New Zealand Oral Health Clinical Leadership Network Group (NZOHCLNG)

Improving Oral Health Services for 'High Needs and Vulnerable Populations':

Advice to the Chief Dental Officer and the Ministry of Health

August 2012

From the New Zealand Oral Health Clinical Leadership Network Group (NZOHCLNG)

FOREWORD

The attached report, *Improving Oral Health Services for High Needs and Vulnerable Populations* (the HNV Report), was written by the Executive Group of the New Zealand Oral Health Clinical Leadership Network Group (the Network), in light of consultation with the Network's wider membership. The HNV Report focus is on access to hospital oral health services.

Formed in late 2010, the Network aims to support and develop clinical leadership in oral health, to facilitate national consistency in service access, and to promote evidence-based and best-practice approaches to care. From its inception, the Network has had a collaborative working relationship with the Ministry of Health.

The Network sent it's completed HNV Report to the Ministry of Health. After Ministry consideration of this report, it was agreed that the Ministry and the Executive Group would add a new joint Foreword to the HNV Report. The purpose of this is to set out the intended processes and steps to address the findings of the HNV Report. These processes and steps, some already underway and others planned, will assist District Health Boards (DHBs) to ensure consistency of access to hospital oral health services into the future.

In response to the HNV Report and its findings, the Ministry and/or the Executive will:

- Circulate the HNV Report formally to DHB Chief Executives, to enable each DHB to consider its situation alongside the national situation, including how closely its service provision matches that of the service matrix the HNV Report proposes.
- Arrange for a discussion of the issues raised by the HNV Report. As part of this process, the Ministry will seek to arrange for the Executive Group of the Network to make a presentation to the national forum of DHB funding and planning managers and Chief Operating Officers. The purpose of these presentations is to facilitate discussion of the potential for collaborative regional arrangements to enhance consistency of access to services.
- Refine over time the service specifications that describe the services DHBs must provide. If the above steps confirm its appropriateness, this expectation could be signalled in the 2014/15 planning packages.
- Liaise with relevant agencies to examine training and workforce opportunities, and to identify ways to meet the growing need for special needs dentistry. For example, the Ministry will contribute to the forthcoming review of Otago University's dental training programme.

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A note about figures

For the purposes of this document, figures for Auckland should be read to include both Auckland and Waitemata District Health Boards.

About this Document

This document was developed by the executive group of the New Zealand Oral Health Clinical Leadership Network Group (NZOHCLNG) and supported by the full NZOHCLNG at its network meeting on 28th June 2012 in Wellington.

The purpose of the document is to provide advice to the Chief Dental Officer (CDO) and the Ministry of Health as to the steps necessary to improve provision of timely, equitable, patient and family/whānau centred oral health services for high needs and vulnerable populations, within New Zealand's publicly funded health system.

The focus of this advisory report is on hospital-based dental services, as we feel the immediate need is for improving oral health services to vulnerable members of our society who also have complex medical or dental needs. However, over time there will also be a need to consider the future role of community-based services and dental practitioners in caring for other vulnerable groups, such as those living in residential care, those adults on low incomes, and the elderly population in general.

It is the aspiration of the NZOHCLNG that by providing this advice we can highlight the special oral health care requirements of 'high needs and vulnerable' people in New Zealand, and galvanise action to improve the level and equity of oral health services offered to them.

Executive summary

Good Oral Health for All, for Life called for high quality oral health services that promote, improve, maintain and restore good oral health. This includes having services that are accessible, appropriate and proactive in addressing the needs of those most at-risk. The NZOHCLNG has found evidence that this aspiration is not being met consistently for New Zealanders who are most vulnerable and have the most complex needs.

The following issues exist in the system:

- Lack of national planning for hospital dental services, or adequate regional arrangements, to accommodate variation in service distribution, resources and workforce
- No common definition of 'high needs and vulnerable' groups
- Resource constraints
- A range of clinical leadership capacity and capability across DHBs
- A need for reliable, appropriate and affordable training that will develop an appropriately skilled workforce.

It is likely that Maori are particularly adversely affected by the current situation. Maori have higher rates of disability in all age groups compared with other ethnic groups, have higher rates of many of the medical conditions requiring more complex dental care, and are disproportionately represented on measures of material disadvantage. Some reports also suggest that Maori are underrepresented in referrals to special care dentistry.

It is recommended that the Chief Dental Officer and Ministry of Health work with District Health Boards and the oral health profession, to improve the equity and level of oral health service provision to 'high needs and vulnerable' people through:

1. Working with the NZOHCLNG Executive on a process to engage and consult with relevant stakeholders
2. Promoting more consistency and equity of access of service
3. Promoting more regional collaboration and planning
4. Building a skilled workforce 'fit for purpose' by developing a workforce plan
5. Considering alternative pathways of oral health care for low-income adults
6. Monitoring progress in improving provision of services to high needs and vulnerable populations.

1. Strategic Context

New Zealand's strategic vision for oral health is 'good oral health for all, for life'. It is for high quality oral health services that promote, improve, maintain and restore good oral health. This means that services are accessible, appropriate and proactively address the needs of those at greatest risk of poor oral health. The strategic vision recognises that:

- improving the oral health status of those currently disadvantaged is a priority
- oral health is an integral part of general health and wellbeing throughout life
- District Health Boards (DHBs) have the primary responsibility for ensuring high quality oral health services are developed and maintained for people that are eligible for publicly funded oral health care.

The vision also recognises the importance of developing and retaining an appropriately trained publicly funded dental workforce in primary, secondary and tertiary oral health care. A skilled multidisciplinary workforce, with the capacity and capability to meet the needs of all New Zealanders is essential for delivering on the promise of Good Oral Health for All, for Life.

2. Defining high needs and vulnerable populations in New Zealand

There is no single, national or internationally accepted definition of high needs and vulnerable (HNV) populations for the purposes of delivering oral health care.[1] However, definitions tend to include one or more of the following groups:

- People of all ages with physical, intellectual, behavioural, or cognitive disabilities, or who are medically compromised, and require equitable access to specialist hospital dental services
- People experiencing urgent oral health needs who, for affordability and other reasons, are not accessing remedial oral health services in the primary care setting
- Older adults – particularly the frail elderly who also have special care needs.

It is difficult to accurately estimate the total size of the HNV population in New Zealand as this is a diverse group, not all of whom will require specialised oral health care in any one year. It is further complicated as some people will have higher needs or be more vulnerable at certain times in their lives rather than others, meaning that the population is not static.

However, the growing number of people with serious and chronic health conditions, the ageing population, and improved longevity means that the proportion of New Zealanders with high needs is likely to be growing. Financial pressures caused by the economic climate may also be increasing the numbers of individuals and families facing affordability barriers to oral health care.

[1] A literature review to inform the definition of HNV populations and the provision of equitable and consistent oral health services has been undertaken. A summary of the findings of the literature review is included in Appendix 1D.

Oranga waha mo te iwi Māori katoa

Evidence shows that Māori men, women and whānau face particular barriers in accessing oral health services (Robson et al., 2011). *Oranga waha mō t e iwi Māori katoa* – the vision for good oral health for all Māori for life – acknowledges that the Crown and society has an obligation to tackle major access and equity issues that affect Māori whānau with low incomes, kaumātua, and Māori with disabilities, special needs or chronic conditions.

There is evidence to suggest that Māori are likely to be overrepresented in all high needs and vulnerable categories. In many cases, disability, age, and deprivation overlap. For example, research commissioned by the Ministry of Health and Health Research Council of New Zealand Māori Health Joint Venture (Robson et al., 2011) found that:

- Māori are disproportionately represented among the materially disadvantaged, no matter what measure is used
- Māori have higher rates of disability in all age groups compared with other ethnic groups
- in 2006, nearly half of Māori aged 65 years and over had a disability
- among disabled people aged 65 years and over, Māori were less likely to have seen a dentist or dental nurse in the last 12 months compared with non-Māori
- in 2006, disabled Māori adults (aged 15-64) were less likely to be employed than disabled non-Māori or non-disabled Māori and non-Māori, and were more likely to live in areas of high deprivation
- Māori have higher rates of many of the medical conditions requiring more complex dental care or increased risk of dental problems, including rheumatic fever, cardiovascular disease, diabetes, asthma, chronic obstructive pulmonary disease, hepatitis B and C, and mental illness and addictions
- there are high rates of admission for fractured jaw among Māori, especially for those living in areas of high deprivation.

