is and then if we have to deal with it when we have to. That's our policy at the moment anyway, unwritten policy.”* [P10]

It was interesting to note that an ‘unwritten policy’ is used and there was no standardised protocol for dental treatment of dementia patients. The participants implied that complex treatments are generally avoided and are focused on maintaining function and comfort for the patient. Any advanced complex dentistry would pose an ethical dilemma and increases the burden of maintaining them (Murray 2015). Treating dementia patients is challenging, whereby patient management is often variable and unpredictable due to communication barriers, poor support from their caregivers, and their worsening medical conditions (Folty 2015). In many cases, dental clinicians are forced to resort to palliative care dentistry for these patients.

Dementia patients may not necessarily have access to regular dental examinations from private or public practice. However, when referred, these patients are often presented with acute toothaches or dental infections. Participants felt that the management of these patients was often long overdue, necessitating removing the offending tooth (or teeth) rather than trying to restore them: “*They tend to be neglected and when they’re presented to hospital. Many times, it’s a bit too late.*” [P1] Some participants also gave anecdotes about their experiences managing dementia patients with acute dental infections, who required intensive care and hospitalisation: “*For example, last week I had a ninety-two-year-old with dementia who got brought into hospital with a facial cellulitis and absolutely a mouthful of rotten teeth and she ended up in ICU*⁴⁸. ” [P2]

Remarkably, dementia patient’s oral health was also perceived to be of concern by the medical professionals. However, it has been documented that general medical practitioners may not be aware of the oral health of their older patients (Andersson et al. 2007). The authors reported that there were significant cultural differences between dentistry and medicine in regards to older people. They postulated there is a lack of integration between dentistry and medicine contributed to the limited oral health awareness among medical professionals. Conversely, one participant remarked that medical doctors within the hospital might have similar opinions:

⁴⁸ Intensive Care Unit

“I talked to one geriatrician. Yeah she thought there would be a tsunami coming of Dementia patients and elderly patients with medical and dental issues that are going to be big issues for us in the near future. I think she’s probably right, polypharmacy, and medical problems in the elderly. It’s going to be a nightmare. I’d hate to be a young Special Care Dentist actually.” [P11]

Using the word ‘tsunami’ or ‘tidal wave’ implied there is an impending increase of dementia patients presenting in health services—including oral health services. It is interesting to note that the participant believed that Special Care Dentists would predominantly be responsible for dementia patients’ oral care. Unfortunately, it appears that the Special Care Dentistry community must be prepared to for this incoming (if not, already present) increasing demand for oral health services by dementia patients. It has been proposed that Special Care Dentistry—together with Prosthodontics—should be the disciplines of dentistry that could focus on treating older patients (Thomson and Ma 2014). However, the authors acknowledged that it would be challenging because of the scarcity of Special Care Dentists.

4.4.2.5 Treating Older People in Private Practice

General dental practice is considered primary oral health care providers. Participants agreed that general dentists should be involved in caring for the older patients but also acknowledged that there are many barriers to access and delivery of care in private practice. Various reasons were given which include medical complexities, financial reasons, and a general reluctance to treat these patients.

Most participants believed that private practitioners preferred not to see older patients due to the perceived limited financial gain from these patients. Some pointed out that these older patients are usually on fixed incomes and may not seek more expensive treatment options, as one participant observed:

“ Of course these patients don’t attract any funding at all in private practice so and sometimes they can be quite complex. The fact that you know some patients will require different wheel chair facilities, will require more time and will require some interventional dentistry and medicine and so can be time-consuming.” [P4]

It seems that seeing older patients in private practice was perceived to be unsuitable due to financial limitations, as the same participant remarked: “*So in private practice you know you’ve got to be aware of this and sometimes they can’t be treated in private practice for that reason.*” [P4] This is a consistent with the findings in a New Zealand study, whereby it was reported that more than half of the respondents mentioned the lack of the financial incentive in treating older patients (Antoun et al. 2008). One participant pointed out that retired older people are on a fixed income, which some participants viewed this may be a limiting factor of older people seeking dental care:

“You’ve got a whole lot of people going onto fixed incomes and private dentistry is very expensive, you know every consultation there’s a fee, so how do you fund for that to make it worthwhile for private dentists.” [P11]

However, other participants expressed the reluctance of general dentists to treat older patients:

“God, I sound very critical of general dentists but I think sometimes when the money starts to run out on some of the baby boomers. You know, all of their crown and bridge work starts to fail or they have a stroke and end up in a rest home, they then seem to get referred off to the local hospital or to the local specialist.” [P5]

Their apparent negative remarks suggested that these older patients who were once ‘lucrative’ for dentists, now becomes a burden to care, particularly when their patients’ health deteriorates or they are unable to care for themselves. Despite the cost

of dentistry being a barrier to care for many, several participants were disconcerted by the acquisitiveness of their colleagues.

In a different perspective, one participant also pointed out: “*As they grow older, they lose teeth, et cetera but once they reach the stage of full dentures, the dentists don't see these patients anymore until they either need new denture or have problems with their denture.*” [P1] A European study that investigated dental care patterns in older people reported that age of the older individual was not a determinant of dental service utilisation but rather the remaining number of teeth (Holm-Pedersen et al. 2005). It can be argued that older patients may not see the point of visiting their dentists if they do not have any remaining natural teeth. Evidence showed that older people are reluctant to seek dental care even when their dentures are problematic and ill-fitting (Ettinger 1971). Nonetheless, most participants believed that edentulous patients should be informed of the importance of regular dental visits. A recent study examined the oral health knowledge of older people and found that many of their respondents were knowledgeable of teeth-related oral diseases such as dental caries (McQuistan et al. 2015). However, many in their sample were not aware of other oral health-related diseases such as oral cancer and periodontal disease. Older people are also more prone to other oral health-related conditions—such as dry mouth, oral thrush, and oral cancer—which warranted regular dental reviews (Thomson 2014).

Participants agreed that treating older patients in private practice can be a formidable task and acknowledged that it is a multifactorial dilemma for most clinicians. Reasons are due to not only financial limitations but also associated medical conditions and polypharmacy. In addition to their financial limitations, one participant indicated that obtaining accurate medical history could be challenging because older patients may not be well informed of their own health and medication:

“*The dentists are in a really difficult position because the elderly often don't want to spend any money; they often got multiple medical problems. They are not necessarily good historians and so it's often difficult for the dentists to get accurate information and they are often, as a deterrent for clinicians.*” [P8]

Systemic chronic diseases are common among older people particularly cardiovascular diseases. Antoun and colleagues (2008) found that almost half of their respondents reported complex medical conditions are one of the barriers to treat older patients. Although medical conditions in older people can be complex, dentists with appropriate medical professional support should be able to treat older patients with medical conditions (Scully and Ettinger 2007). Dentists should also be up-to-date with the emergency management of common illnesses and diseases such as diabetes and cardiovascular conditions (Tavares et al. 2014). Some participants also emphasised the importance of understanding informed consent, particularly for individuals with questionable capacity to consent.

Although the interviewees did not demonstrate any overt comments, the overall impression was that, for one reason or another, most general dentists are reluctant to treat them older people. It can be suggested there is an undercurrent of social stereotyping and stigma of older people within the dental profession (Wright 2015). On a different perspective, several participants admitted that their colleagues faced the challenge of what constitutes good oral health for their older patients. There were concerns that dentists may be overlooking the overall well being of their older patients, as one remarked:

“The dentists in my experience feel very torn in between, and we’re all trying to learn what the definition of good oral health is for a frail elderly person. While many dentists are focussed on perfect teeth as opposed to a mouth that is pain-free, comfortable, and has minimal disease.” [P8]

On a positive note, participants also believed that some dental practitioners do attempt their best to see their older patients who they have been treating for many years. Additionally, some participants expressed their support for their colleagues when a patient is referred to them:

“On the other hand, I think most of the private practices would do their best to try to treat the older patients. However, if they have a problem they often refer them to me or to the hospital. I’d get someone referred who I just say look you have to be treated in the hospital. I can’t do it in my Private Practice.” [P6]

It is noteworthy that the perceived barriers such as time and financial constraints, accessibility, and medical complexities are surprisingly similar to the barriers in providing Special Care Dentistry in private practice mentioned in this current study and other literature (Derbi and Borromeo 2016).

4.4.2.6 Recommendations

Private Practitioners

Participants believed that most private practitioners could treat older patients with mild to moderate medical conditions. However, participants also emphasised that dentists should communicate with their medical peers or local specialist for supportive advice if required:

“Special Care Dentistry become a bit more involved (with older patients) but again we can’t become a dumping group and many elderly people can be appropriately cared for via general dental practitioners. The general dental practitioner needs to be prepared to talk to general medical practitioners more and get better medical information. They need to be prepared to develop an understanding of what good oral health is and not be intervention focussed.” [P8]

A Welsh study explored the associations between dental treatments plans and complexity of oral care delivery in patients that lived in residential care homes (Morgan et al. 2016). When the authors compared the dentists' treatment plans, they found most treatments consisted of preventative regimes, basic restorative treatments, and periodontal procedures. Interestingly, they concluded that general dentists could have easily addressed half of the sample patients while Special Care Dentists should

treat cases that are more complex. However, the authors did note most of the dentists required more time to treat the older patients, particularly those with increasing complexities.

Some participants also recommended that dental practitioners need to be able to recognise life course changes in their older patients. The health of older patients can change dramatically especially those with chronic conditions. Many general dentists have a good relationship with their patients, who have attended their regular dental visits over many years. They would have developed a rapport and know each other well. Participants recommended that dental practitioners should be educated to discern the differences between physiological and pathological ageing and their consequential effects on general health and the mouth. Those who are in private practice are in a position to detect these changes and adjust their treatment approach (Lamster et al. 2016). Dentists could play a vital role in detecting early signs of dementia of their patients and help to refer them for appropriate treatment and care. However, dentists need to be aware of the subtle early signs of dementia. Continual education would prove to be essential to aid dentists in continuing to provide care for these patients (Chalmers 2000). The role of a general dental practitioner could not be better placed to see the life changes in their patients especially those who are elderly (McNamara et al. 2014). However, as mentioned, there is still a general unwillingness of dentists to treat older patients. This is especially the case in older patients with complex medical conditions and medications, as indicated by a number of studies (Antoun et al. 2008; Derbi and Borromeo 2016).

There is a call for the improvement of collaboration and communication between the medical and dental community (Jatrana et al. 2009; Shimpi et al. 2016). However, Special Care Dentists must play their role in facilitating the relationship between the dental and medical practitioners. Other participants pointed out that Special Care Dentists should also be in a supportive role for general dentists:

“ You know to a point, and then they come to us you know so, I see us as a safety net service to some extent. A two way reciprocal (relationship) you know so there are

people who have some of their treatment in private practice and then some stuff treated in a hospital by a Special Care Dentist.” [P3]

Some participants believed that all dental practitioners should be competent in managing older patients. Ettinger and Beck (1984) suggested that older individuals should be triaged; where general dentists could easily manage independent older patients while specialists can treat those with needs that are more complex, for example- an older patient with advanced dementia with polypharmacy and severe heart failure would require hospital-level care.

