

**Dental Council
of New Zealand**

**2007
Workforce Analysis**

JM Broadbent
Dental Researcher and
General Dental Practitioner
April 2008

Table of Contents

Executive Summary and Commentary	6
The Dentist Workforce	6
Employment	6
Postgraduate education and continuing professional development (CPD)	6
Practice characteristics	7
Cohort remainder rates	7
Distribution of dentists	7
Other Oral Health Practitioner Groups	7
The Dental Therapist Workforce	7
The Dental Hygienist Workforce	8
The Dental Technician Workforce	9
Section 1: The Dentist workforce	10
Workforce survey	11
Response rate	11
Sociodemographic characteristics of workforce	12
Employment rates	12
Postgraduate education and continuing professional development (CPD)	13
Practice characteristics	13
Cohort remainder rates	13
Distribution of dentists	14
Table 1.1. Number of dentists in the active workforce by year (with registration and current APC)	16
Table 1.2. Longitudinal analysis of the cohort remainder rate of University of Otago dental graduates	17
Table 1.3. Response rates to 2007 Workforce Questionnaire	18
Table 1.4. Age by current registration status	20
Table 1.5. Ethnicity (primary and secondary) among those with full registration and APC 07	21
Self-identification of 'other' primary ethnicity by geographic area ^b	21
Table 1.6. Gender by current registration status	22
Table 1.7. Reasons for part-time employment	23

Table 1.8. Overseas and non-practising dentists.....	24
Table 1.9. Postgraduate training ^a	25
Table 1.9a. Branch of dentistry in which postgraduate training being undertaken ^a	26
Table 1.10. Continuing professional development among dentists with full registration and an APC 07.....	27
Table 1.11. Continuing professional development over the last four years among dentists with full registration and an APC 07 ^a	27
Table 1.12. Work type by primary employer – practitioners registered in specialist scopes ^a	29
Table 1.12a. Work type by secondary employer – practitioners registered in specialist scopes (or specialist trainees) ^a	30
Table 1.13. Work type by primary and secondary employer – practitioners registered in the general dental scope, reduced categories. Specialists and specialist trainees excluded. ...	31
Table 1.14. Type of practice	32
Table 1.15. Total number of hours worked per week.....	33
Table 1.16. Country of qualification by current registration status	35
Table 1.17. Cohort remainder rate for University of Otago graduates.....	36
Table 1.18. Cohort remainder rate for dentists gaining registration via NZDREX.....	37
Figure 1. Trends in the proportion of female dentists and overseas graduates in the NZ dental workforce from 1983 to 2007	38
Table 1.19. Cohort remainder rate for New Zealand graduates and overseas-qualified dentists where individual assessment has established equivalency with the prescribed qualification.....	39
Table 1.20. Date of first qualification by current registration status	40
Table 1.21. Date of first registration by current registration status	41
Table 1.22. Specialist status and specialty by current registration status	42
Tables 1.23a to 1.23c. Geographic distribution of dentists by District Health Board area	43
Table 1.23a. Full registration – all dentists.....	43
Table 1.23b. Department of Statistics population ^a by District Health Board (DHB) area	44
Table 1.23c. Distribution of full-time equivalent (FTE) dentists by District Health Board (DHB) area	45
Tables 1.24a to 1.24c and Table 1.25. Geographic distribution of dentists by Territorial Local Authority (TLA) area	46
Table 1.24a. Full registration – all dentists.....	46
Table 1.24b. Department of Statistics population ^a	48
Table 1.24c. Distribution of full-time equivalent (FTE) dentists.....	50

Table 1.25. Distribution of dentists with Annual Practising Certificates.....	52
Section 2. The Dental Therapist Workforce	54
Description of sociodemographic characteristics of the current dental therapy workforce....	55
Table 2.1. Age distribution of dental therapists in years	55
Table 2.2. Ethnicity (primary and secondary) among therapists.....	56
Self-identification of 'other' primary ethnicity by geographic area:.....	56
Practising characteristics	57
Full- or part-time practice	57
Type and location of practice	57
Table 2.3. Type of practice	57
Table 2.4. Work type (mean hours) by primary and secondary employer – dental therapists, reduced work type categories ^a	59
Hours worked	60
Table 2.5. Hours worked per week by dental therapists.....	60
Workforce development	60
Postgraduate training	60
Scopes of practice.....	61
Continuing professional development	61
Geographic distribution.....	61
Table 2.6. Scopes of practice, by District Health Board	63
Table 2.7. Distribution of full-time equivalent (FTE) therapists by District Health Board (DHB) area	64
Section 3. The Dental Hygienist Workforce.....	65
Description of current dental hygiene workforce	66
Sociodemographic characteristics.....	66
Table 3.1. Age distribution of active dental hygienists and auxiliaries, by occupational category ^a	67
Table 3.2. Ethnicity (primary and secondary) among hygienists and auxiliaries with full registration and APC 07	68
Self-identification of 'other' primary ethnicity by geographic area:.....	69
Practising characteristics	70
Full- or part-time practice	70
Type and location of practice	70
Table 3.3. Type of practice, by occupational category	71

Table 3.4. Work type (mean hours) by primary and secondary employer for dental hygienists.....	73
Table 3.5. Hours worked per week by dental hygienists.....	74
Workforce development	75
Postgraduate training.....	75
Scopes of practice.....	75
Table 3.6. Hygiene scopes of practice, by occupational category.....	76
Continuing professional development	77
Geographic distribution.....	77
Table 3.7 Distribution of full-time equivalent (FTE) dental hygienists by District Health Board (DHB) area.....	78
Table 3.8 Number of hygienists and dental auxiliaries, by District Health Board (DHB) area.....	79
Section 4. The Dental Technician Workforce	80
Description of current dental technician workforce	81
Sociodemographic characteristics.....	81
Table 4.1. Age group by gender ^a and occupational group	82
Ethnicity.....	83
Practising characteristics	83
Full- or part-time practice	83
Table 4.2. Type of practice	84
Workforce development	85
Postgraduate training.....	85
Scopes of practice.....	85
Continuing professional development	85
Geographic distribution.....	86
Table 4.3. Distribution of technicians by District Health Board (DHB) area.....	86
Table 4.4. Distribution of dental technicians by District Health Board (DHB) area	87
Table 4.5. Distribution of clinical dental technicians by District Health Board (DHB) area..	88
Author’s comments on the workforce analysis process	89

Executive Summary and Commentary

The Dentist Workforce

As in previous years, there was an increase in the active dental workforce. A total of 1779 dentists (83.6% of registered practitioners) from the database were included in 2007 workforce analysis, up from 1717 the year before (Table 1.1).

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 to 2007. One in four dentists did not obtain their primary dental qualification in New Zealand.

Employment

As in previous years, there was a continuation of the slight rise in the proportion of dentists undertaking part-time work (defined as less than 35 hours per week), and it is now just over one-third. 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.

Postgraduate education and continuing professional development (CPD)

Some 83 dentists stated that they were engaged in some form of postgraduate study in 2007; however, a number of those did not state for what degree they were studying. Of the 83 students, 86.7% stated that they intend to practise in New Zealand on completion of their degrees. There was a slight increase in the proportion of dentists participating in at least 20 hours of CPD during the previous year (from 80.6% in 2005 to 87.5% in 2006 and 89.7% in 2007). The proportion who met that criterion in all of the previous four years was just below half, at 48.6%. The proportion of dentists meeting the 20+ hours criterion in none of the previous 4 years was 3.5% (Tables 1.10 and 1.11).

Practice characteristics

The proportion of dentists by practice type continued to trend away from solo practice: in 2001, 41% were in solo practice, and this has fallen every year since, to 33% in 2005 and to 25% in 2007.

Cohort remainder rates

The cohort remainder rate for the 2006 graduating Otago cohort was 50%, markedly lower than the 65% remainder rate observed of the class of 2005 during 2006. Around two thirds of graduates from 2005 and 2004 were practicing in New Zealand during 2007, (Table 1.2).

Distribution of dentists

The dentist-to-population ratio estimates by District Health Board (DHB) indicate that the Counties-Manukau, Lakes, and Wanganui districts are under-served. However, the dentist to population ratios for the West Coast and Tairāwhiti areas appear to have improved. The populations living in those areas are relatively few in number, so the introduction of a small number of dentists appears to have helped to improve the situation. Longer hours worked, on average, by the dentists in those areas may also have helped the situation.

Other Oral Health Practitioner Groups**The Dental Therapist Workforce**

The active dental therapy workforce is changing. In the 2006 DCNZ Workforce Report reported that “the dental therapy workforce comprised an ageing, predominantly Pakeha female group, of whom more than half were aged 50 or more”. This has changed in 2007. Less than half are now aged 50 or over, with many young therapists entering the workforce, some being registered as young as 19 years of age. Therapists are still predominantly New Zealand European, but the representation of other groups has increased, with 14.5% reporting their ‘primary ethnicity’ to be something other than New Zealand European. Almost three-quarters work full-time, with almost all working in the DHB sector.

While almost two-thirds of the registered dental therapists were able to provide radiography, there was considerable variation across the DHBs; for example, all but one of the 21 therapists in Nelson were able to take and interpret radiographs, while only one of the 15 therapists in Wanganui was able to do so. Across the country, some 15 dental

therapists were registered in the scope of Adult Dental Care. The distribution of these is shown in Table 2.6.

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 (Table 2.7).

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 414 individuals. Like the dental therapist workforce, it is a predominately female group (only four hygienists were male), but the average age in the hygienist group was younger than the therapist group. NZ Europeans were the dominant group among hygienists, but only 62.0% identified NZ European as their primary ethnicity while 85.5% of therapists did so.

The majority of each of the three hygiene occupational categories worked in private practice. 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 dental therapists, at a mean of 23.8 hours per week compared to 29.4 hours. One in three dental hygienists were registered in the additional local anaesthesia scope of practice (SOP), and almost three out of four were registered for intra-oral radiography. Just over one in ten dental auxiliaries and about one-third of orthodontic auxiliaries were registered in the local anaesthesia SOP.