3. Hospital dental services

New Zealand's hospital dental services currently provide specialised oral health care to population groups unable to be treated in primary health care settings due to their complex medical and dental needs. The provision of services to vulnerable and high needs populations is currently outlined in the Hospital Dental Services Oral Health Services: Tier 2 Service Specification (Ministry of Health, 2009). Service users are described as including people whose dental care can only be, or is most appropriately, provided within a hospital setting. This includes:

- hospital patients requiring essential dental treatment
- people requiring primary, secondary or tertiary oral health care in conjunction with other inpatient or outpatient hospital treatment
- people needing inpatient, day patient and outpatient dental services that are not available from a dentist or other oral health professional in an oral health service in

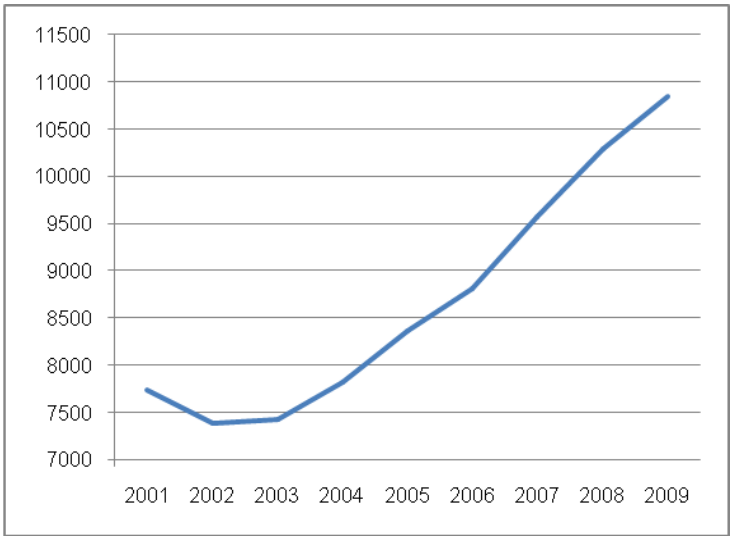
the community because of their special dental or medical condition, disability, or their need for special management facilities.

Total public expenditure on oral health services for the year 2009/2010 was $219 million.[2] Of this, approximately $39 million, or 18% of total public oral health funding, was provided to DHBs for the purpose of hospital based dental treatment.

Currently, 14 DHBs provide a hospital dental service within their locality, while the remaining six do not. Those DHBs without a service are expected to have arrangements in place for timely and appropriate referrals for service provision from the DHB to a DHB of service.

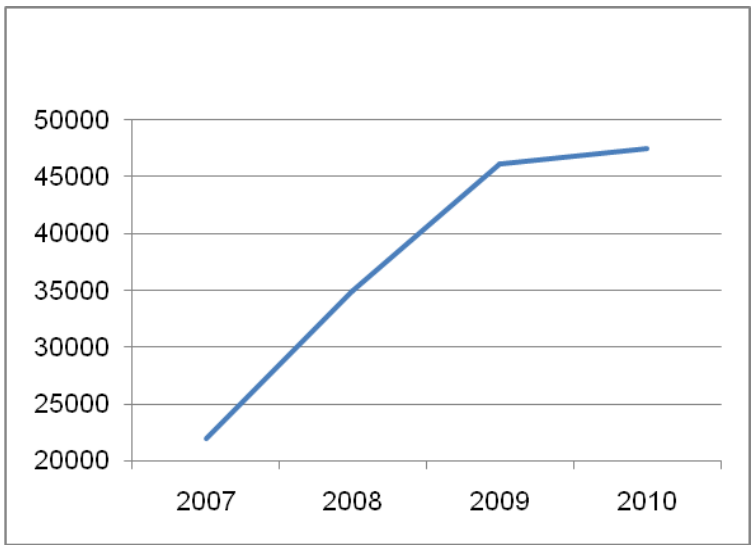
The number of visits to hospital dental services has increased dramatically in recent years. Access to inpatient services has increased by 40 per cent since 2001, while numbers of outpatient visits have doubled since 2007 (Figures 1 and 2)[3].

Figure 1: Patient numbers accessing inpatient hospital dental services: 2001 to 2009[4]



[2] See Appendix 2A.
[3] While most of the data was verified as true and accurate, the data obtained for outpatient access to hospital dental services was unable to be verified. Outpatient data has still been presented in this report to illustrate changes in access over time and some corrections were provided by individual DHBs.
[4] Data tables for all graphs can be found in Appendix 2.

Figure 2: Patient numbers accessing outpatient hospital dental services: 2007 to 2010



3.1 Hospital dental services for high needs and vulnerable groups

Hospital dental service provision to HNV populations aims to improve the oral health of individuals who have complex medical conditions, that are not easily treatable in primary care; that have a physical, mental, emotional or social impairment or, more commonly, a combination of several or all of these factors.[5] People with intellectual disabilities in particular, often require treatment under a general anaesthetic because of behavioural and management issues, as well as their complex dental and medical needs. Some hospital dental services indicate that patients with a moderate or severe intellectual disability form the largest group of patients currently receiving continuing care from these services.

'High needs and vulnerable' patients therefore constitute a diverse patient group with a wide range of complex health needs requiring a specialist and experienced hospital dental workforce. Comprehensive secondary and tertiary oral health care services for people with high and complex needs can require a full range of dental specialists, including orthodontics, oral surgery, oral and maxillofacial surgery, oral medicine, periodontics, paediatric dentistry and special care dentistry.

Coverage requirements under the hospital dental services service specification are broadly defined and flexibility is incorporated to allow DHBs to determine the provision of appropriate services to meet the needs of their local populations within available resources.

3.2 Dental services for low-income adults

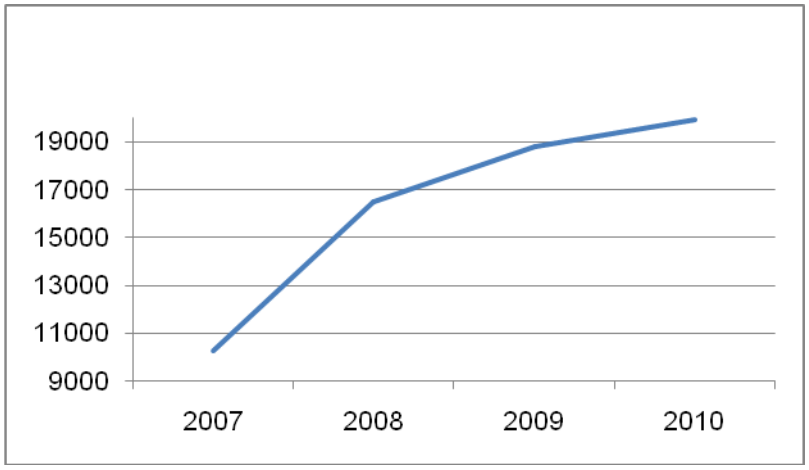
Where resources permit, some DHBs also provide 'Relief of Pain' and 'Essential' dental services, for people with low incomes, through their hospital dental departments. The requirements for these services are outlined in the Emergency Dental Services for Low-Income Adults Service Specification (Tier 2). The expectation is that treatment is limited to the presenting issue (for example, pain or infection).

[5] It is difficult to determine accurately the number of New Zealanders who may require, or be eligible for hospital dental services in any year. A broad assessment of numbers of New Zealanders with medical conditions that may require oral health care, or with disabilities, highlights that the potentially eligible population is considerable and that demand for services is likely to increase with the ageing population, reduced waiting times for elective services and better access to cancer care.

The Community Services Card is normally the mechanism to identify people eligible for treatment based on income. A co-payment may be applied by the DHB for treatment, taking into account the individual's ability to meet this cost. DHBs are permitted by the Hospital Dental Services service specification to charge adult patients no more than 70% of the 'fee per item' for services gazetted in the Combined Dental Agreement for children and adolescents.

There is evidence that the numbers of adults using hospital dental services is increasing. The New Zealand Oral Health Survey (Ministry of Health, 2010) found that cost was the key barrier to 44 per cent of adults wanting to access oral health services in primary care.[6] Over time there have been significant increases in emergency dental treatment visits for adults with low incomes, which went from 10,232 visits in 2007 to almost double that (19,890 visits) in 2010.

Figure 3: Patient numbers accessing emergency dental treatment 2007 to 2010



It is known that many adults not able to gain access to primary oral health care in a timely fashion end up presenting at emergency departments with toothache and/or dental infections (McMillan 2011; Whyman and Treasure 1996). Some of these individuals may be admitted as acute cases, while others are referred directly to hospital dental services outpatient departments.

[6] Work and Income does provide income support to individuals who need emergency dental treatment, as well as additional assistance through Special Needs Grants, Advance Payment of Benefits and Recoverable Assistance Payments towards the urgent treatment of dental problems. However, access to this option is reasonably limited and can usually only be accessed for one treatment episode per person or family per year.