Education

Most believed that educating general dentists in the management of older people’s oral health would be part of their role: “*So that’s about education and communication from Special Care Dentists to the medical practitioners, and general dentists.” [P8]* Being aware of the challenges ahead with older patients, dental clinicians must be prepared and able to adapt to needs of the population. The participants indicated that education of oral health should be taught to all levels of health care sectors, not just within the dental community. They particularly advocated for education in older people’s oral health as the key priority:

“I think number one is education. For ourselves, our colleagues, and then for all the stakeholders within Dentistry. So that’s your Government, DHB’s etc. And if you did that I think that people would start to realise what the problem is and how we can adequately fund it and resource it.” [P4]

The appeal for education improvements in Geriatric Dentistry is not unheard of. Various studies in the literature have been emphasising education on this particular population (Borromeo 2012; Ettinger 2012; Ettinger and Beck 1984; Ettinger and Cowen 2016; Lee et al. 2015b; Shetty 2014). Borromeo (2012) proposed three areas of focus with respect to the education of Geriatric Dentistry: workforce education, university curricula, and continual professional development. Several participants suggested that education of older people’s oral health should be considered as a ‘pre-emptive strike’ measure, implying it should be emphasised in undergraduate

programmes. One participant commented there is '*passing on the baton of responsibility*' [P4], the handing down of their clinical knowledge and experience to their younger colleagues. The same participant [P4] also implied that the burden of older people's oral health might rest on the shoulders of the younger generation of dentists:

"So it's going to be down to educating everybody before it happens, before all my generation retire. All that experience is going to go before this huge number (of older people) starts to hit the dental surgeries. This generation (of patients) didn't have fluoride. We're going to have a real big problem." [P4]

One participant further explained that the New Zealand Dental Association (NZDA) had a vital role to play in providing professional development courses to disseminate education to the existing workforce. Dentists need to be armed with contemporary views of older people's oral health and its implications for the general health. More specifically, participants proposed that continual education providers should shift the focus of general dentists to providing 'rational oral care' for older people in private practice (Ettinger 2015):

"There needs to be an increasing focus on oral health being, access to oral health care and an understanding of what is a healthy mouth and less focus on individual procedures. What I'm talking about that is the understanding of what a healthy mouth is: dignified, free of pain, comfort for elderly people especially. That's going to be the big challenge coming up in the next twenty years." [P8]

Ettinger's paper on treatment planning and oral care for older patients rationalised the idea of providing cost-effective care under treatment plans that consider the best interest of the patient and modifying factors such as their general and oral health prognosis, capacity to consent, self-care capability, and their socioeconomic status (Ettinger 2015).

On a positive note, one participant praised NZDA's role in educating the dental community but further acknowledged that education must be applied to all levels of dental education:

"NZDA plays a fantastic role, very valuable role in providing courses and continuing professional development. So it needs to be recognised right from not only the undergraduate and postgraduate training but within the profession itself that we're gonna have an older ageing population with more teeth and more medical problems." [P7]

Planning for an Adaptive Workforce

One participant underscored the importance of future proofing the appropriate mix of dental clinicians to meet the demands of this evolving population of older patients. He also remarked that education in geriatric oral health has to be continuously supported by contemporary and up-to-date research evidence because the population is dynamically changing.

"You're not gonna be able to do a training course while you're an undergraduate or even postgraduate and come out of it at a fixed point of time saying aha! This workforce of people can look after this cohort of older people. That's not gonna be the case, we need to be adaptable and evolve as the population evolves" [P7]

The same participant also recommended Dental Public Health Specialists to continue to focus their work on older people and "*do some crystal ball gazing as best that they can to make sure that the workforce is adequately trained.*" [P7] He acknowledged that the involvement of Dental Public Health Specialists is paramount to gather necessary information on population changes and provide the appropriate recommendations for workforce requirements:

“The Public Health Dentists might be raising the flags to say look we’ve now got you know, 12% more over 85s than we did but you’re always trying to play catch-up. However, I think they can indicate what’s going on in terms of population trends and also inform education providers.” [P7]

Domiciliary Services

Several participants proposed the idea of providing domiciliary dental services for older patients, particularly for those unable to travel to their dentists. Domiciliary oral health services usually require the dental practitioner (and usually with their supporting staff) to travel to patients and provide dental care. The dental care provided is often relatively basic due to the limitations of facilities and dental equipment. Moreover, very few residential care facilities are equipped with built-in dental facilities to accommodate a visiting dentist, let alone providing necessary dental equipment. Several participants commented that if there are any domiciliary services delivered, most dental practitioners provide it out of goodwill rather than fee-for-service, unlike in the UK where these services are provided by the National Health Services (Lewis and Fiske 2011). One participant offers domiciliary care to older patients; however, he also admitted that it is only a subsidiary service rather than the mainstream service that he provides in private practice. Although it improves the accessibility for older patients, it comes with its challenges of operational and financial limitations to the practitioner:

“If you need to visit someone in a rest home so the type of dentistry is not your bread and butter run-of-the-mill dentistry. Financially it’s not as rewarding when compared to providing treatment in the dental chair. I’ve been doing this domiciliary mobile dentistry and you do see a big group of patients, older people in rest homes or in private hospitals who need a lot of oral care.” [P1]

He admitted that providing domiciliary care is challenging for most private practitioners because dentistry is performed out of their private practice clinics, which most are not familiar with: *“You have to go out and actually see someone who’s very*

different and you're out of your comfort zone. It's not easy because Dentists probably find it hard to look after this group of patients at times." [P1]

Providing domiciliary services may seem a noble cause but the required additional cost and time may prove to be financially restrictive for many (Holm-Pedersen et al. 2005). General dentists perceive little financial incentive in providing domiciliary services and it is often out of their comfort zone (Antoun et al. 2008). Also, a Welsh study that investigated dentists providing treatment for residential care patients found that domiciliary care took significantly more time than those treated in a dental practice, and it is correlated with the increase in complexity of the patient care (Morgan et al. 2016). Interestingly, the authors noted a significant portion of their patient sample did not require specialist care but rather general dentists who have particular interest in Special Care Dentistry, which suggested that most of the patients in residential care did not require specialist-level dental care. With these limitations and barriers, one questions whether domiciliary care can improve the access for older patients to oral health service.

4.4.2.7 Conclusion

With the overwhelming global evidence of the ageing population, all participants were substantially concerned for the older peoples' oral health and depicted a disturbing outlook of this particular population group. Older patients will inevitably become part of the practise of Special Care Dentistry, as these individuals often have complex chronic conditions and the plethora of medications. Most participants see themselves as the main oral health care providers for the older people, particularly those who require hospital-level care.

Older participants revealed that they have 'vested interest' in older peoples' oral health because they desired a better future for their oral health. Participants highlighted the social expectations of older individuals, whereby they expect their general and oral health to remain healthy as they age. However, many believed the

1970's philosophy of 'teeth for life' was unrealistic in the context of oral health in older people and proposed alternatives such as 'rational dental care' (Ettinger 2015).

All participants raised the impending issue of dementia in older patients. Many felt profoundly challenged as clinicians in regards to the clinical management of dementia patients but also expressed their concerns about the quality of care received in nursing homes. Anecdotally, on numerous occasions, participants had to resort to relief of pain and palliative dental care because of the poor prognosis of the patient. The barriers of patient resistance to care and accessibility to regular dental care were clearly identified, along with increasing medical complexities that are associated with dementia. This meant the more affected dementia patients were being referred to the public health care system. The concerns of dementia patients overloading the public oral health services were palpable.

However, turning back to the provision of oral health for older people, participants insisted that it should not rest solely on Special Care Dentists. The participants acknowledged significant barriers to provide care for older individuals in private practice, which include potential reduced financial gains and the challenge of managing complex medical conditions. Most expressed disappointment that general dentists were just simply reluctant to treat older patients. Notwithstanding the barriers of care in private practice, general dentists have a vital role to play in providing oral care for older patients.

5. SUMMARY

5.1 Summary of Key Findings

Semi-structured interviews were carried out with 11 participants that consisted of Special Care Dentists, a Dental Public Health Specialist, and a general dentist. From the interview data, thematic analysis was carried out, and four distinct themes were identified: the profession, interprofessional interactions, education of Special Care dentistry and older people. In each of these themes, subthemes were identified and used for ease of presenting the findings and discussion.

5.1.1 Training and Career Pathways

The findings in this study clearly demonstrated the variation of training pathways and its challenges. Most Special Care Dental Specialists have gained their specialist recognition through postgraduate training in tertiary institutions. Participants attributed their career choice to their enjoyment of working in a hospital setting and early exposure to Special Care Dentistry. The key barriers identified to training were financial setbacks, family commitments, and job insecurities. The career pathway of Special Care Dentistry is limited in New Zealand because it is still mostly practised in the public health care system, which in turn restricts the practice of Special Care Dentistry in private practice. There was some contention regarding Dental Public Health Specialists, particularly in regards to their perceived ease of training pathway to achieve specialisation, competition in employment opportunities, and the lack of role distinction between the two specialties within the DHB setting. However, the participants in this study did not regret their career choice in Special Care Dentistry and had always found their vocation to be immensely rewarding.

5.1.2 Definition: Redefining Special Care Dentistry

The profession and the roles of Special Care Dentists were explored in detail in this study. Special Care Dentistry is difficult to define but there was an obvious preference of ‘Special Care Dentistry’ over the term ‘Special Needs Dentistry’. The preference was supported by the notion that Special Care Dentistry envisages oral health care

that is holistic and contemporary, which provides oral care to a broad spectrum of patients who require it. Moreover, the term ‘Special Care Dentistry’ brings the specialty into line with other international Special Care Dentistry societies.

Special Care Dentistry differs from other disciplines as participants defined themselves as dental specialists that approach patient care in its broadest context and yet are able to personalise oral health care for their patients. Their roles and skillset are broad and far-reaching as it is demonstrated by their involvement in delivering specialised dental care. At a higher level, these clinicians are regularly involved in leading oral health advocacy at an organisation level of health care. These valuable insights of the participants not only presented the challenges to define Special Care Dentistry but sheds light into their unique attributes such as their diverse roles, skills, and their distinctive ethos of care. The principles of patient-centred care and concept of ICF are found to be the underpinning cornerstones of Special Care Dentistry.

5.1.3 Interactions with Medical Practitioners

Special Care Dentists being recognised as specialist consultants allowed them to gain an attractive remuneration from the specialist pay scales of the ASMS and enjoyed the same employment privileges as their medical peers. The collegial relationships with their medical peers are healthy as they often work together with various medical specialties. The findings highlighted the need for better education in oral health. Conversely, there are significant insufficiencies in medical knowledge among the dentists and specialists. However, these participants are able to access medical expertise and collegial support easily within the hospital environment. The invaluable collegial interactions between the participants and their medical colleagues underlined one of the key contrasts between public and private practice in New Zealand.

5.1.4 Interactions with General Dental Practitioners

Disturbingly, the overall impression of general dentists in regards to Special Care Dentistry was unfavourable. The quality of collegial interactions between general dentists and the participants was questioned, particularly in regards to patient referral

pathways and the quality of communication with the specialists. However, the fee-for-service business model and isolating nature of private practice did not encourage collaborative practice or effective communication with their medical peers. Additionally, private dentists might not have access to sufficient medical information when referring. Unfortunately, it was widely agreed that not only are general dentists reluctant to treat patients requiring special care but also their negative attitude towards these patients were considered unsupportive. Participants identified time constraints, financial limitations, and insufficient education in Special Care Dentistry as the main barriers. These factors have been well reported in the literature in the last two decades (Ferguson et al. 1991). Despite the obstacles, it was broadly agreed that private practice might not be conducive to the practice of Special Care Dentistry, with reasons such as the unpredictable nature of some Special Care patient groups and the accessible infrastructure that is lacking. The importance of an empathetic and caring personality underscored the ethos of Special Care Dentistry that should be embraced by all clinicians.

5.1.5 Education of Special Care Dentistry

The undergraduate curriculum prepares and trains dental students to achieve competency in all aspects of dentistry before graduating in the scope of general dentistry. The high calibre of recent graduates underscored the quality of the current undergraduate programme at the Faculty of Dentistry, particularly in evidence-based clinical knowledge. However, this study revealed the much-needed focus on Special Care Dentistry in the undergraduate course. There were concerns about the lack of exposure to patients requiring special care, which inevitably may limit understanding about the models of disability among students. However, it was acknowledged that teaching undergraduate Special Care Dentistry is not without its obstacles. Admittedly, there is little margin for the components of Special Care Dentistry to be incorporated. Furthermore, it was suggested that there was limited general clinical experience for students and an overemphasis of theoretical knowledge. The findings of this study suggested that the teaching staff in the Dental School might have limited exposure to Special Care Dentistry themselves.

