

**Dental Council  
of New Zealand**

**2008  
Workforce Analysis**

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## Section 1: **Executive Summary and Commentary**

### 1.1 **The Dentist Workforce**

As in previous years, there was an increase in the active dental workforce. A total of 1867 dentists were included in the workforce analysis, up from 1779 the year before. The reason for the sharp rise can be attributed to a change in the reporting date. The current report was taken as at 31 March 2009, rather than as at 31<sup>st</sup> December 2008 (breaking from the approach used previously). Note that dentists who first registered in late 2008 and early 2009 were included in Tables 2.1 and 2.2 of this report but excluded elsewhere.

The proportion of female dentists in the workforce continues to rise, as does the representation of ethnic minority groups. New Zealand Europeans remain the largest ethnic group within the workforce, followed by dentists of Chinese origin. The rise in the proportion of overseas graduates has continued. Over one in four dentists did not obtain their primary dental qualification in New Zealand.

#### 1.1.1 **Employment**

Nearly 40% of dentists work part-time (defined as less than 35 hours per week), and this proportion has been consistently rising each year. A marked gender difference exists between male and female dentists in the proportion undertaking part time work—female dentists are nearly twice more likely to be working part-time than males. Of those dentists working part-time approximately half attribute their reason for doing so as a personal choice.

#### 1.1.2 **Postgraduate education and continuing professional development (CPD)**

Some 74 dentists stated that they were engaged in some form of postgraduate study. Of the 74 students, all but four stated that they intend to practice in New Zealand upon completion of their degrees.

There was an overall decrease in the proportion of dentists participating in at least 20 hours of CPD (85.7%, down from 89.7% in 2007); however, the proportion who met that criterion in all of the previous four years had increased substantially, up from 48.6% to 60.6%. The proportion of dentists meeting the 20 or more hours of CPD criterion in none of the previous four years was 0.7, down from 3.5% (Table 2-12 and Table 2-13).

#### 1.1.3 **Practice characteristics**

Three in four dentists are self-employed in private practice, with the remainder as employees of private practices, District Health Boards (DHBs), the School of Dentistry etc. Of those self-employed, one in three dentists are in solo practice.

#### 1.1.4 Cohort remainder rates

The cohort remainder rate for the 2007 graduating Otago cohort was 72% (Table 2-2), markedly higher than the 50% remainder rate for the class of 2006. The cohort remainder rate for Otago graduates appears to fluctuate widely from year to year.

#### 1.1.5 Distribution of dentists

Dentist:population ratios vary widely around the country. The ratio estimates by DHB's indicate that the Counties-Manukau and Lakes DHBs are under-served, with ratios of 16:100,000 and 17:100,000, respectively. This is a remarkable difference compared to Auckland city (89:100,000), or the Bay of Plenty (78:100,000). There are over five times more dentists working in Auckland than in Counties-Manukau, per head of population.

### 1.2 Other Oral Health Practitioner Groups

#### 1.2.1 The Dental Therapist Workforce

New Zealand dental therapists are still predominantly a group of older, New Zealand European women, but the representation of other ethnic groups and younger practitioners continues to increase, with 16.7% reporting their 'primary ethnicity' to be something other than New Zealand European (an increase of 2% on the previous year). The proportion of therapists working full-time has dropped to 69.0% from 73.9% the previous year, with almost all working in the DHB sector.

Almost three-quarters of dental therapists are now able to provide radiography, but there remains considerable variation across the DHBs, as with the proportions able to provide pulpotomies and stainless-steel crowns. For example, only two of 34 therapists in Hawke's Bay are able to perform pulpotomies, and only one is able to treat teeth using stainless steel crowns; however, in Otago, over half are able to do so. Across the country, some 11 dental therapists were registered in the scope of Adult Dental Care. The distribution of these is shown in Table 3-7.

There appears to be a variation in the therapist-to-population ratio by area: it remains highest in Northland and the Bay of Plenty and lowest in the Greater Wellington region and South Canterbury.

#### 1.2.2 The Dental Hygienist Workforce

Analysis and interpretation of the hygiene workforce data is complicated by the existence of three main types of workers (dental hygienists, dental auxiliaries and orthodontic auxiliaries). The active hygiene workforce comprised 371 individuals (down from 414 the previous year).

Like the dental therapist workforce, it was made up of a predominately female group (only 6 hygienists, 1 dental auxiliary, and 1 orthodontic auxiliary were male), but the average age in the hygienist group was younger than that of the therapist group. New Zealand Europeans were the dominant group among hygienists, but only 68.7% identified New Zealand European as their primary ethnicity.

The majority of each of the three hygiene occupational categories worked in private practice. Very few worked for DHBs or other employers. More than half of them worked full-time, with around one-quarter working for more than one employer. Dental hygienists worked fewer hours on average than other dental practitioners, at a mean of 23.8 hours per week. One in three dental hygienists were registered in the additional local anaesthesia scope of practice (SOP), and over three out of four were registered for intra-oral radiography and 10 dental auxiliaries were registered in the general dental hygiene SOP with conditions (Table 4-6).

### 1.2.3 The Dental Technician Workforce

There were 345 active dental technicians (up by 35 from 2006), of whom 45% were clinical dental technicians. The age groupings of the dental technology workforce were very similar to that of the dentists. The proportion of females was relatively low among the clinical dental technicians, at around 12%, and approximately 27.9% for other dental technicians. 56% of clinical dental technicians were aged 50 and over, compared to 24% for other dental technicians. Overall, 54% of the dental technology group were Pakeha New Zealanders—the lowest proportion for all the dental professions. ‘Other Europeans’ comprised 14.5% of dental technicians.

The great majority worked in full-time practice, and most were self-employed. Nearly all worked in only one place of employment, and 6.7% of dental technicians were undertaking postgraduate training. Approximately 90% of both dental technicians and clinical dental technicians completed the required CPD experience of at least 15 hours during the previous year.. This was a great improvement on 2007, when only about 80% did so.

As with the dental therapists and dental hygienists, there were considerable differences by DHB in the population-to-practitioner ratio for dental technicians. The Bay of Plenty and Auckland had the lowest ratios, while the West Coast, Counties-Manukau, Southland, Wairarapa and the Lakes DHBs had the highest. Where clinical dental technicians are concerned, the lowest ratios were seen in Counties-Manukau, Lakes, and the West Coast. No technicians were listed as practicing on the west coast. It was not possible to calculate FTEs for the dental technicians, as hours worked were not reported.



## Section 2: **The Dentist workforce**

A total of 2239 dentists appeared in the dental register as at 31 March 2009, and 2138 dentists as at 31 March 2008. The register included dentists who first registered up until 31 March 2009; however, the workforce survey data related to the data collected in the April 2008 APC round. Those holding current registration are as follows:

Full registration ('REG')	1993
Full registration, non-practising ('REGN')	218
Other codes ('REMPEND')	20
No code	8
<b>Total</b>	<b>2239</b>

a) Resident in NZ and first registered prior to 31 Dec '07	1835
b) Resident in NZ and first registered prior to 31 Mar '08	1867 <sup>1</sup>
a. As (b), but non-practising (REGN)	95
b. As (b), but due to be removed from the register (REMPEND)	18
c. All dentists registered prior to 31 Mar '08	2138
c) Resident in NZ and first registered prior to 31 Mar '09	1952 <sup>1</sup>

### **Included in 2008 workforce analysis**

**1867 with APC and in NZ**  
**1980 total in NZ**  
**2138 total**

As was done in past reports, dentists who did not hold a current APC as well as those listed as not residing in New Zealand were excluded from subsequent analyses; however, unlike previous analyses, dentists who first registered later than the current year have not been excluded from the analysis, due to a change in reporting date from 31<sup>st</sup> December to 1<sup>st</sup> April. Thus, a total of 1867 dentists were included in the 2008 workforce analysis, up from 1779 the year before. A further 95 were on the register but without current APCs. Dentists who first registered between 31 March 2008 and 31 March 2009 were not included in the 2008 workforce report.

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<sup>1</sup> In previous reports, data analysis was always restricted to dentists who first registered prior to 31 December of the previous year. For example, the 2006 report was restricted to dentists who first registered prior to 31 December 2005. This has now been changed to match the survey date of 31<sup>st</sup> March, as it goes out with the annual APC application forms.

## 2.1 Response rate to Workforce survey

There continues to be a good response rate to the workforce survey. All individuals first registered prior to 31 March 2008 completed (or returned) the workforce survey; however, a number of data points were missing; for example, some individuals did not record their working hours. Where relevant, this has been taken into consideration in the analysis by including only those who have provided information (see Tables).

## 2.2 Socio-demographic characteristics of workforce

As in previous years, there was again an increase in the active dental workforce. The proportion of female dentists in the workforce continues to rise, as does the representation of ethnic minority groups. New Zealand Europeans remain the largest ethnic group within the workforce, followed by dentists of Chinese origin. However, due to a change in the way the ethnicity question is asked in the APC form, the number of dentists in the 'Other European' category has overtaken the number of those who are of Indian or Middle Eastern origin. The large increase in the 'Other European' category appears to have arisen out of there being a number of dentists who would prefer to identify themselves by their ethnicity of origin, rather than being grouped as 'New Zealand European'. The ethnicity options are consistent with the categories listed with the Department of Statistics and the five-yearly national census. Many dentists are also choosing to tick the 'other' ethnicity option, preferring to identify themselves as 'New Zealanders' rather than New Zealand European or New Zealand Maori.

A rise in the proportion of practicing dentists who were overseas graduates was reported in previous workforce reports, and this trend has continued to 2007. One in four dentists completed their primary dental qualification outside New Zealand, indicating that there are many relatively recent immigrant dentists in New Zealand (particularly from continental Europe).

### 2.2.1 Employment

Nearly 40% of dentists work part-time (defined as less than 35 hours per week), and this proportion has been consistently rising each year. About half of these give their reason for working part-time as being personal choice. A marked gender difference exists between male and female dentists in the proportion undertaking part time work—female dentists are nearly twice more likely to be working part-time than males.

### 2.2.2 Postgraduate education and continuing professional development (CPD)

Some 74 dentists stated that they were engaged in some form of postgraduate study. Of the 74 students, all but four stated that they intend to practice in New Zealand upon completion of their degrees.

There was an overall decrease in the proportion of dentists participating in at least 20 hours of CPD (85.7%, down from 89.7% in 2007); however, the proportion who met that criterion in all of the previous four years had increased substantially, up from 48.6% to 60.6%. The proportion of dentists meeting the 20 or more hours of CPD criterion in none of the previous four years was 0.7%, down from 3.5% (Table 2-12 and Table 2-13).

### 2.2.3 Practice characteristics

Three in four dentists were self-employed in private practice, with the remainder as employees of private practices, DHBs, the School of Dentistry etc. One in four dentists were in solo practice. Of self-employed dentists, one in three were in solo practice.

## 2.3 Cohort remainder rates

The cohort remainder rate for the 2007 graduating Otago cohort was 72%, which is markedly higher than the 50% remainder rate observed for the previous year's class. Around two-thirds of graduates from 2005 and 2004 were practicing during 2007. Looking further back, around half of the graduating classes of 2003 and 2002 were still practicing in New Zealand during 2008. Only domestic students are included in these figures—full fee-paying international students are excluded from the cohort remainder rates.

Cohort remainder rates for New Zealand Dental Registration Examination-qualified (NZDREX) dentists are high compared to New Zealand graduates, as are the rates for overseas-qualified, non NZDREX dentists. This suggests that, in general, these dentists may be immigrating to New Zealand on a relatively permanent basis.

## 2.4 Distribution of dentists

Dentist:population ratios vary widely around the country. The ratio estimates by DHB area indicate that the Counties-Manukau and Lakes DHBs are under-served, with ratios of 16:100,000 and 17:100,000 respectively. This is a remarkable difference compared to Auckland city (89:100,000), or the Bay of Plenty (78:100,000). There are over five times more dentists per head of population in Auckland than in Counties-Manukau.

Comparisons of dentist:population ratios should be undertaken with a degree of caution. Both are based on the 2006 Census data, the projections have not been made for the 2008 analyses.

## 2.5 Dentist workforce data tables

Table 2-1: Number of dentists in the active workforce by year (with APC and in NZ)

Year	Total	% Male	% Female	% Overseas graduates
1983	1142	93.8	6.3	6.2
1984	1148	93.7	6.3	5.3
1985	1176	92.6	7.4	4.9
1986	1204	91.8	8.2	5.1
1987	1219	90.2	9.8	6.3
1988	1233	88.7	11.3	6.4
1989	1215	88.1	11.9	5.8
1990	1226	87.4	12.6	6.4
1991	1262	86.7	13.3	6.7
1992	1287	85.2	14.8	6.8
1993	1306	84.2	15.8	7.4
1994	1312	84.0	16.0	7.5
1995	1346	83.2	16.8	8.8
1996	1364	81.7	18.3	8.4
1997	1473	79.5	20.5	12.1
1998	1496	79.0	21.0	13.1
1999	1558	77.2	22.8	14.5
2000	1591	76.4	23.6	16.1
2001	1601	76.3	23.7	16.9
2002	1645	75.6	24.4	18.2
2003	1662	74.5	25.5	19.7
2004	1747	73.0	27.0	21.1
2005	1682	72.8	27.2	21.0
2006	1717	70.8	29.2	22.8
2007	1779	70.1	29.9	24.0
2008 <sup>a</sup>	1867	68.6	31.4	25.4
2009 <sup>b</sup>	1952	67.7	32.3	26.1

<sup>a</sup>Reporting date at 31 March '08 rather than 31<sup>st</sup> December '07.