There was considerable variation in the hygienist-to-population ratio by DHB area. Auckland had the highest ratio at 12.6 per 100,000 of population, while there were none in Wairarapa.

The Dental Technician Workforce

There were 373 active dental technicians (up by 35 from 2006), of whom 42% 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 1 in 9, while it was approximately 1 in 4 for dental technicians. Over half of the clinical dental technicians were aged 50 and over. Overall, 55% of the dental technology group were New Zealand Europeans—the lowest proportion for all the dental professions. ‘Other Europeans’ comprised 1 in 5 dental technicians.

The great majority worked in full-time practice, and almost all worked in only one place of employment. On average, clinical dental technicians worked more hours than other dental technicians. In 2006, 1 in 10 dental technicians were undertaking postgraduate training. This had dropped to less than 1 in 20 in 2007. Over 25% of dental technicians did not achieve CPD experience of at least 15 hours during 2007 whilst less than 20% of clinical dental technicians did achieve the required CPD experience. This is low compared to dentists, dental therapists, and dental hygienists.

It was not possible to calculate FTEs for the dental technicians, as hours worked were not reported. Therefore, the distribution of dental technicians was computed according to the actual number of technicians, not according to FTEs.

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. This contrasts with 2006, when the lowest ratios were observed in Auckland and the Bay of Plenty.

Section 1: The Dentist workforce

A total of 2127 dentists appear in the 2007 register under the code 'D' for dentist (note that dentist registration status was listed twice for four dentists – the duplicate cases were 3 dental therapists and one hygienist who had recently gained dental registration). Of these 2127, 1990 registered prior to the year 2007.

Full registration ('REG')	1935 (90.9%)
Full registration, non-practising ('REGN')	191 (9.0%)
Resident in New Zealand and registered prior to 2007	1869 (87.9%)
Resident in New Zealand but non-practising ('REGN')	89
Registered in the branch, not practising and have paid for permanent retention in the register, e.g. retired practitioners('REGR')	1
Included in 2007 workforce analysis (registered prior to 2007, resident in New Zealand)	1779 (83.6%)

As has been done in previous workforce analyses, dentists who are in the Dental Council database but do not hold a current APC or who first registered later than the current year have been excluded from the analysis, as well as those with a ResCode of 'O' (those listed as resident outside of New Zealand). Thus, a total of 1779 (83.6%) dentists were included in 2007 workforce analysis, up from 1717 the year before.

Workforce survey

Response rate

There continues to be a good response rate to the workforce survey. All individuals in the council database 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).

Sociodemographic 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 'Other European' category appears to have arisen out of there being a number of dentists who would prefer to identify themselves as being such rather than as being 'New Zealand European'. The ethnicity options are consistent with the categories listed with the Department of Statistics and the five-yearly national census.

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).

Employment rates

The employment rate remains high and there was a continuation of the slight rise in the proportion of dentists undertaking part-time work (defined as less than 35 hours per week), and it is now just over one-third. A marked gender difference exists between male and female dentists in the proportion undertaking part-time work—female dentists are nearly

twice as likely to be working part-time than males. Some 278 female dentists (52.3%) work part-time, while 334 males do so (26.8%).

Postgraduate education and continuing professional development (CPD)

Some 83 dentists stated that they were engaged in some form of postgraduate study in 2007; however, a number did not state what degree they were studying for. There was inconsistency in whether specialising dentists stated whether they were undertaking study for the Master of Dental Surgery or the Doctor of Clinical Dentistry. Of the 83 students, 86.7% indicated their intention to practise in New Zealand on completion of their degrees.

There was again a slight increase in the proportion of dentists participating in at least 20 hours of CPD during the previous year (80.6% in 2005, 87.5% in 2006 and 89.7% in 2007). The proportion who met that criterion in all of the previous four years was just below half, at 48.6%. The proportion of dentists meeting the 20+ hours criterion in none of the previous 4 years was 3.5% (Tables 1.10 and 1.11).

Practice characteristics

The proportion of dentists by practice type continued a trend away from solo practice. This has fallen every year since 2001, when 41% were in solo practice. This has now fallen to 25% in 2007. During this time there has been an increase in the number of dentists working for District Health Boards (DHB). There was no change in the mean number of employment hours per week for general dentists or dental specialists. As noted in past workforce reports, general dentists tended to work slightly more hours, on average, than specialists.

Cohort remainder rates

The cohort remainder rate for the 2006 graduating Otago cohort was 50%, which is markedly lower than the 65% remainder rate observed of the class of 2005 during 2006. Around two-

thirds of graduates from 2005 and 2004 were practicing during 2007. Looking further back, less than half of the graduating classes of 2003 and 2002 were still practicing in New Zealand during 2007. These rates had previously been higher but appear to have continued to drop since graduation, particularly for the class of 2003. 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.

Distribution of dentists

The dentist-to-population ratio estimates by DHB indicate that the Counties-Manukau, Lakes, and Wanganui DHBs are under-served, while the dentist:population ratios for the West Coast and Tairāwhiti areas appear to have improved. The populations living in those areas are relatively few in number, so the introduction of a small number of dentists seems to have improved the situation (together with longer hours worked, on average, by the dentists in those areas). As observed in 2006, the population of South Canterbury also remains under-served. The estimates by Territorial Local Authorities (TLA) reveal considerable variation, but confirm the DHB patterns. TLAs that experienced the greatest decrease in full-time equivalent (FTE) dentists were Wellington and Christchurch, but with just 3.7FTE dentists lost in both these areas, the impact would not be great on these large cities. TLAs where dentists seem to be moving to are Auckland and the far North, with an increase of 18.9 and 5.2 FTE dentists in those areas, respectively.

Comparisons of dentist:population ratios in 2006 and 2007 should be undertaken with a degree of caution. Both are based on the 2006 Census data, the projections have not been made for the 2007 analyses. TLAs to experience a substantial decrease in their active dentist workforce (relative to their population) during the year were Wairoa, and Carterton (which, notably, had both experienced a substantial *increase* the year before). TLAs with substantial

increases were Westland, Opotiki, Thames-Coromandel, Waitomo, Central Hawkes Bay, and Queenstown Lakes.

Table 1.1. Number of dentists in the active workforce by year (with registration and current APC)

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

(Data source: Dental Register)

Table 1.2. Longitudinal analysis of the cohort remainder rate of University of Otago dental graduates

Year of graduation ^a	Number of students (percentage cohort remainder rate)				
	2006	2005	2004	2003	2002
Total number of graduates who were not externally-funded	62	60	56	56	62
2007	31 (50.0)	43 (71.7)	34 (60.7)	26 (46.4)	26 (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)

^aNot including externally-funded students. Of the 68 Otago BDS graduates in the 2005 class, 8 were externally-funded.

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

Table 1.3. Response rates to 2007 Workforce Questionnaire

According to the DCNZ dataset variable 'workforcesurveycompleted', the response rate to the questionnaire from the active dentist workforce was 100%. However, some of the workforce data itself appeared to be incomplete.

Response rates by type of practitioner were as follows:

Current registration status	Total number of practitioners	Number responding to questionnaire	Response Rate
On the register	1869	1869	100%
Registration and APC 07	1779	1779	100%
Maintained registration not practising	90	90	100%

(At 31 December 2006)

(Data sources: Dental Register and Workforce Survey)

Table 1.4. Age by current registration status

Please note: unless otherwise indicated, brackets contain percentages in this and all following tables.

	Registration – all dentists	Registration and APC 07	Maintained registration but not practising
Age group			
Under 30 years	227 (12.1)	215 (12.1)	12 (13.3)
30-34 years	213 (11.4)	196 (11.0)	17 (18.9)
35-39 years	233 (12.5)	220 (12.4)	13 (14.4)
40-44 years	253 (13.5)	245 (13.8)	8 (8.9)
45-49 years	279 (14.9)	271 (15.2)	8 (8.9)
50-54 years	241 (12.9)	233 (13.1)	8 (8.9)
55-59 years	153 (8.2)	148 (8.3)	5 (5.6)
60-64 years	138 (7.4)	131 (7.4)	7 (7.8)
65+ years	132 (7.1)	120 (6.7)	12 (13.3)
Total	1869	1779	90

(Data source: Dental Register)

Table 1.5. Ethnicity (primary and secondary) among those with full registration and APC 07

Ethnicity	Primary	Secondary	Total ^a
NZ European	1033 (58.1)		1033
Māori	14 (0.8)	33	47
Other European	161 (9.1)	9	170
Samoan	3 (0.2)	1	4
Tongan	1 (0.1)	2	3
Fijian	3 (0.2)		3
Other Pacific Peoples	2 (0.1)		2
Chinese	167 (9.4)	10	177
Other East Asian	19 (1.1)	3	22
Indian	124 (7.0)	3	127
Other Asian	45 (2.5)	2	47
Other	175 (9.8)	18	193
Total			
No response to question	32 (1.7)		

Self-identification of 'other' primary ethnicity by geographic area^b

Africa		Iraqi-Syrian	1	New Zealander	16
African	3	Israeli	2	NZ Asian	1
Egyptian	7	Lebanese	1	NZ British	1
South African	9	Middle Eastern	10	NZ Chinese	3
South African Dutch	1	Persian	1	NZ Indian	3
South African European	2	Turkish	2	NZ Sri Lankan	1
Sudanese	1				
Ugandan	1	Asia		Europe	
		Bangladeshi	1	Anglo-Saxon	2
North American		Cambodian	1	British	3
Canadian	2	Punjabi	1	Croatian	1
Latino American	1	Sri Lankan-Tamil	1	Danish	2
North American	1	Sri Lankan-Sinhalese	1	Dutch	1
U.S.A	2	Sri Lankan	14	English	6
US/European Ancestry	1	Taiwanese	3	Finnish	1
		Vietnamese	1	Irish	2
South America				Macedonian	1
Brazilian	2	Oceania		Magyar	1
Colombian	1	Australian	5	Northern Irish	2
Argentinean	1	Fijian/Indian	1	Phoenician	1
		Filipino	4	Romanian	2
Middle East		Indo Fijian	1	Russian	3
Arabic	14	Kiwi	2	Scottish	2
Hebrew	1	Malay	1	Serbian	2
Iranian	3	Malaysian	3	Ukrainian	1
Iraqi	23	Malaysian Chinese	3		
				Offended by question	1
				'Not applicable'	1

^aAn element of inaccuracy is introduced here, with the counting twice of individuals belonging to two ethnic groups; however, the approach used here has been used in previous years and is retained for comparison purposes.