Little was understood about the current postgraduate programme in New Zealand, with the exception from those who trained at the Dental School. This finding suggested that the specialists have little or no involvement in the formation of the teaching structure and curriculum of Special Care Dentistry in New Zealand. However, training through distance learning seems to be the agreeable training pathway in Special Care Dentistry. Pragmatically, most participants believed that DHBs in larger cities could provide a better variety of training experience. There were also suggestions of utilising DHB hospitals as learning sites for postgraduate trainees, where they can be seconded to different DHBs for a variety of clinical exposure. Special Care Dentistry postgraduates should be experiencing a variety of clinical case scenarios to learn from, which in turn would provide a framework for comprehensive learning of Special Care Dentistry.

The unoccupied academic position in the Faculty of Dentistry has been somewhat controversial. Notwithstanding the general reluctance to undertake the academic position, it was acknowledged that there are barriers that need to be addressed to attract a suitable candidate. Limited numbers of specialists who are experienced in research and teaching were the few reasons given for the lack of shown interest in the pursuance of this academic position in Special Care Dentistry. Nonetheless, certain qualities were sought, in which the individual should be a specialist in Special Care Dentistry, supported by their international experience in Special Care Dentistry education and research. Appropriate innate personalities were essential, and it was suggested that the individual should be practical and empathetic in caring for patients, and also enjoy teaching.

5.1.6 Older People's Oral Health

With the ageing population, all participants were substantially concerned for the older peoples' oral health and their future of oral health. The concerns were palpable, particularly among several older participants, which struck a chord in their personal future oral health. There was also significant awareness of the poor oral health in older patients, particularly those who are in rest homes. Participants underlined the changing societal expectations of older individuals, whereby patients expect their

general and oral health to remain healthy as they age. Many believed that the 1970's philosophy of 'Teeth for Life' was unrealistic and proposed alternatives such as 'rational dental care' (Ettinger 2015). All participants raised the impending issue of dementia in older patients, as many felt profoundly challenged as clinicians. The barriers of patient resistance to care and accessibility to regular dental care were identified, along with increasing medical complexities that are associated with dementia. The concerns of dementia patients overloading the public oral health services were substantial. Significant barriers to provide care for older individuals in private practice were identified, including reasons such as reduced financial gains, and the delicate management of complex medical conditions. Most expressed disappointment that general dentists were just simply reluctant to treat older patients. General dentists will have a vital role to play in providing oral care for older patients in many years to come.

5.2 Comparison with other Studies

This study was the first qualitative study (in the author's knowledge) that explored clinicians' perspective of Special Care Dentistry in New Zealand. The current study (using semi-structured interviews) was able to document in-depth perspectives of clinicians who practise Special Care Dentistry in New Zealand. Similar studies abroad have been previously undertaken, but none of them (to date) has approached this area of study using a qualitative method. Most research interest in this area has been investigated through a quantitative approach. Recently, an Australian study investigated the perception of Special Care Dentistry among general dentists (Derbi and Borromeo 2016). Their areas of interests were similar to this current study, which included general dentists' definition of Special Care Dentistry and their perception of treating patients requiring special care. However, due to the nature of the quantitative approach, the authors were not able to demonstrate the in-depth details of the preferred definition or the reasons behind it. In addition, unlike the Australian study, most participants in this current study are either Special Care Dental Specialists or dental practitioners who predominantly practise Special Care Dentistry. This provided a different perspective than the Australian study. However, the Australian findings were invaluable and certainly complemented this study significantly.

In another study, Scambler and her colleagues (2011) investigated attitudes of dental staff that provide dental care for those with disabilities using a theoretical framework of the social model of disability. Their valuable findings were able to demonstrate how dental staff view disability and their attitudes towards those who are disabled. However, the authors did not investigate other aspects of Special Care Dentistry because their focus was on the attitudes of the dental workforce towards patients with special needs. This current study explored broadly various topics, which included: definitions of Special Care Dentistry; training and career pathways; professional interactions with other health professionals, and along side with other issues such as education of Special Care Dentistry and older people.

5.3 Strength and Limitations

The strength and limitations of this study were considered. This study's participants consisted of Special Care Dental Specialists, a Dental Public Health Specialist, and a general dentist. Due to the qualitative nature of this investigation, it is not possible to claim that it is representative of other general dentists and non-Special-Care-Dentistry specialists who treat patients requiring special care. It is also important to note that this study did not investigate any general dentists from private practice settings. Several participants in this study, however, do have some commitments in private practice but their private dental work mainly consisted of general practice rather than Special Care Dentistry. Most participants in the present study primarily work in public practice settings, which could only demonstrate insights from a public practice perspective. Admittedly, it would have been more valuable if this study included general dentists who work in private practice for comparison.

5.3.1 Low Number of Specialists

At the time of commencing this study, there were only nine registered Special Care Dentists in New Zealand (Dental Council of New Zealand 2017). It was possible that the participants did not respond freely due to their concern of anonymity and their identity being disclosed due to the small number of Special Care Dental Specialists in New Zealand. However, the participants were assured that any personal details would be removed from their interviews. The participants also have variable roles in their workplaces, which may not have provided a homogeneous view of Special Care Dentistry. On the contrary, it also underscored the true account of variations in the career of dental practitioners who practise Special Care Dentistry.

5.3.2 Accuracy of Interviews and Data Analysis

A single interviewer (LC) conducted all the interviews in this study. Having a single interviewer could potentially introduce inaccuracies and interviewer bias during questioning. However, an interview guide was used as an aid to reduce digression and remain consistent in each interview. Transcription of audio recordings could also potentially introduce transcription errors. To minimise inaccuracies, a few steps have

been taken into account to mitigate potential errors. Audio recordings were made on two separate recorders to reduce the risk of failure of the recording device. The data were transcribed by a professional transcription service to reduce possible transcription errors by the primary investigator. The raw transcribed text data were sent to each participant for member-checking and to include any amendments, if required. This allowed the accuracy of the transcribed data to be preserved.

The collected data were analysed and coded by the same individual (LC). One of the limitations of this study is that no sample interviews were analysed or coded by other researchers. However, having the same individual for interviews and analysis allowed early analysis to be conducted after each interview and refine the line of inquiry in subsequent interviews. It also allowed the interviewer to develop early understanding of the data collected. Other researchers checked the clarity of categories to ensure they were appropriately assigned to the data analysed (Thomas 2006). Moreover, the final report of findings was also examined by other researchers to approve the categories and subcategories and its associated interpretations of the data.

5.3.3 Qualitative Approach

Utilising a qualitative approach underpins the strength of this study, which allowed the investigator of this study to delve into the world of dental practitioners who practised Special Care Dentistry. The in-depth details of the interviews provided rich insights into the perception and key issues pertaining to Special Care Dentistry in New Zealand. This qualitative data will enrich the current literature on the perspective of Special Care Dentistry. The inclusion of all the Special Care Dental Specialists—albeit small in numbers—can be considered a representation of Special Care Dentistry in New Zealand. Moreover, the participants practised in different DHBs around New Zealand, which reflected the heterogeneity of the sample. Notwithstanding their variable employment locations, the coincidental uniformity of their responses to certain key issues further strengthens the reliability of the findings.

6. RECOMMENDATIONS

The main aim of this study was to understand the foundation of Special Care Dentistry. This study has accomplished it through investigating the perspectives of Special Care Dentists in New Zealand. It has explored the limitations and challenges of the training and career pathways in Special Care Dentistry. Issues such as, the education of Special Care Dentistry and the future of older peoples' oral health highlighted some of the pertinent issues that could shape the current and future dental workforce. From these findings and through participants' recommendations, key implications for practice can be drawn, and some directions for future research interests could be proposed.

6.1 Implications for Practice

In New Zealand, the current Special Care Dentistry workforce is considered to be insufficient, which mainly consists of Special Care Dentists and salaried general practitioners employed in DHBs (New Zealand Dental Association 2006). There is a critical need to enhance the current workforce to meet the increasing oral health needs of vulnerable populations such as, older people and those with disabilities. With the findings of this study and the participants' recommendations, building the oral health workforce can be addressed in the following approaches:

1. Improve training and career pathways.
2. Enhance future workforce through education.

6.1.1 Improving Training and Career Pathways

The training and career pathways of Special Care Dentistry in New Zealand have been known to be a point of contention among those who work in public practice. In New Zealand, those who are interested in pursuing specialty training are required to undertake postgraduate training through the Faculty of Dentistry in Dunedin or elsewhere. In this study, barriers to training have been identified which include financial barriers, loss of employment, family commitments, and lack of job security after training.

Supply and Demand

The training of a Special Care Dentist needs to be translated to a definitive career pathway. As indicated by the participants, given that Special Care Dentistry is primarily practised in the public sector, there are limited available jobs in the DHBs. There is little benefit of training and producing Special Care Dentists if these specialists are not able to seek employment to exercise their specialty and provide care for patients requiring special care. This underscores the importance of establishing collaborations between the DHBs and the Faculty of Dentistry to facilitate a seamless training and career pathways of Special Care Dentistry. The concept of ‘supply and demand’ must be applied and intricately balanced; the University must ensure there is a steady ‘supply’ of Special Care Dentists while the DHBs must commit to meet the ‘demand’ of the workforce for oral health services, with the provision of sufficient employment opportunities. This would ensure a self-sustaining workforce that could address the current challenge of the insufficient number of Special Care Dentists.

Community-based Clinics for Special Care Dentistry

Community-based clinics could be provided for patients requiring special care. This concept is not new and it has been well implemented in the UK by the NHS to provide community-level oral health care for patients requiring special care (Dougall and Fiske 2008; Gallagher and Fiske 2007). Shifting some patients requiring special care to these clinics would decrease the patient load in hospital outpatient clinics, reserving the hospital clinics only for those who require hospital level care. This could potentially reduce travelling for patients and improve access to oral health care services. It could further create job opportunities and career pathways for dentists in the public health sector (both non-specialist clinicians and Special Care Dental Specialists). These sites also have the potential to provide outreach programmes for undergraduates and postgraduates students.

While community-based Special Care dental clinics are potentially beneficial, several factors need to be taken into account. Patients requiring special care often have physical disabilities and require accessibility support, while others may require

careful attention to their medical and psychosocial wellbeing. Designing Special Care dental clinics require specialised accessibility features such as wheelchair ramps with ground level access, specific patient transfer systems, and disability-friendly dental chairs. Structural features including wider corridors, anti-slip floors, and disability-accessible washrooms are essential to Special Care dental clinics (Dougall and Fiske 2008). To support medically compromised patients safely, advanced resuscitation equipment and training for clinicians and staff are necessary.

There is significant impact on the dental staff working in these community clinics. Most of the participants in this study enjoy the collegiality and support from working in a team-based environment. There is also the possibility that those who work in community-based clinic may feel isolated from resources, support, and collegiality from their colleagues at the hospital. These can be minimised by building the community clinics in proximity of the hospital or nearby medical centres (in terms of providing medical support). Clinical staff could also be placed on a clinical rotation of working at the hospital and the community clinics to mitigate the potential professional isolation working in the community clinics. This also further provides the benefit of variety in working experience and clinical challenges.

However, with the increased cost of building and maintenance, along with the additional training required, outcome measures must be evaluated to ensure these services are financially feasible and benefits the government and the public. Stakeholders and service planners need to consider these factors when proposing business cases for funding. Nonetheless, creating community-based Special Care dental clinics would be worthwhile to be considered.