<sup>b</sup>Preliminary data, reporting date at 31 March '09 rather than 31<sup>st</sup> December '08.  
(Data source: Dental Register)

Table 2-2: Longitudinal analysis of the cohort remainder rate of University of Otago dental graduates.

Year of graduation <sup>a</sup>	Number of students (percentage cohort remainder rate)						
	2008	2007	2006	2005	2004	2003	2002
Total number of graduates who were not externally-funded	57	61	62	60	56	56	62
2009	32 (56.1) <sup>b</sup>						
2008		44 (72.1)	40 (64.5)	43 (71.7)	38 (67.9)	31 (55.4)	24 (38.7)
2007			(50.0)	(71.7)	(60.7)	(46.4)	(41.9)
2006				(65.0)	(42.9)	(53.6)	(30.6)
2005					(48.2)	(72.4)	(40.3)
2004						(73.2)	(49.2)
2003							(48.4)

<sup>a</sup>Not including externally-funded students.

<sup>b</sup>Preliminary data, those who graduated in 2008 and first registered before April 2009

Note that data in this table come from dental school data, not the register, so data in this table may differ from that in Table 2-20.

(Data sources: Dental Register and School of Dentistry records)

Table 2-3: Response rates to the Workforce Survey April '08

Current registration status	Total number of practitioners	Number responding to questionnaire	Response Rate <sup>2</sup>
In NZ with APC	1867	1854	99.3%
In NZ but not practising (REGN or REMPEND)	113	101	89.4%
All dentists in register	2138	1883	88.1%

(As at 31 March 2008)

(Data sources: Dental Register and Workforce Survey)

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<sup>2</sup> As noted in the preparation of the 2007 workforce report, a variable in the dataset reports the response rate for the Workforce Survey as being 100%, when it is, in fact, not so. Apparently, while all dentists may return the workforce survey questionnaire (it being attached to the APC application form), not all of them take the time to complete answer the questions in the survey. For this analysis, dentists who answered no questions on the workforce survey are regarded to have not completed the survey.

Table 2-4: Age by current registration status

	All dentists in register (%)	Number in New Zealand (%)	Registered (%)	Not registered (%)
Under 30 years	209 (9.8)	187 (9.4)	173 (9.3)	14 (12.4)
30-34 years	238 (11.1)	213 (10.8)	195 (10.4)	18 (15.9)
35-39 years	264 (12.3)	244 (12.3)	230 (12.3)	14 (12.4)
40-44 years	269 (12.6)	248 (12.5)	241 (12.9)	7 (6.2)
45-49 years	312 (14.6)	284 (14.3)	276 (14.8)	8 (7.1)
50-54 years	288 (13.5)	271 (13.7)	266 (14.2)	5 (4.4)
55-59 years	206 (9.6)	191 (9.6)	179 (9.6)	12 (10.6)
60-64 years	168 (7.9)	161 (8.1)	151 (8.1)	10 (8.1)
65+ years	184 (8.6)	181 (9.1)	156 (8.4)	25 (22.1)
Total	2138	1980	1867	113

Unless otherwise indicated, brackets contain percentages in this and all following tables.

(Data source: Dental Register)

Table 2-5: Ethnicity (primary and secondary) among those in NZ with registration and APC

Ethnicity	Primary (%)	Secondary	Total <sup>a</sup> (%)
NZ European	1055 (54.7)	0	1055 (54.7)
Māori	12 (0.6)	45	57 (3.1)
Other European	152 (8.1)	20	172 (9.2)
Samoan	5 (0.3)	2	7 (0.4)
Tongan	1 (0.1)	1	2 (0.1)
Niuean	0	0	0
Tokelauan	0	0	0
Fijian	5 (0.3)	0	5 (0.3)
Other Pacific Peoples	1 (0.1)	0	1 (0.1)
Chinese	190 (10.2)	2	192 (10.3)
Other East Asian	0	1	1 (0.1)
Indian	138 (7.4)	8	146 (7.8)
Other Asian	96 (5.1)	11	107 (5.7)
Other	181 (9.7)	20	211 (11.3)
No response to question	31 (1.7)	1757	
Total	1867	110	
Total selecting an 'Other' group	430 (23.0)		

<sup>a</sup>Total is greater than 1867 due to double reporting of ethnicity; however denominator used for % values is 1867 to allow accurate reporting of percentages relative to total number of dentists.



Table 2-6: Self-identification of 'other' primary ethnicity by geographic area

<b>Africa</b>		<b>Great Britain</b>		<b>Asia</b>	
African	3	British/UK	48	Bangladeshi	2
African European	1	British Anglo-Saxon	1	Burmese	1
Egyptian	5	British Canadian	1	Cambodian	2
Seychellois	1	British Caucasian	1	Chinese Canadian	1
South African	40	English	19	Indonesian Chinese	2
South African Coloured	1	British European	1	Korean	26
South African Indian	3	Scottish	11	Korean, South	6
Sudanese	1	Northern Irish	1	Punjabi	1
Ugandan	1	British Jewish	1	Singhalese	1
Zimbabwean	1	Welsh	2	Sri Lankan	23
				Sri Lankan British Kiwi	1
				Taiwanese	14
				Thai	2
				Vietnamese	1
<b>North American</b>		<b>Other European</b>		<b>New Zealand</b>	
North American/USA	5	Bulgarian	1	Kiwi	1
North American/USA Caucasian	4	Croatian	3	New Zealander	31
Canadian	2	Czech	1	New Zealand British	1
Canadian German	1	Danish	2	New Zealand Chinese	8
Cherokee, Irish, and Swedish	1	Dutch	7	New Zealand Indian	2
Hispanic/Latino American	3	European	1	New Zealand Sri Lankan	1
		Finnish	1	New Zealand Taiwanese	2
		German	5	Pakeha	3
		Greek	3		
		Hungarian	1	<b>Other Oceania</b>	
		Irish	5	Australian	10
		Irish American	2	Australian European	1
		Irish Malaysian	1	Fijian	1
		Italian	1	Fijian Indian	1
		Lithuanian	1	Filipino	6
		Macedonian	2	Malaysian	12
		Magyar	1	Malaysian Malay	3
		Mediterranean	2	Malaysian Chinese	8
		Polish	2	Vanuatu	1
		Romanian	8		
		Russian	9	<b>Other<sup>3</sup></b>	
		Serbian	5	Commonwealth	1
		Swedish	2	Earthling	1
		Yugoslavian	1	Phoenician	1
<b>Middle East</b>					
Arabic	16				
Assyrian	1				
Hebrew	1				
Iranian	3				
Iraqi	28				
Iraqi Arabic	2				
Iraqi Kurdish	1				
Israeli	2				
Middle Eastern	10				
Jordanian	1				
Kurdish	1				
Turkish	1				
Yemeni	1				

(Data source: Workforce Survey)

<sup>3</sup> Note that these are self-identifications

Table 2-7: Gender by current registration status

Gender	All dentists in NZ %	Practising in NZ %	In NZ but not practising %	All dentists in register %
Male	1351 (68.2)	1280 (68.6)	71 (62.8)	1444 (67.5)
Female	629 (31.8)	587 (31.4)	42 (37.2)	694 (32.5)
Total	1980	1867	113	2138

(Data source: Dental Register)

Table 2-8: Reasons for part-time employment

Reason for practising part-time	Number of practicing dentists %
Engaged in non-dental work	32 (4.6)
Insufficient dental work	32 (4.6)
Seeking dental work	3 (0.4)
Semi-retired from dentistry	68 (9.8)
Parental responsibilities	192 (27.7)
Personal choice	279 (40.3)
Other (see below)	85 (12.3)
Reason not stated	0
Total	691 (37.0)

Part-time employment (defined as fewer than 35 hours per week) was undertaken by 37.0% (N=691) of the 1867 NZ dentists with an APC '08, compared with 34.7% the year before.

Other reasons offered:

- Studying (including medicine, arts, music, DCLinDent)
- Health problems – self or partner
- Maternity leave/pregnancy
- New practice/lack of space in practice
- Employment limit
- Academic or clinical teaching
- Doing advisory work
- Lifestyle
- NZDA activities
- Travel
- Part-time hospital work
- Research
- Laziness
- Also working part-time in Australia

(Data source: Workforce Survey)

Table 2-9: Practising pattern in the year prior to 31 March '08 of all dentists registered prior to 31 March '08

Employment status	Dentists in register %
Practising in New Zealand <sup>4</sup>	1826 (92.2)
Overseas and not practicing	6 (0.3)
Practising overseas	46 (2.3)
In NZ but not practicing	74 (3.7)
Did not answer question	28 (1.4)
Total	1980
Employment status of 'In NZ but not practicing' group	
Another health profession	6 (8.1)
Non-health profession	9 (12.2)
Full-time study	16 (21.6)
Parental responsibilities	13 (17.6)
Other unpaid work	3 (4.1)
Seeking work	2 (2.7)
Retired	19 (25.6)
Not stated	6 (8.1)

(Data source: Workforce Survey)

<sup>4</sup> As reported in Workforce Survey data, not by registration status

Table 2-10: Postgraduate training

	In NZ with APC %
<b>Undertaking Postgraduate training</b>	
Yes	74 (4.0)
No	1793 (96.0)
<b>Expected qualification</b>	
MDS	3
MBChB	6
MDS & MBChB	6
DClinDent	31
MComDent	3
Other Masters degree	4
PG Diploma	3
Fellowship	6
PhD	9
Other (e.g. postgraduate certificate)	2
<b>Expected year of completion</b>	
2007	13
2008	19
2009	24
2010	12
Post-2010	4
Not stated/unsure	1
<b>Intend to practise in NZ?</b>	
Yes	70 (100.0)
No	0 (0.0)
Not stated	4
<b>Total</b>	<b>74</b>

(Data source: Workforce Survey)

Table 2-11: Branch of dentistry in which postgraduate training being undertaken

	Number (%)
Branch of dentistry	
General dentistry	2 (2.7)
Dental public health/Community dentistry	7 (8.2)
Endodontics	7 (9.5)
Special needs dentistry	1 (1.4)
Oral Medicine & Pathology	1 (1.4)
Oral Surgery	2 (2.7)
Oral & maxillofacial surgery	12 (15.3)
Orthodontics	11 (14.9)
Paediatric dentistry	1 (1.4)
Periodontics	6 (8.1)
Restorative dentistry	0
Prosthodontics	7 (9.5)
Dental radiology	0
Hospital dentistry	0
Other	3 (4.1)
Not stated	13
Not sure	1
Total	74

(Data source: Workforce Survey)

Table 2-12: Continuing professional development among NZ dentists with an APC 08  
20 or more hours of CPD last year

	Number (%)
Yes	1600 (85.7)
No	267 (14.3)
Total	1867 (100.0)
No reply to question	0

(Data source: Workforce Survey)

Table 2-13: Continuing professional development over the last four years among NZ dentists with an APC 08 who first registered by 31st March 2004<sup>a</sup>

20 or more hours of CPD	Females Number (%)	Males Number (%)	Overall Number (%)
In all four years	242 (57.6)	685 (61.7)	927 (60.6)
In three of the four years	106 (25.2)	292 (26.3)	398 (26.0)
In two of the four years	51 (12.1)	100 (9.0)	151 (9.9)
In one of the four years	17 (4.0)	27 (2.4)	44 (2.9)
In none of the four years	4 (1.0)	6 (0.5)	10 (0.7)
Total	420 (27.5)	1110 (62.5)	1530

(Data source: 2008, 2007, 2006, and 2005 Workforce Surveys)

<sup>a</sup>Note that some dentists did not answer this question in years prior to 2007, and only dentists who first registered prior to 31 March 2004 were included in this table



Table 2-14: Work type by primary employer – practitioners registered in specialist scopes<sup>a</sup>

	MoH or DHB		Private (self-employed)		Private (employed)		University Dental School	
	No.	Mean hrs (sd)	No.	Mean hrs (sd)	No.	Mean hrs (sd)	No.	Mean hrs (sd)
General Dentistry	1	40 (—)	21	27.7 (15.3)	3	13.3 (6.1)	4	39.5 (1.0)
Administration/Management	0		1	2 (—)	0		0	
Dental Public Health	7	29.7 (10.8)	0		0		1	8 (—)
Endodontics	0		17	27.2 (14.7)	0		5	23.4 (11.5)
Spec Needs/Hospital Dentistry	10	30.5 (13.5)	0		0		0	
Oral Medicine & Pathology	3	11.7 (5.9)	1	3 (—)	0		3	35 (18.0)
Oral Surgery	3	28.7(29.3)	7	20.4 (14.9)	1	25 (—)	1	50 (—)
Oral & Maxillofacial Surgery	9	36.2 (11.9)	25	37.2 (14.0)	3	42.0 (7.2)	3	40 (0.0)
Orthodontics	0		64	35.2 (11.7)	5	30.0 (10.4)	6	25.2 (11.6)
Paediatric Dentistry	4	19.0 (13.9)	2	27.5 (10.6)	0		3	15.7 (6.4)
Periodontics	0		20	35.7 (12.6)	2	18.0 (2.8)	8	27.3 (14.3)
Research	1	5 (—)	1	5 (—)	0		7	8.9 (5.7)
Restorative Dentistry	2	8 (0.0)	8	14.4 (8.2)	1	24 (—)	3	17.7 (19.4)
Prosthodontics	2	12.5 (10.6)	9	29.4 (14.3)	2	19.0 (15.6)	7	20.6 (11.4)
Teaching	0		0		0		6	27.8 (15.1)
Other	0		1	4 (—)	0		0	
No hours recorded	0		7		0		5	
Number dentists 1+ hours per week <sup>b</sup>	33	34 (21.4)	162	32.7 (13.7)	16	27.4 (11.8)	47	29.8 (13.0)
Total number of dentists <sup>c</sup>	33		169		16		52	