^bNote this is a self-identification.

(Data source: Workforce Survey)

Table 1.6. Gender by current registration status

	Full registration – all dentists	Full registration and APC 07	Full registration and no APC 07
Gender			
Male	1301 (69.6)	1247 (70.1)	54 (60.0)
Female	568 (30.4)	532 (29.9)	36 (40.0)
Total	1869 (100.0)	1779 (100.0)	90 (100.0)

(Data source: Dental Register)

Table 1.7. Reasons for part-time employment

Part-time employment (defined as fewer than 35 hours per week) was undertaken by 618 (34.7%) of the 1779 respondents to the Workforce survey.

	Full registration and APC 07
Reason	
Engaged in non-dental work	29 (4.7)
Insufficient dental work	25 (4.0)
Seeking dental work	5 (0.8)
Semi-retired from dentistry	70 (11.3)
Parental responsibilities	181 (29.3)
Personal choice	245 (39.6)
Other (see below)	57 (9.2)
Reason not stated	6 (1.0)
Total	618

Other reasons offered:

- Studying (including medicine, arts, music, MDS)
- 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
- Happenstance

(Data source: Workforce Survey)

Table 1.8. Overseas and non-practising dentists

Full registration & APC 07	
Employment status	
Overseas and not practising	3 (6.4)
Practising overseas	22 (46.8)
In NZ but not practising	23 (48.9)
Total	48 (100.0)
Employment status of 'In NZ but not practising' group	
Another health profession	1 (4.5)
Non-health profession	3 (13.6)
Full-time study	11 (50.0)
Parental responsibilities	5 (22.7)
Other unpaid work	2 (9.1)
Seeking work	0
Not stated	1

(Data source: Workforce Survey)

Table 1.9. Postgraduate training^a

		Full registration and APC 07
Undertaking PG training		
Yes		83 (4.7)
No		1696 (95.3)
Expected qualification ^b		
MDS (stated)		23
D Clin Dent (stated)		13
Other Masters degree		11
PG Diploma		6
Fellowship		8
PhD		8
Other (e.g. postgraduate certificate)		5
Expected year of completion		
2006 ^c		12
2007		22
2008		15
2009		19
2010		3
Post-2010		3
Not stated/unsure		9
Intend to practise in NZ?		
Yes		72 (86.7)
No		11 (13.3)
Total		

^aData not broken down by registration status because all of those undergoing training were in the same registration category.

^bSome students indicated multiple qualifications, so the total will sum to greater than 83.

^cThe expected year of completion for 12 students was recorded as 2006 and for 1 was recorded as 1999, although the reporting period was for 2007.

(Data source: Workforce Survey)

Table 1.9a. Branch of dentistry in which postgraduate training being undertaken^a

	Number (%)
Branch of dentistry	
General dentistry	3 (4.2)
Dental public health	1 (1.4)
Endodontics	9 (12.5)
Special needs dentistry	1 (1.4)
Oral Medicine & Pathology	0
Oral Surgery	1 (1.4)
Oral & maxillofacial surgery	10 (13.8)
Orthodontics	15 (20.8)
Paediatric dentistry	1 (1.4)
Periodontics	6 (8.3)
Restorative dentistry	0
Prosthodontics	6 (8.3)
Dental radiology	1 (1.4)
Hospital dentistry	1 (1.4)
Other	6 (8.3)
Not stated	11 (15.3)
Total	72

(Data source: Workforce Survey)

Table 1.10. Continuing professional development among dentists with full registration and an APC 07

	Number (%)
20 or more hours last year	
Yes	1595 (89.7)
No	184 (10.3)
Total	1779 (100.0)
No reply to question	0

(Data source: Workforce Survey)

Table 1.11. Continuing professional development over the last four years among dentists with full registration and an APC 07^a

	Number (%)
20 or more hours:	
In all four years	865 (48.6)
In three of the four years	394 (22.1)
In two of the four years	280 (15.7)
In one of the four years	178 (10.0)
In none of the four years	62 (3.5)
Total	1779

(Data source: 2007, 2006, 2005 and 2004 Workforce Surveys)

^aNote that many dentists did not answer this question in years prior to 2007

Table 1.12. Work type by primary employer – practitioners registered in specialist scopes^a

	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	5	36 (8)	26	29 (13)	0		4	23 (18)
Administration/Management	0		1	2	0		1	24 (—)
Dental Public Health	8	17 (8)	3	20 (22)	0		2	22.5 (25)
Endodontics	1	10 (—)	15	33 (11)	0		4	17 (10)
Hospital Dentistry	10	22 (15)	0		0		0	
Oral Medicine & Pathology	2	13 (7)	1	1	1	4 (—)	3	30 (17)
Oral Surgery	2	20 (6)	4	22 (18)	1	20 (—)	0	
Oral & Maxillofacial Surgery	5	40 (13)	26	39 (11)	3	29 (20)	5	44 (23)
Orthodontics	1	6 (—)	63	35 (10)	3	24 (16)	5	28 (17)
Paediatric Dentistry	4	13 (12)	6	27 (13)	1	2 (—)	1	9 (—)
Periodontics	0		16	36 (10)	1	30 (—)	2	22 (26)
Research	2	6 (6)	0		0		9	12 (8)
Restorative Dentistry	1	12 (—)	6	20 (10)	4	15 (9)	1	3 (—)
Prosthodontics	3	10 (9)	4	28 (14)	1	30 (—)	4	19 (15)
Teaching	0		1	1	0		8	16 (14)
Other	1	18	1	10	0		0	
No hours recorded	1		3		1		8	
Number of dentists 1+ hours per week ^b	30	31 (12)	163	34 (12)	12	25 (13)	36	29 (17)
Total number of dentists	31		166		13		44	

^aThis information not sought from non-specialists

^bDentists reporting no hours working are excluded from these calculations
(Data source: Workforce Survey)

Table 1.12a. Work type by secondary employer – practitioners registered in specialist scopes (or specialist trainees) ^a

	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	0		3	8 (5)	1	8	0	
Administration/Management	0		0		0		0	
Dental Public Health	0		1	3	0		0	
Endodontics	0		1	20	0		1	8
Hospital Dentistry	1	8 (—)	0		0		0	
Oral Medicine & Pathology	0		0		0		0	
Oral Surgery	1	5 (—)	1	16	0		0	
Oral & Maxillofacial Surgery	13	15 (6)	1	5	3	7 (4)	1	4
Orthodontics	4	6 (2)	3	17 (2)	0		0	
Paediatric Dentistry	0		0		0		0	
Periodontics	2	4 (0)	3	6 (2)	1	8	0	
Research	0		1	15	0		0	
Restorative Dentistry	1	9 (—)	0		0		0	
Prosthodontics	0		2	10 (7)	0		0	
Teaching	0		0		0		3	5 (0)
Other	0		0		0		0	
No hours recorded	12		6		2		6	
Number of dentists 1+ hours per week	22	11 (7)	15	11 (6)	5	7 (3)	5	5 (1.5)
Total number of dentists	34		21		7		11	

^aThis information not sought from non-specialists

(Data source: Workforce Survey)

Table 1.13. Work type by primary and secondary employer – practitioners registered in the general dental scope, reduced categories. Specialists and specialist trainees excluded.

	General dentistry		Teaching ^b		Administration ^b	
	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) ^a	1184	33 (13)	3	3 (1)	21	13 (14)
Private practice, employee	120	31 (10)	0		3	4 (1)
DHB or Min. of Health	76	34 (12)	0		12	19 (12)
University Dental School	9	29 (14)	6	19 (9)	0	
Secondary employer						
Private practice (self-emp) ^a	72	12 (8)	5	5 (2)	7	10 (6)
Private practice, employee	10	19 (14)	0		0	
DHB or Min. of Health	7	16 (13)	0		0	
University Dental School	3	25 (13)				

^aSolo or group practice

^bWhere specifically employed to do so
(Data source: Workforce Survey)

No. of respondents providing data on 1st work type = 1454

No. of respondents providing data on 2nd work type = 115

No. of general dentists responding = 1463

Table 1.14. Type of practice

Full registration and APC in 2007	
Type of practice ^a	
Solo practice	432 (31.5)
Group practice	938 (68.5)
Total	1370 (100.0)
Employee dentists	339
Other forms of employment	9
No reply to question	61

^aNote: only the information on the first employer was analysed.