Distance Learning with Adoptive Teaching

Most participants in this study attained their specialty training through distance learning while working in DHB hospital. Training through distance learning has various advantages. From the postgraduate trainee's perspective, this allows them to remain employed while training in their workplace. Additionally, this provides them a

‘local’ clinical experience in a DHB setting, which could potentially provide a wider spectrum of clinical experience, enhancing the quality of training in the postgraduate course. However, it may not be applicable for overseas graduates and it is a significant disadvantage, particularly if they are not registered to practise in New Zealand.

Although New Zealand Government’s Tertiary Education Commission covers a proportion of the tuition fees for some postgraduate students, postgraduate study in dentistry remains a costly investment and it is predominantly self-funded through student loans and personal savings⁴⁹. The provision of external funding for training can be a useful incentive to encourage clinicians to pursue specialist training in Special Care Dentistry. Through distance learning, some participants were able to use their Continual Medical Education (CME) fund from their employment in DHBs to partially pay for their training. However, this is only available for those who work in DHBs and it only mitigates part of the full cost of the postgraduate tuition fees.

Each DHB dental department is dependent on their service specifications to define their patient service priorities (Ministry of Health 2017). As a result, DHB dental departments can provide a variety of clinical experience. It has been proposed that postgraduate trainees can be seconded to different DHBs to allow them to gain a wide clinical experience in different DHBs and to appreciate the integration of oral health in the New Zealand public healthcare system. This would address the DHB hospital experience that full-time postgraduate trainees may lack at the Faculty of Dentistry. However, the logistics of providing an effective learning experience must be addressed. It would require careful planning and mutual agreement between the Faculty of Dentistry and the DHBs, particularly in providing appropriate supervision and remunerations.

In addition, fellowship training offered such as by the RACDS could be useful to further broaden the clinical experience of Special Care Dentistry graduates.

⁴⁹ The University of Otago has postgraduate scholarships but they are well sought after and extremely competitive. Additionally, those who are employed by DHBs are not eligible to apply.

Addressing the Geographic Distribution

To address the geographic disparity in the distribution of Special Care Dentists, DHB region-specific funding for training can be proposed. In regions where there is a critical need of Special Care Dentistry services, DHB funding (with the addition of CME fund) for tuition fees could be provided for dentists who are interested in specialising in Special Care Dentistry and would like to remain working in the region. In return, a contract of agreement could be drawn to provide a bonding scheme that requires the clinician to continue to work for that specific DHB for a fixed period. This has two advantages: Firstly, the DHB would be able to ‘employ’ a Special Care Dentist to their region when training is completed. Secondly, this also benefits the dentist because there is a ‘guarantee’ of employment after their postgraduate training. However, this may have some drawbacks. Unless there is an existing Special Care Dentist in the same DHB, other senior dental specialists or those who have significant experience in Special Care Dentistry may be required to ‘adopt’ the trainee(s) to provide adequate supervision and mentorship. In addition, once the bonding scheme has lapsed, there is no guarantee that the invested specialist would remain within the region as they might seek employment elsewhere.

6.1.2 Enhancing the Future Workforce through Education

The current literature and findings in this study strongly indicated that there is a lack of education in Special Care Dentistry, particularly in the undergraduate dental programme. The participants in this study underscored the importance of education in the undergraduate curriculum because it would determine how future graduates would perceive and treat patients requiring special care.

Integration of didactic teaching and clinical exposure of Special Care Dentistry could be implemented in the undergraduate course. The curriculum can be developed by adopting the Special Care Dentistry undergraduate programme established by the International Association of Disability and Health (IADH) (Dougall et al. 2014b). It was designed with the intention to provide an internationally recognised framework for teaching institutions to implement Special Care Dentistry into their undergraduate dental curriculum. This framework has been established and ratified through a 3-

round Delphi⁵⁰ expert panel of international academic educators who are involved in Special Care Dentistry education (Dougall et al. 2013).

Using the IADH undergraduate curriculum, didactic teaching will provide the principles of Special Care Dentistry with emphasis on the broader psychosocial aspects of disability and its impact on oral health provision. This foundation will then provide a framework for learning when dental students are exposed to patients requiring special care in a clinical setting. Along with these course components, outreach programmes have also been suggested. Although the current undergraduate dental course does provide some outreach settings for final year dental students, it is however, optional, and are limited in capacity and relatively brief. It would be more useful if these outreach programmes are longer in duration with a focus on Special Care Dentistry.

Literature evidently shows that early exposure to Special Care Dentistry at the undergraduate level correlates with the confidence and willingness to provide care for patients requiring special care (Chavez et al. 2011; Subar et al. 2012). With that in mind, it is prudent to focus education of Special Care Dentistry at the undergraduate level, in the hopes of preparing and encouraging a future generation of dentists that could confidently address the oral care needs of those who require special care requirements.

6.2. Implications for Research

In recent decades, there has been a growing contribution in research to the understanding of Special Care Dentistry. Given that the discipline is relatively new in comparison with other disciplines of dentistry, there are significant gaps in the literature of Special Care Dentistry. In New Zealand, research in Special Care Dentistry is relatively untapped.

⁵⁰ The Delphi method is a structured communication method that is developed as a systematic and interactive forecasting that relies on a panel of experts in the field of interest, which now used in various policy-making initiatives. The Delphi method was originally developed for warfare forecasting.

With the support of the literature, this study's findings also revealed that there are areas of deficits in regards to Special Care Dentistry research, particularly in understanding the concepts of disabilities among dental practitioners and students. Significant barriers to the provision of Special Care Dentistry were identified but were only explored from the perspectives of clinicians who primarily practise Special Care Dentistry in public practice. The objectives of this study did not include examining the perspectives of other domains, which include general dentists in private practice, dental students, and perhaps more crucially, individuals who require Special Care Dentistry.

The findings in this study are only the tip of the iceberg of an uncharted territory in Special Care Dentistry, particularly in the context of New Zealand. There is little understanding or awareness of Special Care Dentistry among various groups within the community, which includes medical professionals, the dental community, health-related support groups (for example, Alzheimer's Society), and patients who require Special Care Dentistry. With that in mind, the following section recommends future research directions: patients' perception of Special Care Dentistry, and the understanding of disability among dental students and general dentists.

6.2.1 Perspectives of Patients towards Special Care Dentistry

Present studies in the literature primarily investigated clinicians and dental students' perception of Special Care Dentistry and its patients. One of the key findings of this current study was the perceived limited public understanding of Special Care Dentistry. In New Zealand, there is only one study (to the author's knowledge) that investigated the dental care experiences from a patient's point of view (McKelvey et al. 2014). The study suggests that the public may not be aware of the role of Special Care Dentists, which could impact how the public seeks dental care, particularly those who are advocating or caring for individuals with special needs. Since this area of research is relatively unexplored, there is a multitude of aspects that can be investigated, which could include their awareness of Special Care Dentistry and their personal patient experience. A qualitative approach to explore this area would be invaluable to understand the patients' personal experience of receiving oral care

relating to their health conditions and disabilities, which in turn would help better understand their individual oral health care needs.

6.2.2 Understanding of Disability

Numerous studies have explored the perception of dental students towards Special Care Dentistry (Ahmad et al. 2015; Alkahtani et al. 2014; Fuad et al. 2015; Lee et al. 2015a; Mac Giolla Phadraig et al. 2015). However, there is no New Zealand research on the perception of dental students towards Special Care Dentistry to date⁵¹. The results of this study indicated there is a lack of understanding of disabilities among recent dental graduates. The findings of this study suggest that the recent graduates did not consider the broader context of the biopsychosocial aspects of disability when treating their patients requiring special care. This is believed to have a significant impact on how dental professionals perceive and treat patients requiring special care (Faulks et al. 2012). Exploring the understanding of disability among dental students would certainly be a valuable asset when considering developing Special Care Dentistry education components for the undergraduate dental programme (Dougall et al. 2013). Although most current literature has explored the perception of dental students in Special Care Dentistry education, it would be interesting to investigate the perception towards disabilities among dental students when the UNCRPD and ICF is incorporated into the dental undergraduate programme. This area of research interest could be similarly explored among general dentists, particularly when comparing between private and public practice dentists.

⁵¹ However, in 2017, there is ongoing research comparing perception of Special Care Dentistry between New Zealand dental students and Malaysian dental students.

7. CONCLUSION

Recent reports from World Health Organization identified that the population of the world is ageing, and people with disabilities (particularly with older people) are rising. The population of New Zealand is no different and has been well reported to have similar findings. In the oral health perspective, people in New Zealand are not only living longer but also more likely to retain their natural teeth well into their older age (Thomson 2014). This has a significant impact on how public and private oral health services will be utilised and delivered. It is expected that older people and individuals with disabilities will have higher oral care needs than those who are younger, independent, and without any disabilities or medical conditions (Gallagher and Scambler 2012).

This study presented a broad overview of Special Care Dentistry and its pertinent issues in New Zealand. It gave us a unique privilege to appreciate the profound insights from Special Care dental practitioners and their roles within their workplace. Their opinions in training and career pathways offered reasons behind their choice of vocation but also reflected the challenges at their time of training and their views on the current programme. Most participants have no regrets of their career and continue to enjoy practising Special Care Dentistry. Critical concerns about the current education of Special Care Dentistry and the future of older peoples' oral health reflected in the emerging key issues within the Special Care Dentistry community.

Special Care Dentistry in New Zealand is still in its infancy. Nonetheless, the preferred name of 'Special Care Dentistry' is recognised to be contemporary, reflecting the current biopsychosocial views of disability, while embracing the philosophical ethos of holistic care. There have been considerable efforts to promote Special Care Dentistry as a specialty to encourage dentists to pursue, but it remains scarce and its workforce is disproportionately distributed in New Zealand. The consistent low number of postgraduate trainees over recent decades manifested the dire concerns for the future of Special Care Dentistry as the demand for specialised oral health care services continues to rise. The shortfall (and the ageing) of Special Care Dentists appeals for the desperate need for improvement in training and career pathways for those who have interests in Special Care Dentistry. Although the

training pathway in New Zealand is established, there is a lack of consistent quality of teaching and concerns over the limited clinical experience at the Faculty of Dentistry. Training Special Care Dentistry in different hospital sites has been suggested to diversify and enrich the postgraduate training experience.

The current undergraduate education in New Zealand has an insufficient emphasis on Special Care Dentistry. The evidence found in the literature and this current study underscored the importance of early undergraduate exposure to Special Care Dentistry and revealed significant obstacles that need to be addressed in the teaching of Special Care Dentistry for undergraduates. Recent literature suggested that early exposure of Special Care Dentistry through clinical experience and didactic teaching seem to produce dentists who are more comfortable and willing to treat patients requiring special care, and interested in specialising in Special Care Dentistry.

This study also showed that there are critical concerns of oral care provision for the elderly. It was reported that there were increasing challenges in providing appropriate care for older people with chronic non-communicable disease, particularly dementia. Issues of polypharmacy and the reluctance of general dentists in treating older people were raised by the participants. There is a need to consider providing ‘rational oral care’ particularly those who will be entering long-term residential care (Ettinger 2015). While New Zealand’s deinstitutionalisation of people with intellectual disabilities and mental health between the 1990s to the 2000s can be lauded as progressive, the increase of utilisation of aged care facilities forewarns the incoming of the paradoxical ‘silver age’ of institutionalisation of older people. Health care stakeholders of all levels, including the Ministry of Health and the dental services, must recognise this phenomenon and address the oral health care needs of this older population. Left unchecked, this could have significant adverse impact on public oral health service demand, particularly for hospital-level services.