<sup>a</sup>This information not sought from non-specialists

<sup>b</sup>Dentists reporting no hours working are excluded from these calculations

<sup>c</sup>Total may sum to greater than this, as some specialists were active in more than one scope  
(Data source: Workforce Survey)

Table 2-15: Work type by secondary employer – practitioners registered in specialist scopes<sup>a</sup>

	MoH or DHB		Private (self-employed)		Private (employed)		University Dental School	
	No.	Mean hrs (sd)	No.	Mean hrs (sd)	No.	Mean hrs (sd)	No.	Mean hrs (sd)
General Dentistry	2	2.5 (3.5)	4	6.3 (4.6)	0		0	
Administration/Management	0		0		0		0	
Dental Public Health	0		0		0		0	
Endodontics	0		1	16 (—)	0		1	5 (—)
Spec Needs/Hospital Dentistry	2	10.0 (0.0)	0		0		0	
Oral Medicine & Pathology	0		0		0		0	
Oral Surgery	2	17.5 (3.5)	1	20 (—)	0		0	
Oral & Maxillofacial Surgery	11	13.1 (6.5)	4	15.5 (8.8)	1	11 (—)	0	
Orthodontics	8	8.0 (3.8)	3	9.3 (7.0)	0		1	4 (—)
Paediatric Dentistry	1	6 (—)	1	10 (—)	1	8 (—)	0	
Periodontics	2	4 (0.0)	4	4.5 (1.0)	0		1	8 (—)
Research	0		0		0		0	
Restorative Dentistry	1	7 (—)	0		0		0	
Prosthodontics	2	12 (11.3)	1	8 (—)	0		0	
Teaching	0		0		0		1	3 (—)
Other	0		0		0		0	
No hours recorded	4		6		0		0	
Number dentists 1+ hours per week <sup>b</sup>	30	10.5 (5.9)	19	9.8 (6.8)	3	10 (5.3)	4	5.0 (2.2)
Total number of dentists <sup>c</sup>	34		25		3		4	

<sup>a</sup>This information not sought from non-specialists

<sup>b</sup>Dentists reporting no hours working are excluded from these calculations

<sup>c</sup>Total may sum to greater than this, as some specialists were active in more than one scope  
(Data source: Workforce Survey)

Table 2-16: Work type by primary and secondary employer – General dentists

	General dentistry		Teaching <sup>b</sup>		Administration <sup>b</sup>		Overall	
	Number	Mean hours spent at work type (SD)	Number	Mean hours spent at work type (SD)	Number	Mean hours spent at work type (SD)	Number	Mean hours spent at work type (SD)
Primary employer								
Private practice (self-emp) <sup>a</sup>	1244	33.2 (9.7)	3	3.3 (2.5)	36	8.5 (9.2)	1245	33.4 (9.7)
Private practice, employee	114	30.9 (10.0)	1	2 (—)	4	8.0 (3.6)	114	31.2 (9.9)
DHB or Min. of Health	80	34.8 (12.8)	0		10	19.2 (12.0)	84	35.4 (12.1)
University Dental School	12	31.4 (12.7)	8	24.5 (15.8)	0		17	33.7 (11.8)
Total							1487	33.4 (9.9)
Secondary employer								
Private practice (self-emp) <sup>a</sup>	63	12.4 (8.2)	9	5.9 (3.5)	6	7.2 (3.0)	77	11.4 (8.0)
Private practice, employee	7	13.1 (6.3)	1	16 (—)	1	10 (—)	8	14.8 (8.9)
DHB or Min. of Health	11	15.7 (10.3)	0		1	35 (—)	12	17.3 (11.3)
University Dental School	3	7.3 (3.1)	0		0		3	7.3 (3.1)
Total							104	12.5 (8.9)

(Includes practitioners registered in the general dental scope, reduced categories. Specialists and specialist trainees excluded.)

<sup>a</sup>Solo or group practice

<sup>b</sup>Where specifically employed to do so

<sup>c</sup>Note that some dentists did not report any hours  
(Data source: Workforce Survey)

No. of respondents reporting hours on 1<sup>st</sup> work type = 1487

No. of respondents reporting hours on 2<sup>nd</sup> work type = 104

No. of general dentists responding = 1575<sup>c</sup>

Table 2-17: Type of practice

	Number (%)	Overall percentage
Self-employed dentists <sup>a</sup>		
Solo practice	445 (30.9)	23.8
Group practice	994 (69.1)	53.2
Subtotal	1439 (100.0)	77.1
Employee dentists		
Private practice <sup>b</sup>	138 (40.9)	7.4
DHB	103 (30.6)	5.5
School of Dentistry	69 (20.4)	3.7
Government Department, not MOH	20 (5.9)	1.1
Iwi	6 (1.8)	0.3
Ministry of Health	1 (0.3)	0.1
Subtotal	337 (100.0)	18.1
Other forms of employment <sup>b</sup>	15	0.8
No reply to question	76	4.1
Total	1867	100.0

<sup>a</sup>Note: only the information on the first employer was analysed.

<sup>b</sup>Note: six dentists who selected 'other forms of employment' were actually employed by the Lumino group. For the workforce report, these six dentists are reported as being employee dentists in private practice  
(Data source: Workforce Survey)

Table 2-18: Total number of hours worked per week

Number of hours worked	Number practicing in NZ with APC 08		
	All combined %	General dentists %	Specialist dentists %
1 to 10	61 (3.5)	40 (2.7)	21 (7.8)
11 to 20	153 (8.7)	119 (7.9)	34 (12.7)
21 to 30	302 (17.1)	270 (18.0)	32 (11.9)
31 to 40	1011 (57.2)	883 (58.9)	128 (47.8)
41 to 50	176 (10.0)	140 (9.3)	36 (13.4)
51 to 60	40 (2.3)	28 (1.9)	12 (4.5)
More than 60	23 (1.3)	18 (1.2)	5 (1.9)
Nil response or excluded	101	77	24
Total <sup>a</sup>	1867	1575	292
Mean no. of hours/week (SD)	34.4 (10.9)	34.5 (10.4)	34.2 (13.5)
	(Range 1 to 99)	(Range 1 to 99)	(Range 2 to 80)

<sup>a</sup>Data for 98 dentists did not report any hours worked were excluded from analysis.

<sup>b</sup>Data for 3 dentists who indicated they worked for longer than 100 hours were excluded from analysis (these appeared to be dentists who entered data incorrectly, either intentionally or unintentionally).

(Data source: Workforce Survey)

Table 2-19: Country of qualification by current registration status

Qualification source	All dentists in NZ %	Practising in NZ %	In NZ, not practising %
New Zealand	1464 (73.9)	1392 (74.6)	72 (75.8)
Overseas	516 (26.1)	475 (25.4)	41 (24.2)
Total	1980 (100.0)	1867 (100.0)	113 (100.0)
Argentina	4 (0.2)	4 (0.2)	0
Australia	25 (1.3)	24 (1.3)	1 (1.1)
Bangladesh	1 (0.1)	1 (0.1)	0
Brazil	4 (0.2)	3 (0.2)	1 (1.1)
Bulgaria	2 (0.1)	2 (0.1)	0
Canada	6 (0.3)	6 (0.3)	0
Chile	1 (0.1)	1 (0.1)	0
China	4 (0.2)	4 (0.2)	0
Colombia	2 (0.1)	2 (0.1)	0
Czech Republic	3 (0.2)	2 (0.1)	1 (1.1)
Egypt	4 (0.2)	3 (0.2)	1 (1.1)
Fiji	3 (0.2)	3 (0.2)	0
Finland	1 (0.1)	1 (0.1)	0
France	2 (0.1)	2 (0.1)	0
Germany	5 (0.3)	4 (0.2)	1 (1.1)
Holland/Netherlands	3 (0.2)	3 (0.2)	0
Hong Kong	1 (0.1)	1 (0.1)	0
India	81 (4.1)	78 (4.2)	3 (3.2)
Indonesia	1 (0.1)	1 (0.1)	0
Iraq	50 (2.5)	49 (2.6)	1 (1.1)
Ireland	5 (0.3)	5 (0.3)	0
Israel	2 (0.1)	2 (0.1)	0
Korea	4 (0.2)	4 (0.2)	0
Macedonia	1 (0.1)	1 (0.1)	0
Malaysia	2 (0.1)	2 (0.1)	0
Philippines	5 (0.3)	3 (0.3)	0
Poland	2 (0.1)	2 (0.1)	0
Romania	10 (0.5)	10 (0.5)	0
Russia	9 (0.5)	9 (0.5)	0
Serbia	2 (0.1)	2 (0.1)	0
Singapore	5 (0.3)	4 (0.2)	1 (1.1)
South Africa	59 (3.0)	55 (2.9)	4 (4.2)
Sri Lanka	12 (0.6)	12 (0.6)	0
Sweden	2 (0.1)	2 (0.1)	0
Syria	1 (0.1)	1 (0.1)	0
Taiwan	2 (0.1)	2 (0.1)	0
Thailand	1 (0.1)	1 (0.1)	0
Turkey	1 (0.1)	1 (0.1)	0
Ukraine	3 (0.2)	3 (0.2)	0
United Kingdom	144 (7.3)	138 (7.4)	6 (6.3)
USA	14 (0.7)	11 (0.6)	3 (3.2)
USSR	1 (0.1)	1 (0.1)	0
Yugoslavia	7 (0.4)	7 (0.4)	0

<sup>a</sup>Column percentages calculated with NZ included

(Data source: Dental Register)

Table 2-20: Cohort remainder rate for University of Otago graduates<sup>a</sup>

Graduation cohort	Years since graduation	Number of graduates	Registration and APC 08	
			Number of dentists	Cohort remainder rate
1946-1950	58-62	128	1	0.8%
1951-1955	53-57	175	4	2.3%
1956-1960	48-52	176	20	11.4%
1961-1965	43-47	188	54	28.7%
1966-1970	38-42	239	120	50.2%
1971-1975	33-37	212	121	57.1%
1976-1980	28-32	272	175	64.3%
1981-1985	23-27	269	207	77.0%
1986-1990	18-22	224	152	67.9%
1991-1995	13-17	247	164	66.4%
1996	12	54	29	53.7%
1997	11	52	35	67.3%
1998	10	55	29	52.7%
1999	9	58	25	43.1%
2000	8	60	32	53.3%
2001	7	60	32	53.3%
2002	6	59	19	32.2%
2003	5	58	30	51.7%
2004	4	58	25	43.1%
2005	3	66	37	56.1%
2006	2	68	38	55.9%
2007 <sup>b</sup>	1	61	43	70.5%
Total		2839	1391	

<sup>a</sup>Note that the data in this Table come from the Register itself; a number of each year's new Otago graduates do not register, and so the cohort remainder rate for NZ-funded graduates must be manually calculated. That figure is presented in Table 2-2, and differs from that presented here.

<sup>b</sup>Graduation as at December '07, remainder rate calculated as at 31<sup>st</sup> March '08.

<sup>c</sup>Graduation year data were not available for 12 Otago graduates.

Table 2-21: Cohort remainder rate for dentists gaining registration via NZDREX

Year of first registration in NZ	Number of dentists in the register	Number of practicing dentists	Percentage of dentists with APC 08
1992	2	2	100.0%
1993	1	1	100.0%
1994	5	4	80.0%
1995	6	6	100.0%
1996	5	3	60.0%
1997	22	20	90.9%
1998	21	20	95.2%
1999	22	19	86.4%
2000	30	25	83.3%
2001	21	15	71.4%
2002	17	15	88.2%
2003	13	13	100.0%
2004	15	12	80.0%
2005	20	19	95.0%
2006	28	22	78.6%
2007	37	33	89.2%
2008 <sup>a</sup>	8	8	100.0%
Total	273	237	86.8%

<sup>a</sup>First registered prior to 31 March 2008  
(Data source: Dental Register)



Figure 2-1: Trends in the proportion of female dentists and overseas graduates in the NZ dental workforce from 1983 to 2008