4. Key issues

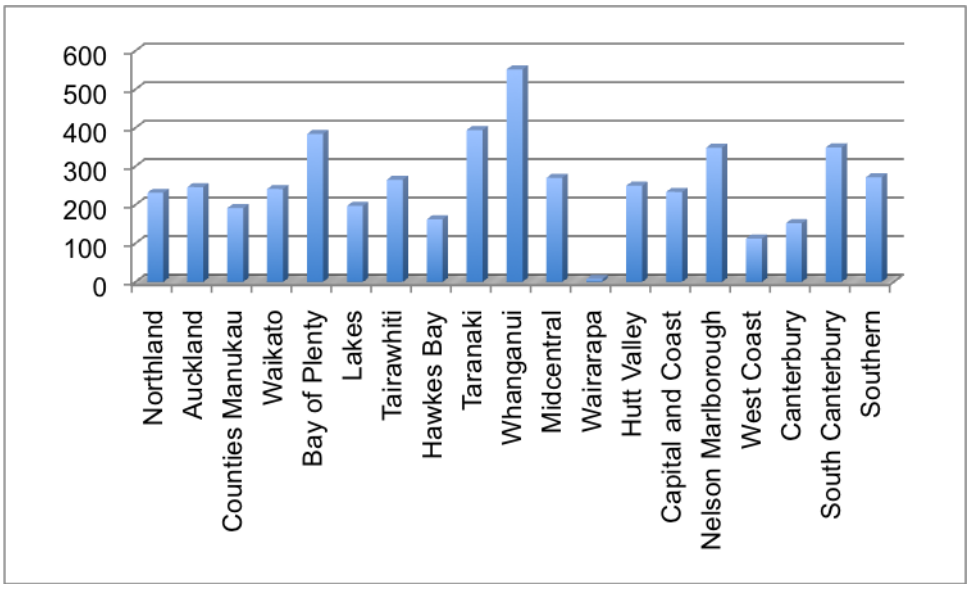
Results from the recent New Zealand Oral Health Survey suggest that, while many New Zealanders have better oral health than they did 20 years ago, disparities still remain (Ministry of Health, 2010). Additionally, although access to oral health services is generally good for younger children, there is still significant decay, barriers to access and systematic disparities among most other age groups.

Our analysis of the available data, feedback from the NZOHCLNG survey, and our observations as clinical leaders in the oral health sector suggests a number of key issues contributing to these disparities. Most strikingly, variations exist across the country in terms of access, capacity and specialist clinicians that may be impacting the ability of DHBs to equitably meet the needs of those HNV populations that need these services most.

4.1 Inpatient Access

According to the data collected, inpatient access differs across the country. Bay of Plenty, Nelson Marlborough, South Canterbury, Taranaki and Whanganui have higher rates of access.

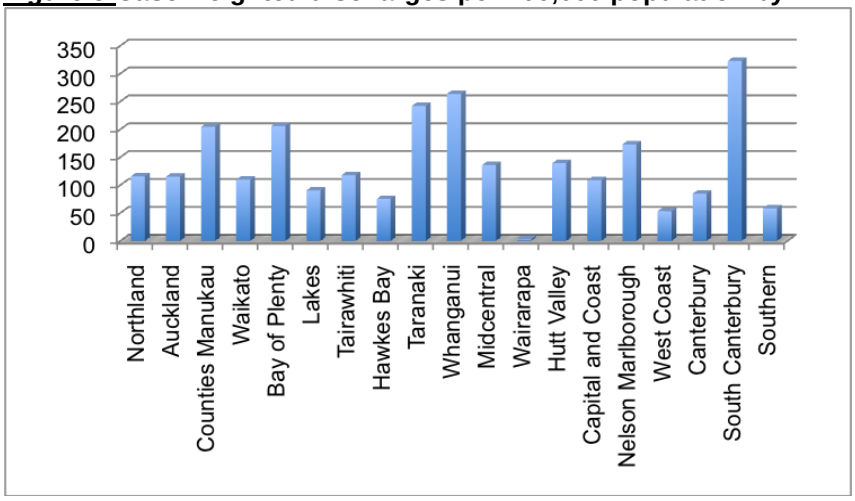
Figure 4: Ratio of inpatient access by DHB (2009) per 100,000 population[7]



[7] Waitemata DHB is included in Auckland DHB data

Case-weighted discharges (CWDs) reflect the complexity required for each treatment procedure. Most hospital level dental procedures have an average case-weight of 0.46. The ratio of case-weighted discharges per 100,000 population therefore provides an indication of the overall number and complexity of procedures conducted.

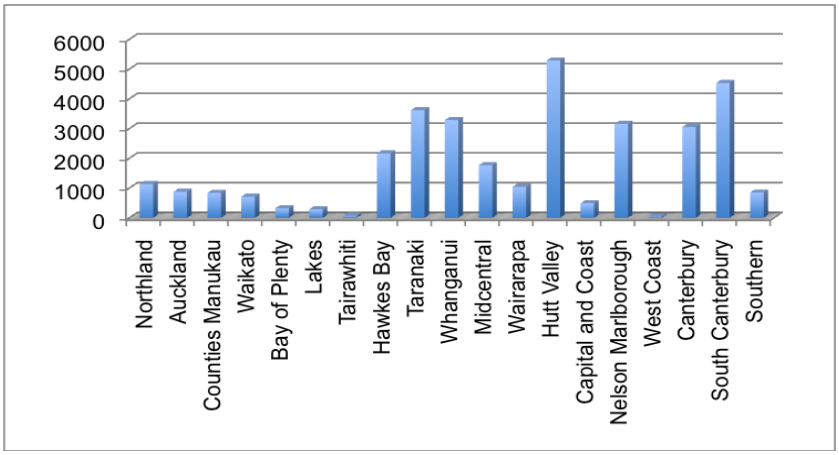
Figure 5:Case weighted discharges per 100,000 population by DHB[8]



4.2 Outpatient Visits

The ratio of outpatient visits per 100,000 population also varies by DHB. Differences are evident not only between city and provincial areas, but also between the larger urban centres themselves. There may be some under reporting of outpatient visits, as anecdotally we know that a few areas deliver higher outpatient contacts than those shown in the figure below. Inter-District Flows will also impact on these numbers to some extent.

Figure 6: Ratio of outpatient access by DHB (2010) per 100,000 population[9]



[8] Waitemata DHB is included in Auckland DHB data

[9] Waitemata DHB is included in Auckland DHB data

4.3 Capacity

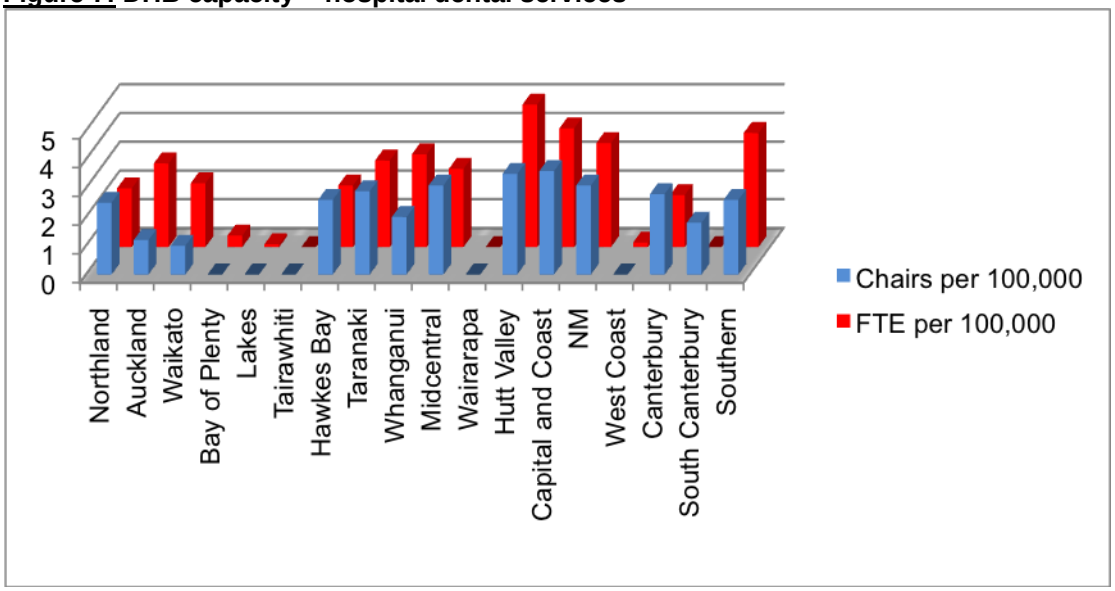
DHB capacity to provide hospital dental services also varies in terms of dental facilities available. A benchmarking exercise to identify the number of dental chairs per 100,000 of population within each DHB provides a reasonably reliable indication of a DHB's capacity, in terms of facilities available, to provide hospital outpatient dental services.