Special Care Dental Specialists may seem ambiguous for some dental practitioners, particularly in their roles and skills within the context of dentistry. Although the clinical dentistry may seem general, this study revealed that there are fundamental characteristics within Special Care Dentistry that set it apart from other disciplines of dentistry, including general dentistry. Apart from their diverse specialised skills,

Special Care dental practitioners exude the principles of patient-centred care in their daily practice. The concepts of the ICF are exemplified by their contemporary understanding of disability and its social impact on their patients care. In addition, their working environment encourages teamwork with their professional peers and fosters interprofessional collaboration. The participants in this study defined themselves as dental specialists that approach patient care in its broadest context and yet able to individualise oral health care for their patients. Their roles and skillset are vast and far-reaching as they are involved in the grassroots level of delivering specialised dental care while having an overarching responsibility in leading oral health advocacy at organisation level of health care and beyond. As Scambler and her colleagues neatly put it: ‘*Special Care Dentistry is about a repertoire of clinical skills to manage any type of patient.*’ (Scambler et al. 2011).

The prospect of Special Care Dentistry is evidently bright. However, there is much room for improvement, particularly in the aspects of education and career pathways to provide a healthy self-sustaining workforce. This is vital to address the disparity in oral health needs of this unprecedented era of increasing older people and those who are vulnerable. There should be a collaborative focus to promote Special Care Dentistry by all levels of oral health care stakeholders including the Faculty of Dentistry, NZDA, and the Ministry of Health. In the coming age where patient-centred care and interprofessional collaboration are regarded as the heralds of the modern practice of health care, in some ways, Special Care Dentistry could be considered to be in the vanguard of the contemporary practice of dentistry.

Special Care Dentistry is a specialty of dentistry of its own right. With the findings in this study, Special Care Dentistry can be defined as *a discipline that provides patient-centred oral health care for those within the spectrum of disabilities and activities restrictions that affect their oral health, within the personal and environmental context of the individual.*

REFERENCES

- Ackerman MB. 2013. Dentistry at crossroads: The access to care crisis for patients with special needs.(Report). Special Care in Dentistry. 33(6):261.
- Agnew H. 1947. How Canada cares for the sick; system to meet special needs. Hospital Health and Management. 10(116):255-259.
- Ahmad MS, Razak IA, Borromeo GL. 2014. Undergraduate education in special needs dentistry in Malaysian and Australian dental schools. Journal of Dental Education. 78(8):1154.
- Ahmad MS, Razak IA, Borromeo GL. 2015. Special Needs Dentistry: perception, attitudes and educational experience of Malaysian dental students. European Journal of Dental Education. 19(1):44-52.
- Al-Haboubi M, Eliyas S, Briggs PF, Jones E, Rayan RR, Gallagher JE. 2014. Dentists with extended skills: the challenge of innovation. British Dental Journal. 217(3):E6.
- Alkahtani ZM, Stark PC, Loo CY, Wright WG, Morgan JP. 2014. Saudi and U.S. dental student attitudes toward treating individuals with developmental disabilities. Journal of Dental Education. 78(8):1145.
- American Dental Association. 2004. Commission on Dental Accreditation Standards for Dental Education. Chicago: American Dental Association.
- Anders PL, Davis EL. 2010. Oral health of patients with intellectual disabilities: A systematic review. Special Care in Dentistry. 30(3):110-117.
- Anderson V, Kang M, Foster Page L. 2012. First-year oral health and dentistry student perceptions of future professional work. European Journal of Dental Education. 16(1):e166-173.
- Andersson K, Furhoff AK, Nordenram G, Wardh I. 2007. 'Oral health is not my department'. Perceptions of elderly patients' oral health by general medical practitioners in primary health care centres: a qualitative interview study. Scandinavian Journal of Caring Sciences. 21(1):126-133.

- Antoun JS, Adsett LA, Goldsmith SM, Thomson WM. 2008. The oral health of older people: general dental practitioners' beliefs and treatment experience. *Special Care in Dentistry*. 28(1):2-7.
- Ashar A, Ahmad A. 2014. Developing professionalism: dental students' perspective. *Journal of College of Physicians Surgery of Pakistan*. 24(12):902-907.
- Asimakopoulou K, Gupta A, Scambler S. 2014. Patient-centred care: barriers and opportunities in the dental surgery. *Community Dentistry and Oral Epidemiology*. 42(6):603-610.
- Baumeister SE, Davidson PL, Carreon DC, Nakazono TT, Gutierrez JJ, Andersen RM. 2007. What influences dental students to serve special care patients? *Special Care in Dentistry*. 27(1):15-22.
- Bedos C, Levine A, Brodeur J-M. 2009. How people on social assistance perceive, experience, and improve oral health. *Journal of Dental Research*. 88(7):653-657.
- Bedos C, Loignon C, Landry A, Allison PJ, Richard L. 2013. How health professionals perceive and experience treating people on social assistance: a qualitative study among dentists in Montreal, Canada. *BMC Health Services Research*. 13(1):464.
- Bertakis KD, Azari R. 2011. Determinants and outcomes of patient-centered care. *Patient Education and Counseling*. 85(1):46-52.
- Bindal P, Chai WL, Bindal U, Safi SZ, Zainuddin Z, Lionel A. 2015. Dental Treatment and Special Needs Patients (SNPs): Dentist's Point of View in Selected Cities of Malaysia. *Biomedical Research (0970-938X)*. 26(1):152-156.
- Birch S, Anderson R. 2005. Financing and Delivering Oral Health Care: What Can We Learn from Other Countries? *Journal of the Canadian Dental Association*. 71(4):243.
- Borromeo G, Bramante G, Betar D, Bhikha C, Cai Y, Cajili C. 2014. Transitioning of special needs paediatric patients to adult special needs dental services. *Australian Dental Journal*. 59(3):360-365.

Borromeo GL. 2012. Workforce education--the co-ordination of oral health care for the elderly--the role of the dental profession. *Annals of the Royal Australasian College of Dental Surgeons*. 21:77.

Bower E, Scambler S. 2007. The contributions of qualitative research towards dental public health practice. *Community Dental and Oral Epidemiology*. 35(3):161-169.

British Society for Disability and Oral Health. 2003. *A Case of Need: Special Care Dentistry. A Report for the Joint Advisory Committee for Special Care Dentistry*. London.

Broad JB, Ashton T, Gott M, McLeod H, Davis PB, Connolly MJ. 2015. Likelihood of residential aged care use in later life: A simple approach to estimation with international comparison. *Australian and New Zealand Journal of Public Health*. 39(4):374-379.

Broadbent JM. 2016. *Dental Council Workforce Analysis 2011-2012*. Dental Council of New Zealand.

Casamassimo PS, Seale NS, Ruehs K. 2004. General dentists' perceptions of educational and treatment issues affecting access to care for children with special health care needs. *Journal of Dental Education*. 68(1):23-28.

CBG Health Research. 2015. *Our Older People's Oral Health. Key Findings of the 2012 New Zealand Older People's Oral Health Survey*. Auckland: CBG Health Research.

Chalmers J. 2001. Dentistry for people with special needs--a perspective from Australia and New Zealand. *Special Care in Dentistry*. 21:204.

Chalmers JM. 2000. Behavior management and communication strategies for dental professionals when caring for patients with dementia. *Special Care in Dentistry*. 20(4):147-154.

Chalmers JM, Carter KD, Fuss JM, Spencer AJ, Hodge CP. 2002. Caries experience in existing and new nursing home residents in Adelaide, Australia. *Gerodontontology*. 19(1):30-40.

- Chalmers JM, Carter KD, Spencer AJ. 2005. Caries incidence and increments in Adelaide nursing home residents. *Special Care in Dentistry*. 25(2):96-105.
- Chalmers JM, Levy SM, Buckwalter KC, Ettinger RL, Kambhu PP. 1996. Factors influencing nurses' aides' provision of oral care for nursing facility residents. *Special Care in Dentistry*. 16(2):71-79.
- Charles JM. 2010. Dental care in children with developmental disabilities: attention deficit disorder, intellectual disabilities, and autism. *Journal of Dentistry for Children*. 77(2):84-91.
- Chavez EM, Subar PE, Miles J, Wong A, Labarre EE, Glassman P. 2011. Perceptions of predoctoral dental education and practice patterns in special care dentistry. *Journal of Dental Education*. 75(6):726-732.
- Coleman P, Watson NM. 2006. Oral Care Provided by Certified Nursing Assistants in Nursing Homes. *Journal of the American Geriatrics Society*. 54(1):138-143.
- Crall JJ. 2007. Improving oral health for individuals with special health care needs. *Pediatric Dentistry*. 29(2):98-104.
- Dao LP, Zwetchkenbaum S, Inglehart MR. 2005. General Dentists and Special Needs Patients: Does Dental Education Matter? *Journal of Dental Education*. 69(10):1107-1115.
- Davies J, Zoitopoulos L, Nunn J, Greening S, Liptrott E, Cunningham C, Harris S, Woof M. 1999. Special care dentistry: moving towards a specialty. A view from the executive of the BASCD Section in Clinical Community Dentistry. *Community Dental Health*. 16(2):67.
- Deloitte. 2017. Dementia Economic Impact Report 2016. Alzheimers New Zealand.
- DeLucia LM, Davis EL. 2009. Dental students' attitudes toward the care of individuals with intellectual disabilities: relationship between instruction and experience. *Journal of dental education*. 73(4):445-453.

Scopes of Practice. 2017. Dental Council of New Zealand,; [accessed 2017 20 May 2017]. <http://www.dcnz.org.nz/i-practise-in-new-zealand/dentists-and-dental-specialists/scopes-of-practice/-Special-needs-dentistry-specialists>.

Derbi H, Borromeo G. 2016. The Perception of Special Needs Dentistry amongst General Dentists within Western Australia, Australia. Journal of Gerodontontology Geriatric Research. 5(322):2.

Dougall A, Fiske J. 2008. Access to Special Care Dentistry. Part 1: Access. British Dental Journal. 204(11):605-616.

Dougall A, Molina GF, Eschevins C, Faulks D. 2015. A Global Oral Health Survey of professional opinion using the International Classification of Functioning, Disability and Health. Journal of Dentistry. 43(6):683-694.

Dougall A, Pani SC, Thompson S, Faulks D, Romer M, Nunn J. 2013. Developing an undergraduate curriculum in Special Care Dentistry – by consensus. European Journal of Dental Education. 17(1):46-56.

Dougall A, Thompson S, Faulks D. 2012. Undergraduate Curriculum in Special Care Dentistry. International Association for Disability and Oral Health.

Dougall A, Thompson S, Nunn JH, Faulks D, Ting G. 2014a. Postgraduate Curriculum in Special Care Dentistry. International Association for Disability and Oral Health.

Dougall A, Thompson SA, Faulks D, Ting G, Nunn J. 2014b. Guidance for the core content of a Curriculum in Special Care Dentistry at the undergraduate level. European Journal of Dental Education. 18(1):39.

Edmunds S, Brown G. 2012. Doing qualitative research in dentistry and dental education. European Journal of Dental Education. 16(2):110-117.

Epstein RM, Street RL. 2011. The Values and Value of Patient-Centered Care. Annals of Family Medicine. 9(2):100-103.

Estrella MR, Boynton JR. 2010. General dentistry's role in the care for children with special needs: a review. General Dentistry. 58(3):222-229.