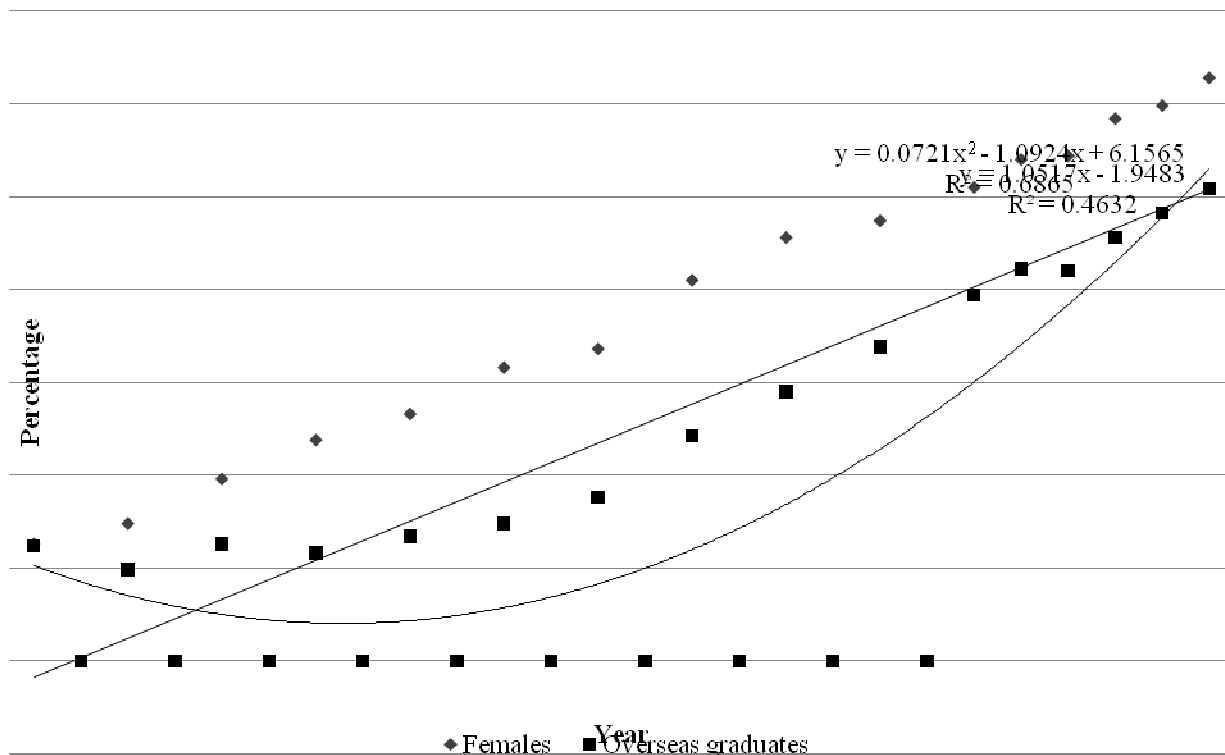


Table 2-22: Cohort remainder rate for overseas-qualified dentists where individual assessment has established equivalency with the prescribed qualification

Year of first registration in NZ	Number of dentists in the register	Number of practicing dentists	Cohort remainder rate
1951-1955	1	0	0.0%
1956-1060	0	0	-
1961-1965	0	0	-
1966-1970	1	1	100.0%
1971-1975	9	9	100.0%
1976-1980	6	6	100.0%
1981-1985	6	5	83.3%
1986-1990	30	26	86.7%
1991-1995	22	19	86.4%
1996	6	6	100.0%
1997	8	6	75.0%
1998	6	6	100.0%
1999	6	4	66.7%
2000	9	8	88.9%
2001	10	8	80.0%
2002	14	14	100.0%
2003	29	20	69.0%
2004	20	15	75.0%
2005	42	34	81.0%
2006	33	26	78.8%
2007	31	18	58.1%
2008 <sup>a</sup>	9	7	77.8%
Total	298	238	79.9%

<sup>a</sup>First registered prior to 31 March 2008

<sup>b</sup>Denominator is based on number of dentists in register (practicing or not),  
(Data source: Dental Register)

Table 2-23: Date of first qualification by current registration status

Year of graduation	All dentists in register %	In NZ and practising %	Not practising %
1946-1950	2 (0.1)	1 (0.1)	1 (0.4)
1951-1955	4 (0.2)	4 (0.2)	0
1956-1960	32 (1.5)	23 (1.2)	9 (3.8)
1961-1965	72 (3.2)	61 (3.3)	11 (4.6)
1966-1970	143 (6.7)	131 (7.0)	10 (4.2)
1971-1975	166 (7.8)	148 (7.9)	15 (6.3)
1976-1980	260 (12.2)	231 (12.4)	24 (10.1)
1981-1985	322 (15.1)	291 (15.6)	29 (12.2)
1986-1990	282 (13.2)	255 (13.7)	23 (9.7)
1991-1995	259 (12.1)	228 (12.2)	28 (11.8)
1996	58 (2.7)	48 (2.6)	9 (3.8)
1997	63 (2.9)	59 (3.2)	3 (1.3)
1998	50 (2.3)	43 (2.3)	7 (2.9)
1999	56 (2.6)	46 (2.5)	9 (3.8)
2000	52 (2.4)	41 (2.2)	10 (4.2)
2001	60 (2.8)	45 (2.4)	14 (5.9)
2002	31 (1.4)	23 (1.2)	7 (2.9)
2003	41 (1.9)	31 (1.6)	7 (2.9)
2004	44 (2.1)	35 (1.9)	8 (3.4)
2005	47 (2.2)	40 (2.1)	6 (2.5)
2006	44 (2.1)	40 (2.1)	2 (0.8)
2007	50 (2.3)	43 (2.3)	6 (2.5)
Total	2138	1867	238

(Data source: Dental Register)

Table 2-24: Date of first registration by current registration status

Date of first registration	All dentists in register Number of dentists	Dentists practicing in NZ		Dentists not practicing in NZ	
		Number of dentists	Percent	Number of dentists	Percent
1946-1950	1	1	100.0%	0	0.0%
1951-1955	5	4	80.0%	1	20.0%
1956-1960	28	19	67.9%	9	32.1%
1961-1965	48	43	89.6%	5	10.4%
1966-1970	111	98	88.3%	13	11.7%
1971-1975	146	136	93.2%	10	6.8%
1976-1980	194	178	91.8%	16	8.2%
1981-1985	222	210	94.6%	12	5.4%
1986-1990	192	173	90.1%	23	12.0%
1991-1995	198	184	92.9%	14	7.1%
1996	54	46	85.2%	8	14.8%
1997	65	56	86.2%	9	13.8%
1998	63	61	96.8%	2	3.2%
1999	66	56	84.8%	10	15.2%
2000	99	80	80.8%	19	19.2%
2001	61	41	67.2%	20	32.8%
2002	76	69	90.8%	7	9.2%
2003	85	68	80.0%	17	20.0%
2004	55	40	72.7%	15	27.3%
2005	109	92	84.4%	17	15.6%
2006	104	87	83.7%	17	16.3%
2007	116	93	80.2%	23	19.8%
2008	36	32	88.9%	4	11.1%
Total	2138	1867		271	

(Data source: Dental Register)

Table 2-25: Specialist status and specialty by current registration status

Specialist status	All dentists in register		Dentists practicing in NZ		Dentists not practicing in NZ	
	Number of dentists		Number of dentists	Percent	Number of dentists	Percent
Specialists	266		236	88.7%	30	11.3%
Non-Specialists	1872		1631	87.1%	241	12.9%
Total	2138		1867	87.3%	271	12.7%
Specialty						
Endodontics	25		22	88.0%	3	12.0%
Oral & Maxillofacial Surgery	43		39	90.7%	4	9.3%
Oral Medicine	0		0	-	0	-
Oral Pathology	5		5	100.0%	0	0.0%
Oral Surgery	5		4	80.0%	1	20.0%
Orthodontics	85		76	89.4%	9	10.6%
Paediatric Dentistry	13		12	92.3%	1	7.7%
Periodontology	34		30	88.2%	3	8.8%
Prosthodontics	20		17	85.0%	3	15.0%
Public Health Dentistry <sup>a</sup>	14		12	85.7%	2	14.3%
Restorative Dentistry	15		12	80.0%	3	20.0%
Special Needs Dentistry <sup>b</sup>	7		7	100.0%	0	0.0%
Total	266		236	88.7%	29	10.9%

<sup>a</sup>Formerly Community Dentistry

<sup>b</sup>Formerly Hospital Dentistry

(Data source: Dental Register)

Table 2-26 to Table 2-28: Geographic distribution of dentists by District Health Board area

The population data used in the following Tables come from the 2006 Census.

Table 2-26: Practising location by DHB area - all dentists

District Health Board	Number resident (%)	Number practising (%)	Percent practicing resident in DHB areas
Northland	51 (2.6)	48 (2.6)	94.1%
Waitemata	220 (11.1)	202 (11.0)	91.8%
Auckland	315 (15.9)	293 (15.9)	93.0%
Counties-Manukau	136 (6.9)	127 (6.9)	93.4%
Waikato <sup>a</sup>	138 (7.0)	132 (7.2)	95.7%
Bay of Plenty	82 (4.1)	79 (4.3)	96.3%
Lakes	37 (1.9)	35 (1.9)	94.6%
Tairāwhiti	14 (0.7)	13 (0.7)	92.9%
Hawke's Bay	61 (3.1)	50 (2.7)	82.0%
Taranaki	38 (1.9)	34 (1.8)	89.5%
Whanganui	19 (1.0)	16 (0.9)	84.2%
MidCentral	62 (3.1)	59 (3.2)	95.2%
Capital and Coast <sup>b</sup>	170 (8.6)	162 (8.8)	95.3%
Hutt	67 (3.4)	62 (3.4)	92.5%
Wairarapa	13 (0.7)	11 (0.6)	84.6%
Nelson-Marlborough	76 (3.8)	72 (3.9)	94.7%
West Coast	9 (0.5)	8 (0.4)	88.9%
Canterbury	230 (11.6)	215 (11.7)	93.5%
South Canterbury	22 (1.1)	20 (1.1)	90.9%
Otago	170 (8.6)	155 (8.4)	91.2%
Southland <sup>c</sup>	50 (2.5)	47 (2.6)	94.0%
Total	1980 <sup>d</sup>	1840 <sup>d</sup>	

<sup>a</sup>Includes all of the Ruapehu TLA (part of which is usually included in Whanganui DHB – affects Ohakune dentists)

<sup>b</sup>Includes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki dentists)

<sup>c</sup>Includes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka dentists)

<sup>d</sup>TLA data unavailable for 158 dentists, including 27 who were resident in New Zealand (total number 2138).

(Data source: Dental Register)

Table 2-27: Department of Statistics 2006 census population<sup>a</sup> by District Health Board (DHB) area

District Health Board	Total population	Population >14 years <sup>a</sup>
Northland	148,440	113,667
Waitemata	481,614	377,064
Auckland	404,658	328,560
Counties-Manukau	433,083	320,973
Waikato <sup>b</sup>	330,474	255,312
Bay of Plenty	98,322	74,460
Lakes	194,910	151,290
Tairāwhiti	44,463	32,805
Hawke's Bay	148,248	114,168
Taranaki	104,274	81,558
Whanganui	70,923	54,930
MidCentral	151,296	118,893
Capital and Coast <sup>c</sup>	274,209	220,758
Hutt	136,116	105,282
Wairarapa	38,610	30,459
Nelson-Marlborough	130,065	104,301
West Coast	31,326	24,936
Canterbury	439,032	353,022
South Canterbury	81,249	65,073
Otago	172,392	141,702
Southland <sup>d</sup>	113,832	90,795
Total	4,027,536	3,160,008

<sup>a</sup>Based upon the 2006 Census (excludes 399 individuals residing outside TLA areas)

<sup>c</sup>Includes all of the Ruapehu TLA (part of which is usually included in Whanganui DHB – affects Ohakune dentists)

<sup>d</sup>Includes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki dentists)

<sup>e</sup>Includes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka dentists)

(Data source: Statistics New Zealand)

Table 2-28: Distribution of full-time equivalent (FTE) dentists by District Health Board (DHB) area

DHB area	No of dentists with APC 08 <sup>b</sup>	FTE dentists	Population-to-FTE dentist ratio <sup>b</sup>	FTE per 100,000 population <sup>b</sup>
Northland	48	43.4	2617.5	38.2
Waitemata	202	121.6	3101.5	32.2
Auckland	293	291.1	1128.8	88.6
Counties-Manukau	127	52.1	6157.8	16.2
Waikato <sup>c</sup>	132	97.3	2623.3	38.1
Bay of Plenty	79	58.4	1275.0	78.4
Lakes	35	25.5	5938.8	16.8
Tairāwhiti	13	10.6	3094.8	32.3
Hawke's Bay	50	41.9	2723.1	36.7
Taranaki	34	26.0	3133.8	31.9
Whanganui	16	13.5	4084.0	24.5
MidCentral	59	47.1	2525.6	39.6
Capital and Coast <sup>d</sup>	162	115.5	1911.3	52.3
Hutt	62	47.7	2208.3	45.3
Wairarapa	11	8.8	3461.3	28.9
Nelson-Marlboro.	72	47.2	2210.9	45.2
West Coast	8	7.1	3524.5	28.4
Canterbury	215	151.8	2326.3	43.0
South Canterbury	20	18.6	3493.9	28.6
Otago	155	65.3	2169.2	46.1
Southland <sup>e</sup>	47	39.1	2320.6	43.1
Unknown location	27			
Total	1840	1329.5	2376.8	42.1

<sup>a</sup>Calculated using the population aged over 14 years (Table 2-27)

<sup>b</sup>Includes all dentists, regardless of employment type (University dental school dentists and dentists who did not report their main employment type have been included, unlike in previous reports).