Two DHBs, Hutt Valley and Capital and Coast, have a relatively high ratio of chairs to population indicating good capacity exists to provide appropriate hospital dental services. Canterbury, Hawkes Bay, Midcentral, Nelson Marlborough, Northland, Southern and Taranaki DHBs have a moderate ratio of chairs to population indicating reasonable capacity exists. Auckland DHB, however, has a very low ratio of chairs to population, as do South Canterbury, Waikato and Whanganui. Bay of Plenty, Lakes, Tairawhiti, Wairarapa and West Coast DHBs have no dental chairs. Those with a low ratio of chairs, or no chairs, may struggle with providing adequate outpatient services to their local population. This is known to influence inpatient volumes and patterns of care. For example, a patient within the catchment area of a DHB with no outpatient dental chairs will instead need to be treated in theatre, transferred to another DHB, or otherwise not receive care.

While dental chairs provide an indication of facilities available to provide outpatient hospital dental treatment, ratios also need to be examined alongside other factors to provide an overall indication of DHB capacity. Clinical leadership and core numbers of specialist staff, for example, are also key factors in determining the capacity of hospital dental services.

Figure 7 depicts DHB capacity in terms of dental chairs and FTE staff per 100,000 population.

Figure 7: DHB capacity – hospital dental services[10]



Again, Hutt Valley and Capital Coast have a higher ratio of staff and chairs per population than the average. However, the regional tertiary level hospital dental services in the cities of Waikato and Auckland have lower ratios of both chairs and staff than Wellington as a whole.

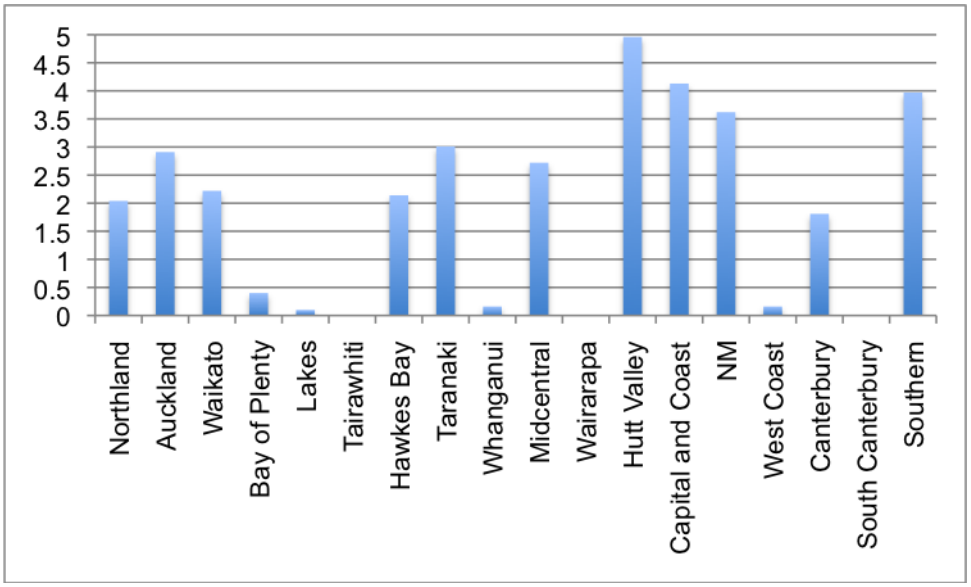
[10] Waitemata and Counties Manukau DHBs are included in Auckland DHB data

4.5 Specialist workforce

The specialist workforce is unevenly distributed around the country. Figure 8 shows the ratio of hospital dental FTE staff per 100,000 population. Hutt Valley DHB appears to have higher levels of hospital dental FTE per 100,000 compared to other DHBs.

Regional and sub-regional referral arrangements and processes will alter the figures below. For example, when the population for Wairarapa DHB (who have an Inter-District referral arrangement with Hutt Valley DHB) is combined with Hutt Valley DHB's population, the specialist dental staff ratio per 100,000 population drops much closer to the national average.

Figure 8: Hospital dental FTE staff by DHB per 100,000 population[11]



Some variation in spread of hospital dental service specialists is to be expected, given the tendency for tertiary hospital dental departments to require more specialists to provide care for patients with needs that are of higher complexity and difficulty. However, retaining a core number of specialist dental staff is a key component of delivering capacity and ensuring a well-developed hospital dental service exists.

For HNV populations in particular, it is becoming apparent that specialists trained in special care dentistry are playing an increasingly important role. However, special needs dentists in New Zealand are limited in number, and the eight currently practicing in hospital dental services are only represented within four DHBs, namely: Auckland, Canterbury, Northland and Taranaki DHBs. Other DHBs do have a combination of general dentists and specialist dentists with a wide skillset and scopes of practice. However, we are concerned about the lack of reliable, appropriate and affordable training necessary to develop a specialist workforce.

[11] Waitemata and Counties Manukau are included in Auckland DHB data

5. What this means: key problems

Variation in provision of any health service is not inherently a cause for concern. It is expected that the size of New Zealand, with the mix of DHBs that we have (in terms of scale and spread of population) would be reflected in the distribution of services across the country. However, it is our view that the degree and nature of variation in New Zealand's hospital dental services points to a number of underlying weaknesses within the structure of the service as a whole. Specifically, we are concerned that current inconsistencies in access to, and provision of, services may be putting our most vulnerable and high needs populations at greater risk.

Feedback from hospital dental service clinicians suggests that these issues may be a product of four key problems:

- lack of national planning for hospital dental services, or adequate regional arrangements, to accommodate variation in service distribution, resources and workforce
- no common definition of high needs and vulnerable groups
- resource constraints and pressure to meet demands for essential dental services
- clinical leadership and specialist training issues.

5.1 Lack of a national plan for hospital dental services, or suitable regional arrangements

While the Hospital Dental Services Service Specification provides high-level guidance and expectations regarding the provision of hospital dental services, there is no real national planning to guide the development of these services as a network. As a result, services have developed in an uncoordinated manner with variability in provision, access and funding allocation.

Some DHB catchment areas provide minimal hospital dental services, while others refer patients to DHBs for treatment outside of their immediate area. The NZOHCLNG is aware that referral to another DHB does not necessarily result in access, meaning that some high needs and vulnerable people requiring secondary dental services are not currently able to easily gain treatment. The need to go elsewhere for hospital dental services adds extra financial, time and travel burden to patients, families and whānau.

For example, West Coast DHB currently has no publicly funded outpatient dental services. While both adults and children are treated under general anaesthetic at Grey Hospital by dentists from Canterbury contracted by West Coast DHB, some HNV patients requiring this are referred to Canterbury DHB for treatment. Canterbury DHB, in the context of responding to the earthquakes and ongoing capacity issues, is sometimes unable to provide treatment in a timely and equitable manner.

5.2 No common definition of high needs and vulnerable groups

This situation is exacerbated by the absence of a common definition of HNV populations among hospital dental services across the country. We believe this has led to inconsistent access, varying eligibility criteria and varying levels of service offered to people that are vulnerable or who have high needs.

5.3 Resource constraints

Clinicians within hospital dental services have indicated that, while they try and work within the requirements outlined in the service specification, access to hospital dental services for some eligible groups is sometimes limited by resource constraints.

At present, DHBs have very difficult decisions to make around the need to meet current health targets, whilst at the same time provide adequate levels of service delivery elsewhere in the health system. The Minister of Health's 2012 *Letter of Expectations* to DHBs indicated that along with other targets, faster access to elective surgery and cancer treatment is required. The letter describes the Minister's expectation that no patient should wait longer than six months to receive a first specialist assessment (FSA) and no more than six months to receive their elective surgery. The letter goes on to say that this timeframe will reduce to five months in 2013 and four months by the end of 2014.

In some areas, DHB hospital dental services have not been able to treat patients within the required timeframes. This means that in some situations hospital dental departments are prioritising access and eligibility to certain services, such that people who are vulnerable or have high needs may not be getting the level of service that they require.

Resource constraints are also being exacerbated by pressure from adults requiring emergency dental services. Hospital dental services are constantly challenged by the need to balance the low volume and high complexity needs of HNV populations, compared with the higher volumes but less complex needs of a low income adult population.

