

My son Jayden attends the local kura kaupapa. At six years of age and feeling pleased with himself because of his 'new teeth that had come through at the back of his mouth' Jayden went off for his visit with the dental therapist at the mobile dental health clinic. I asked Jayden when he came home 'What did the dental therapist do?' My son replied 'Oh she counted my teeth and cleaned them and told me that I had good teeth'. 'Did she do anything else?' 'No', was the response.

I rang the dental therapist and asked why no preventive work like fissure sealant (protective coating put on molars) was undertaken. She told me that Jayden did not need preventive work and that sealants were rationed. I asked her if she was aware of the oral health inequalities that existed between Māori and Pākehā children. Her reply was that management was responsible for the policy limiting sealant treatments. When asked about delivering services in less deprived areas, and whether the parents would expect preventive services for their children, she said 'yes', the parents would expect that service as of 'right'.

In the end the dental therapist agreed with my request for Jayden to have fissure sealants. But I shouldn't have needed to ask. Jayden at six years of age has the **'right'** to receive equitable access to high quality dental health services every time he accesses a dental health provider.

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11 ORAL HEALTH – ORANGA NIHO

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Oranga Niho (oral health) is about the health of our gums and teeth. Oral diseases are among the most common health problems, and can impact on nutrition, sleeping, rest, and social roles, including self-image (Gift et al 1992; Dennison et al 1996; Hay et al 1992). Oral diseases are relatively easy to detect with regular dental checkups. Prevention is based on maintaining good oral hygiene (brushing teeth every day with a fluoridated toothpaste) and minimising the intake of sweet foods and liquids. Yet the impact of untreated dental disease on children is substantial, and disadvantaged children are disproportionately affected (Gift et al 1992). Improving oral health is one of the 13 health priorities specified in the New Zealand Health Strategy, and one of 12 priorities for Māori health.

This chapter focuses on Māori oral health, examining disparities in oral health outcomes between Māori and non-Māori, differential access to oral health determinants (e.g., fluoride, income); and access discrepancies to oral health services along the continuum of care.

Oral health outcomes

There is a considerable amount of evidence that Māori do not have the same oral health status as non-Māori across all age groups (Brown and Treasure 1992; Treasure and Whyman 1995). In 2003 substantial ethnic inequalities in oral health among New Zealand children were reported (National Health Committee 2003). These ethnic inequalities are not a new phenomenon. Māori children were described as having a higher prevalence and severity of dental caries than other New Zealand children over a decade ago (Thomson 1993). Similarly, Māori five-year-old children have been found to be twice as likely as non-Māori five-year olds to experience dental decay severe enough to require dental treatment under general anaesthetic (Thomson 1994). Recent regional and national School Dental Service (SDS) data confirms that ethnic inequalities in oral health persist (Ministry of Health 2004). In 2005 the severity of dental caries was highest for Māori compared with non-Māori non-Pacific five-year olds, and disparities also existed within Year 8¹ children. The mean number of decayed, missing or filled teeth (DMF/dmf)² was 3.8 compared with 1.6 for five-year olds, and 2.5 compared with 1.4 for Year 8 children. Māori children at five-years (30% versus 61%) and Year 8 (33% versus 48%) were less likely to be caries free (Ministry of Health 2004).

¹ Year 8 refers to the eighth year of formal schooling. The majority of children would be 11–13 years of age at this stage.

² The DMF/dmf index counts decayed, missing and filled teeth.

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While there are quality issues³ with ethnicity data collection and the use of DMF/dmf data as a measure of dental disease, these would not entirely account for the inequalities in oral health seen between Māori and non-Māori.