- Ettinger R. 1971. An evaluation of the attitudes of a group of elderly edentulous patients to dentists, dentures, and dentistry. *The Dental Practitioner and Dental Record*. 22(3):85.
- Ettinger RL. 1993. Cohort differences among aging populations: a challenge for the dental profession. *Special Care in Dentistry*. 13(1):19-26.
- Ettinger RL. 2000. What's in a name: 'special care' or 'special needs'. *Special Care in Dentistry*. 20(6):224-225.
- Ettinger RL. 2012. A 30 - year review of a geriatric dentistry teaching programme. *Gerodontology*. 29(2):e1252-e1260.
- Ettinger RL. 2015. Treatment planning concepts for the ageing patient. *Australian Dental Journal*. 60:71-85.
- Ettinger RL, Beck JD. 1982. The new elderly: what can the dental profession expect? *Special Care in Dentistry*. 2(2):62-69.
- Ettinger RL, Beck JD. 1984. Geriatric dental curriculum and the needs of the elderly. *Special Care in Dentistry*. 4(5):207-213.
- Ettinger RL, Chalmers J, Frenkel H. 2004. Dentistry for persons with special needs: how should it be recognized? *Journal of Dental Education*. 68(8):803-806.
- Ettinger RL, Cowen H. 2016. A Comprehensive Geriatric Dentistry Teaching and Service Program. *Generations*. 40(3):66-69.
- Fagergren JL. 1966. Dental hygiene patients with special needs. The hepatitis patient. *Journal of American Dental Hygienist Association*. 40(2):73-74.
- Faulks D, Freedman L, Thompson S, Sagheri D, Dougall A. 2012. The value of education in special care dentistry as a means of reducing inequalities in oral health. *European Journal of Dental Education*. 16(4):195.
- Faulks D, Hennequin M. 2006. Defining the population requiring special care dentistry using the International Classification of Functioning, Disability and Health a personal view. *Journal of Disability and Oral Health*. 7(3):143-152.

Faulks D, Norderyd J, Molina G, Macgiolla Phadraig C, Scagnet G, Eschevins C, Hennequin M. 2013. Using the International Classification of Functioning, Disability and Health (ICF) to describe children referred to special care or paediatric dental services. PLoS One. 8(4):e61993.

Ferguson FS, Berentsen B, Richardson PS. 1991. Dentists' willingness to provide care for patients with developmental disabilities. Special Care in Dentistry. 11(6):234-237.

Foltyn P. 2015. Ageing, dementia and oral health. Australian Dental Journal. 60 Suppl 1:86-94.

Foster Page L, Kang I, Anderson V, Thomson W, Meldrum A, Moffat S. 2013. Changes in Bachelor of Oral Health students' perceptions of their dental education environment. New Zealand Dental Journal. 109(4):134-140.

Fuad NA, Jacob J, Koh WT, Mani SA, Lim W-LS, Wong CS, Joshi VK, Rohani MM, Zwetchkenbaum S. 2015. Special Care Dentistry Curriculum at The Undergraduate Level: Students' Prospective. Journal of Dentistry Indonesia. 22(3):75-79.

Fulton MM, Riley Allen E. 2005. Polypharmacy in the elderly: A literature review. Journal of the American Academy of Nurse Practitioners. 17(4):123-132.

Gallagher JE, Fiske J. 2007. Special Care Dentistry: a professional challenge. British Dental Journal. 202(10):619-629.

Gallagher JE, Scambler S. 2012. Disability and Oral Health. In: Sittiprapaporn W, editor. Learning Disabilities. InTech. p. 343- 364.

Gartlehner G, Flamm M. 2013. Is the Cochrane collaboration prepared for the era of patient-centred outcomes research? Cochrane Database of Systemic Reviews. (3):Ed000054.

Gerritsen P, Cune M, van der Bilt A, Abbink J, de Putter C. 2015. Effects of integrated dental care on oral treatment needs in residents of nursing homes older than 70 years. Special Care in Dentistry.

Gerteis M, Edgman-Levitan S, Daley J, Delbanco T. 1993. Through the patient's eyes: understanding and promoting patient-centered care. San Francisco, CA: Jossey-Bass Publishers Inc.

Ghazal TS, Caplan DJ, Cowen HJ, Oliveira D. 2015. Factors related to receipt of dental care in Eastern Iowa nursing facilities. *Special Care in Dentistry*. 35(4):175-181.

Gizani S, Kandilorou H, Kavvadia K, Tzoutzas J. 2012. Oral health care provided by Greek dentists to persons with physical and/or intellectual impairment. *Special Care in Dentistry*. 32(3):83-89.

Glassman P. 2014. Dental education and people with special needs. *Journal of Dental Education*. 78(8):1103-1104.

Glassman P, Caputo A, Dougherty N, Lyons R, Messieha Z, Miller C, Peltier B, Romer M. 2009. Special Care Dentistry Association consensus statement on sedation, anesthesia, and alternative techniques for people with special needs. *Special Care in Dentistry*. 29(1):2-8; quiz 67-68.

Glassman P, Harrington M, Namakian M, Subar P. 2016. Interprofessional Collaboration in Improving Oral Health for Special Populations. *Dental Clinics of North America*. 60(4):843-855.

Glassman P, Henderson T, Helgeson M, Niessen L, Demby N, Miller C, Meyerowitz C, Ingraham R, Isman R, Noel D et al. 2005. Oral health for people with special needs: consensus statement on implications and recommendations for the dental profession. *Journal of California Dental Association*. 33(8):619-623.

Glassman P, Miller CE. 2003. Preventing dental disease for people with special needs: the need for practical preventive protocols for use in community settings. *Special Care in Dentistry*. 23(5):165-167.

Glassman P, Subar P. 2008. Improving and Maintaining Oral Health for People with Special Needs. *Dental Clinics of North America*. 52(2):447-461.

- Glassman P, Subar P. 2009. Planning Dental Treatment for People with Special Needs. *Dental Clinics of North America*. 53(2):195-205.
- Health and Disability Commissioner. 1994. Health and Disability Commissioner Act. In: Health and Disability Commissioner, editor. New Zealand.
- Health and Disability Commissioner. 2014. Code of Health and Disabilities Consumer Rights. In: Health and Disability Commissioner, editor. New Zealand.
- Hirotomi T, Yoshihara A, Ogawa H, Miyazaki H. 2015. Number of teeth and 5-year mortality in an elderly population. *Community Dental and Oral Epidemiology*. 43(3):226-231.
- Holm-Pedersen P, Vigild M, Nitschke I, Berkey DB. 2005. Dental care for aging populations in Denmark, Sweden, Norway, United kingdom, and Germany. *Journal of dental education*. 69(9):987.
- Hopcraft MS. 2015. Dental demographics and metrics of oral diseases in the ageing Australian population. *Australian Dental Journal*. 60:2-13.
- Huebner CE, Chi DL, Masterson E, Milgrom P. 2015. Preventive dental health care experiences of preschool-age children with special health care needs. *Special Care in Dentistry*. 35(2):68-77.
- Humza Bin Saeed M, Daly B, Newton JT. 2012. Knowledge and practice of behavioral management principles among dentists treating adults with learning disabilities. *Special Care in Dentistry*. 32(5):190-195.
- Institute of Medicine Committee. 2001. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington (DC): National Academies Press (US).
- Isaacs B. 1992. The challenge of geriatric medicine. Oxford University Press, USA.
- JACSCD. 2003. A Case of Need: Special Care Dentistry. A Report for the Joint Advisory Committee for Special Care Dentistry. London.
- Jatrana S, Crampton P, Filoche S. 2009. The case for integrating oral health into primary health care. *The New Zealand Medical Journal (Online)*. 122(1301).

Jones LM, Huggins TJ. 2014. Empathy in the dentist-patient relationship: review and application. *New Zealand Dental Journal*. 110(3):98-104.

Joseph-Williams N, Edwards A, Elwyn G. 2014. Power imbalance prevents shared decision making. *British Medical Journal*. 348:g3178.

Kailes JI. 2010. Language is more than a trivial concern. 10th ed. KAILES Publication.

Kang I, Foster Page L, Anderson V, Thomson W, Broadbent J. 2015. Changes in students' perceptions of their dental education environment. *European Journal of Dental Education*. 19(2):122-130.

Keene L. 2016a. Patient Centred Care: Improving quality and safety. ASMS News.

Keene L. 2016b. The time barrier. ASMS News.

Keene L. 2016c. Why is patient centred care so important? ASMS News. Path to Patient Centred Care.

Kim JJ, Antoun JS. 2010. Work experiences, professional development and career prospects of New Zealand dental house surgeons. *New Zealand Dental Journal*. 106(4):124-128.

Laing RD. 1971. The politics of the family, and other essays. Psychology Press.

Lamster IB, Asadourian L, Del Carmen T, Friedman PK. 2016. The aging mouth: differentiating normal aging from disease. *Periodontology 2000*. 72(1):96-107.

Lee HS, Jung HI, Kim SM, Kim J, Doh RM, Lee JH. 2015a. Attitudes of Korean Dental Students Toward Individuals with Special Health Care Needs. *Journal of Dental Education*. 79(9):1024-1030.

Lee KJ, Ettinger RL, Cowen HJ, Caplan DJ. 2015b. Health trends in a geriatric and special needs clinic patient population. *Special Care in Dentistry*. 35(6):303-311.

Levitt JM. 2017. Exploring how the social model of disability can be re-invigorated: in response to Mike Oliver. *Disability & Society*. 32(4):589-594.

Lewis CW. 2009. Dental care and children with special health care needs: a population-based perspective. *Academy of Paediatric Dentistry*. 9(6):420-426.

Lewis D, Fiske J. 2011. Domiciliary oral healthcare. *Dent Update*. 38(4):231-234, 237-240, 243-234.

Locker D. 1988. Measuring oral health: a conceptual framework. *Community Dental Health*. 5:3-18.

Loignon C, Allison P, Landry A, Richard L, Brodeur J-M, Bedos C. 2010. Providing humanistic care: dentists' experiences in deprived areas. *Journal of Dental Research*. 89(9):991-995.

Mac Giolla Phadraig C, Nunn J, Dougall A, O'Neill E, McLoughlin J, Guerin S. 2014. What Should Dental Services for People with Disabilities Be Like? Results of an Irish Delphi Panel Survey. *PLoS One*. 9(11).

Mac Giolla Phadraig C, Nunn JH, Tornsey O, Timms M. 2015. Does Special Care Dentistry undergraduate teaching improve dental student attitudes towards people with disabilities? *European Journal of Dental Education*. 19(2):107-112.

MacEntee MI. 2011. Muted dental voices on interprofessional healthcare teams. *Journal of Dentistry*. 39:S34-S40.

Manski RJ, Goodman HS, Reid BC, Macek MD. 2004. Dental insurance visits and expenditures among older adults. *American Journal of Public Health*. 94(5):759-764.

Marinelli RD, Ferguson FS, Berentsen BJ, Richardson PS. 1991. An undergraduate dental education program providing care for children with disabilities. *Special Care in Dentistry*. 11(3):110-113.

McKelvey VA, Morgaine KC, Thomson WM. 2014. Adults with intellectual disability: a mixed-methods investigation of their experiences of dental treatment under general anaesthetic. *New Zealand Dental Journal*. 110(2):58-64.

McKelvey VA, Thomson WM, Ayers KM. 2003. A qualitative study of oral health knowledge and attitudes among staff caring for older people in Dunedin long-term care facilities. *New Zealand Dental Journal*. 99(4):98-103.

McNamara G, Millwood J, Rooney YM, Bennett K. 2014. Forget me not - the role of the general dental practitioner in dementia awareness. *British Dental Journal*. 217(5):245-248.

McQuistan MR, Kuthy RA, Heller KE, Qian F, Riniker KJ. 2008. Dentists' comfort in treating underserved populations after participating in community-based clinical experiences as a student. *Journal of dental education*. 72(4):422-430.

McQuistan MR, Qasim A, Shao C, Straub-Morarend CL, Macek MD. 2015. Oral health knowledge among elderly patients. *Journal of American Dental Association*. 146(1):17-26.

Mills I, Frost J, Cooper C, Moles DR, Kay E. 2014. Patient-centred care in general dental practice--a systematic review of the literature. *BMC Oral Health*. 14:64.

Mills I, Frost J, Moles DR, Kay E. 2013. Patient-centred care in general dental practice: sound sense or soundbite? *British Dental Journal*. 215(2):81-85.

Ministry of Health. 2006. Good Oral Health for All, for Life: The Strategic Vision for Oral Health in New Zealand. In: Health Mo, editor. Wellington: Ministry of Health,.

Ministry of Health. 2007. Measuring Health States: The World Health Organisation-Long Form (New Zealand Version) Health Survey: Acceptability, reliability, validity and norms for New Zealand. Wellington: Ministry of Health,.