Over the period 2005 – 2009, acute dental admissions for adults aged over 18 years comprised between 23 per cent and 32 per cent of all dental admissions. In contrast, acute admissions for dental care comprised fewer than five per cent of admissions for children aged 3-12 years. These figures suggest that the lack of an affordable 'safety net' in primary care for low-income adults is resulting in a higher proportion of adult dental patients becoming acute admissions into hospital wards, and consuming valuable specialist resources.

In order to address this issue, some DHBs may have increased their focus on the provision of hospital dental services to vulnerable low-income adults, at the risk of reducing access to services for HNV groups and other hospital category dental patients.

5.4 Clinical leadership and a skilled specialist workforce

We have significant concerns about the growth in both inpatient and outpatient cases treated by hospital dental services over the last decade and the impact of constrained capacity on the ability of hospital dental departments to deliver fit-for-purpose services into the future, should these increases continue.

A critical determinant in whether hospital dental services grow or decline over time is the presence of clinical leadership. Visionary clinical leadership, along with a DHB committed to improving the oral health of all groups in their community, is key to growing capacity and maintaining and improving hospital dental service provision. Clinical leadership is essential for establishing a well-functioning service and for ensuring appropriate clinical decisions are reached in regards to referral and treatment of vulnerable and high needs groups.

There is currently a range of clinical leadership capacity and capability in hospital dental departments around the country. It is our observation that where strong clinical leadership

exists, or has existed in the past, hospital dental services have done well. Where clinical leadership has not been consistently present, services have at best, remained static, or at worst, contracted over time.

Training in special care dentistry

We highlighted earlier the increasingly important role that specialists trained in special care dentistry have to play in meeting the oral health care needs of HNV individuals. However, there are currently limited opportunities for DHBs to recruit appropriately trained specialists.

The current (May 2012) Dental Council register of dentists reports that there are 10 registered specialists in Special Needs Dentistry, eight of whom currently hold an Annual Practising Certificate. However, only 3 of those specialists have achieved their qualification through the School of Dentistry Programme at the University of Otago. The graduates achieved their postgraduate qualifications in 1999, 2010 and 2011. While the recent addition of 2 graduates may be considered hopeful it is understood that no New Zealand students are currently enrolled in the programme. There is a real and perceived need for education in Special Needs Dentistry and the opportunity now exists to move forward discussions about meeting needs in the current context.

The current programme is reasonably expensive at over $27,000 per annum ($91,000 total). As specialists would be mainly treating HNV population there is potentially no private market at the completion of the programme to supplement income, meaning the investment is significant. The only alternative pathway to the University of Otago programme is via accredited training provided in Australia and similar or higher costs would be incurred by trainees.

In the presence of issues with appropriate training in Special Needs Dentistry, we are aware that a number of New Zealand dentists wishing to practice in HNV environments have undertaken the Master of Community Dentistry (MComDent) degree and received specialist registration in Public Health Dentistry. The dental register shows that 19 dentists are recorded with specialist registration in Public Health Dentistry, 13 hold an Annual Practising Certificate. Of those 13 dentists, 12 are registered in the specialty by virtue of their MComDent degrees.

While the MComDent is a viable alternative pathway to specialist registration and career progression in the DHB environment, the qualification does not contain clinical training. Dentists wishing to pursue clinical careers with HNV patients therefore often find it necessary to seek additional clinical training. Although undoubtedly useful for some DHB careers, the MComDent qualification is not fit for purpose as the specialist training pathway for a special needs dentistry workforce, and is not producing the type of training necessary to develop a specialised clinical workforce for the high need and vulnerable patient population.

Potential exists for a more robust and higher quality Special Needs training pathway that is on par with the Australian system. However, ensuring that there are training and consulting positions available for special care dental specialists in DHBs over the coming years would need to be an important component of this. This work needs to occur collectively between the oral health profession, Health Workforce New Zealand, the University, and DHBs.

6. Recommendations

The complex oral health needs of HNV populations, and other patients eligible for hospital dental services, should be met in a timely and equitable manner across the whole of New Zealand. This report has highlighted a range of issues in the current system that makes it likely that this goal is not being universally achieved. It has also identified a number of problems which may be contributing to the current situation.

The significant increases in access to inpatient services and visits to outpatient clinics over recent years suggests that demand for hospital dental services is growing rapidly. With the aging population, advances in longevity, and rise in chronic conditions there is reason to believe that this will continue in years ahead. Affordability issues also mean that, in the absence of an alternative model of oral health care for adults with low-incomes, there will be continued pressure on hospital dental departments as an essential dental service of last resort.

Having the capacity, capability and focus to equitably meet the oral health needs of HNV populations is part of delivering a socially responsible health system. The Oral Health Clinical Leadership Network strongly endorsed the issues raised in this report at their 28 June 2012 sector meeting. Consequently, there is an opportunity now to start working collectively to establish the pillars of a fit-for-purpose network of quality hospital dental services.

However, achieving this consistently across New Zealand is a medium-term goal that will require the ongoing commitment of politicians, the Ministry of Health, DHBs, the profession and other key stakeholders.

The Oral Health Clinical Leadership Network Group believes four principles should be adopted as a guiding framework for action to improve hospital dental services:

- **Equity of access** for high needs and vulnerable populations. The network of provision of hospital dental services is patient and family/whānau centred so that people with the same level of needs have access to the same level of service regardless of location, economic position or ethnicity.
- **Collaborate** – there is value in seeing hospital dental services as a national network, and working in regional groupings to plan and configure services, particularly in terms of spread of capacity and capability and sharing of data to aid total quality management.
- **Recognise resource constraints** – ensuring hospital dental services are robust and responsive to the needs of HNV groups is one of many challenges DHBs currently face. It is important that DHBs retain some flexibility to respond to local resource constraints and priorities, and create value through local innovation.
- **Build a workforce for the future** that includes visionary clinical leadership in all hospital dental services, space for organisational and professional learning and a larger specialist workforce trained in special care dentistry.

Recommendation 1: Work with the NZOHCLNG Executive on a process to engage and consult with relevant stakeholders

The NZOHCLNG considers that the recommendations proposed in this document need to be implemented in collaboration with District Health Boards, Health Workforce New Zealand, District Health Boards, and the wider oral health sector. We therefore recommend that the Ministry of Health work with NZOHCLNG's Executive to develop a process for engaging and consulting with all relevant stakeholders on the issues raised in this report, and to implement the recommendations.

Recommendation 2: Provide consistency and equity of access

We recommend the Chief Dental Officer work with DHBs and the oral health sector to ensure all DHBs have service coverage consistent with the current Hospital Dental Services and Low-Income Adults Oral Health services specifications and that hospital dental services adopt a minimum national eligibility and level of service matrix, as a complement to the service specifications. The proposed matrix is based on the service specifications and matrix provides greater clarity for patients clinical leaders, clinicians, and service managers about patient eligibility and levels of service offered within hospital dental services.

We believe the matrix will help overcome some of the differences in definition around high needs and vulnerable populations and will help achieve better national consistency and equity of access across DHBs for these groups.

The NZOHCLNG has developed a proposed draft matrix, attached as Appendix 3.

Recommendation 3: Promote regional collaboration and planning

It is acknowledged that some DHBs will need to make significant changes in order to reconfigure their hospital dental services to focus on consistency of access and level of service offered to HNV populations.

We recommend that the Chief Dental Officer work with DHBs to ensure hospital dental services, have the clinical leadership, dental workforce and facility capacity and capability to meet the requirements of the service specifications and the needs of their local and regional populations, including HNV groups.

We recommend that this work takes place with greater focus on inter-regional, regional and sub-regional collaboration and planning, to ensure that there is consistency of prioritisation, referral criteria, level of care, and access for HNV populations at a local, regional and national level. The Ministry could play an important leadership role in bringing together data and information to support these discussions.

Recommendation 4: Build a skilled workforce fit for purpose

We consider that investing in building and retaining a skilled specialist workforce is a critical element of ensuring hospital dental services are equipped to meet the growing demand for special care dentistry in coming years. We believe that achieving this is the joint responsibility of the profession, education providers, DHBs and Health Workforce New Zealand.

As such, we recommend that the CDO and Health Workforce New Zealand support the profession, education providers and DHBs to develop a workforce plan and ensure a specialist 'special care' training pathway for dentists interested in providing oral health care

to HNV populations within New Zealand's publicly funded hospital and community based oral health services.

Recommendation 5: Consider alternative pathways of oral health care for low-income adults

There is little opportunity in the current fiscally constrained environment to explore a national approach to oral health service provision for adults unable to access affordable primary dental care. However, analysis suggests that demand for this population is potentially impacting the ability of some DHBs to meet the needs of higher needs groups, and therefore raises equity of access concerns. We note that DHBs will continue to be challenged by the need to balance the low volume and high complexity needs of HNV populations, compared with the higher volume, but less complex needs of a low-income adult population. It is recommended that alternative pathways, outside the hospital environment, be developed for holistic oral health care of low income adults. This includes treatment and preventative care pathway alternatives.