The 339 employee dentists were distributed as follows:

Private practice	142
DHB/MoH	98
University Dental School	59
Other	40

(Data source: Workforce Survey)

Table 1.15. Total number of hours worked per week

	Full registration and APC 07		
	All combined	General dentists	Specialist dentists
Number of hours worked			
1 to 10	83 (4.7)	63 (4.2)	20 (7.1)
11 to 20	140 (7.9)	105 (7.0)	35 (12.4)
21 to 30	244 (13.7)	217 (14.5)	27 (9.5)
31 to 40	985 (55.4)	861 (57.6)	124 (43.8)
41 to 50	177 (10.0)	136 (9.1)	41 (14.5)
51 to 60	27 (1.5)	16 (1.1)	11 (3.9)
More than 60	37 (2.1)	33 (2.2)	4 (1.4)
Nil or no response	85 (4.8)	64 (4.3)	21 (7.4)
Total ^a	1778	1495	283
Mean no. of hours/week (SD)	32.9 (13.6)	33.2 (13.1)	31.7 (15.7)
	(Range 0 to 102)	(Range 0 to 102)	(Range 0 to 76)

^aOne individual was excluded as his hours were recorded as 335 per week

(Data source: Workforce Survey)

Table 1.16. Country of qualification by current registration status

	All dentists	Full regn. and APC 07	Maintained regn.
Qualification source			
New Zealand	1422 (76.1)	1350 (75.9)	72 (80.0)
Overseas	447 (23.9)	429 (24.1)	18 (20.0)
Total			
Argentina	2 (0.1)		
Australia	25 (1.3)	23 (1.3)	2 (2.2)
Bangladesh	1 (0.1)	1 (0.1)	0 (0.0)
Brazil	2 (0.1)	2 (0.1)	0 (0.0)
Bulgaria	2 (0.1)	2 (0.1)	0 (0.0)
Canada	5 (0.3)	5 (0.3)	0 (0.0)
China	3 (0.2)	3 (0.2)	0 (0.0)
Colombia	2 (0.1)	2 (0.1)	0 (0.0)
Czech Republic	3 (0.2)	3 (0.2)	0 (0.0)
Egypt	6 (0.3)	6 (0.3)	0 (0.0)
Fiji	2 (0.1)	2 (0.1)	0 (0.0)
Finland	1 (0.1)	1 (0.1)	0 (0.0)
France	1 (0.1)	1 (0.1)	0 (0.0)
Germany	4 (0.2)	4 (0.2)	0 (0.0)
Holland/Netherlands	1 (0.1)	1 (0.1)	0 (0.0)
Hong Kong	1 (0.1)	1 (0.1)	0 (0.0)
India	66 (3.5)	63 (3.5)	3 (3.3)
Iraq	45 (2.4)	45 (2.4)	0 (0.0)
Ireland	6 (0.3)	5 (0.3)	1 (1.1)
Israel	2 (0.1)	2 (0.1)	0 (0.0)
Korea	4 (0.2)	4 (0.2)	0 (0.0)
Macedonia	1 (0.1)	1 (0.1)	0 (0.0)
Malaysia	1 (0.1)	1 (0.1)	0 (0.0)
Philippines	6 (0.3)	6 (0.3)	0 (0.0)
Poland	2 (0.1)	2 (0.1)	0 (0.0)
Romania	7 (0.4)	7 (0.4)	0 (0.0)
Russia/USSR	8 (0.5)	8 (0.5)	0 (0.0)
Serbia	2 (0.1)	2 (0.1)	0 (0.0)
Singapore	4 (0.2)	3 (0.2)	1 (1.1)
South Africa	55 (2.9)	53 (3.0)	2 (2.2)
Sri Lanka	11 (0.6)	10 (0.6)	1 (1.1)
Sweden	1 (0.1)	1 (0.1)	0 (0.0)
Syria	1 (0.1)	1 (0.1)	0 (0.0)
Taiwan	2 (0.1)	2 (0.1)	0 (0.0)
Thailand	1 (0.1)	1 (0.1)	0 (0.0)
Turkey	1 (0.1)	1 (0.1)	0 (0.0)
Ukraine	2 (0.1)	2 (0.1)	0 (0.0)
United Kingdom	137 (7.3)	134 (7.5)	3 (3.3)
USA	15 (0.8)	10 (0.6)	5 (5.6)
Yugoslavia	6 (0.3)	6 (0.3)	0 (0.0)

^aColumn percentages calculated with NZ included

(Data source: Dental Register)

Table 1.17. Cohort remainder rate for University of Otago graduates^a

All dentists			Full registration and APC 07	
Graduation cohort	Years since graduation	Number of graduates	Number of dentists	Cohort remainder rate
1946-1950	57-61	128 (4.6)	1 (0.1)	0.8
1951-1955	52-56	175 (6.3)	6 (0.4)	3.4
1956-1960	47-51	176 (6.3)	19 (1.4)	10.8
1961-1965	42-46	188 (6.8)	65 (4.8)	34.6
1966-1970	37-41	239 (8.6)	115 (8.5)	48.1
1971-1975	32-36	212 (7.6)	122 (9.1)	57.5
1976-1980	27-31	272 (9.8)	173 (12.8)	63.6
1981-1985	22-26	269 (9.7)	204 (15.1)	75.8
1986-1990	17-21	224 (8.1)	150 (11.1)	67.0
1991-1995	12-16	247 (8.9)	159 (11.8)	64.4
1996	11	54 (1.9)	28 (2.1)	51.9
1997	10	52 (1.9)	32 (2.4)	61.5
1998	9	55 (2.0)	26 (1.9)	47.3
1999	8	58 (2.1)	25 (1.9)	43.1
2000	7	60 (2.2)	30 (2.2)	50.0
2001	6	60 (2.2)	35 (2.6)	58.3
2002	5	59 (2.1)	21 (1.6)	35.6
2003	4	58 (2.1)	26 (1.9)	44.8
2004	3	58 (2.1)	26 (1.9)	44.8
2005	2	66 (2.4)	41 (3.0)	62.1
2006	1	68 (2.4)	31 (2.3)	45.6
Total		2778	1335 ^b	

^aNote 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, and differs from that presented here.

^bGraduation year data were not available for 12 Otago graduates.

Table 1.18. Cohort remainder rate for dentists gaining registration via NZDREX

Year of first registration in NZ	Number of dentists	Number of dentists with APC 07	Cohort remainder rate (%)
1992	3 (1.1)	2 (0.8)	66.7
1993	2 (0.7)	0 (0.4)	0.0
1994	5 (1.9)	4 (1.6)	80.0
1995	6 (2.2)	6 (2.4)	100.0
1996	5 (1.9)	3 (1.2)	60.0
1997	23 (8.6)	20 (8.1)	87.0
1998	22 (8.2)	20 (8.1)	90.9
1999	26 (9.7)	18 (7.3)	69.2
2000	35 (13.1)	25 (10.1)	71.4
2001	29 (10.9)	16 (6.5)	55.2
2002	24 (9.0)	18 (7.3)	75.0
2003	13 (4.9)	13 (4.8)	100.0
2004	21 (7.9)	17 (6.9)	81.0
2005	23 (8.6)	19 (7.7)	82.6
2006	30 (11.2)	29 (11.7)	96.7
2007	37 (13.7)	36 (14.6)	97.3
Total	304	246	80.9

(Data source: Dental Register)

Of the 304 NZDREX dentists registered over the 12-year period represented by Table 18, a total of 58 (19.1%) did not have an APC in 2007.

Figure 1. Trends in the proportion of female dentists and overseas graduates in the NZ dental workforce from 1983 to 2007

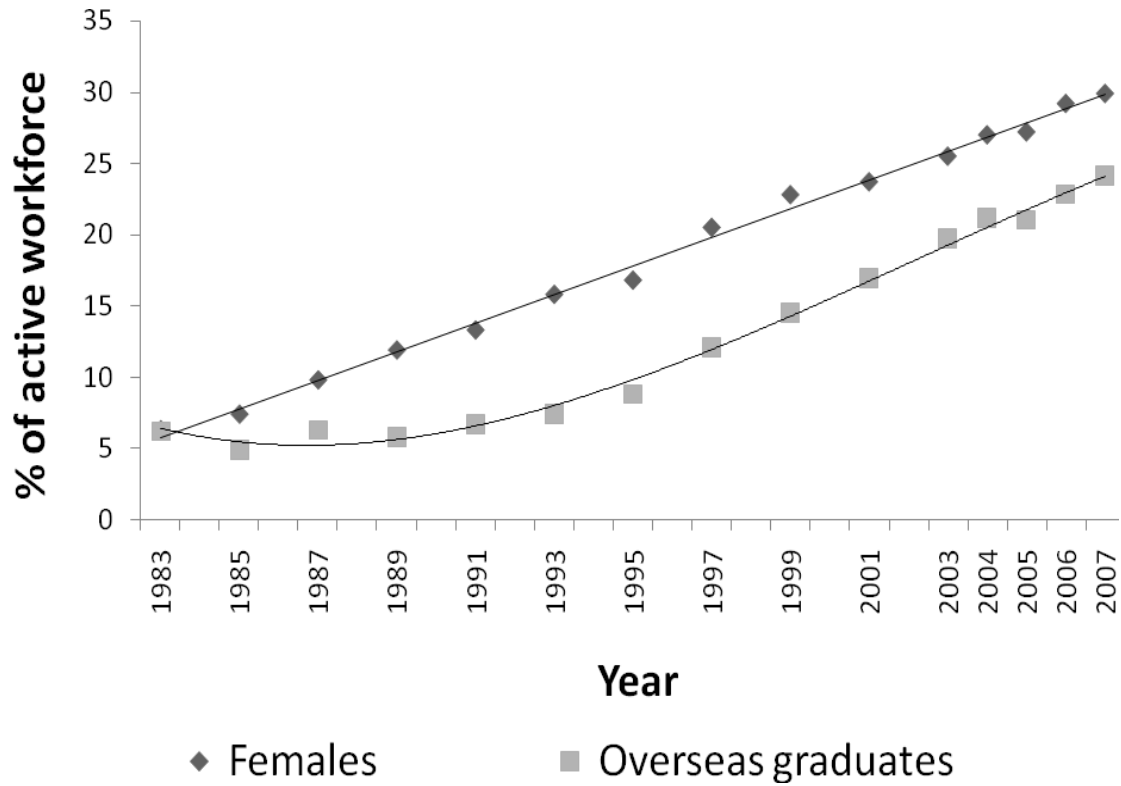


Table 1.19. Cohort remainder rate for New Zealand graduates and overseas-qualified dentists where individual assessment has established equivalency with the prescribed qualification

Year of first registration in NZ	Number of dentists	Number of dentists with APC 07	Cohort remainder rate (%)
1966-1970	2 (0.7)	2 (0.9)	100.0
1971-1975	11 (4.1)	9 (4.1)	81.8
1976-1980	7 (2.6)	6 (2.7)	85.7
1981-1985	7 (2.6)	5 (2.3)	71.4
1986-1990	26 (9.6)	24 (11.0)	92.3
1991-1995	21 (7.8)	20 (9.1)	95.2
1996	8 (3.0)	5 (2.3)	62.5
1997	8 (3.0)	7 (3.2)	87.5
1998	6 (2.2)	6 (2.7)	100.0
1999	4 (1.5)	4 (1.8)	100.0
2000	9 (3.3)	8 (3.7)	88.9
2001	11 (4.1)	7 (3.2)	63.6
2002	16 (5.9)	14 (6.4)	87.5
2003	29 (10.7)	21 (9.6)	72.4
2004	23 (8.5)	18 (8.2)	78.3
2005	52 (19.3)	39 (17.8)	75.0
2006	30 (11.1)	24 (11.0)	80.0
Total	270	219	80.4