<sup>c</sup>Includes all of the Ruapehu TLA (part of which is usually included in Whanganui DHB – affects Ohakune dentists)

<sup>d</sup>Includes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki dentists)

<sup>e</sup>Includes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka dentists)

(Data sources: Workforce Survey and Statistics New Zealand)



Table 2-29: Geographic distribution of dentists by Territorial Local Authority (TLA) area, for all dentists

TLA area	Number	Percent	No. with APC 08	Percent
Far North	14	0.7%	13	0.7%
Whangarei	34	1.7%	33	1.8%
Kaipara	2	0.1%	2	0.1%
Rodney	30	1.5%	30	1.6%
North Shore	120	6.2%	110	6.0%
Waitakere	67	3.4%	62	3.4%
Auckland	308	15.8%	293	15.9%
Manukau	106	5.4%	103	5.6%
Papakura	20	1.0%	16	0.9%
Franklin	8	0.4%	8	0.4%
Thames-Coromandel	11	0.6%	10	0.5%
Hauraki	1	0.1%	1	0.1%
Waikato	3	0.2%	3	0.2%
Matamata-Piako	9	0.5%	9	0.5%
Hamilton	81	4.2%	79	4.3%
Waipa	18	0.9%	17	0.9%
Otorohanga	7	0.4%	6	0.3%
South Waikato	3	0.2%	3	0.2%
Waitomo	1	0.1%	1	0.1%
Taupo	12	0.6%	11	0.6%
Western BoP	9	0.5%	9	0.5%
Tauranga	61	3.1%	59	3.2%
Rotorua	25	1.3%	24	1.3%
Whakatane	9	0.5%	9	0.5%
Kawerau	1	0.1%	1	0.1%
Opotiki	1	0.1%	1	0.1%
Gisborne	14	0.7%	13	0.7%
Wairoa	1	0.1%	1	0.1%
Hastings	21	1.1%	19	1.0%
Napier	30	1.5%	26	1.4%
Central Hawkes Bay	5	0.3%	4	0.2%
New Plymouth	27	1.4%	25	1.4%
Stratford	2	0.1%	1	0.1%
South Taranaki	9	0.5%	8	0.4%
Ruapehu District	3	0.2%	3	0.2%
Whanganui	16	0.8%	13	0.7%
Rangitikei	3	0.2%	3	0.2%
Manawatu	6	0.3%	6	0.3%
Palmerston North	41	2.1%	39	2.1%
Tararua	3	0.2%	3	0.2%
Horowhenua	12	0.6%	11	0.6%
Kapiti Coast	15	0.8%	15	0.8%
Porirua	15	0.8%	13	0.7%
Upper Hutt	13	0.7%	13	0.7%
Lower Hutt	52	2.7%	49	2.7%
Wellington	138	7.1%	134	7.3%
Masterton	10	0.5%	8	0.4%
Carterton	3	0.2%	3	0.2%
Tasman	19	1.0%	18	1.0%
Nelson	38	1.9%	36	1.9%
Marlborough	18	0.9%	18	1.0%
Kaikoura	1	0.1%	1	0.1%

Buller	2	0.1%	1	0.1%
Grey	6	0.3%	6	0.3%
Westland	1	0.1%	1	0.1%
Waimakariri	7	0.4%	7	0.4%
Christchurch	215	10.9%	204	10.9%
Selwyn	3	0.2%	3	0.2%
Ashburton	5	0.3%	5	0.3%
Timaru	17	0.9%	15	0.8%
Waitaki	13	0.7%	12	0.6%
Central Otago	6	0.3%	6	0.3%
Queenstown Lakes	19	1.0%	17	0.9%
Dunedin	143	7.2%	134	7.2%
Clutha	3	0.2%	3	0.2%
Southland	2	0.1%	2	0.1%
Gore	5	0.3%	5	0.3%
Invercargill	24	1.2%	23	1.2%
TLA Code not available	33	1.7%	27	1.4%
Total	1980		1867	

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(Data source: Dental Register)

Table 2-30: Department of Statistics population<sup>a</sup>

TLA area	Total population	Population >14 years <sup>a</sup>
Far North	55,839	42,231
Whangarei	74,463	57,510
Kaipara	18,141	13,926
Rodney	89,562	69,939
North Shore	205,614	164,844
Waitakere	186,444	142,281
Auckland	408,655	328,560
Manukau	242,643	242,643
Papakura	45,174	33,876
Franklin	58,935	44,454
Thames-Coromandel	25,932	21,375
Hauraki	17,187	13,347
Waikato	43,959	32,754
Matamata-Piako	30,480	23,451
Hamilton	129,255	100,998
Waipa	42,501	32,895
Otorohanga	9,087	6,897
South Waikato	22,650	16,614
Waitomo	9,441	6,981
Taupo	35,421	25,218
Western Bay of Plenty	42,075	32,967
Tauranga	103,629	82,047
Rotorua	65,898	49,242
Whakatane	33,294	24,798
Kawerau	6,927	4,977
Opotiki	8,967	6,501
Gisborne	44,460	32,805
Wairoa	8,481	6,264
Hastings	70,845	53,742
Napier	55,365	43,650
Central Hawkes Bay	12,963	10,044
New Plymouth	68,898	54,549
Stratford	8,883	20,169
South Taranaki	29,460	10,167
Ruapehu	13,569	33,411
Whanganui	42,639	11,352
Rangitikei	14,703	21,753
Manawatu	28,254	60,213
Palmerston North	75,543	13,413
Tararua	17,634	23,514
Horowhenua	29,862	37,263
Kapiti Coast	46,206	35,802
Porirua	48,537	10,167
Upper Hutt	38,415	29,919
Lower Hutt	97,710	75,363
Wellington	179,466	147,693
Masterton	22,626	17,814
Carterton	70950	5,604
South Wairarapa	8,886	7,041
Tasman	44,628	35,022
Nelson	42,891	34,647
Marlborough	42,555	34,632
Kaikoura	3,627	2,952

Buller	9,711	7,797
Grey	13,218	10,362
Westland	8,403	6,777
Hurunui	10,479	8,244
Waimakiriri	42,834	33,135
Christchurch	348,435	282,765
Selwyn	33,666	25,926
Ashburton	27,375	21,705
Timaru	42,873	34,617
Mackenzie	3,795	3,036
Waimate	7,206	5,715
Chatham Islands	606	468
Waitaki	20,223	16,401
Central Otago	16,653	13,593
Queenstown Lakes	22,959	19,209
Dunedin	118,686	98,712
Clutha	16,836	12,996
Southland	28,437	21,990
Gore	12,218	9,549
Invercargill	50,322	40,047
Total	3,859,827 <sup>b</sup>	3,160,371

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<sup>a</sup>2006 Census; “usually resident” population (excludes visitors)

<sup>b</sup>Excludes 336 persons residing outside any TLA

(Data source: Statistics New Zealand 2006 census. These data are the denominators for the estimates in Table 2-31)

Table 2-31: Distribution of full-time equivalent (FTE) dentists

TLA area	FTE dentists <sup>a</sup>	Population-to-FTE-dentist ratio <sup>a</sup>	FTE per 100,000 population <sup>a</sup>
Far North	11.2	3770.6	26.5
Whangarei	24.9	2309.6	43.3
Kaipara	1.9	7329.5	13.6
Rodney	24.9	2808.8	35.6
North Shore	93.3	1766.8	56.6
Waitakere	50.4	2823.0	35.4
Auckland	230.8	1423.6	70.2
Manukau	76.6	3167.7	31.6
Papakura	13.8	2454.8	40.7
Franklin	7.6	5849.2	17.1
Thames-Coromandel	8.5	2514.7	39.8
Hauraki	1	13347.0	7.5
Waikato	1.8	18196.7	5.5
Matamata-Piako	7.5	3126.8	32.0
Hamilton	64	1578.1	63.4
Waipa	14.6	2253.1	44.4
Otorohanga	5.1	1352.4	73.9
South Waikato	2.5	6645.6	15.0
Waitomo	1	6981.0	14.3
Taupo	8.4	3002.1	33.3
Western BoP	6.2	5317.3	18.8
Tauranga	48.5	1691.7	59.1
Rotorua	18.2	2705.6	37.0
Whakatane	7.3	3397.0	29.4
Kawerau	1	4977.0	20.1
Opotiki	1	6501.0	15.4
Gisborne	11.1	2955.4	33.8
Wairoa	1	6264.0	16.0
Hastings	14.6	3681.0	27.2
Napier	22.9	1906.1	52.5
Central Hawkes Bay	2.4	4185.0	23.9
New Plymouth	21	2597.6	38.5
Stratford	1	20169.0	5.0
South Taranaki	4.9	2074.9	48.2
Ruapehu District	2.9	11521.0	8.7
Whanganui	11.8	962.0	103.9
Rangitikei	2.5	8701.2	11.5
Manawatu	5.2	11579.4	8.6
Palmerston North	33.8	396.8	252.0
Tararua	3	7838.0	12.8
Horowhenua	9	4140.3	24.2
Kapiti Coast	11.6	3086.4	32.4
Porirua	10.8	941.4	106.2
Upper Hutt	10.3	2904.8	34.4
Lower Hutt	35.5	2122.9	47.1
Wellington	101.9	1449.4	69.0
Masterton	6.5	2740.6	36.5
Carterton	2.8	2001.4	50.0
South Wairarapa	0		0.0
Tasman	11.2	3127.0	32.0
Nelson	26.9	1288.0	77.6

Marlborough	14.9	2324.3	43.0
Kaikoura	0.6	4920.0	20.3
Buller	1	7797.0	12.8
Grey	4.9	2114.7	47.3
Westland	0.9	7530.0	13.3
Hurunui	0		0.0
Waimakariri	6.5	5097.7	19.6
Christchurch	162.9	1735.8	57.6
Selwyn	2.9	8940.0	11.2
Ashburton	3.9	5565.4	18.0
Timaru	11.1	3118.6	32.1
Mackenzie	0		0.0
Waimate	0		0.0
Chatham Islands	0		0.0
Waitaki	9.2	1782.7	56.1
Central Otago	4.2	3236.4	30.9
Queenstown Lakes	11.2	1715.1	58.3
Dunedin	95.7	1031.5	96.9
Clutha	3	4332.0	23.1
Southland	1.7	12935.3	7.7
Gore	4.4	2170.2	46.1
Invercargill	20.9	1916.1	52.2
Total	1456.6	2169.7	46.1

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<sup>a</sup>Includes all dentists, regardless of employment type

<sup>b</sup>Calculated using the population aged over 14 years (Table 2-30)  
(Data sources: Workforce Survey and Statistics New Zealand)

Table 2-32: Distribution of dentists with Annual Practising Certificates

TLA area	No. of dentists with APC 08	Population-to-dentist ratio <sup>b</sup>	Dentists per 100,000 population <sup>b</sup>
Far North	13	3248.5	30.8
Whangarei	33	1742.7	57.4
Kaipara	2	6963.0	14.4
Rodney	30	2331.3	42.9
North Shore	110	1498.6	66.7
Waitakere	62	2294.9	43.6
Auckland	293	1121.4	89.2
Manukau	103	2355.8	42.4
Papakura	16	2117.3	47.2
Franklin	8	5556.8	18.0
Thames-Coromandel	10	2137.5	46.8
Hauraki	1	13347.0	7.5
Waikato	3	10918.0	9.2
Matamata-Piako	9	2605.7	38.4
Hamilton	79	1278.5	78.2
Waipa	17	1935.0	51.7
Otorohanga	6	1149.5	87.0
South Waikato	3	5538.0	18.1
Waitomo	1	6981.0	14.3
Taupo	11	2292.5	43.6
Western BoP	9	3663.0	27.3
Tauranga	59	1390.6	71.9
Rotorua	24	2051.8	48.7
Whakatane	9	2755.3	36.3
Kawerau	1	4977.0	20.1
Opotiki	1	6501.0	15.4
Gisborne	13	2523.5	39.6
Wairoa	1	6264.0	16.0
Hastings	19	2828.5	35.4
Napier	26	1678.8	59.6
Central Hawkes Bay	4	2511.0	39.8
New Plymouth	25	2182.0	45.8
Stratford	1	20169.0	5.0
South Taranaki	8	1270.9	78.7
Ruapehu District	3	11137.0	9.0
Whanganui	13	873.2	114.5
Rangitikei	3	7251.0	13.8
Manawatu	6	10035.5	10.0
Palmerston North	39	343.9	290.8
Tararua	3	7838.0	12.8
Horowhenua	11	3387.5	29.5
Kapiti Coast	15	2386.8	41.9
Porirua	13	782.1	127.9
Upper Hutt	13	2301.5	43.5
Lower Hutt	49	1538.0	65.0
Wellington	134	1102.2	90.7
Masterton	8	2226.8	44.9
Carterton	3	1868.0	53.5
South Wairarapa	0		
Tasman	18	1945.7	51.4
Nelson	36	962.4	103.9

Marlborough	18	1924.0	52.0
Kaikoura	1	2952.0	33.9
Buller	1	7797.0	12.8
Grey	6	1727.0	57.9
Westland	1	6777.0	14.8
Hurunui	0		
Waimakariri	7	4733.6	21.1
Christchurch	204	1386.1	72.1
Selwyn	3	8642.0	11.6
Ashburton	5	4341.0	23.0
Timaru	15	2307.8	43.3
Mackenzie	0		
Waimate	0		
Chatham Islands	0		
Waitaki	12	1366.8	73.2
Central Otago	6	2265.5	44.1
Queenstown Lakes	17	1129.9	88.5
Dunedin	134	736.7	135.7
Clutha	3	4332.0	23.1
Southland	2	10995.0	9.1
Gore	5	1909.8	52.4
Invercargill	23	1741.2	57.4
TLA code unknown	27		
Total	1841	1716.7	58.3

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<sup>b</sup>Includes all dentists, regardless of employment type

<sup>a</sup>Calculated using the population aged over 14 years (



Table 2-30)  
(Data sources: Dental Register and Statistics New Zealand)

### Section 3: **The Dental Therapist Workforce**

#### 3.1 Description of socio-demographic characteristics of the current dental therapy workforce

A total of 682 dental therapists were listed on the DCNZ register who first registered prior to the 2008 reporting period, and 648 held a current APC. 27 therapists had their registrations on hold (REGN), while a further 7 were pending removal from the register (REMPEND). Therapists' ages ranged from 22 to 70 years, with a mean age of 48.9 years (SD, 10.9) and a median of 51 years. Data on the therapists' distribution across the various age groups are presented in Table 3-1.