Recommendation 6: Ongoing Monitoring of Progress

The recommendations go some way to addressing the current situation, but to meet the strategic needs of this group, continued service evaluation and review led by the Ministry of Health will be necessary to ensure value and currency.

Those with high needs or who are especially vulnerable to poor oral health also face some of the greatest barriers to accessing oral health care. It is recommended the Ministry, DHBs and the oral health sector work together on a mechanism for monitoring progress in improving provision of services to HNV groups as a means of ensuring that efficient and effective service coverage is provided. This monitoring must include looking specifically at performance of services in providing equitable access and improved oral health for high needs and vulnerable Māori.

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APPENDICES

Appendix 1: Supporting material

1A. Membership of the New Zealand Oral Health Clinical Leadership Network Group High Needs and Vulnerable Populations Sub-group

1B. Public funding for oral health services

1C. Costs of tertiary and secondary hospital dental services by DHB per 100,000 population (2010/2011)

1D. History of Hospital Dental Services in New Zealand

1E. DHB definitions of high needs and vulnerable populations

1F. Literature review – definitions of high needs and vulnerable populations internationally in the context of the provision of hospital dental services

1A. Membership of the Oral Health Clinical Leadership Network Group High Needs and Vulnerable Populations Subgroup

Dr Neil Croucher	Chairperson, NZOHCLNG Clinical Director / Principal Dental Officer, Northland District Health Board
Dr Robin Whyman	Senior Dentist and Specialist in Public Health Dentistry, Hutt Valley District Health Board
Dr Juliet Gray	Special Needs Dentist, Canterbury District Health Board
Dr Andrew Gray	Director, Defence Dental Services
Dr Robyn Haisman-Welsh **(Ex-Officio member)**	Chief Dental Officer, Ministry of Health
Dr Geoff Lingard	Clinical Director, Nelson Marlborough District Health Board

1B. History of Hospital Dental Services in New Zealand

Hospital dental services were first introduced in 1913 based on the concept that a public hospital should provide medical and allied services for the "underprivileged" section of the community. Dental treatment of patients in New Zealand public hospitals was therefore originally intended to provide for those unable to afford the fees charged by private practitioners.

A report on hospital dental services published in 1965 (Board of Health, 1965) noted that the position around the provision of hospital services had changed with public hospitals then providing medical and most allied services for all sections of the community and not only for the "underprivileged". This situation did not apply to dental services as they were not necessarily included as hospital benefits under social security and not all sections of the community were eligible to receive hospital dental services.

The report noted that there was an absence of an overall policy for the provision of hospital dental services to guide hospital boards and there was, therefore, a consequent lack of uniformity between the various hospital boards in the dental services they provided. Legislation at the time allowed for dental services to be provided for inpatients of public hospitals if these services constituted an essential element of the hospital treatment. There was, however, no requirement for hospitals to provide additional dental services. In addition, in some situations charges for services were applied to both inpatient and outpatient services subject to the power of the board to grant relief in situations of financial hardship.

In 1965, of the 37 hospital boards, five had dental departments with full-time dental officers, 16 had visiting dental surgeons and the remaining 16 appeared to make no provision for dental services. In the three major public hospitals (Auckland, Wellington and Christchurch), dental services consisted mainly of outpatient services. In Dunedin, hospital dental services were provided on behalf of the Otago Hospital Board by the University of Otago Dental School. Both inpatient and outpatient services had been well developed in Otago but were considered peculiar to Dunedin as it supported the supply of hospital patients as a source of clinical teaching material for the Dental School.

At this time, four metropolitan hospitals (Auckland, Wellington, Christchurch and Dunedin) were providing facilities for dealing with maxillofacial injuries, deformities and diseases. The Committee considered that in addition to these services, plastic surgery units similar to those at Middlemore (Auckland) and Burwood (Christchurch) should be established at both Wellington and Dunedin.

Part of the purpose of the 1965 report was to propose recommendations for improving hospital dental services, including ensuring that these services were consistently provided and that access was available for groups of the population requiring hospital dental services. However, at that time the Board found it challenging to identify the extent of the problem since it was difficult to assess the total number of people who may require hospital dental services. The report subsequently proposed a total of 51 recommendations, including recommendations which ensured the provision of emergency treatment for the relief of pain for hospital inpatients and maternity patients; short stay patients requiring dental treatment as an essential part of treatment, long-stay inpatients such as older people and people with chronic diseases; outpatient services for people unable to meet the cost or who cannot obtain services privately; and intellectually and physically disabled people.

Hospital dental services in New Zealand have continued to develop since this time with no national plan. District Health Boards (DHBs) and their predecessors have been responsible for decision-making at the local level regarding the range of hospital dental services (if any).

1C. DHB Definitions of High Needs and Vulnerable Populations (NZOHCLNG, 2011)

High needs and vulnerable population groups

- Patients that cannot easily be treated in primary health care settings due to physical, medical, intellectual, congenital or psychiatric special needs (or a combination of these factors). In some cases, this also involves meeting associated secondary needs such as general anaesthetic
- Inmates of correctional facilities
- People requiring dental care within the hospital environment because of medical and surgical conditions; or in need of dental management prior to, or in conjunction with, medical and surgical care
- Older people who cannot access private dental services due to frailty, financial hardship, or dementia
- Inpatients or day patients requiring essential dental treatment
- Head and neck oncology patients
- Emergency treatment for low income adults
- People under treatment orders under legislation including the Intellectual Disability (Compulsory Care and Rehabilitation) Act 2003; the Mental Health (Compulsory Assessment and Treatment) Act 1992; and the Criminal Procedure (Mentally Impaired Persons) Act 2003
- Identified high needs and vulnerable children and adults
- People in long-term care facilities (such as rest homes, nursing homes, community residential disability facilities and long term inpatient hospital care facilities)
- Management of severe oro-facial infections and uncontrolled oral haemorrhage
- Patients on the methadone programme
- Acute cardiac patients prior to surgery

1D. Literature Review: Definitions of High Needs and Vulnerable Populations Internationally in the Context of the Provision of Hospital Dental Services

To inform the definition of high needs and vulnerable populations and the provision of equitable and consistent hospital dental services, a literature has been conducted to establish international definitions and requirements. Countries included in the literature review were Australia, the United Kingdom (UK), Canada, and the United States (US). It is widely agreed in the literature that young children, disabled adults and the frail elderly with special care needs are 'vulnerable' when considering the provision of oral health services (Bonito, 2002; Edelstein, 2002; Stiefel, 2002). Their oral health problems are considerably worsened by their disproportionate poverty.

The distinction between 'vulnerability' and 'high needs' is important because it distinguishes between a moral and professional obligation to treat 'the sick' and the ethical obligation to ensure that all populations have equal access to resources that lead to health.

"Vulnerability" can be literally defined as the universal human condition of being intact but fragile; while "high needs" refers to the condition of being biologically weak or diseased with an increased predisposition to additional harm. All people are vulnerable to poor oral health. However, some are more vulnerable than others by virtue or additional factors such as age, income, and ethnicity (for example). "High needs" populations generally refer to people who have specific medical or psychological conditions, or have an intellectual, physical or behavioural disability.

It is widely agreed in the literature that young children, disabled adults and the frail elderly with special care needs are 'vulnerable' when considering the provision of oral health services (Bonito, 2002; Edelstein, 2002; Stiefel 2002). Their oral health problems are considerably worsened by their disproportionate poverty. The World Health Organization (WHO) specifically calls for countries to place an increasing emphasis on the oral health needs of elderly people stating that millions of people across the globe are not getting the oral health care they require (WHO 2005).

International literature tends to suggest that, in terms of high and special needs populations, there are an increasing number of people with severe and profound physical and mental problems with associated medical conditions that classify them as requiring particular and specialised treatment.

All Western countries are faced with the same challenges of targeting finite resources to populations who most require treatment to ensure equal opportunity for good oral health. Internationally, specific groups are frequently cited as vulnerable when considering the provision of oral health services and these include people on low incomes, people in residential care, and people with disabilities (physical, mental, psychological). Ethnic minority and indigenous groups are identified as vulnerable in Australia, Canada and the US and in the UK and the US, homeless people are also identified as vulnerable and can therefore access hospital dental services as a result of their vulnerability.

People with high needs are generally identified as those people who have medically complex needs; or people who have a combination of physical, sensory, intellectual, mental, or social impairments.