(Data source: Dental Register)

Table 1.20. Date of first qualification by current registration status

	Full registration – all dentists	Full registration and APC 07	Full registration and no APC 07
Year of graduation			
1946-1950	2 (0.1)	1 (0.1)	1 (1.1)
1951-1955	6 (0.3)	6 (0.3)	0 (0.0)
1956-1960	30 (1.6)	23 (1.3)	7 (7.8)
1961-1965	77 (4.1)	74 (4.2)	3 (3.3)
1966-1970	137 (7.3)	130 (7.3)	7 (7.8)
1971-1975	154 (8.2)	148 (8.3)	6 (6.7)
1976-1980	235 (12.6)	228 (12.8)	7 (7.8)
1981-1985	292 (15.6)	286 (16.1)	6 (6.7)
1986-1990	252 (13.5)	242 (13.6)	10 (11.1)
1991-1995	234 (12.5)	219 (12.3)	15 (16.7)
1996	46 (2.5)	42 (2.4)	4 (4.4)
1997	56 (3.0)	52 (2.9)	4 (4.4)
1998	42 (2.2)	40 (2.2)	2 (2.2)
1999	45 (2.4)	40 (2.2)	5 (5.6)
2000	40 (2.1)	39 (2.2)	1 (1.1)
2001	50 (2.7)	47 (2.6)	3 (3.3)
2002	28 (1.5)	27 (1.5)	1 (1.1)
2003	27 (1.4)	26 (1.5)	1 (1.1)
2004	38 (2.0)	34 (1.9)	4 (4.4)
2005	45 (2.4)	43 (2.4)	2 (2.2)
2006	33 (1.8)	32 (1.8)	1 (1.1)
Total	1869	1779	90

(Data source: Dental Register)

Table 1.21. Date of first registration by current registration status

Date of first registration	Full registration – all dentists	Full registration and APC 07		Full registration and no APC 07
	Number of dentists (%)	Number of dentists (%)	Percent with APCs	Number of dentists (%)
1946-1950	1 (0.1)	1 (0.1)	100.0	0
1951-1955	7 (0.4)	6 (0.3)	85.7	1 (1.1)
1956-1960	27 (1.4)	20 (1.1)	74.1	7 (7.8)
1961-1965	52 (2.8)	50 (2.8)	96.2	2 (2.2)
1966-1970	107 (5.7)	101 (5.7)	94.4	6 (6.7)
1971-1975	141 (7.5)	137 (7.7)	97.2	4 (4.4)
1976-1980	184 (9.8)	178 (10.0)	96.7	6 (6.7)
1981-1985	211 (11.3)	207 (11.6)	98.1	4 (4.4)
1986-1990	182 (9.7)	173 (9.7)	95.1	9 (10.0)
1991-1995	193 (10.3)	184 (10.3)	95.3	9 (10.0)
1996	49 (2.6)	44 (2.5)	89.8	5 (5.6)
1997	60 (3.2)	56 (3.1)	93.3	4 (4.4)
1998	60 (3.2)	58 (3.3)	96.7	2 (2.2)
1999	55 (2.9)	51 (2.9)	92.7	4 (4.4)
2000	87 (4.7)	81 (4.6)	93.1	6 (6.7)
2001	47 (2.5)	44 (2.5)	93.6	3 (3.3)
2002	75 (4.0)	73 (4.1)	97.3	2 (2.2)
2003	67 (3.6)	65 (3.7)	97.0	2 (2.2)
2004	51 (2.7)	48 (2.7)	94.1	3 (3.3)
2005	110 (5.9)	103 (5.8)	93.6	7 (7.8)
2006	103 (5.5)	99 (5.6)	96.1	4 (4.4)
Total	1869	1779		90

(Data source: Dental Register)

Table 1.22. Specialist status and specialty by current registration status

	Full registration – all dentists	Full registration and APC in 2007	Full registration and no APC in 2007
Specialist status			
Specialists	223 (11.9)	216 (12.1)	7 (7.8)
Non-Specialists	1646 (88.1)	1563 (87.9)	83 (92.2)
Total	1869 (100.0)	1779 (100.0)	90 (100.0)
Specialty			
Endodontics	19 (8.6)	19 (8.8) [100.0]	0 (0.0)
Oral & Maxillofacial Surgery	37 (16.6)	36 (16.7) [97.2]	1 (14.3)
Oral Medicine	0 (0.0)	0 (0.0) [N/A]	0 (0.0)
Oral Pathology	5 (2.3)	5 (2.3) [100.0]	0 (0.0)
Oral Surgery	4 (1.8)	4 (1.9) [100.0]	0 (0.0)
Orthodontics	76 (34.2)	74 (34.4) [97.4]	2 (28.6)
Paediatric Dentistry	9 (4.1)	9 (4.2) [100.0]	0 (0.0)
Periodontology	28 (12.6)	26 (12.1) [92.9]	2 (28.6)
Prosthodontics	17 (7.7)	16 (7.4) [94.1]	1 (14.3)
Public Health Dentistry ^b	9 (4.1)	9 (4.2) [100.0]	0 (0.0)
Restorative Dentistry	13 (5.9)	12 (5.6) [92.3]	1 (14.3)
Special Needs Dentistry ^c	6 (2.7)	6 (2.8) [100.0]	0 (0.0)
Total	223 (100.0)	216 (100.0)	7 (100.0)

^aPercentage of each specialty who have a current APC is presented in []

^bFormerly Community Dentistry

^cFormerly Hospital Dentistry

(Data source: Dental Register)

Tables 1.23a to 1.23c. Geographic distribution of dentists by District Health Board area

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

Table 1.23a. Full registration – all dentists

District Health Board	Number (%)	Full registration (APC 07)
Northland	56 (3.0)	54 (3.1)
Waitemata	163 (8.8)	156 (8.8)
Auckland	396 (21.4)	375 (21.2)
Counties-Manukau	68 (3.7)	67 (3.8)
Waikato ^a	120 (6.5)	116 (6.6)
Bay of Plenty	78 (4.2)	77 (4.4)
Lakes	34 (1.8)	32 (1.8)
Tairāwhiti	13 (0.7)	13 (0.7)
Hawke's Bay	56 (3.0)	49 (2.8)
Taranaki	37 (2.0)	35 (2.0)
Wanganui	18 (1.0)	16 (0.9)
MidCentral	59 (3.2)	56 (3.2)
Capital and Coast ^b	161 (8.7)	152 (8.6)
Hutt	62 (3.3)	57 (3.2)
Wairarapa	12 (0.6)	12 (0.7)
Nelson-Marlborough	63 (3.4)	61 (3.5)
West Coast	10 (0.5)	9 (0.5)
Canterbury	213 (11.5)	203 (11.5)
South Canterbury	23 (1.2)	22 (1.2)
Otago	162 (8.7)	156 (8.8)
Southland ^c	48 (2.6)	48 (2.7)
Total	1852 ^d	1766

^aIncludes all of the Ruapehu TLA (part of which is usually included in Wanganui DHB – affects Ohakune dentists)

^bIncludes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki dentists)

^cIncludes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka dentists)

^dTLA data unavailable for 17 dentists. This may be due to the fact that some dentists may not have given their work address, or that their post code may not match a TLA.

(Data source: Dental Register)

Table 1.23b. Department of Statistics population^a by District Health Board (DHB) area

(These data are the denominators for the estimates in Table 23c)

District Health Board	Total population	Population >14 years ^a
Northland	148,440	113,667
Waitemata	481,614	377,064
Auckland	404,658	328,560
Counties-Manukau	433,083	320,973
Waikato ^b	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
Wanganui	70,923	54,930
MidCentral	151,296	118,893
Capital and Coast ^c	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 ^d	113,832	90,795
Total	4,027,536	3,160,008

^aBased upon the 2006 Census (excludes 399 individuals residing outside TLA areas)

^cIncludes all of the Ruapehu TLA (part of which is usually included in Wanganui DHB – affects Ohakune dentists)

^dIncludes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki dentists)

^eIncludes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka dentists)

(Data source: Statistics New Zealand)

Table 1.23c. Distribution of full-time equivalent (FTE) dentists by District Health Board (DHB) area

DHB area	No of dentists with APC 07 ^b	FTE dentists	Population-to-FTE dentist ratio ^b	FTE per 100,000 population ^b
Northland	50	43.4	2617.5	38.2
Waitemata	148	121.6	3101.5	32.2
Auckland	356	291.1	1128.8	88.6
Counties-Manukau	64	52.1	6157.8	16.2
Waikato ^c	111	97.3	2623.3	38.1
Bay of Plenty	72	58.4	1275.0	78.4
Lakes	31	25.5	5938.8	16.8
Tairāwhiti	13	10.6	3094.8	32.3
Hawke's Bay	48	41.9	2723.1	36.7
Taranaki	34	26.0	3133.8	31.9
Wanganui	16	13.5	4084.0	24.5
MidCentral	52	47.1	2525.6	39.6
Capital and Coast ^d	142	115.5	1911.3	52.3
Hutt	57	47.7	2208.3	45.3
Wairarapa	12	8.8	3461.3	28.9
Nelson-Marlboro.	60	47.2	2210.9	45.2
West Coast	9	7.1	3524.5	28.4
Canterbury	192	151.8	2326.3	43.0
South Canterbury	22	18.6	3493.9	28.6
Otago	85	65.3	2169.2	46.1
Southland ^e	48	39.1	2320.6	43.1
Total				
	1622	1329.5	2376.8	42.1

^aCalculated using the population aged over 14 years (Table 23b)

^bIncludes nonspecialist dentists in dental practice, and those employed in Ministry of Health, Hospital and Health Services, Government Departments, and other practice settings (i.e., University dental school dentists excluded).