Ministry of Health. 2010. Our Oral Health: Key Findings of the 2009 New Zealand Oral Health Survey. In: Ministry of Health, editor. Wellington: Ministry of Health,.

Ministry of Health. 2015a. Annual Update of Key Results 2014/15: New Zealand Health Survey. Wellington, New Zealand.

Ministry of Health. 2015b. Independent Life Expectancy in New Zealand 2013. Wellington: Ministry of Health.

Ministry of Health. 2017. 2017/18 Service Coverage Schedule. In: Ministry of Health, editor.

Mohebbi SZ, Chinipardaz Z, Batebi A. 2014. Effectiveness of training senior dental students on oral health care for disabled patients. European Journal of Dental Education. 18(4):214-221.

Morgan JP, Minihan PM, Stark PC, Finkelman MD, Yantsides KE, Park A, Nobles CJ, Tao W, Must A. 2012. The oral health status of 4,732 adults with intellectual and developmental disabilities. Journal of the American Dental Association. 143(8):838-846.

Morgan MZ, Johnson IG, Hitchings E, Monaghan NP, Karki AJ. 2016. Dentist skill and setting to address dental treatment needs of care home residents in Wales. Gerodontics. 33(4):461-469.

Murray CG. 2015. Advanced restorative dentistry – a problem for the elderly? An ethical dilemma. Australian Dental Journal. 60:106-113.

Murray CM, Chandler NP. 2014. Undergraduate endodontic teaching in New Zealand: students' experience, perceptions and self-confidence levels. Australian Endodontic Journal. 40(3):116-122.

New Zealand Dental Association. 2006. New Zealand Dental Association Workforce Project - Final Report April 2006. New Zealand: New Zealand Dental Association.

Nikora LW, Karapu R, Hickey H, Te Awekotuku N. 2004. Disabled Māori and disability support options. Ministry of Health.

Norderyd J, Lillqvist A, Klingberg G, Faulks D, Granlund M. 2014. Oral health, medical diagnoses, and functioning profiles in children with disabilities receiving paediatric specialist dental care - a study using the ICF-CY. Disability and Rehabilitation. 1-8.

Oliveira JS, Prado Júnior RR, de Sousa Lima KR, de Oliveira Amaral H, Moita Neto JM, Mendes RF. 2013. Intellectual disability and impact on oral health: a paired study. Special Care in Dentistry. 33(6):262-268.

Oliver M. 1996. Understanding disability: From theory to practice. St Martin's Press.

Oliver M. 2013. The social model of disability: thirty years on. *Disability & Society*. 28(7):1024-1026.

Pearson A, Chalmers J. 2004. Oral hygiene care for adults with dementia in residential aged care facilities. *JBI Reports*. 2(3):65-113.

Punshon K. Forthcoming 2015. The History of Special Needs Dentistry in Australia and New Zealand (Unpublished Work). Melbourne.

Rautemaa R, Lauhio A, Cullinan MP, Seymour GJ. 2007. Oral infections and systemic disease—an emerging problem in medicine. *Clinical Microbiology and Infection*. 13(11):1041-1047.

Risma KM, Weber - Gasparoni K, Swenson SE, Ettinger RL, Qian F. 2015. Group home caregivers' comfort levels regarding physical resistance during oral hygiene care. *Special Care in Dentistry*. 35(3):123-131.

Robbins MR. 2016. Neurologic Diseases in Special Care Patients. *Dental Clinics of North America*. 60(3):707-735.

Sanders C, Kleinert HL, Boyd SE, Herren C, Theiss L, Mink J. 2008. Virtual patient instruction for dental students: can it improve dental care access for persons with special needs? *Special Care in Dentistry*. 28(5):205.

Scambler S, Asimakopoulou K. 2014. A model of patient-centred care - turning good care into patient-centred care. *British Dental Journal*. 217(5):225-228.

Scambler S, Delgado M, Asimakopoulou K. 2016. Defining patient-centred care in dentistry? A systematic review of the dental literature. *British Dental Journal*. 221(8):477-484.

Scambler S, Low E, Zoitopoulos L, Gallagher J. 2011. Professional attitudes towards disability in special care dentistry. *Journal of Disability and Oral Health*. 12(2):51.

Schoen C, Doty MM. 2004. Inequities in access to medical care in five countries: findings from the 2001 Commonwealth Fund International Health Policy Survey. *Health Policy*. 67(3):309-322.

Scully C, Ettinger RL. 2007. The influence of systemic diseases on oral health care in older adults. *Journal of American Dental Association*. 138 Suppl:7s-14s.

Seymour GJ, Ford PJ, Cullinan MP, Leishman S, Yamazaki K. 2007. Relationship between periodontal infections and systemic disease. *Clinical Microbiology and Infection*. 13 Suppl 4:3-10.

Shakespeare T, Watson N. 2001. The social model of disability: an outdated ideology? Exploring theories and expanding methodologies: Where we are and where we need to go. Emerald Group Publishing Limited. p. 9-28.

Shetty S. 2014. The Need for Geriatric Dental Education. *Journal of Indian Prosthodontic Society*. 14(1):1-2.

Shimpi N, Schroeder D, Kilsdonk J, Chyou PH, Glurich I, Penniman E, Acharya A. 2016. Medical Providers' Oral Health Knowledgeability, Attitudes, and Practice Behaviors: An Opportunity for Interprofessional Collaboration. *Journal of Evidence-Based Dental Practice*. 16(1):19-29.

Shnider WH. 2008. Special needs dentistry: the next ten years. *Annals of the Royal Australasian College of Dental Surgeons*. 19:165-168.

Singh ML, Papas A. 2014. Oral implications of polypharmacy in the elderly. *Dental Clinics of North America*. 58(4):783-796.

Sippli K, Rieger MA, Huettig F. 2017a. GPs' and dentists' experiences and expectations of interprofessional collaboration: findings from a qualitative study in Germany. *BMC Health Serv Res*. 17(1):179.

Sippli K, Rieger MA, Huettig F. 2017b. GPs' and dentists' experiences and expectations of interprofessional collaboration: findings from a qualitative study in Germany. *BMC Health Service Research*. 17(1):179.

Slade GD, Spencer AJ. 1994. Development and evaluation of the Oral Health Impact Profile. *Community Dental Health*. 11(1):3-11.

- Smith BJ, Ghezzi EM, Manz MC, Markova CP. 2010a. Oral healthcare access and adequacy in alternative long-term care facilities. *Special Care in Dentistry*. 30(3):85-94.
- Smith CS, Ester TV, Inglehart MR. 2006. Dental education and care for underserved patients: an analysis of students' intentions and alumni behavior. *Journal of dental education*. 70(4):398-408.
- Smith G, Rooney Y, Nunn J. 2010b. Provision of dental care for special care patients: the view of Irish dentists in the Republic of Ireland. *Journal of the Irish Dental Association*. 56(2):80-84.
- Smith MB, Thomson WM. 2017. 'Not on the radar': dentists' perspectives on the oral health care of dependent older people. *Gerodontology*. 34(1):90-100.
- Soma KJ, Thomson WM, Morgaine KC, Harding WJ. 2012a. A qualitative investigation of specialist orthodontists in New Zealand: part 2. Orthodontists' working lives and work-life balance. *Australian Orthodontic Journal*. 28(2):170-180.
- Soma KJ, Thomson WM, Morgaine KC, Harding WJ. 2012b. A qualitative investigation of specialist orthodontists in New Zealand. Part 1. Orthodontists and orthodontic practice. *Australian Orthodontic Journal*. 28(1):2-16.
- Southerland JH, Webster-Cyriaque J, Bednarsh H, Mouton CP. 2016. Interprofessional Collaborative Practice Models in Chronic Disease Management. *Dental Clinics of North America*. 60(4):789-809.
- Stanfield M, Scully C, Davison M, Porter S. 2003. Oral healthcare of clients with learning disability: changes following relocation from hospital to community. *British dental journal*. 194(5):271-277.
- Statistics New Zealand. 2013a. Disability Survey. New Zealand.
- New Zealand Census. 2013b. New Zealand: Statistics New Zealand; [accessed 2015 28 March]. <http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/qstats-about-national-highlights-mr.aspx>.

- National Population Estimates. 2016. [accessed].
http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/NationalPopulationEstimates_HOTPAt30Jun16/Commentary.aspx - Changes.
- Subar P, Chavez EM, Miles J, Wong A, Glassman P, Labarre E. 2012. Pre- and postdoctoral dental education compared to practice patterns in special care dentistry. *Journal of Dental Education.* 76(12):1623-1628.
- Tan A, Anderson V, Foster Page L. 2013. Second and third year oral health and dental student perceptions of future professional work. *European Journal of Dental Education.* 17(4):241-250.
- Tavares M, Lindefjeld Calabi KA, San Martin L. 2014. Systemic diseases and oral health. *Dental Clinics of North America.* 58(4):797-814.
- Thierer T, Meyerowitz C. 2005. Education of dentists in the treatment of patients with special needs. *Journal of the California Dental Association.* 33(9):723-729.
- Thomas DR. 2006. A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation.* 27(2):237-246.
- Thomson WM. 2001. Use of dental services by 26-year-old New Zealanders. *New Zealand Dental Journal.* 97:44-48.
- Thomson WM. 2012. Monitoring edentulism in older New Zealand adults over two decades: A review and commentary. *International Journal of Dentistry.* (375407).
- Thomson WM. 2014. Epidemiology of oral health conditions in older people. *Gerodontontology.* 31(s1):9-16.
- Thomson WM, Ma S. 2014. An ageing population poses dental challenges. *Singapore Dental Journal.* 35:3-8.
- Tiller S, Wilson K, Gallagher J. 2001. Oral health status and dental service use of adults with learning disabilities living in residential institutions and in the community. *Community Dental Health.* 18(3):167-171.

United Nations. 2007. United Nations Convention on the Rights of Persons with Disabilities. UN, New York.

Vainio L, Krause M, Inglehart MR. 2011. Patients with Special Needs: Dental Students' Educational Experiences, Attitudes, and Behavior. *Journal of Dental Education*. 75(1):13-22.

Waldman HB, Perlman SP. 2006a. Children with special health care needs: results of a national survey. *Journal of Dentistry for Children*. 73(1):57-62.

Waldman HB, Perlman SP. 2006b. A special care dentistry specialty: sounds good, but. *Journal of dental education*. 70(10):1019-1022.

Wolff AJ, Walman HB, Milano M, Perlman SP. 2004. Dental students' experiences with and attitudes toward people with mental retardation. *Journal of the American Dental Association*. 135(3):353-357.

Wong BKJ, Theobald AH, Thomson WM, Quick A. 2006. The big OE: New Zealand dental graduates' self-reported experience of working overseas. *New Zealand Dental Journal*. 102(2):35.

World Health Organization. 1999. International Classification of Impairments, Disabilities and Handicaps. Geneva: World Health Organization.

World Health Organization. 2001. International Classification of Functioning, Disability and Health (ICF). Geneva, Switzerland: World Health Organization.

World Health Organization. 2004. World Health Survey. Geneva, Switzerland.

World Health Organization. 2008. Global Burden of Disease: 2004 Update. Geneva, Switzerland.

World Health Organization. 2010. Framework for Action on Interprofessional and Collaborative Practice. Geneva.

World Health Organization. 2011. World Report on Disability. Geneva, Switzerland.

World Health Organization. 2015. World Report on Ageing and Health. World Health Organization.

Dementia Fact Sheet. 2017. Geneva; [accessed 2017 25/072017].

[http://www.who.int/mediacentre/factsheets/fs362/en/.](http://www.who.int/mediacentre/factsheets/fs362/en/)

Wright FAC. 2015. Social implications and workforce issues in the oral health of an ageing population. Australian Dental Journal. 60:114-124.