Appendix 2: Data Tables

Table 2A: Public Funding for Oral Health Services (estimates for year end June 2010)

Table 2B: Costs of tertiary and secondary hospital dental services by DHB per 100,000 population (2010/2011)

Table 2C: Changes in access to inpatient hospital dental services – 2001 - 2009

Table 2D: Inpatient access per 100,000 population (2009)

Table 2E: Changes in access to outpatient hospital dental services 2006 – 2010[12]

Table 2F: Ratios of people to visits 2010

Table 2G: Changes in access to emergency dental treatment for low income adults (D01005)

Table 2H: Benchmarking – DHB of capacity in terms of chairs per 100,000 and FTE staff per 100,000

Table 2I: Comparison of populations, CWD and outpatient volumes with staffing levels, 2009

[12] DHB information based on sent domicile

2A. Public Funding for Oral Health Services (estimates for year end June 2010)

Funding agency	Service provided	Estimated funding ($NZD GST excl)
District Health Boards (DHBs)	• Provision of basic child and adolescent oral health services • Emergency dental services for low-income adults • Secondary and tertiary hospital-based dental services for people with disabilities and medically compromised persons	161 million
Accident Compensation Corporation (ACC	Provision of dental services for treatment of dental injuries due to accidents	26 million
Work and Income (WINZ)	Provision of income support for eligible people requiring emergency dental treatment for pain-relief provided mainly by the private sector	23 million
NZ Defence Force	Provision of dental services for armed forces	6 million
Ministry of Health	Funding for strategic development and research to support the national oral health programme	2 million
Department of Corrections	Funding of basic pain-relief dental services for prisoners, contracted to the private dental sector on a fee-for-service basis	1 million
	TOTAL	**219 million**

2B. Costs of tertiary and secondary hospital dental services by DHB per 100,000 population (2010/2011)

DHB	Total spend $000	Spend per 100,000 population ($000)
Auckland[13]	7,512	1669
Bay of Plenty	1,774	887
Canterbury	4,157	894
Capital and Coast	4,122	1649
Counties Manukau	4,298	891
Hawke's Bay	1,390	902
Hutt Valley	2,960	2099
Lakes	534	523
MidCentral	1,676	1060
Nelson Marlborough	2,168	1667
Northland	905	576
South Canterbury	677	1230
Southern	3,281	1079
Tairawhiti	270	613
Taranaki	2,099	583
Waikato	2,585	718
Wairarapa	23	57
Waitemata	0	0
West Coast	144	450
Whanganui	1,029	1659
TOTAL	**41,603**	

[13] Includes Waitemata.

Table 2C: Changes in access to inpatient hospital dental services – 2001 - 2009

DHB	2001	2002	2003	2004	2005	2006	2007	2008	2009
Auckland[14]	1889	1893	1971	1851	1891	2291	2372	2355	2424
Bay of Plenty	424	431	439	497	611	617	687	719	768
Canterbury	246	261	208	492	744	702	629	588	708
Capital and Coast	737	687	791	802	803	697	619	626	584
Counties Manukau	488	514	536	553	554	576	670	782	922
Hawkes Bay	387	354	376	366	338	336	350	287	250
Hutt Valley	207		20	58	51	130	202	280	352
Lakes	157	93	135	133	139	117	177	182	201
MidCentral	390	435	371	433	357	474	438	395	427
Nelson Marlborough	547	505	484	510	466	494	444	508	453
Northland	326	325	257	283	353	300	466	344	363
Otago Dental School								28	197
Otago	2	3	6	18			89	269	290
South Canterbury	185	175	208	195	210	180	197	191	192
Southland	376	342	336	248	361	294	295	427	338

[14] Includes Waitemata.

DHB	2001	2002	2003	2004	2005	2006	2007	2008	2009
Tairawhiti	78	58	101	120	126	133	105	115	118
Taranaki	375	317	295	281	343	409	427	447	410
Waikato	632	639	564	641	672	703	678	773	868
Wairarapa	2			1		5	6	4	3
West Coast	51	89	51	80	50	53	57	43	36
Whanganui	244	270	284	258	290	304	248	263	342
South Island Mobile Unit							412	666	605
TOTAL	**7743**	**7391**	**7433**	**7820**	**8359**	**8815**	**9568**	**10,292**	**10,851**

Table 2D: Inpatient access per 100,000 population (2009)

DHB	Total Population	Inpatient access per 100,000 population
Auckland[15]	985,000	246.09
Bay of Plenty	200,000	384.00
Canterbury	465,000	152.26
Capital and Coast	250,000	233.6
Counties Manukau	482,000	191.29
Hawkes Bay	154,000	162.34
Hutt Valley	141,400	249.65
Lakes	102,000	197.06
MidCentral	158,000	270.25
Nelson Marlborough	130,000	348.46
Northland	157,000	231.21
South Canterbury	55,000	349.09
Southern	304,000	271.38
Tairawhiti	44,500	265.17
Taranaki	104,000	394.23
Waikato	360,000	241.11
Wairarapa	40,000	7.5
West Coast	32,000	112.5
Whanganui	62,000	551.61
TOTALS	**4,225,900**	

[15] Waitemata DHB population included in Auckland

Table 2E: Changes in access to outpatient hospital dental services 2006 – 2010[16]

DHB	2007		2008		2009		2010	
	Visits	People	Visits	People	Visits	People	Visits	People
Auckland	1726	1102	3346	1892	3510	1936	3929	2192
Bay of Plenty	119	65	411	321	655	571	668	578
Canterbury	231	193	281	233	241	200	212	188
Capital and Coast	526	249	1010	468	2549	1382	1419	1058
Counties Manukau	1984	1315	3483	2044	4058	2349	4103	2466
Hawkes Bay	2742	1167	2698	1194	3272	1363	3359	1436
Hutt Valley	2998	1741	6152	3030	8403	3745	7559	3515
Lakes	72	43	89	53	200	128	289	165
MidCentral	942	497	1243	526	1678	779	2951	1169
Nelson Marlborough	3026	1402	3815	1608	4410	1815	4356	1909
Northland	426	-	604	-	1211	-	1784	-
Otago	27	17	41	21	48	27	36	18
South Canterbury	8	5	6	6	611	408	1195	631

[16] DHB information based on sent domicile

DHB	2007		2008		2009		2010	
	Visits	People	Visits	People	Visits	People	Visits	People
Southland	2738	1259	2646	1115	2757	1132	2541	1027
Tairawhiti	27	16	16	16	27	21	33	17
Taranaki	55	29	1787	805	4048	1528	3942	1526
Waikato	1248	699	1578	820	2041	1129	2581	1297
Wairarapa	149	108	350	207	412	258	422	231
Waitemata	1655	1056	3465	1951	3563	2077	3940	2233
West Coast	22	11	12	6	24	13	15	13
Whanganui	1230	520	1865	771	2340	1064	2080	1104
TOTAL	**21,951**	**11,494**	**34,898**	**17,087**	**46,058**	**21,925**	**47,414**	**22,773**

Table 2F: Ratios of people to visits 2010

DHB	Visits	People	Ratio
Auckland	3929	2192	0.56
Bay of Plenty	668	578	0.86
Canterbury	212	188	0.89
Capital and Coast	1419	1058	0.74
Counties Manukau	4103	2466	0.60
Hawkes Bay	3359	1436	0.42
Hutt Valley	7559	3515	0.46
Lakes	289	165	0.57
MidCentral	2951	1169	0.40
Nelson Marlborough	4356	1909	0.44
Northland	1784	-	-
Otago	36	18	0.50
South Canterbury	1195	631	0.53
Southland	2541	1027	0.40
Tairawhiti	33	17	0.52
Taranaki	3942	1526	0.39
Waikato	2581	1297	0.50
Wairarapa	422	231	0.55
Waitemata	3940	2233	0.57
West Coast	15	13	0.87
Whanganui	2080	1104	0.53
	47,414	**22,773**	**0.48**

Table 2G: Changes in access to emergency dental treatment for low income adults (D01005)

DHB	2006[17]		2007		2008		2009		2010	
	Visits	People	Visits	People	Visits	People	Visits	People	Visits	People
Auckland			2093	1799	4316	3538	3902	3256	3782	3182
Bay of Plenty			7	7	10	9	7	7	12	12
Canterbury	2	2	6	6	7	7	10	5	11	11
Capital and Coast	1	1	3	3	7	7	583	474	970	724
Counties Manukau			3432	3026	6225	5202	7242	6070	6869	5790
Hawkes Bay			2	2	3	2	8	8	11	9
Hutt Valley			5	2	3	2	16	14	1512	1200
Lakes	1	1	3	3	5	5	5	4	9	8
MidCentral			3	3	8	7	14	13	20	19
Nelson Marlborough	2	2	4	2	2	2	10	6	8	6
Northland	1675		2451		2285		2897		2501	
Otago	14	9	12	6	9	7	7	6	16	13
South Canterbury			1	1	2	2				
Southland	917	687	775	572	719	531	1475	918	1478	996
Tairawhiti			2	2	1	1	2	2		