Table 3-1: Age distribution of dental therapists in years

Age group	Number (%)	Cumulative percentage
19 or younger	0	0
20 to 24	15 (2.3)	2.3
25 to 29	37 (5.7)	8.0
30 to 34	31 (4.8)	12.8
35 to 39	47 (7.3)	20.1
40 to 44	62 (9.6)	29.6
45 to 49	90 (13.9)	43.5
50 to 54	141 (21.8)	65.3
55 to 59	135 (20.8)	86.1
60 to 64	64 (9.9)	96.0
65+	26 (4.0)	100.0
Total	648 (100.0)	

Over half of the active dental therapists are now aged 50 or over, with 42.6% in the 50-59 age band in 2008 compared with 40.2% in 2006. Therapists aged 40 and younger comprised 1 in 4 in 2007, but this was back to one in five in 2008.

In 2008 there were 15 male therapists (1.4%). Of this number, 10 were in the 20-29 year age group, 3 were in the 30-39 year age group, and 2 were the 40-49 year age group.

Data on therapists' ethnicity are presented in Table 3-2.

Table 3-2: Ethnicity (primary and secondary) among therapists

Ethnicity	Primary (%)	Secondary	Total <sup>a</sup>
NZ European	540 (83.3)	43	583
Māori	30 (4.6)	0	30
Other European	11 (1.7)	3	14
Samoan	4 (0.6)	1	5
Niuean	1 (0.2)	1	2
CookIslandMāori	0	1	1
Tokelauan	1 (0.2)	0	1
Fijian	0	0	0
OtherPacificPeoples	0	0	0
Other East Asian	1 (0.2)	0	1
Chinese	20 (3.1)	1	21
Indian	7 (1.1)	0	7
OtherAsian	13 (2.0)	1	14
Other	12 (1.9)	2	14
Total	640 (98.8)	53	
No response to question	8 (1.2)		

Table 3-3: Self-identification of ethnicity among dental therapists

<b>Africa</b>	<b>2</b>	<b>Other European</b>	<b>14</b>	<b>Asia</b>	<b>12</b>
South African	1	Croatian	1	Burmese	1
Zimbabwean	1	Czech		Japanese	1
		Danish	1	Korean, South	2
<b>North American</b>	<b>1</b>	Dutch	4	Sri Lankan	1
Latino American	1	Georgian	1	Taiwanese	4
		German		Thai	1
<b>Great Britain</b>	<b>3</b>	Greek		Vietnamese	2
British/UK	3	Hungarian	1		
		Irish	1	<b>New Zealand</b>	<b>6</b>
		Irish American		Kiwi	1
		Irish Malaysian		New Zealander	4
		Italian	1	New Zealand Maori	1
		Polish	1		
		Romanian		<b>Other Oceania</b>	
		Russian	2	Australian	1
		Ukrainian	1	Filipino	2
				Malaysian Chinese	1

<sup>a</sup>An element of inaccuracy is introduced here, with the duplication of individuals belonging to two ethnic groups; however, the approach used here has been used in previous years with the dentist report and is retained for comparison purposes.

<sup>b</sup>Note that this is a self-identification.

## 3.2 Practising characteristics

### 3.2.1 Full- or part-time practice

Full-time practice was reported by 447 dental therapists (69.0%, down from 73.9% the previous year). Of the 201 (31.0%) who reported part-time practice: 9 (4.5%) were doing non-dental work; 6 (3.0%) reported that there was not enough dental work available; 1 (0.5%) reported they were seeking dental work; 2 (1.0%) was semi-retired from practice; 47 (23.4%) cited parental responsibilities; 74 (36.8%) did so by personal choice; and 62 (30.8%) indicated other reasons, including management, teaching, or study responsibilities as well as health reasons or dual dental therapy/hygiene work.

A total of 20 were not currently practising; of those, 1 was practising overseas, 1 was overseas but not practising, and 18 were in New Zealand. Among the latter, 6 (37.5%) were working in another health profession, 8 (50.0%) were full-time students, and 2 (12.5%) were not working due to parental duties. None of those who were working in another health profession recorded any hours worked in dental hygiene.

### 3.3 Type and location of practice

Data are presented on the type of therapy practice in Table 2.3 below. Of the 18 who reported a second employment type, 5 were in private practice (4 were self-employed), 8 worked in the DHB sector, 1 was employed by the University's dental school, 1 was employed by an Iwi organization, and the remainder reported other forms of employment.

Table 3-4: Type of practice, among Dental Therapists

Type of practice <sup>a</sup>	Number (%)
Private practice <sup>b</sup>	40 (6.2)
DHB	551 (85.0)
Government Dept, not MoH	6 (0.9)
University Dental School	7 (1.1)
Iwi	5 (0.8)
MoH	4 (0.6)
Other	2 (0.3)
Total	615 (94.9)
No reply to question	33 (5.1)

<sup>a</sup>Note: only the information on the first employer was analysed

<sup>b</sup>Of these therapists in private practice, 12 were self-employed, while 28 were employees  
(Data source: Workforce Survey)

Table 3-5: Work type (mean hours) by primary and secondary employer – dental therapists, reduced work type categories<sup>a</sup>

Work type	General dental therapy Mean (SD) [number]	Teaching <sup>b</sup> Mean (SD) [number]	Administration <sup>b</sup> Mean (SD) [number]	Total hours Mean (SD) [number]
<b>Primary employer</b>				
Private practice (self-emp) <sup>a</sup>	22.4 (13.8) [11]	0 [0]	15 (—) [1]	23.7 (13.7) [11]
Private practice, employee	25.7 (12.4) [23]	0 [0]	30 (—) [1]	27.0 (15.2) [23]
DHB or Min. of Health	33.3 (8.8) [533]	4.0 (—) [1]	24.4 (10.9) [25]	34.0 (8.4) [540]
University Dental School	16.3 (16.2) [3]	26.5 (12.2) [6]	18 (—) [1]	32.3 (12.0) [7]
<b>Secondary employer</b>				
Private practice (self-emp) <sup>a</sup>	8 (—) [1]	0 [0]	0 [0]	8 (—) [1]
Private practice, employee	16.4 (11.0) [5]	0 [0]	0 [0]	16.4 (11.0) [5]
DHB or Min. of Health	14.4 (9.5) [12]	0 [0]	20 (—) [1]	14.8 (9.2) [13]
University Dental School	0 [0]	0 [0]	0 [0]	0 [0]

<sup>a</sup>Solo or group practice<sup>b</sup>Where specifically employed to do so

(Data source: Workforce Survey)

No. of respondents providing data on primary job	597
No. of respondents providing data on secondary job	19
Total no. of therapists	648

### 3.4 Hours worked

The total hours worked by therapists ranged from 0 to 75 hours per week, with a mean of 33.9 (SD, 9.1) among the 600 therapists who reported working one or more hours per week. The categorised data are presented in Table 3-6 below.

Table 3-6: Hours worked per week by dental therapists

Number of hours worked	Number of therapists (%)
1 to 10	12 (1.9)
11 to 20	30 (4.6)
21 to 30	111 (17.1)
31 to 40	423 (65.3)
41 to 50	9 (1.4)
51 to 60	3 (0.5)
More than 60	12 (1.9)
Total	600
Nil or no response	48 (7.4)
Mean no. of hours/week (sd)	33.9 (9.1)
Range	0 to 75

### 3.5 Workforce development

#### 3.5.1 Postgraduate training

A total of 32 dental therapists (4.9%) reported they were currently undertaking postgraduate training, and 28 of those expected to practise in New Zealand at the completion of that training. Of the 31 dental therapists who reported what training they were undertaking:

- 2 stated they were studying for dental radiography courses;
- 3 were studying the Oral Health Practice 3 paper;
- 3 were completing Bachelor's degrees in Oral Health;
- 14 were studying for diplomas, in a wide range of subjects including Public Health (2), Business Administration (1), Health Sciences (3), Adult Learning and Teaching (2), Child Health (1), and Resource Management (1), Clinical Nutrition (1), Brain Stem (1), Dental Therapy (1);
- 6 were studying for certificates, in a wide range of subjects including Management and Leadership (1), Health Leadership (1), Maori Health Promotion (2), Oral Health Practice (1), and Psychology and Lifespan (1);
- 1 was studying for a Master of Health Science degree;
- 2 were completing PhD degrees; and
- 1 did not state their course of postgraduate training.

Two-thirds of the dental therapists undertaking postgraduate training are expected to have completed their qualifications in 2007 or 2008.

### 3.5.2 Scopes of practice

The numbers of therapists registered in the various SOPs were: 648 (100.0%) in general dental therapy practice; 458 (70.7%) in diagnostic radiography in dental therapy practice (up from 59.9% in 2007); 44 (6.8%) in radiography in dental therapy practice; 237 (36.6%) in pulpotomies in dental therapy practice; 122 (18.8%) in stainless steel crowns in dental therapy practice; and 13 (2.0%) in adult dental care in dental therapy practice.

The numbers of therapists registered in each of those available SOPs are presented by DHB in Table 3-7. Large differences are reported in the treatments that therapists from different DHBs are able to provide.

### 3.5.3 Continuing professional development

In 2008, 96.1% of dental therapists (N=623) had completed at least 15 hours of CPD during the previous year. This is up from 88.2% in 2007. Of those 18 who were in New Zealand but not practicing, three quarters (N=14) had maintained CPD hours of at least 15 hours while the remaining quarter (N=4) had not done so (a turnaround from the year before).

## 3.6 Geographic distribution

Data on the geographic distribution of therapists are presented in Table 3-8. The Bay of Plenty DHB had the highest number of FTEs per 100,000 population, while the Greater Wellington area had the lowest. This was true both in 2006 and 2007. Lakes, Canterbury, and Auckland also had low numbers of FTE therapists.

Table 3-7: Dental Therapist's scopes of practice, by District Health Board

DHB area	Diagnostic radiography <sup>a</sup> (%)	Radiography <sup>a</sup> (%)	Pulpotomies (%)	Stainless steel crowns (%)	Adult dental care (%)	Total registered in General dental therapy (column %)
Northland	27 (100.0)	0	7 (25.9)	1 (3.7)	2 (7.4)	27 (4.2)
Waitemata <sup>b</sup>	43 (51.2)	3 (3.6)	30 (35.7)	27 (32.1)	0	84 (13.0)
Auckland <sup>b</sup>	30 (60.0)	3 (6.0)	24 (48.0)	22 (44.0)	0	50 (7.7)
Counties-Manukau <sup>b</sup>	43 (72.9)	3 (5.1)	34 (57.6)	31 (52.5)	0	59 (9.1)
<i>Greater Auckland</i>	<i>116 (60.1)</i>	<i>9 (4.7)</i>	<i>88 (45.6)</i>	<i>80 (41.5)</i>	<i>0</i>	<i>193 (29.8)</i>
Waikato	55 (93.2)	2 (3.4)	46 (78.0)	5 (8.5)	0	59 (9.1)
Bay of Plenty	27 (75.0)	1 (2.8)	10 (27.8)	0	1 (2.8)	36 (5.6)
Lakes	21 (100.0)	0	3 (14.3)	1 (4.8)	0	21 (3.2)
Tairāwhiti	9 (90.0)	0	1 (10.0)	1 (10.0)	0	10 (1.5)
Hawke's Bay	9 (26.5)	1 (2.9)	2 (5.9)	1 (2.9)	0	34 (5.2)
Taranaki	17 (81.0)	5 (23.8)	14 (66.7)	0	3 (14.3)	21 (3.2)
Whanganui	4 (25.0)	4 (25.0)	8 (50.0)	0	2 (12.5)	16 (2.5)
MidCentral	4 (14.3)	8 (28.6)	2 (7.1)	1 (3.6)	0	28 (4.3)
Capital and Coast <sup>b</sup>	10 (83.3)	1 (8.3)	1 (8.3)	1 (8.3)	0	12 (1.9)
Hutt <sup>b</sup>	27 (96.4)	1 (3.6)	5 (17.9)	5 (17.9)	0	28 (4.3)
<i>Greater Wellington</i>	<i>37 (92.5)</i>	<i>2 (5.0)</i>	<i>6 (15.0)</i>			<i>40 (6.2)</i>
Wairarapa	3 (37.5)	0	0	0	0	8 (1.2)
Nelson-Marlboro.	17 (89.5)	4 (21.1)	18 (94.7)	0	2 (10.5)	19 (2.9)
West Coast	5 (100.0)	0	0	0	0	5 (0.8)
Canterbury	42 (91.3)	1 (2.2)	4 (8.7)	4 (8.7)	0	46 (7.1)
South Canterbury	9 (90.0)	1 (10.0)	0	0	0	10 (1.5)
Otago	27 (81.8)	1 (3.0)	17 (51.5)	17 (51.5)	0	33 (5.1)
Southland	12 (80.0)	0	5 (33.3)	2 (13.3)	1 (6.7)	15 (2.3)
Total	441 (71.0)	39 (6.3)	231 (37.2)	119 (19.2)	11 (1.8)	621
Location unknown	17	5	6	3	2	27

<sup>a</sup>The distinction is made here between “diagnostic radiography”, which involves the taking and interpreting of radiographs, and “radiography”, which is the taking of radiographs.