There is very little information on the oral health status of rangatahi (youth), pakeke (adults) and kaumatua (elderly) in Aotearoa/New Zealand. There have been only two national oral health studies to date that provide information on the oral health of New Zealand adolescents and adults. The first, in 1976, randomly sampled adults aged 15 years and over (Cutress et al 1979). In the 15–34 and 35–54 years age groups, Māori were more likely to have decayed and missing teeth and less likely to have filled teeth than Europeans. The second, in 1988, randomly sampled participants in three adult age groups: 20–24 years olds, 35–44 years, and 65–74 years (Hunter et al 1992). While authors noted an improvement in oral health from previous surveys for the total population, ethnic inequalities remained. When comparing Māori to European adults, Māori had similar or higher mean DMF teeth scores, were more likely to have teeth extracted than restored and the periodontal (gum disease) process appeared to have started earlier and was more severe (Hunter et al 1992). Both national surveys had relatively small numbers of Māori participants, limiting data analysis and further information gain for Māori.

Fluoridation

The most effective preventive method for dental caries is the appropriate use of fluoride (World Health Organization 1994; Ministry of Health 2004) with water fluoridation described as the most cost-effective preventive method in medicine (Centres for Disease Control and Prevention 1999). Of the 15 studies of water fluoridation in New Zealand published since 1980, only two failed to report significant benefits from fluoridation (Public Health Commission 1994). People with fewer socioeconomic resources benefit to a much greater extent from water fluoridation than those with more socioeconomic resources (Thomson et al 2000). Therefore, water fluoridation of community water supplies may be an effective means of reducing inequalities in oral health between Māori and non-Māori (Lee and Dennison 2004).

However, despite these widely reported benefits, Māori have not benefited equally from water fluoridation because of differential access to fluoridated community water supplies, as a higher proportion of Māori live outside of main centres compared to other populations (Te Puni Kōkiri 1999) and they are consequently less likely to live in areas with a community water supply. Therefore, continuing to focus solely on water fluoridation as the only means of providing appropriate levels of fluoride may not address oral health inequalities for Māori (Keefe-Ormsby 2003).

Water fluoridation is currently the best-proven method of reducing dental decay, but it is not the only method of providing fluoride at a population level; fluoridated salt and fluoridated milk (Ellwood & O'Mullane 1996; Meyer 2003) are other options. While fluoridation by means other than water may be more costly (Canterbury District

³ Inconsistency of ethnicity data collection has been identified in the SDS (DHBNZ 2006), which is likely to undercount Māori children. The DMF/dmf index does not include gum disease or reasons for missing teeth.

Health Board 2003, p. 5), all Māori communities living in areas without reticulated water supplies, or who live in a non-fluoridated community water supply area, would benefit from the availability of subsidised fluoridated salt and fluoridated milk products. Government policies should reflect this need for alternative access for Māori to subsidised fluoride.

Oral health services

The School Dental Service

Since 1921 one of the key interventions in childhood oral disease has been the School Dental Service (SDS). This institution is charged with delivering universal dental health services to preschool and primary school children in New Zealand (DHBNZ 2006). The SDS provides preventive and restorative services for preschoolers, primary, and intermediate school children. This is available to all children from one year to about 13 years of age (i.e., end of Year 8 of schooling). Parents can access the SDS for those children younger than one year of age if required. They may also choose to use a 'pay as you go' private dentist for services for their children. Treatment required that is outside of the scope of practise of the school dental therapist is referred out to dentists under the Special Dental Services Agreement.

After over 80 years of practice, the SDS has only recently been reviewed. The review noted that, while dental care is largely free to New Zealand children, differential access and utilisation play a substantial role in oral health inequalities (DHBNZ 2006, p. 14). The SDS appears to be more accessible for children of upper socioeconomic families. There is a high utilisation by primary and intermediate school children and enrolment is high in the preschool years, but it is not evenly distributed across the community (Ministry of Health 2004; DHBNZ 2006). Findings from the Christchurch Health and Development Study showed that enrolment in the SDS was significantly higher for preschool children of upper socioeconomic families (Fergusson and Horwood 1986).