^cIncludes all of the Ruapehu TLA (part of which is usually included in Wanganui DHB – affects Ohakune dentists)

^dIncludes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki dentists)

^eIncludes 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)

Tables 1.24a to 1.24c and Table 1.25. Geographic distribution of dentists by Territorial Local Authority (TLA) area

The first series is presented in order to enable comparisons with the corresponding tables from previous years, and uses Dental Register data. The second series is consistent with the data by DHB (Table 23c), and uses Workforce Survey data.

Table 1.24a. Full registration – all dentists

TLA area	Number	%	No. with APC 07	%
Far North	11	0.6	10	0.6
Whangarei	35	1.9	34	1.9
Kaipara	10	0.5	10	0.6
Rodney	13	0.7	13	0.7
North Shore	115	6.2	111	6.2
Waitakere	35	1.9	32	1.8
Auckland	396	21.2	375	21.1
Manukau	42	2.2	41	2.3
Papakura	21	1.1	21	1.2
Franklin	5	0.3	5	0.3
Thames-Coromandel	11	0.6	11	0.6
Hauraki	0	0.0	0	0.0
Waikato	1	0.1	1	0.1
Matamata-Piako	18	1.0	17	1.0
Hamilton	70	3.7	67	3.8
Waipa	6	0.3	6	0.3
Otorohanga	7	0.4	7	0.4
South Waikato	3	0.2	3	0.2
Waitomo	2	0.1	2	0.1
Taupo	12	0.6	11	0.6
Western Bay of Plenty	5	0.3	5	0.3
Tauranga	61	3.3	60	3.4
Rotorua	22	1.2	21	1.2
Whakatane	10	0.5	10	0.6
Kawerau	0	0.0	0	0.0
Opotiki	2	0.1	2	0.1
Gisborne	13	0.7	13	0.7
Wairoa	2	0.1	1	0.1
Hastings	22	1.2	19	1.1
Napier	28	1.5	26	1.5
Central Hawkes Bay	4	0.2	3	0.2
New Plymouth	28	1.5	27	1.5
Stratford	3	0.2	2	0.1
South Taranaki	7	0.4	7	0.4
Ruapehu	2	0.1	2	0.1
Wanganui	18	1.0	16	0.9

Rangitikei	0	0.0	0	0.0
Manawatu	7	0.4	7	0.4
Palmerston North	38	2.0	36	2.0
Tararua	4	0.2	4	0.2
Horowhenua	10	0.5	9	0.5
Kapiti Coast	16	0.9	15	0.8
Porirua	19	1.0	18	1.0
Upper Hutt	12	0.6	12	0.7
Lower Hutt	50	2.7	45	2.5
Wellington	126	6.7	119	6.7
Masterton	9	0.5	9	0.5
Carterton	3	0.2	3	0.2
South Wairarapa	0	0.0	0	0.0
Tasman	9	0.5	8	0.4
Nelson	40	2.1	39	2.2
Marlborough	14	0.7	14	0.8
Kaikoura	2	0.1	2	0.1
Buller	3	0.2	2	0.1
Grey	6	0.3	6	0.3
Westland	1	0.1	1	0.1
Hurunui	0	0.0	0	0.0
Waimakiriri	6	0.3	6	0.3
Christchurch	200	10.7	190	10.7
Banks Peninsula	0	0.0	0	0.0
Selwyn	5	0.3	5	0.3
Ashburton	10	0.5	9	0.5
Timaru	13	0.7	13	0.7
Mackenzie	0	0.0	0	0.0
Waimate	0	0.0	0	0.0
Chatham Islands	0	0.0	0	0.0
Waitaki	12	0.6	11	0.6
Central Otago	8	0.4	6	0.3
Queenstown Lakes	18	1.0	18	1.0
Dunedin	139	7.4	136	7.6
Clutha	3	0.2	3	0.2
Southland	2	0.1	2	0.1
Gore	5	0.3	5	0.3
Invercargill	23	1.2	23	1.3
TLA Code not available	16	0.9	12	0.7
Total	1869	100.0	1779	100.0

(Data source: Dental Register)

Table 1.24b. Department of Statistics population^a

(These data are the denominators for the estimates in Table 24c)

TLA area	Total population	Population >14 years ^a
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
Wanganui	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	70,950	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 ^b	3,160,371

^a2006 Census; "usually resident" population (excludes visitors)

^bExcludes 336 persons residing outside any TLA

(Data source: Statistics New Zealand)

Table 1.24c. Distribution of full-time equivalent (FTE) dentists

TLA area	FTE dentists ^a	Population-to-FTE-dentist ratio ^a	FTE per 100,000 population ^a
Far North	7.8	5449.2	18.4
Whangarei	27.1	2120.2	47.2
Kaipara	8.6	1628.8	61.4
Rodney	9.5	7362.0	13.6
North Shore	87.7	1879.6	53.2
Waitakere	24.4	5837.2	17.1
Auckland	291.1	1128.8	88.6
Manukau	32.5	7460.2	13.4
Papakura	15.2	2236.0	44.7
Franklin	4.5	9989.7	10.0
Thames-Coromandel	9.7	2215.0	45.1
Hauraki	0.0		0.0
Waikato	1.0	32754.0	3.1
Matamata-Piako	14.2	1651.5	60.6
Hamilton	55.5	1821.4	54.9
Waipa	4.9	6747.7	14.8
Otorohanga	5.5	1248.3	80.1
South Waikato	2.6	6329.1	15.8
Waitomo	2.0	3490.5	28.6
Taupo	9.4	2697.1	37.1
Western BOP	3.1	10808.9	9.3
Tauranga	45.7	1795.3	55.7
Rotorua	16.1	3053.8	32.7
Whakatane	7.9	3159.0	31.7
Kawerau	0.0		0.0
Opotiki	1.8	3611.7	27.7
Gisborne	10.6	3094.8	32.3
Wairoa	0.9	7158.9	14.0
Hastings	15.6	3450.5	29.0
Napier	23.0	1899.9	52.6
Central Hawkes Bay	2.5	4017.6	24.9
New Plymouth	20.7	2638.4	37.9
Stratford	1.5	13446.0	7.4
South Taranaki	4.4	2323.9	43.0
Ruapehu	2.0	16705.5	6.0
Wanganui	13.5	844.0	118.5
Rangitikei	0.0		0.0
Manawatu	6.7	9020.7	11.1
Palmerston North	28.7	468.2	213.6
Tararua	3.9	6068.1	16.5
Horowhenua	7.9	4731.8	21.1
Kapiti Coast	11.8	3040.5	32.9
Porirua	15.5	655.9	152.5
Upper Hutt	10.1	2969.6	33.7

Lower Hutt	37.6	2004.3	49.9
Wellington	88.2	1674.0	59.7
Masterton	6.1	2944.5	34.0
Carterton	2.8	2037.8	49.1
South Wairarapa	0.0		0.0
Tasman	5.5	6426.1	15.6
Nelson	29.5	1174.5	85.1
Marlborough	12.2	2832.9	35.3
Kaikoura	1.0	2952.0	33.9
Buller	1.3	6237.6	16.0
Grey	5.1	2051.9	48.7
Westland	0.8	8744.5	11.4
Hurunui	0.0		0.0
Waimakiriri	5.5	5997.3	16.7
Christchurch	141.6	1997.3	50.1
Selwyn	3.7	7103.0	14.1
Ashburton	7.5	2913.4	34.3
Timaru	11.2	3097.7	32.3
Mackenzie	0.0		0.0
Waimate	0.0		0.0
Chatham Islands	0.0		0.0
Waitaki	7.8	2102.7	47.6
Central Otago	4.8	2846.7	35.1
Queenstown Lakes	12.1	1584.2	63.1
Dunedin	49.8	1984.2	50.4
Clutha	3.0	4332.0	23.1
Southland	1.8	12565.7	8.0
Gore	4.5	2145.8	46.6
Invercargill	20.8	1925.3	51.9
Total	1330.1	2376.1	42.1

^aIncludes dentists in dental practice and those employed in Ministry of Health, Hospital and Health Services, Government Departments, and other practice settings (i.e., University dental school dentists excluded).

^bCalculated using the population aged over 14 years (Table 24b)

(Data sources: Workforce Survey and Statistics New Zealand)

Table 1.25. Distribution of dentists with Annual Practising Certificates

TLA area	No. of dentists with APC 07	Population-to-dentist ratio ^b	Dentists per 100,000 population ^b
Far North	9	4692.3	21.3
Whangarei	32	1797.2	55.6
Kaipara	9	1547.3	64.6
Rodney	13	5379.9	18.6
North Shore	106	1555.1	64.3
Waitakere	30	4742.7	21.1
Auckland	356	922.9	108.4
Manukau	39	6221.6	16.1
Papakura	20	1693.8	59.0
Franklin	5	8890.8	11.2
Thames-Coromandel	11	1943.2	51.5
Hauraki	0		0.0
Waikato	1	32754.0	3.1
Matamata-Piako	16	1465.7	68.2
Hamilton	64	1578.1	63.4
Waipa	6	5482.5	18.2
Otorohanga	6	1149.5	87.0
South Waikato	3	5538.0	18.1
Waitomo	2	3490.5	28.6
Taupo	10	2521.8	39.7
Western Bay of Plenty	4	8241.8	12.1
Tauranga	56	1465.1	68.3
Rotorua	21	2344.9	42.6
Whakatane	10	2479.8	40.3
Kawerau	0		0.0
Opotiki	2	3250.5	30.8
Gisborne	13	2523.5	39.6
Wairoa	1	6264.0	16.0
Hastings	18	2985.7	33.5
Napier	26	1678.8	59.6
Central Hawkes Bay	3	3348.0	29.9
New Plymouth	26	2098.0	47.7
Stratford	2	10084.5	9.9
South Taranaki	7	1452.4	68.9
Ruapehu	2	16705.5	6.0
Wanganui	16	709.5	140.9
Rangitikei	0		0.0
Manawatu	7	8601.9	11.6
Palmerston North	32	419.2	238.6
Tararua	4	5878.5	17.0
Horowhenua	9	4140.3	24.2