<sup>b</sup>The nature of the School Dental Services in this area necessitated combining these DHBs  
(Data source: Dental Register)



Table 3-8: Distribution of full-time equivalent (FTE) therapists by population aged 14 years or less within District Health Board (DHB) areas

DHB area	Population aged 0-14	No of therapists	FTE therapists	Population-to-FTE ratio	FTE per 100,000 population
Northland	34,773	27	20.7	1679.9	60
Greater Auckland <sup>b</sup>	292,758	193	126.1	2321.6	43
Waikato	75,162	59	44.8	1677.7	60
Bay of Plenty	23,862	36	31.4	759.9	132
Lakes	43,620	21	16.3	2676.1	37
Tairāwhiti	11,658	10	6.5	1793.5	56
Hawke's Bay	34,080	34	25.4	1341.7	75
Taranaki	22,716	21	15.9	1428.7	70
Whanganui	15,993	16	12.3	1300.2	77
MidCentral	32,403	28	20.9	1550.4	65
Greater Wellington <sup>b</sup>	84,285	40	30.1	2800.2	36
Wairarapa	8,151	8	6.3	1293.8	77
Nelson-Marlborough	25,764	19	13.0	1981.8	50
West Coast	6,390	5	4.2	1521.4	66
Canterbury	86,010	46	35.4	2429.7	41
South Canterbury	16,176	10	6.9	2344.3	43
Otago	30,690	33	24.8	1237.5	81
Southland	23,037	15	12.1	1903.9	53
Unknown location	-	27			
Total	867,528	575 <sup>c</sup>	475.0	1826.4	55

<sup>a</sup>Includes therapists in dental practice, and those employed in Ministry of Health, Hospital and Health Services, Government Departments, and other practice settings (and University dental school therapists are included in these data, as those institutions may cater for a number of schools)

<sup>b</sup>As in Table 3-7, the nature of the School Dental Services in this area necessitated combining the DHBs

<sup>c</sup>Location data missing for 27 therapists and working hours data missing for 48 therapists (total excluded 73)  
(Data sources: Workforce Survey and Statistics New Zealand)

## Section 4: **The Dental Hygienist Workforce**

### 4.1 Description of the current dental hygiene workforce

A degree of complication is introduced into the analysis of the hygiene workforce data in the fact that three main types of ‘hygienists’ exist. The role of ‘dental hygienists’ *per se* is in the provision of oral health education, the prevention of oral disease to promote healthy oral behaviours, and the prevention and non-surgical treatment of periodontal diseases. ‘Dental auxiliaries’ comprise a subset of dental hygiene practitioners who do not have a recognised qualification in dental hygiene but who were practising it prior to the inception of the HPCA and as such have a more limited scope of practice than dental hygienists (this particular scope of practice was revoked on 18 September 2009).

‘Orthodontic auxiliaries’ assist the dentist or orthodontist in implementing orthodontic treatment through performing some orthodontic procedures (for example; taking impressions and making study models, inserting and removing some orthodontic appliances, preparing teeth for bonding, removing bonding composite and banding cement, and providing oral health education and advice on the care and maintenance of orthodontic appliances). A more detailed description of these categories and their SOPs is to be found on the DCNZ website.

A total of 407 individuals were listed on the DCNZ register as under the ‘hygienist’ code, who had also first registered before 31<sup>st</sup> March 2008, and 371 of these held current APCs. Some 33 had their registrations on hold, and 3 were coded as being due for removal from the register. Unless otherwise indicated, all subsequent analyses pertain to the 371 individuals with current registration. Exploration of the SOPs of these groups revealed that of the 371 in the register, 250 (67.4%) of these were dental hygienists, 36 were dental auxiliaries, and 85 were orthodontic auxiliaries, as defined above.

### 4.2 Sociodemographic characteristics

The 250 dental hygienists’ ages ranged from 22 to 63 years, with a mean age of 39.8 (sd 9.7) years and a median of 39 years. The dental hygienist workforce is dominated by women; only 6 males are registered as hygienists (gender data were unavailable for 1 dental hygienist at the time of preparing this report).

The 36 dental auxiliaries ages ranged from 29 to 61 years, with a mean age of 45.2 (sd 7.5) years and a median of 44.5 years. The dental auxiliary workforce is dominated by women; only 1 male (2.8%) was registered as a dental auxiliary.

The 85 orthodontic auxiliaries ages ranged from 23 to 67 years, with a mean age of 45.1 (sd 10.9) years and a median of 46 years. The orthodontic auxiliary workforce is dominated by women; only 1 male (1.2%) was registered as an orthodontic auxiliary (gender data were unavailable for 1 orthodontic auxiliary at the time of preparing this report).

Table 4-1: Age distribution of active dental hygienists and auxiliaries, by occupational category

Age group	Dental hygienists %	Dental auxiliaries %	Orthodontic auxiliaries %	Total (%)
Under 20	0	0	0	0
20 to 24	11 (4.4)	0	2 (2.4)	13 (3.5)
25 to 29	33 (13.2)	1 (2.8)	4 (4.7)	38 (10.2)
30 to 34	31 (12.4)	1 (2.8)	11 (12.9)	43 (11.6)
35 to 39	55 (22.0)	7 (19.4)	10 (11.8)	72 (19.4)
40 to 44	34 (13.6)	9 (25.0)	9 (10.6)	52 (14.0)
45 to 49	40 (16.0)	9 (25.0)	14 (16.5)	63 (17.0)
50 to 54	28 (11.2)	4 (11.1)	21 (24.7)	53 (14.3)
55 to 59	14 (5.6)	4 (11.1)	6 (7.1)	24 (6.5)
60 to 64	4 (1.6)	1 (2.8)	7 (8.2)	12 (3.2)
65+	0	0	1 (1.2)	1 (0.3)
Total	250	36	85	371

Table 4-2: Ethnicity (primary and secondary) among hygienists and auxiliaries with full registration and APC

Ethnicity	Primary %	Secondary	Total <sup>a</sup>
<b>Dental hygienists</b>			
NZ European	171 (68.7)		
Māori	2 (0.8)	11	13
Other European	31 (12.4)	2	33
Samoan	1 (0.4)		
Cook Is Māori	0		
Other Pacific	1 (0.4)		
Chinese	6 (2.4)	1	7
Indian	3 (1.2)		
Other Asian	6 (2.4)		
Other	28 (11.2)		
No response to question	1		
<b>Dental auxiliaries</b>			
NZ European	21 (60.0)		
Māori	0	3	3
Other European	1 (2.9)		
Samoan	0		
Cook Is Māori	0		
Other Pacific	0		
Chinese	0		
Indian	0		
Other Asian	10 (28.6)		
Other	3 (8.6)		
No response to question	1		
<b>Orthodontic auxiliaries</b>			
NZ European	65 (77.4)		
Māori	1 (1.2)	5	6
Other European	6 (7.1)	1	7
Samoan	0		
Cook Is Māori	1 (1.2)		
Other Pacific	0		
Chinese	1 (1.2)		
Indian	1 (1.2)		
Other Asian	6 (7.1)		
Other	2 (2.4)		
No response to question	2		
Total	371		

<sup>a</sup>An element of inaccuracy is introduced here, with the counting twice of those with two ethnic groups.

### 4.3 Practicing characteristics

#### 4.3.1 Full- or part-time practice

Full-time practice was reported by 194 respondents (52.3%, up from 49.1% the previous year); this included 53.2% of dental hygienists, 58.3% of dental auxiliaries, and 47.1% of orthodontic auxiliaries. Of the 194 (52.3%) overall who reported part-time practice: 9 (4.6%) were doing non-dental work; 16 (8.2%) reported that there was not enough dental work available; 1 (0.5%) reported that they were seeking dental work; 77 (39.7%) cited parental responsibilities (up from 33.8% in 2007); 74 (38.1%) did so by personal choice; and 17 (8.8%) indicated other reasons.

A total of 15 (7.7%) were not currently practising; of those, 2 were practising overseas, 1 was overseas but not practising, 10 were in New Zealand but not practicing, and 2 did not give a reason.

#### 4.3.2 Type and location of practice

Data are presented on the type of hygiene practice in Table 4-3. The majority of each of the three occupational categories were employees in private practice, but nearly one-third of dental hygienists and dental auxiliaries were self-employed.

#### 4.3.3 Hours worked

An analysis of hours worked by hygienists is presented in Table 4-4. Because very few orthodontic auxiliaries and dental auxiliaries completed the questionnaire section pertaining to the number of hours worked, it is not informative to include those data in Table 4-4.

Table 4-3: Type of practice, by occupational category

Type of practice	Primary employer %	Secondary employer %
<i>Dental hygienists</i>		
DHB/MoH	6 (2.6)	2 (0.9)
Private practice self-employed	68 (28.9)	19 (8.1)
Private practice employed	159 (67.7)	22 (9.4)
University Dental School	2 (0.9)	5 (2.1)
Total	235	235
Not stated	15	-
<i>Dental auxiliaries</i>		
DHB/MoH	1 (2.9)	0
Private practice self-employed	11 (32.4)	1 (2.9)
Private practice employed	22 (64.7)	5 (14.7)
University Dental School	0	0
Total	34	34
Not stated	2	2
<i>Orthodontic auxiliaries</i>		
DHB/MoH	4 (5.1)	0
Private practice self-employed	9 (11.4)	0
Private practice employed	65 (82.3)	3 (3.8)
University Dental School	1 (1.3)	0
Total	79	79
Not stated	6	6

(Data source: Workforce Survey)

Table 4-4: Work type (mean hours) by primary and secondary employer for dental hygienists

Employment status	Dental hygiene Mean (sd) [N]	Teaching <sup>b</sup> Mean (sd) [N]	Administration <sup>b</sup> Mean (sd) [N]	Total hours Mean (sd) [N]
<i>Primary employer</i>				
DHB or Min. of Health	33.5 (15.0) [6]			33.5 (15.0) [6]
Private practice (self-emp) <sup>a</sup>	25.6 (8.4) [66]		10 (—) [1]	25.7 (8.6) [66]
Private practice, employee	27.4 (10.2) [152]		2 (—) [1]	27.4 (10.2) [152]
University Dental School	29.0 (15.6) [2]	29.0 (15.6) [2]		58.0 (31.0) [2]
Overall				27.3 (10.5) [226]
Hours not reported				[24]
<i>Secondary employer</i>				
DHB or Min. of Health	12.0 (—) [1]			12.0 (—) [1]
Private practice (self-emp) <sup>a</sup>	13.0 (5.6) [16]			13.0 (5.5) [16]
Private practice, employee	12.2 (4.2) [28]			12.2 (4.2) [28]
University Dental School				[0]
Overall				12.5 (4.6) [45]

<sup>a</sup>Solo or group practice<sup>b</sup>Where specifically employed to do so

(Data source: Workforce Survey)

No. of respondents providing data on 1<sup>0</sup> work type: 226No. of respondents providing data on 2<sup>0</sup> work type: 45

The total hours worked by hygienists ranged from 5 to 80 per week, with a mean of 23.8 (sd, 15.9). An analysis of hours worked is presented below in Table 4-5.

Table 4-5: Hours worked per week by dental hygienists

No. of hours worked	No. of hygienists (%)
1 to 10	7 (2.8)
11 to 20	41 (16.4)
21 to 30	55 (22.0)
31 to 40	117 (46.8)
41 to 50	7 (2.8)
51 to 60	1 (0.4)
More than 60	1 (0.4)
Nil or no response	21 (8.4)
Total	250
Mean no. of hours/week (sd)	
Range	5 - 80



## 4.4 Workforce development

### 4.4.1 Postgraduate training

Some form of postgraduate training was reported by 10 respondents, of whom 9 were dental hygienists, 0 were dental auxiliaries, and 1 was an orthodontic auxiliary. Of the dental hygienists, 1 was studying for a postgraduate certificate in public health, 1 was studying for a masters degree in public health, 5 were undertaking further training in local anaesthesia, and 2 were undertaking other postgraduate study. The dental auxiliary was training for a Bachelor of Health Science (Oral Health) degree.

### 4.4.2 Scopes of practice

Data on scopes of practice are presented by occupational category in Table 4-6.

Table 4-6: Hygiene scopes of practice, by occupational category

Scope of practice	Hygienists %	Dental auxiliaries %	Orthodontic auxiliaries %	All combined %
General dental hygiene	250 (100.0)	10 (27.8)	0 (0.0)	260 (70.1)
Extra-oral radiography	37 (14.8)	0 (0.0)	33 (38.8)	70 (18.9)
Intra-oral radiography	188 (75.2)	5 (13.9)	29 (34.1)	222 (59.8)
Local anaesthetic	93 (37.2)	N/A	N/A	93 (25.1)
Orthodontic auxiliary practice	0 (0.0)	6 (16.7)	85 (100.0)	91 (24.5)
Orthodontic procedures in hygiene	89 (35.6)	0 (0.0)	0 (0.0)	89 (24.0)
Total number	250	36	85	371

#### 4.4.3 Continuing professional development

Dental hygienists are required to complete at least 30 hours of CPD during the two years prior to the reporting period, as compared to dentists who must complete upwards of 80 hours of CPD over a 4 year period.

Of the 250 dental hygienists, some 201 (80.4%) reported that they had completed at least 15 CPD hours during both the previous two years, while 49 (19.6%) had not done so. Among the 36 dental auxiliaries, 25 (69.4%) had completed more than 15 CPD hours in both years, while 11 (30.6%) had not done so. Of the 86 orthodontic auxiliaries, 62 (72.1%) had completed their required CPD hours during the past two years, while 24 (27.9%) had not done so. Overall, 288 of the 371 (77.6%) had met the CPD requirements during 2007-2008.

## Section 5: **The Dental Technician Workforce**

### 5.1 Description of current dental technician workforce

There are two main types of dental technicians – dental technicians *per se*, and clinical dental technicians. *Dental technicians'* major role is in processes and procedures associated with the design, manufacture and repair of fixed and removable oral and extra-oral appliances and prostheses prescribed by a practising dental specialist, dentist, clinical dental technician, medical practitioner or other practising health practitioner. *Clinical dental technicians* undertake those roles, as well as the fitting of complete removable dentures and the fitting of some other types of removable dentures, oral and extra-oral appliances under specific conditions set out in their detailed SOP. Clinical dental technicians also have an additional SOP available for implant-supported overdentures. A more detailed description of these categories and their SOPs is to be found on the DCNZ website, <http://www.dcnz.org.nz/>.