[17] information for 2006 incomplete

DHB	2006[17]		2007		2008		2009		2010	
	Visits	People	Visits	People	Visits	People	Visits	People	Visits	People
Taranaki			2	2	3	3	1	1	1	1
Waikato	2	2	24	22	44	38	45	41	43	36
Wairarapa			1	1	1	1	3	2	30	27
Waitemata	1	1	1405	1234	2833	2330	2555	2132	2612	2155
West Coast	3	3			1	1			2	2
Whanganui			1	1	2	2	1	1	3	3
TOTAL	**2618**	**702**	**10,232**	**6694**	**16,486**	**11,697**	**18,783**	**12,960**	**19,890**	**14,194**

Table 2H: Benchmarking – DHB of capacity in terms of chairs per 100,000 and FTE staff per 100,000

DHB	Chairs per 100,000	No of chairs[18]	FTE staff	FTE staff per 100,000
Auckland[19]	1.2	18	28.65	2.91
Bay of Plenty	0	0	0.8	0.40
Canterbury	2.8	13	8.4	1.81
Capital and Coast	3.6	9	10.33	4.13
Hawkes Bay	2.6	4	3.3	2.14
Hutt Valley	3.5	5	7	4.96
Lakes	0	0	0.1	0.10
Midcentral	3.1	5	4.3	2.72
Nelson Marlborough	3.1	4	4.7	3.62
Northland	2.5	4	3.2	2.04
South Canterbury	1.8	1		
Southern	2.6	8	12.075	3.97
Tairawhiti	0	0		
Taranaki	2.9	3	3.13	3.01
Waikato	1.0	5	8	2.22
Wairarapa	0	0		
West Coast	0	0	0.05	0.16
Whanganui	2	2	2	3.23
TOTALS	**32.7**	**81**	**97.385**	**39.8**

[18] Data on number of dental chairs and FTE staff self-reported by DHBs in response to a survey of DHBs (October 2011)
[19] Auckland, Counties Manukau, and Waitemata populations were combined for the purpose of this exercise

Table 2I: Comparison of populations, CWD and outpatient volumes with staffing levels, 2009

DHB	Specialty mix	DHB population	Inpatient procedures (dental)[2021]	CWDs	CWDs per 100,000 pop	Outpatient visits	FTE staff	No.
Auckland[22]	General dentistry, OMF surgery, oral medicine, orthodontics, paediatric dentistry, special needs dentistry, prosthodontics, restorative, periodontology	987,600	2424	1134.3864	115.05	7073	28.65	38
Bay of Plenty	General dentistry, OMF surgery	209,500	768	412.2086	206.10	655	0.8	3
Canterbury	General dentistry, OMF surgery, oral medicine, orthodontics, paediatric dentistry, prosthodontics, special needs	508,100	708	329.7791	84.47	241	8.4	24
Capital and Coast	General dentistry, OMF surgery, oral medicine, public health dentistry	291,100	584	271.6243	108.65	2549	10.33	14
Counties Manukau		490,000	922	985.5802	204.48	4058		
Hawkes Bay	General dentistry, OMF surgery, orthodontics	155,100	250	115.5688	75.04	3272	3.3	6
Hutt Valley	General dentistry, OMF surgery, orthodontics, paediatric dentistry,	143,700	352	196.931	139.27	8403	7	16

[20] Excludes OMF
[21] For the year 2010
[22] Auckland figures include Waitemata

DHB	Specialty mix	DHB population	Inpatient procedures (dental)[2021]	CWDs	CWDs per 100,000 pop	Outpatient visits	FTE staff	No.
	special needs dentistry, prosthodontics, restorative, public health dentistry, periodontics							
Lakes	General dentistry	102,700	201	92.2716	90.46	200	0.1	3
Midcentral	General dentistry, OMF surgery	167,800	427	214.7386	135.91	1678	4.3	7
Nelson Marlborough	General dentistry, OMF surgery, paediatric dentistry, prosthodontics, restorative, dental therapy	138,600	453	225.1517	173.19	4410	4.7	11
Northland	General dentistry, OMF surgery, orthodontics, special needs dentistry	157,100	363	181.6637	115.71	1211	3.2	11
South Canterbury		56,100	192	85.1737	322.61	611		
Southern	General dentistry, OMF surgery, orthodontics, dental therapy	304,400	628	177.4373	58.37	2805	12.075	16
Tairawhiti	-	46,500	118	52.4002	117.75	27		
Taranaki	General dentistry, OMF surgery, oral medicine, orthodontics, special needs dentistry	109,400	410	251.5428	241.87	4048	3.13	12
Waikato	General dentistry, OMF surgery	363,900	868	399.8161	109.8697	2041	8	8

DHB	Specialty mix	DHB population	Inpatient procedures (dental)[2021]	CWDs	CWDs per 100,000 pop	Outpatient visits	FTE staff	No.
Wairarapa	-	40,400	3	1.3822	3.46	412		
West Coast	General dentistry	32,700	36	17.0016	53.13	24	.05	2
Whanganui	-	63,300	342	163.4429	263.62	2340		
TOTAL		**4,368,000**	**10,049**	**5308.1008**	**125.61**	**46,058**	**97.385**	**171**

Appendix 3: Draft Hospital Dental Services Minimum Eligibility and Level of Service Matrix

Population Group	Description	Services
Core services (secondary)		
Hospital inpatients	• Establish pathway of care for hospital inpatients in acute medical and surgical wards and acute mental health units • Emergency dental treatment for patients presenting through the emergency department with head and neck trauma, severe oral-facial infections and uncontrolled bleeding.	Care will be episodic for most patients Patients will be referred to their primary care practitioners for continuing care once episode of care has been completed.
Hospital outpatients	• Medically complex adults, children and adolescents requiring hospital based medical support. Could include (but not be limited to): – Endocrine disorders – Severe or complex cardiac conditions – Complex haematology – Complex oncology – Dialysis – Severe stroke – Organ transplant patients • Pre-surgery oral health assessments and treatments, Could include, but not be limited to: – Organ transplant – Bone marrow transplant – Cardiac valve surgery – Pre-head and neck cancer treatment – Supporting patient care for those receiving medical/surgical care in tertiary hospitals.	Care will be episodic for most patients and related to immediate need. Patients should be referred to their primary care practitioners for continuing care once the episode of care has been completed. However, there should be an ongoing commitment of hospital dental services to provide more specialist episodic care as and when required.
Adults, children and adolescents that have high needs or a particularly vulnerable, requiring special care	• People with severe physical and/or intellectual disabilities • People with complex medical comorbidities • People living in residential care, nursing care or attending day care programmes • People in long-term mental health units • Children and adolescents attending special schools.	Continuing care by a secondary level hospital dental service should be provided for most patients, with a focus on holistic, whole-of-life oral health care. Some patients may be able to be referred to public sector or private primary oral health care providers for routine assessment and preventive care. However, there should be an ongoing commitment of hospital dental services to provide more specialist episodic care as and when required.
Children and adolescents needing secondary care	• Children and young people that: – have developmental or congenital conditions and/or – have high uncontrollable caries rates and/or – require dental treatment under GA in day surgery or inpatient settings.	Care will be episodic for most patients.
Tertiary – higher specialist services		
High needs and vulnerable children, adolescents and adults requiring high-end specialised oral health care	DHBs with tertiary level hospital dental services should, in addition to providing core secondary services, provide high-end specialised care, including: • Oral Maxillo-Facial Assessment and surgery • head and neck trauma • oral medicine • treatment of cranio-facial abnormalities • orthodontic, restorative and prosthodontics specialist support.	Services will be episodic for most patients and related to immediate need. Referral and continuity of care arrangements should be inter-regional, regional and sub-regional with DHBs providing secondary care hospital dental services. Wherever possible, patients should be referred to their primary dental care practitioner for ongoing dental care once the specialist episode of care has been completed.
As capacity allows and as a provider of last resort		
Vulnerable adults with high oral health needs i.e. low-income adults accessing emergency or essential oral health care.	Services should be provided as a last resort where provision of services in primary health care settings is limited or not available and capacity exists within the DHB. This would include: • urgent relief of pain and essential dental treatment • urgent treatment of significant infection of oral origin.	Care should be episodic and most individuals referred to a primary care provider for continuing care. Vulnerable adults should also be encouraged to access appropriate oral health services privately in primary health care settings, with financial assistance from other avenues (e.g. Work and Income).