Kapiti Coast	14	2557.3	39.1
Porirua	18	564.8	177.0
Upper Hutt	12	2493.3	40.1
Lower Hutt	45	1674.7	59.7
Wellington	110	1342.7	74.5
Masterton	9	1979.3	50.5
Carterton	3	1868.0	53.5
South Wairarapa	0		0.0
Tasman	7	5003.1	20.0
Nelson	39	888.4	112.6
Marlborough	14	2473.7	40.4
Kaikoura	2	1476.0	67.8
Buller	2	3898.5	25.7
Grey	6	1727.0	57.9
Westland	1	6777.0	14.8
Hurunui	0		0.0
Waimakiriri	6	5522.5	18.1
Christchurch	179	1579.7	63.3
Selwyn	5	5185.2	19.3
Ashburton	9	2411.7	41.5
Timaru	13	2662.8	37.6
Mackenzie	0		0.0
Waimate	0		0.0
Chatham Islands	0		0.0
Waitaki	9	1822.3	54.9
Central Otago	6	2265.5	44.1
Queenstown Lakes	18	1067.2	93.7
Dunedin	67	1473.3	67.9
Clutha	3	4332.0	23.1
Southland	2	10995.0	9.1
Gore	5	1909.8	52.4
Invercargill	23	1741.2	57.4
Total	1624	1946.0	51.4

^bIncludes dentists in dental practice, and those employed in Ministry of Health, Hospital and Health Services, Government Departments, and other practice settings (i.e., University dental school dentists excluded).

^aCalculated using the population aged over 14 years (Table 23b)

(Data sources: Dental Register and Statistics New Zealand)

Section 2. The Dental Therapist Workforce

Description of sociodemographic characteristics of the current dental therapy workforce

A total of 689 dental therapists were listed on the DCNZ register for the 2007 reporting period, and 673 held a current APC. Therapists' ages ranged from 19 to 68 years (age information was missing for 1 individual), with a mean age of 47.0 years (SD, 10.9) and a median of 50 years. Data on the therapists' distribution across the various age groups are presented in Table 2.1.

Table 2.1. Age distribution of dental therapists in years

Age group	Number (%)	Cumulative percentage
19 or younger	3 (0.4)	0.4
20 to 24	34 (4.9)	5.4
25 to 29	32 (4.6)	10.0
30 to 34	41 (6.0)	16.0
35 to 39	62 (9.0)	25.0
40 to 44	62 (9.0)	34.0
45 to 49	119 (17.3)	51.2
50 to 54	167 (24.2)	75.5
55 to 59	109 (15.8)	91.3
60 to 64	48 (7.0)	98.3
65+	11 (1.6)	99.9
Unknown	1 (0.1)	100.0
Total	689 (100.0)	

Slightly less than half of the active dental therapists are now aged 50 or over, with 40.2% in the 50-59 age band in 2007 compared with 42.4% in 2006. Therapists aged 40 and younger comprised only one in five of those practicing in 2006, but this had improved to 1 in 4 by 2007. This is due to the introduction of newly graduated dental therapists to the workforce.

In 2007 there were 9 male therapists (1.4%), of whom 3 were in the 20-29 year age group, 3 were in the 30-39 age group, and 1 each was in the 40-44, 45-49 and 50-54 year age groups.

Data on therapists' ethnicity are presented in Table 2.2.

Table 2.2. Ethnicity (primary and secondary) among therapists

Ethnicity	Primary	Secondary	Total ^a
NZ European	562 (85.5)	1	563
Māori	30 (4.6)	41	71
Other European	14 (2.1)	2	16
Samoan	4 (0.6)	2	6
Niuean	1 (0.2)	1	2
CookIslandMāori	0 (0.0)	1	1
Tokelauan	1 (0.2)	1	2
Fijian	1 (0.2)		1
OtherPacificPeoples	1 (0.2)		1
Chinese	17 (2.6)		17
Indian	7 (1.1)	1	8
OtherAsian	3 (0.5)	1	4
Other	16 (2.4)	2	18
Total	657	52	709
No response to question			32

^aAn 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.

^bNote that this is a self-identification.

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

Africa	4	Asia/Oceania	8
African	2	Malaysian/Chinese	1
NZ African	1	Sri Lankan	1
Egyptian	1	New Zealander ^b	4
		Australian	2
North America	1	Europe	11
North American Indian	1	Russian	1
		Dutch	1
South America	1	Danish	1
Latin American	1	Irish	1

Practising characteristics

Full- or part-time practice

Full-time practice was reported by 509 dental therapists (73.9%). Of the 175 (25.4%) who reported part-time practice: 10 (5.7%) were doing non-dental work; 8 (4.6%) reported that there was not enough dental work available; 2 (1.1%) reported they were seeking dental work; 1 (0.6%) was semi-retired from practice; 39 (22.3%) cited parental responsibilities; 77 (44.0%) did so by personal choice; and 38 (21.7%) indicated other reasons, including management (4), teaching (2), or study responsibilities as well as health reasons (3) or dual dental therapy/hygiene work (2).

A total of 27 were not currently practising; of those, 4 were practising overseas, 2 were overseas but not practising, and 21 were in New Zealand. Among the latter, 7 (35.0%) were working in another health profession, 2 (10.0%) were working in another profession (outside the general field of health care), 6 (25.0%) were full-time students, 5 (25.0%) were not working due to parental duties, and 1 (5.0%) was seeking employment. None of those who were working in another health profession recorded any hours worked in dental hygiene.

Type and location of practice

Data are presented on the type of therapy practice in Table 2.3 below. Of the 12 who reported a second employment type, 7 were in private practice (4 were self-employed), and 5 worked in the DHB sector.

Table 2.3. Type of practice

	Number (%)
Location of practice ^a	
Private practice ^b	37 (4.4)
DHB/MoH	574 (93.2)
University Dental School	5 (0.8)
Other	3 (1.0)
Total	631 (100.0)
Other forms of employment	15 (0.6)
No reply to question	58

^aNote: only the information on the first employer was analysed

^bOf these individuals, 9 were self-employed, while 28 were employees

(Data source: Workforce Survey)

Table 2.4. Work type (mean hours) by primary and secondary employer – dental therapists, reduced work type categories^a

	General dental therapy	Teaching ^b	Administration ^b	Total hours	No hours reported
Primary employer					
Private practice (self-emp) ^a	19 (12) [8]	0	5 (—) [1]	20 (12) [8]	1
Private practice, employee	25 (13) [23]	0	20 (21) [2]	25 (13) [24]	4
DHB or Min. of Health	34 (8) [542]	24 (10) [6]	27 (13) [21]	34 (7) [550]	24
University Dental School	22 (26) [2]	24 (13) [3]	18 (—) [1]	27 (16) [4]	1
Secondary employer					
Private practice (self-emp) ^a	11 (—) [1]	0	0	11 (—) [1]	8
Private practice, employee	11 (5) [6]	0	0	11 (5) [6]	22
DHB or Min. of Health	25 (17) [3]	0	30 (—) [1]	26 (14) [4]	546
University Dental School	35 (—) [1]	0	0	35 (—) [1]	4

^aSolo or group practice

^bWhere specifically employed to do so

(Data source: Workforce Survey)

No. of respondents providing data on 1 ⁰ work type	586
No. of respondents providing data on 2 ⁰ work type	12
Total no. of therapists	689

Hours worked

The total hours worked by therapists ranged from 1 to 80 per week, with a mean of 30.7 (SD, 12.1). The categorised data are presented in Table 2.5 below.

Table 2.5. Hours worked per week by dental therapists

Number of hours worked	Number of therapists (%)
1 to 10	8 (1.2)
11 to 20	32 (4.6)
21 to 30	117 (17.0)
31 to 40	431 (62.6)
41 to 50	8 (1.2)
51 to 60	3 (0.4)
More than 60	6 (0.9)
Nil or no response	84 (12.2)
Total	689 (100.0)
Mean no. of hours/week (sd)	29.4 (sd 13.4)
Range	1 to 80

Workforce development

Postgraduate training

A total of 29 dental therapists (3.5%) reported currently undertaking postgraduate training, and 24 of those expected to practise in New Zealand at the completion of that training. Of those who reported what postgraduate training they were undertaking; 2 were studying for dental radiography courses, 3 were studying dental therapy refresher courses, 4 were studying for the Otago Bachelor of Health Science degree; 5 were doing refresher courses in dental therapy; 7 were doing DHB-provided courses (in radiography, for example); 8 were doing other courses (such as postgraduate certificates in Māori health or health promotion); and 1 was studying for a Masters in Public Health. Three-quarters expected to complete their qualifications in 2006 or 2007.

Scopes of practice

The numbers of therapists registered in the various scopes of practice (SOPs) were: 689 (100.0%) in general dental therapy practice; 295 (59.9%) in diagnostic radiography in dental therapy practice; 28 (5.8%) in radiography in dental therapy practice; 89 (32.7%) in pulpotomies in dental therapy practice; 72 (14.4%) in stainless steel crowns in dental therapy practice; and 15 (2.2%) 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 2.6. Large differences are reported in the treatments that therapists from different DHBs are able to provide. For example, of the 35 therapists reporting from Otago, half can provide stainless steel crowns, while a quarter of the 205 from greater Auckland may do so but only four of the 54 therapists in Canterbury can treat children in that way. It is interesting to note that all 21 therapists in the Nelson-Marlborough DHB are registered in the scope for pulpotomies, the highest rate in the country, yet none in that DHB are registered in the scope to provide stainless steel crowns.

Continuing professional development

2007 was the first year during which CPD data was collected from the dental therapist workforce. Of the 689 dental therapists, some 608 (88.2%) had done at least 15 hours of CPD during the previous year, while 81 (11.8%) had not achieved 15 hours of CPD during that period. Of those 21 who were in NZ but not practicing, two thirds (N=14) had not maintained CPD hours of at least 15 hours while the remaining one third (N=7) had done so.