An example of a service barrier is the usage of cellphones to contact the SDS in some regions. Cellphones may be beneficial to the SDS because of the mobility of therapists. However, because of cost, families with limited resources may not communicate with the service for enrolments, appointments, changing addresses, and even to make general enquiries. A recommendation from the SDS review was that unique Māori education programmes be developed, alongside population-wide education programmes for children and their families/whānau (DHBNZ 2006). Further, the SDS has a predominantly Pākehā workforce (Hannah 1998). The need for Māori oral health workforce development was identified in the SDS review as another strategy to address inequalities (DHBNZ 2006).

Other oral health services

Rangatahi

From age 13–18 years, the Adolescent Oral Health Service Agreement provides funding to dentists to deliver some dental services free of charge. This agreement, together with the Special Dental Services Agreement for children, makes up the

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Combined Dental Services Agreement. Not all services are free and not all dentists hold these contracts (Ministry of Health 2004). There is little formal data collection on the oral health status of rangatahi in Aotearoa/New Zealand. However, the information that is available paints a picture of a system that fails to provide care for rangatahi (Broughton and Koopu 1996). A 1980s cohort study of New Zealand adolescents reported a dental services utilisation rate of just 45% for non-Europeans (described in the study as predominantly Māori) compared to 78% for Europeans (de Liefde 1988). In the 1990s, Midland Health reported that approximately 50% of Māori adolescents in that region dropped out or did not utilise the General Dental Benefit Scheme⁴ (Te Puni Kōkiri 1996). In order to improve the uptake of enrolments of adolescents with private dentists, adolescent co-ordinators have been introduced (Ministry of Health 2002). While this initiative aims to improve access to dental care for adolescents, the emphasis here is to enrol the patient in the system, rather than emphasising the need for the system to re-configure in order to provide oral health services responsive to Māori. There are also Māori health providers who hold oral health contracts specifically to improve enrolment through the Combined Dental Services Agreement, as well as providing oral health treatment (Mauri Ora Associates 2004).

Only a limited number of dentists hold contracts for publicly funded adolescent dental services. This results in limited availability of services generally, the effects of which are likely to be more detrimental for Māori given the already poor service response to high Māori need.

Pakeke and kaumātua

For adults and the elderly there are virtually no free dental services. There are contracts for low-income adults (community service card (CSC) holders) where dental services are heavily subsidised, and these are held with either individual dentists or through hospital dental services. The Accident Compensation Corporation (ACC) provides subsidies for most dental accidents (ACC 2007).

There is evidence of a high level of unmet need for dental services among adults in New Zealand, as well as disparities in access to care between Māori and non-Māori. The 2002/03 New Zealand Health Survey showed that Māori adults (15+ years) were less likely than non-Māori adults to have visited a dentist in the previous year (28% compared to 43%) (Ministry of Health 2006a). In addition, New Zealand results from The Commonwealth Fund 2001 International Health Policy Survey showed that 56% of Māori adults reported going without needed dental care in the past year due to cost, compared with 37% of European adults (Schoen et al 2002).

Hospital services

Tertiary hospitals offer some dental treatment to inpatients free of charge. Some hospitals also offer relief of pain or essential dental services to CSC holders and a part-charge is met by the CSC holder. Some hospitals also provide dental treatment under

⁴ The General Dental Benefit Scheme is now the Combined Dental Services Agreement.

general anaesthetic for those children and adults who are not able to have their treatment under local anaesthetic.

Māori health providers

One response by Māori to oral health disparities has been the development of oral health services by Māori health providers. A review of 16 Māori health providers with oral health contracts showed that Māori providers deliver contracts addressing oral health at a number of levels including enrolment, attendance, and treatment (Mauri Ora Associates 2004).

The Māori Child Oral Health Service review identified that Māori providers take a whānau ora approach to health care with the kaupapa of these providers being to treat any member of the whānau who needs to be seen. As such, Māori providers are well situated to provide dental health services to all age groups and meet the vision of community-based services and life-long oral health (Ministry of Health 2006b). Māori providers were also found to combine oranga niho services with other health services in an integrated approach that supports whānau ora (Mauri Ora Associates 2004). Other strengths of Māori providers in delivering oral health services included: providing a kaupapa Māori service that makes Māori more comfortable in receiving oral health treatment; delivering additional but related services to overcome barriers to oral health care such as transport, follow-up of missed appointments, and advocacy for Māori clients; location in high need areas such as low decile schools and highly deprived areas; and, a predominantly Māori workforce (Mauri Ora Associates 2004).