Of the 375 individuals listed in the dental technology scopes on the Register, 345 (92.0%) had a current APC and were practising in New Zealand. Unless otherwise indicated, all subsequent analyses pertain to those 345 individuals, of whom 155 (44.9%) were registered in the clinical dental technology SOP.

### 5.2 Sociodemographic characteristics

The ages of active dental technicians ranged from 23 to 86, with a mean age of 46.3 years (sd, 12.3) and a median of 45 years. Overall, there were 272 males (78.8%) and 72 females (20.9%), while the gender of one technician was unknown; at 12.3%, females were still relatively under-represented among the clinical dental technicians

Data on technicians' distribution (by gender) across the various age groups are presented (by occupational group) in Table 5-1.

#### 5.2.1 Ethnicity

Ethnicity data were missing for 10 dental technicians. Of the remainder, there were 186 NZ Europeans (53.9%), 3 Māori (0.9%), 50 'Other Europeans' (14.5%), 2 Samoans (0.6%), 1 Tongan (0.3%), 1 Niuean (0.3%), 1 Fijian (0.3%), 2 'Other East Asians' (0.6%), 15 Chinese (4.3%), 5 Indian (1.4%), 26 'Other Asian' (7.5%), and 42 of 'other' ethnicities (12.2). In the latter, the dominant groups in the latter category were German, Japanese, South Africa, and British.

Table 5-1: Age group by gender<sup>a</sup> and occupational group

	Females %	Males %	All combined %
<b>Dental technicians</b>			
20 to 24	0 (0.0)	2 (1.5)	2 (1.1)
25 to 29	8 (15.1)	13 (9.6)	21 (11.1)
30 to 34	8 (15.1)	19 (14.0)	27 (14.2)
35 to 39	15 (28.3)	26 (19.1)	41 (21.6)
40 to 44	8 (15.1)	18 (13.2)	27 (14.2) <sup>a</sup>
45 to 49	8 (15.1)	19 (14.0)	27 (14.2)
50 to 54	4 (7.5)	23 (16.9)	27 (14.2)
55 to 59	2 (3.8)	9 (6.6)	11 (5.8)
60 to 64	0 (0.0)	6 (4.4)	6 (3.2)
65+	0 (0.0)	1 (0.7)	1 (0.5)
<b>Total</b>	<b>53 (27.9)</b>	<b>136 (71.6)</b>	<b>190</b>
<b>Clinical dental technicians</b>			
20 to 24	0 (0.0)	0 (0.0)	0 (0.0)
25 to 29	0 (0.0)	3 (2.2)	3 (1.9)
30 to 34	3 (15.8)	5 (3.7)	8 (5.2)
35 to 39	3 (15.8)	13 (9.6)	16 (10.3)
40 to 44	5 (26.3)	15 (11.0)	20 (12.9)
45 to 49	2 (10.5)	19 (14.0)	21 (13.5)
50 to 54	4 (21.1)	19 (14.0)	23 (14.8)
55 to 59	1 (5.3)	13 (9.6)	14 (9.0)
60 to 64	1 (5.3)	24 (17.6)	25 (16.1)
65+	0 (0.0)	25 (18.4)	25 (16.1)
<b>Total</b>	<b>19 (12.3)</b>	<b>136 (87.7)</b>	<b>155</b>
<b>All combined</b>			
20 to 24	0 (0.0)	2 (0.7)	2 (0.6)
25 to 29	8 (11.1)	16 (5.9)	24 (7.0)
30 to 34	11 (15.3)	24 (8.8)	35 (10.1)
35 to 39	18 (25.0)	39 (14.3)	57 (16.5)
40 to 44	13 (18.1)	33 (12.1)	47 (13.6) <sup>a</sup>
45 to 49	10 (13.9)	38 (14.0)	48 (13.9)
50 to 54	8 (11.1)	42 (15.4)	50 (14.5)
55 to 59	3 (4.2)	22 (8.1)	25 (7.2)
60 to 64	1 (1.4)	30 (11.0)	31 (9.0)
65+	0	26 (9.6)	26 (7.5)
<b>Total</b>	<b>72 (20.9)</b>	<b>272 (78.8)</b>	<b>345<sup>a</sup></b>

<sup>a</sup>Gender of one unknown

### 5.3 Practising characteristics

#### 5.3.1 Full- or part-time practice

Full-time practice was reported by 307 respondents (89.0%); this included 91.6% of dental technicians and 85.8% of clinical dental technicians. Of the 38 (11.0%) overall who reported part-time practice: 3 (7.9%) were doing non-dental work; 5 (13.2%) reported that there was not enough dental work available; 1 (2.6%) was seeking dental work; 8 (21.1%) were semi-retired from practice; 11 (28.9%) cited parental responsibilities (up from only 3 individuals the year before); 6 (15.8%) did so by personal choice; and 4 (10.5%) indicated other reasons including family issues, part-time teaching, part-time work for a dental supply company, or part-time by temporary arrangement.

A total of 23 were not currently practicing and not registered; of those, 2 were overseas (one practicing and one not practicing), and 10 were in New Zealand but not practicing, while the remainder did not state a reason for not practicing.

Substantially more clinical dental technicians were in self-employed private practice than in employed private practice (83.6% and 10.5%, respectively), while non-clinical dental technicians were more evenly spread across self-employed and employed private practice (45.8% and 44.6%, respectively). See Table 5-2 for more detail. Data on the number of hours worked by technicians was unavailable for any technicians in 2007.

Table 5-2: Type of practice

	Dental technology %	Clinical dental technology %	Overall %
MoH or DHB	8 (4.6)	4 (2.7)	12 (3.8)
Private self-employed	72 (41.6)	122 (83.0)	194 (60.6)
Private employed	88 (50.9)	16 (10.9)	104 (32.5)
University Dent School	5 (2.9)	5 (3.4)	10 (3.1)
Total <sup>a</sup>	173	147	320

<sup>a</sup>25 technicians did not provide this information

## 5.4 Workforce development

### 5.4.1 Postgraduate training

Some form of postgraduate training was reported by 23 respondents (6.7%) overall, of whom 13 were dental technicians and 10 were clinical dental technicians. All but three were studying for post-graduate diplomas in clinical dental technology (although some were already listed in the clinical dental technology SOP). Of the remainder, one was studying for a diploma in tertiary teaching, one was studying for a PhD, and the final technician was studying for a commercial aircraft licence.

### 5.4.2 Scopes of practice

Of the clinical dental technicians, 17 (11.0%) were registered in the implant-supported overdentures in clinical dental technology scope.

### 5.4.3 Continuing professional development

Of the 190 dental technicians, 169 (88.9%) reported that they had undertaken at least 15 CPD hours during the previous year. A slightly greater proportion of the 155 clinical dental technicians, 140 (90.3%), met the year's CPD requirements. Overall, 36 technicians (10.4%) reported that they had not achieved at least 15 hours of CPD experience during 2008, down from 22% the year before. A total of 288 (77.6%) reported that they had undertaken at least 15 hours of CPD during both 2007 and 2008, while a further 60 (16.2%) reported that they had done so in one of those two years.

## 5.5 Geographic distribution

Table 5-3 presents data on the geographic distribution of both dental technicians and clinical dental technicians, while Table 5-4 and Table 5-5 present the population-to-technician ratio by DHB. The distribution of dental technicians according to FTEs is not presented, as FTE data for dental technicians could not be calculated as no data were available on the number of hours that dental technicians worked in 2007 was not provided by technicians.

Table 5-3: Distribution of technicians by District Health Board (DHB) area

DHB area	Dental technicians %	Clinical dental technicians %	Overall %
Northland	5 (2.6)	8 (5.2)	13 (3.8)
Waitemata	48 (25.3)	19 (12.3)	67 (19.4)
Auckland	47 (24.7)	10 (6.5)	57 (16.5)
Counties-Manukau	11 (5.8)	12 (7.7)	23 (6.7)
Waikato <sup>a</sup>	4 (2.1)	11 (7.1)	15 (4.3)
Bay of Plenty	3 (1.6)	7 (4.5)	10 (2.9)
Lakes	2 (1.1)	3 (1.9)	5 (1.4)
Tairāwhiti	0 (0.0)	2 (1.3)	2 (0.6)
Hawke's Bay	6 (3.2)	5 (3.2)	11 (3.2)
Taranaki	3 (1.6)	4 (2.6)	7 (2.0)
Whanganui	1 (0.5)	3 (1.9)	4 (1.2)
MidCentral	4 (2.1)	8 (5.2)	12 (3.5)
Capital and Coast <sup>b</sup>	9 (4.7)	11 (7.1)	20 (5.8)
Hutt	9 (4.7)	4 (2.6)	13 (3.8)
Wairarapa	0 (0.0)	1 (0.6)	1 (0.3)
Nelson-Marlboro.	5 (2.6)	6 (3.9)	11 (3.2)
West Coast	0 (0.0)	0 (0.0)	0 (0.0)
Canterbury	17 (8.9)	22 (14.2)	39 (11.3)
South Canterbury	1 (0.5)	2 (1.3)	3 (0.9)
Otago	12 (6.3)	14 (9.0)	26 (7.5)
Southland <sup>c</sup>	3 (1.6)	3 (1.9)	6 (1.7)
Total	190	155	345

<sup>a</sup>Includes all of the Ruapehu TLA (part of which is usually included in Whanganui DHB – affects Ohakune technicians)

<sup>b</sup>Includes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki technicians)

<sup>c</sup>Includes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka technicians)



Table 5-4: Distribution of all dental technicians by District Health Board (DHB) area

DHB area	No of technicians %	Population-to- technician ratio <sup>a</sup>	Technicians per 100,000 population <sup>a</sup>
Northland	13 (3.8)	12630	11.4
Waitemata	67 (19.4)	5628	17.8
Auckland	57 (16.5)	5764	17.3
Counties-Manukau	23 (6.7)	13955	7.2
Waikato <sup>b</sup>	15 (4.3)	17021	5.9
Bay of Plenty	10 (2.9)	7446	13.4
Lakes	5 (1.4)	30258	3.3
Tairāwhiti	2 (0.6)	16403	6.1
Hawke's Bay	11 (3.2)	10379	9.6
Taranaki	7 (2.0)	11651	8.6
Whanganui	4 (1.2)	13733	7.3
MidCentral	12 (3.5)	9908	10.1
Capital and Coast <sup>c</sup>	20 (5.8)	11038	9.1
Hutt	13 (3.8)	8099	12.3
Wairarapa	1 (0.3)	30459	3.3
Nelson-Marlboro.	11 (3.2)	9482	10.5
West Coast	0 (0.0)		0.0
Canterbury	39 (11.3)	9052	11.0
South Canterbury	3 (0.9)	21691	4.6
Otago	26 (7.5)	5450	18.3
Southland <sup>d</sup>	6 (1.7)	30265	6.6
Total	345	14562	10.9

<sup>a</sup>Calculated using the population aged over 14 years

<sup>b</sup>Includes all of the Ruapehu TLA (part of which is usually included in Whanganui DHB – affects Ohakune technicians)

<sup>c</sup>Includes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki technicians)

<sup>d</sup>Includes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka technicians)

Table 5-5: Distribution of clinical dental technicians only by District Health Board (DHB) area

DHB area	No of technicians %	Population-to- technician ratio <sup>a</sup>	Technicians per 100,000 population <sup>a</sup>
Northland	8 (5.2)	14208	7.0
Waitemata	19 (12.3)	19845	5.0
Auckland	10 (6.5)	32856	3.0
Counties-Manukau	12 (7.7)	26748	3.7
Waikato <sup>b</sup>	11 (7.1)	23210	4.3
Bay of Plenty	7 (4.5)	10637	9.4
Lakes	3 (1.9)	50430	2.0
Tairāwhiti	2 (1.3)	16403	6.1
Hawke's Bay	5 (3.2)	22834	4.4
Taranaki	4 (2.6)	20390	4.9
Whanganui	3 (1.9)	18310	5.5
MidCentral	8 (5.2)	14862	6.7
Capital and Coast <sup>c</sup>	11 (7.1)	20069	5.0
Hutt	4 (2.6)	26321	3.8
Wairarapa	1 (0.6)	30459	3.3
Nelson-Marlboro.	6 (3.9)	17384	6.0
West Coast	0 (0.0)		0.0
Canterbury	22 (14.2)	16046	6.2
South Canterbury	2 (1.3)	32537	3.1
Otago	14 (9.0)	10122	9.9
Southland <sup>d</sup>	3 (1.9)	30265	3.3
Total	155	20387	4.9

<sup>a</sup>Calculated using the population aged over 14 years

<sup>b</sup>Includes all of the Ruapehu TLA (part of which is usually included in Whanganui DHB – affects Ohakune technicians)

<sup>c</sup>Includes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki technicians)

<sup>d</sup>Includes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka technicians)

### **Author's comments**

Some errors in data entry and errors in the way dental professionals had provided information in the dental workforce questionnaire were corrected as a part of the analytical process; however, some small inconsistencies have persisted in the form of a small amount of missing data.

I welcome any feedback and suggestions that readers may have: please email me directly at [jonathan.broadbent@stonebow.otago.ac.nz](mailto:jonathan.broadbent@stonebow.otago.ac.nz).