Yeaton S, Moorthy A, Rice J, Coghlan D, O'Dwyer L, Green E, Sultan A, Guray S, Mohamad NA, Aslam N et al. 2014. Special care dentistry: how prepared are we? European Journal of Dental Education. 20(1):9-13.

Zwarenstein M, Goldman J, Reeves S. 2009. Interprofessional collaboration: effects of practice - based interventions on professional practice and healthcare outcomes. Cochrane Database of Systematic Reviews. (3).

APPENDIX A- Maori Consultation



NGĀI TAHU RESEARCH CONSULTATION COMMITTEE TE KOMITI RAKAHAU KI KAI TAHU

Tuesday, 21 April 2015.

Associate Professor Darryl Tong,
Faculty of Dentistry - Department of Oral Diagnostic and Surgical Sciences,
DUNEDIN.

Tēnā Koe Associate Professor Darryl Tong.

Building the Discipline of Special Care Dentistry in New Zealand

The Ngāi Tahu Research Consultation Committee (the committee) met on Tuesday, 21 April 2015 to discuss your research proposition.

By way of introduction, this response from The Committee is provided as part of the Memorandum of Understanding between Te Rūnanga o Ngāi Tahu and the University. In the statement of principles of the memorandum it states "Ngāi Tahu acknowledges that the consultation process outline in this policy provides no power of veto by Ngāi Tahu to research undertaken at the University of Otago". As such, this response is not "approval" or "mandate" for the research, rather it is a mandated response from a Ngāi Tahu appointed committee. This process is part of a number of requirements for researchers to undertake and does not cover other issues relating to ethics, including methodology they are separate requirements with other committees, for example the Human Ethics Committee, etc.

Within the context of the Policy for Research Consultation with Māori, the Committee base consultation on that defined by Justice McGechan:

"Consultation does not mean negotiation or agreement. It means: setting out a proposal not fully decided upon; adequately informing a party about relevant information upon which the proposal is based; listening to what the others have to say with an open mind (in that there is room to be persuaded against the proposal); undertaking that task in a genuine and not cosmetic manner. Reaching a decision that may or may not alter the original proposal."

The Committee considers the research to be of importance to Māori health.

As this study involves human participants, the Committee strongly encourage that ethnicity data be collected as part of the research project. That is the questions on self-identified ethnicity and descent, these questions are contained in the latest census.

The Committee suggests dissemination of the findings to relevant Māori health organisations, for example the National Māori Organisation for Dental Health, Oranga Niho and to Professor John Broughton, who is involved in Māori Dental Health, University of Otago.

We wish you every success in your research and the committee also requests a copy of the research findings.

The Ngāi Tahu Research Consultation Committee has membership from:
Te Rūnanga o Ōtākou Incorporated
Kāti Hurapa Rūnaka ki Pāketempi
Te Rūnanga o Moeraki



NGĀI TAHU RESEARCH CONSULTATION COMMITTEE
TE KOMITI RAKAHAU KI KAI TAHU

This letter of suggestion, recommendation and advice is current for an 18 month period from Tuesday, 21 April 2015 to 21 October 2016.

Nāhaku noa, nā



Mark Brunton
Māori Research Manager
Research Division
Te Whare Wānanga o Otago
Ph: +64 3 479 8738
Email: mark.brunton@otago.ac.nz
Web: www.otago.ac.nz

The Ngāi Tahu Research Consultation Committee has membership from:
Te Rūnanga o Ōtākou Incorporated
Kāti Huripapa Rūnaka ki Pakiteraki
Te Rūnanga o Moeraki

APPENDIX B- NZDA Ministry of Health Fund Grant

NZDA House
Building 1, 195 Main Highway
Ellerslie, Auckland 1051
PO Box 28084, Remuera 1541
Ph +64 9 579 8001
Fx +64 9 580 0010
Email: research@nzda.org.nz



**ADVICE OF RESEARCH FUNDING GRANT APPLICATION AS ASSESSED BY THE PANEL
OF THE MINISTRY OF HEALTH ORAL HEALTH RESEARCH FUND
TUESDAY 21 JULY 2015**

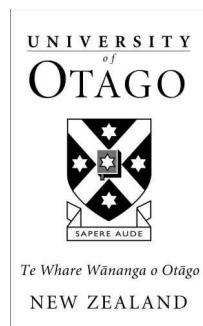
Date of Advice	17 August 2015
Name of Applicant/s	Chia L, Tong D, Thomson M, Foster Page L
Reference	MOH 8.02 2015
Title of Research	Clinicians' perspectives on special needs dentistry in New Zealand.
Amount Awarded	\$2000.00 grant-in-aid
Condition/s of Award	Grant-in-aid funding of this project is awarded to facilitate the progression of this project and/or refinement for reconsideration at the 2016 awards meeting. You are required to provide a satisfactory Progress Report by 01 June 2016 and annually by 1 June each year beyond 2016 (see General Comments). A Final Report (and a copy of any publications) is required at the completion of the project in September 2017. Copies of any publications after this date are also to be provided.
General Comments The Panel congratulates the recipients on the award of this grant-in-aid. For administrative convenience Progress Reports are to be submitted to Research and Enterprise, 'Centre for Innovation', University of Otago by 15 May 2016 and annually thereafter. Publications should acknowledge funding support from the Ministry of Health Oral Health Research Fund. Suggested acknowledgement: <i>This study was supported with funding from the Ministry of Health Oral Health Research Fund.</i>	
<u>Signed:</u>  Richard Jefferies (Chair, New Zealand Dental Research Foundation Board)	

YOU ARE REQUIRED TO SUBMIT A PROGRESS REPORT TO RESEARCH AND ENTERPRISE, UNIVERSITY OF OTAGO BY 15 MAY 2016 TO ENSURE REPORTS ARE RECEIVED BY NZDRF BY 1 JUNE 2016
(Please email your report to – research@otago.ac.nz)

The Principal Researcher should sign, date and return a COPY of this advice notice (in the panel below) to acknowledge the conditions and enable payment of the Award. If the Principal Researcher is a post-graduate student then the student's supervisor should sign and return this form. Thank you.

Name: <u>D C TONG</u>	Signed: 	Date: <u>28/8/2015</u>
Principal Researcher OR Student Supervisor		

APPENDIX C- Participant Information Sheets and Consent Forms



Clinicians' Perspectives on Special Care Dentistry in New Zealand **INFORMATION SHEET FOR** **PARTICIPANTS FOR SEMI-STRUCTURED INTERVIEWS**

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate, we thank you. If you decide not to take part, there will be no disadvantage to you and we thank you for considering our request.

The purpose of this research is to explore the perspectives of Special Need Dentistry among specialists and general dentists in New Zealand. It is part of a doctoral thesis that seeks to define special needs dentistry and its role in New Zealand. It comprises interviews with specialists and general dentists who practise special needs dentistry on their experiences, perceptions, and opinions of special needs dentistry. This project is being undertaken as part of Dr Leonard Chia's Doctorate in Clinical Dentistry (Special Needs Dentistry).

The names and details of the eight dentists registered as 'special needs dentist' specialists and eight general dentists who mainly practise special needs dentistry will be obtained from the Dental Council of New Zealand. These clinicians must be currently registered with New Zealand Dental Council as practising clinicians.

There will be a randomised draw for book vouchers to thank those who have participated. This research project will be carried out with the intention to publish its findings. Participants can request for the results of the findings.

Participants are individually interviewed over an Internet audio-visual conference with the primary interviewer (Dr Leonard Chia). A series of open questions will be asked regarding the participants' views and perspectives in special needs dentistry. The length of the interview will be no more than an hour. The interview will be recorded verbatim and transcribed for further analysis.

Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind.

The data will be collected and analysed. Names and email addresses will be collected at the end of the interview if participants would like to be in the draw to win book vouchers.

The data collected will be used to understand the perspectives of special needs dentists and general dentists who practise special needs dentistry. All of the research supervisors will have access to the data. A designated transcribe will transcribe the raw audio data as well. The data collected will be securely stored in such a way that only those mentioned above will be able to gain access to it. Data obtained as a result of the research will be retained for **at least 5 years** in secure storage. Any personal information held on the participants may be destroyed at the completion of the research even though the data derived from the research will, in most cases, be kept for much longer or possibly indefinitely.

The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand) but every attempt will be made to preserve your anonymity.

This project involves an open-questioning technique. The general line of questioning includes areas of history of special needs dentistry, education, vocational recognition, patient barriers, role and workforce issues, and their views on the future of special needs dentistry. Due the nature of a semi-structured interview, the precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops. Consequently, although the University of Otago Human Ethics Committee is aware of the general areas to be explored in the interview, the Committee has not been able to review the precise questions to be used.

In the event that the line of questioning does develop in such a way that you feel hesitant or uncomfortable you are reminded of your right to decline to answer any particular question(s) and also that you may withdraw from the project at any stage without any disadvantage to yourself of any kind.

If you have any questions about our project, either now or in the future, please feel free to contact either:

Dr Leonard Chia and
Department of Oral Diagnostic and
and Surgical Sciences
Email: dental_chia@yahoo.co.nz

Prof Darryl Tong
Department of Oral Diagnostic
Surgical Sciences
Email: darryl.tong@otago.ac.nz

This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research, you may contact the Committee through the Human Ethics Committee Administrator (ph +643 479

8256 or email gary.witte@otago.ac.nz). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.

Clinicians' Perspectives on Special Care Dentistry in New Zealand

***CONSENT FORM FOR
PARTICIPANTS FOR SEMI-STRUCTURED INTERVIEWS***

I have read and understand the Information Sheet concerning this project. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

1. My participation in the project is entirely voluntary.
2. I am free to withdraw from the project at any time without any disadvantage.
3. Personal identifying information recorded on audio may be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for at least five years.
4. This project involves an open-questioning technique. The general line of questioning includes areas of history of special needs dentistry, education, vocational recognition, patient barriers, role and workforce issues, and their views on the future of special needs dentistry. Due the nature of a semi-structured interview, the precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops. Consequently, although the University of Otago Human Ethics Committee is aware of the general areas to be explored in the interview, the Committee has not been able to review the precise questions to be used.

In the event that the line of questioning does develop in such a way that I feel hesitant or uncomfortable I have the right to decline to answer any particular question(s) and also that I may withdraw from the project at any stage without any disadvantage to myself of any kind;

5. The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand) but every attempt will be made to preserve my anonymity.

I agree to take part in this project.

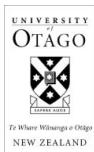
.....
(Signature of participant)

.....
(Date)

.....
(Printed Name)

This study has been approved by the University of Otago Human Ethics Committee. If you have any concerns about the ethical conduct of the research, you may contact the Committee through the Human Ethics Committee Administrator (ph +643 479 8256 or email gary.witte@otago.ac.nz). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.

APPENDIX D Ethical Approval



15/140

Academic Services
Manager, Academic Committees, Mr Gary Witte

18 November 2015

Assoc. Prof. D Tong
Department of Oral Diagnostic and Surgical Sciences
Faculty of Dentistry

Dear Assoc. Prof. Tong,

I am again writing to you concerning your proposal entitled "**Clinician's Perspectives on Special Needs Dentistry in New Zealand**", Ethics Committee reference number 15/140.

Thank you for your e-mail of 17th November 2015, with attached revised ethics application, addressing the issues raised by the Committee.

On the basis of this response, I am pleased to confirm that the proposal now has full ethical approval to proceed.

Approval is for up to three years from the date of this letter. If this project has not been completed within three years from the date of this letter, re-approval must be requested. If the nature, consent, location, procedures or personnel of your approved application change, please advise me in writing.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Gary Witte".

Mr Gary Witte
Manager, Academic Committees
Tel: 479 8256
Email: gary.witte@otago.ac.nz

c.c. Professor A M Rich Department of Oral Diagnostic and Surgical Sciences