In order to meet the needs of their populations, a common theme of Māori providers was the provision of services beyond their contractual obligations. Contracts with limited funding that did not recognise these additional services were identified as a barrier by Māori providers and inhibit the further development of Māori oral health services. The need for flexible oral health service contracts that are funded appropriately, to ensure that they can provide necessary services to Māori by adopting a whānau ora approach, was identified and recommended by the review (Mauri Ora Associates 2004).

The Ministry of Health recently published *Good Oral Health for All, for Life*, a document that outlines the seven key action areas that will be the focus of the Ministry's oral health policy work over the next 10 years (Ministry of Health 2006b). Māori are named as one of four priority groups in this new vision. Opportunities exist for Māori providers to develop oral health services within this new strategic direction that requires the reorientation of oral health services and for DHBs to support Māori health provider development as part of this reorientation (Ministry of Health 2006b).

Conclusion

As Māori, we have increased our scrutiny of the responsiveness of dental health services to meet Māori needs. During the last decade, some Māori providers have tried to improve access to dental health services for Māori. Within currently available publicly funded services for children and adolescents, improvements are needed to

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address Māori health needs. However, there is also a need to improve access to dental services for all Māori.

Given the likely higher need for services among Māori and inequalities in socioeconomic status, increased publicly funded oral health services are required to meet such needs and to reduce disparities across all ages. For the full potential to be realised in the new oral health vision for New Zealand, Māori must be involved at every level of the oral health decision making process from governance and monitoring through to the delivery of dental health services.

References

- Accident Compensation Corporation. 2007. *Dental Injury*. Wellington: Accident Compensation Corporation. URL: <http://www.acc.co.nz/claims-and-care/getting-help-from-acc/WCMZ002205?ssSourceNodeId=3891&ssSourceSiteId=1494> Accessed 14 August 2007.
- Broughton J, Koopu PI. 1996. *Dental Health and Māori People*. Dunedin: Te Rōpū Rangahau Hauora Māori o Ngāi Tahu.
- Brown R H, Treasure ET. 1992. Inequities in oral health: Implications for the delivery of care and health promotion. *New Zealand Dental Journal* 88: 132–138.
- Canterbury District Health Board. 2003. *Oral Health Strategy, Part A: Fluoridation position statement*. Canterbury District Health Board: Christchurch.
- Centres for Disease Control and Prevention (CDC). 1999. Achievements in public health. 1990–1999: fluoridation of drinking water to prevent dental caries. *Morbidity and Mortality Weekly Reports* 48: 933–940.
- Cutress TW, Hunter PBV, Davis PB, Beck DJ, Croxson LJ. 1979. *Adult Oral Health and Attitudes to Dentistry in New Zealand, 1976*. Wellington: Dental Research Unit, Medical Research Council of New Zealand.
- de Liefde B. 1988. Dental care and health outcome in the Dental Benefit Scheme. *New Zealand Dental Journal* 84: 37–40.
- Dennison DK, Gottsegen R, Rose LF. 1996. Diabetes and periodontal diseases. *Journal of Periodontology* 67: 166–176.
- DHBNZ. 2006. *National School Dental Service Review: Final report, December 2004*. Wellington: Ministry of Health.
- Ellwood RP, O’Mullane D. 1996. The association between developmental enamel defects and caries in populations with and without fluoride in their drinking water. *Journal of Public Health Dentistry* 56: 76–80.
- Fergusson DM, Horwood LJ. 1986. Relationships between exposure to additional fluoride, social background and dental health in seven-year-old children. *Community Dentistry and Oral Epidemiology* 12: 48–52.
- Gift HC, Reisine ST, Larach DC. 1992. The social impact of dental problems and visits. *American Journal of Public Health* 82: 1663–1668.
- Hannah A. 1998. *New Zealand Dentists, Dental Therapists and Dental Hygienists: Workforce analysis*. Wellington: Dental Council of New Zealand.
- Hay DR, Chambers ST, Ellis-Pegler RB, Jones MR, Leslie PN, Neutze JM. 1992. Prevention of infective endocarditis associated with dental treatment and other medical interventions. *New Zealand Dental Journal* 88: 99–101.

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- Hunter P, Kirk R, de Liefde B. 1992. *The Study of Oral Health Outcomes: The 1988 New Zealand section of the WHO Second International Collaborative Study, 1992*. Wellington: Department of Health.
- Keefe-Ormsby V. 2003. *Fluoridation and Māori*. Presentation to the National Fluoride Forum, 2003. Wellington, November.
- Lee M, Dennison P. 2004. Water fluoridation and dental caries in five- and 12-year-old children from Canterbury and Wellington. *New Zealand Dental Journal* 100(1): 10–15.
- Mauri Ora Associates. 2004. *Review of Māori Child Oral Health Services*. Auckland: Mauri Ora Associates.
- Meyer J. 2003. The change from water to salt as the main vehicle for community-wide fluoride exposure in Basel, Switzerland. *Community Dentistry and Oral Epidemiology* 31: 401–402.
- Ministry of Health. 2000. *The New Zealand Health Strategy*. Wellington: Ministry of Health.
- Ministry of Health. 2002. *Oral Health Regional Co-ordination Service: Service specifications*. Wellington: Ministry of Health.
- Ministry of Health. 2004. *DHB Toolkit Oral Health: To improve oral health*. Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/toolkits/oralhealth/introduction.htm> Accessed 19 September 2007.
- Ministry of Health. 2006a. *Tatau Kahukura: Māori health chart book*. Wellington: Ministry of Health.
- Ministry of Health. 2006b. *Good Oral Health for All, for Life: The strategic vision for oral health in New Zealand*. Wellington: Ministry of Health.
- National Health Committee. 2003. *Improving Child Oral Health and Reducing Child Oral Health Inequalities*. Report to the Minister of Health from the Public Health Advisory Committee. Wellington, National Health Committee.
- Public Health Commission. 1994. *Water Fluoridation in New Zealand*. Wellington: Public Health Commission.
- Schoen C, Blendon R, DesRoches C, Osborn R, Doty M, Downey D. 2002. *New Zealand Adults' Health Care System Views and Experiences, 2001: Findings from the Commonwealth Fund 2001 International Health Policy Survey*. New York: The Commonwealth Fund. 2007. URL: http://www.cmwf.org/usr_doc/nz_sb_553.pdf Accessed 11 April 2007.
- Te Puni Kōkiri. 1996. *Oranga Niho Māori: Issues paper for discussion*. Wellington: Te Puni Kōkiri.
- Te Puni Kōkiri. 1999. *Māori Living in Urban and Rural New Zealand*. Fact Sheet 4. Wellington: Te Puni Kōkiri.
- Thomson WM. 1993. Ethnicity and child dental health status in the Manawatu–Wanganui Area Health Board. *New Zealand Dental Journal* 89: 12–14.
- Thomson WM. 1994. Day-stay treatment for dental caries at a New Zealand hospital dental unit: a five-year retrospective audit. *New Zealand Dental Journal* 90: 139–142.
- Thomson WM, Poulton R, Kruger E, Boyd DM. 2000. Socioeconomic and behavioural risk factors for tooth loss from age 18 to 26 among participants in the Dunedin Multidisciplinary Health and Development Study. *Caries Research* 34: 361–366.
- Treasure ET, Whyman RA. 1995. Changing patterns of dental disease and the implications for dental practice. *New Zealand Dental Journal* 91: 8–11.
- World Health Organization. 1994. *Fluoride and Oral Health: Report of a WHO Expert Committee on Oral Health Status and Fluoride Use*. Geneva: World Health Organization.