Geographic distribution

Data on the geographic distribution of therapists are presented in Table 2.7. 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.

Table 2.6. Scopes of practice, by District Health Board

DHB area	Scope of practice					
	General dental therapy	Diagnostic radiography ^a	Radiography ^a	Pulpotomies	Stainless steel crowns	Adult dental care
Northland	35 (5.2)	16 (45.7)	0 (0.0)	6 (17.1)	1 (2.9)	2 (5.7)
Greater Auckland ^b	205 (30.5)	102 (49.8)	8 (3.9)	70 (34.1)	52 (25.4)	3 (1.5)
Waikato	60 (7.9)	56 (93.3)	2 (3.3)	43 (71.7)	3 (5.0)	0 (0.0)
Bay of Plenty	41 (6.1)	28 (68.3)	0 (0.0)	11 (26.8)	1 (2.4)	0 (0.0)
Lakes	20 (3.0)	16 (80.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Tairāwhiti	8 (1.2)	8 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Hawke's Bay	35 (5.2)	8 (22.9)	1 (2.9)	1 (2.9)	0 (0.0)	1 (2.9)
Taranaki	24 (3.6)	17 (70.8)	6 (25.0)	15 (62.5)	0 (0.0)	3 (12.5)
Wanganui	15 (2.2)	1 (6.7)	3 (20.0)	7 (46.7)	0 (0.0)	2 (13.3)
MidCentral	38 (5.6)	5 (13.2)	13 (34.2)	6 (15.8)	1 (2.6)	1 (2.6)
Greater Wellington ^b	44 (6.5)	30 (68.2)	1 (2.3)	9 (20.5)	9 (20.5)	0 (0.0)
Wairarapa	8 (1.2)	2 (25.0)	0 (0.0)	1 (12.5)	1 (12.5)	0 (0.0)
Nelson-Marlboro.	21 (3.1)	20 (95.2)	3 (14.3)	21 (100.0)	0 (0.0)	2 (9.5)
West Coast	6 (0.9)	5 (83.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Canterbury	54 (7.0)	48 (88.9)	1 (1.9)	6 (11.1)	4 (7.4)	1 (1.9)
South Canterbury	11 (1.6)	10 (90.9)	1 (9.1)	0 (0.0)	0 (0.0)	0 (0.0)
Otago	35 (5.2)	26 (74.3)	1 (2.9)	16 (45.7)	17 (48.6)	0 (0.0)
Southland	13 (1.9)	4 (30.8)	0 (0.0)	2 (15.4)	0 (0.0)	0 (0.0)
Total	673 (100)	402 (59.7)	40 (5.9)	214 (31.8)	89 (13.2)	15 (2.2)

^aThe distinction is made here between “diagnostic radiography”, which involves the taking and interpreting of radiographs, and “radiography”, which is the taking of radiographs.

^bThe nature of the School Dental Services in this area necessitated combining the DHBs
(Data source: Dental Register)

Table 2.7. Distribution of full-time equivalent (FTE) therapists by District Health Board (DHB) area

DHB area	Population aged 0-14	No of therapists with APC 07 ^a	FTE therapists	Population-to-FTE therapist ratio	FTE per 100,000 population
Northland	34,773	35	28.4	1225.5	81.6
Greater Auckland ^b	292,758	205	150.3	1947.8	51.3
Waikato	75,162	60	43.5	1729.9	57.8
Bay of Plenty	23,862	41	35.4	673.6	148.5
Lakes	43,620	20	16.7	2619.8	38.2
Tairāwhiti	11,658	8	7.4	1575.4	63.5
Hawke's Bay	34,080	35	24.8	1375.6	72.7
Taranaki	22,716	24	17.8	1274.4	78.5
Wanganui	15,993	15	9.5	1679.1	59.6
MidCentral	32,403	38	27.1	1197.9	83.5
Greater Wellington ^b	84,285	44	30.5	2763.4	36.2
Wairarapa	8,151	8	6.8	1207.6	82.8
Nelson-Marlborough	25,764	21	14.5	1783.0	56.1
West Coast	6,390	6	4.0	1607.5	62.2
Canterbury	86,010	54	40.9	2101.6	47.6
South Canterbury	16,176	11	6.3	2567.6	38.9
Otago	30,690	35	21.3	1444.2	69.2
Southland	23,037	13	11.8	1952.3	51.2
Total	867,528	673^c	496.7	1746.5	57.3

^aIncludes 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).

^bThe nature of the School Dental Services in this area necessitated combining the DHBs

^cData missing for 2 therapists

(Data sources: Workforce Survey and Statistics New Zealand)

Section 3. The Dental Hygienist Workforce

Description of 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 dental 'hygienists' exist. *Dental hygienists'* major role 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 will be revoked by 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 <http://www.dcnz.org.nz/>.

As with the dental therapy section, the dental hygiene section of this report takes a rather more narrative form than the dentists' section and Tables and Figures have been used to illustrate the data where appropriate. Data on the distribution across the various age groups are presented in Table 3.1.

Sociodemographic characteristics

A total of 414 individuals were listed on the DCNZ register under the code 'H' for hygienist. Hygienists' ages ranged from 19.7 to 65.1 years, with a mean age of 39.4 years and a median of 38.5 years. Some 390 (94.2%) had a current APC, but the occupational category for one individual was unknown. Unless otherwise indicated, all subsequent analyses pertain to the remaining 389 individuals.

In the combined categories, there are 9 males (4.0%), of whom 2 are in the 25-29 year age group, 2 are in the 30-34 year age group, 1 is in the 35-39 year age group, and 3 are in the 40-44 year age group; there is 1 in the 60-64 year age group. Gender data was unavailable for 3 hygienists at the time of preparing this report

Table 3.1. Age distribution of active dental hygienists and auxiliaries, by occupational category^a

Age group	Occupational category			All categories combined	
	Dental hygienists	Dental auxiliaries	Orthodontic auxiliaries	Number (%)	Cumulative percentage
Under 20	1 (0.4)	0	0	1 (0.3)	0.3
20 to 24	24 (9.0)	0	5 (5.9)	29 (7.5)	7.7
25 to 29	36 (13.5)	2 (5.4)	8 (9.4)	46 (11.8)	19.5
30 to 34	48 (18.0)	2 (5.4)	8 (9.4)	58 (14.9)	34.4
35 to 39	57 (21.3)	10 (27.0)	11 (11.8)	77 (19.8)	54.2
40 to 44	31 (11.6)	7 (18.9)	11 (12.9)	49 (12.6)	66.8
45 to 49	35 (13.1)	6 (16.2)	15 (17.6)	56 (14.4)	81.2
50 to 54	21 (7.9)	5 (13.5)	17 (20.0)	43 (11.1)	92.3
55 to 59	9 (3.4)	4 (10.8)	7 (8.2)	20 (5.1)	97.4
60 to 64	5 (1.9)	1 (2.7)	3 (3.5)	9 (2.3)	99.7
65+	0	0	1 (0.3)	1 (0.3)	100.0
Unknown					
Total	267 (68.6)	37 (9.5)	85 (21.9)	389 (100.0)	

Table 3.2. Ethnicity (primary and secondary) among hygienists and auxiliaries with full registration and APC 07

Ethnicity	Primary	Secondary	Total ^a
Dental hygienists			
NZ European	152 (62.0)	0	152
Māori	2 (0.8)	7	9
Other European	44 (18.0)	2	46
Samoan	1 (0.4)	0	1
Cook Is Māori	0	0	0
Other East Asian	0	0	0
Chinese	6 (2.4)	1	7
Indian	2 (0.8)	0	2
Other Asian	6 (2.4)	0	6
Other (e.g. Dutch, Iraqi)	32 (13.1)	1	33
Dental auxiliaries			
NZ European	21 (58.3)	0	21
Māori	0	2	2
Other European	1 (2.8)	0	1
Samoan	0	0	0
Cook Is Māori	0	0	0
Other East Asian	4 (11.1)	0	4
Chinese	0	0	0
Indian	0	0	0
Other Asian	2 (5.6)	0	2
Other (e.g. Dutch, Iraqi)	8 (22.2)	1	9
Orthodontic auxiliaries			
NZ European	68 (81.9)	0	68
Māori	2 (2.4)	2	4
Other European	6 (7.2)	0	6
Samoan	0	0	0
Cook Is Māori	1 (1.2)	0	1
Other East Asian	0	0	0
Chinese	1 (1.2)	0	1
Indian	1 (1.2)	0	1
Other Asian	1 (1.2)	0	1
Other (e.g. Dutch, Iraqi)	3 (3.6)	1	3
Total	364	18	
No response to question	25	371	

^aAn element of inaccuracy is introduced here, with the counting twice of those with two ethnic groups.

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

African

'Namibian' 1
'South African'

Americas

'American' 4
'Canadian' 8
'Indigenous Canadian' 1
'Latin/South American' 1

Asia

'Iraqi' 1
'Middle Eastern' 1
'Sri Lankan' 1
'Thai' 1

European

'British' 2
'Caucasian' 2
'Dutch' 1
'European' 1
'Macedonian' 1
'Irish' 1
'Portuguese' 1

Oceania

'Filipino' 7
'Indonesian-Fijian' 1

Practising characteristics

Full- or part-time practice

Full-time practice was reported by 191 respondents (49.1%); this included 47.9% of dental hygienists, 40.5% of dental auxiliaries, and 56.5% of orthodontic auxiliaries. Of the 198 (50.9%) overall who reported part-time practice: 6 (3.0%) were doing non-dental work; 23 (11.6%) reported that there was not enough dental work available; 2 (0.5%) reported that they were seeking dental work; 67 (33.8%) cited parental responsibilities; 78 (39.4%) did so by personal choice; and 22 (5.7%) indicated other reasons (including job sharing and maternity leave, cited each by 2 respondents; 1 respondent was working part-time as a dental therapist).

A total of 17 were not currently practising; of those, 15 were practising overseas, 1 was overseas but not practising, and 1 was in New Zealand (and working in another health profession).

Type and location of practice

Data are presented on the type of hygiene practice in Table 3.3. The majority of each of the three occupational categories were employees in private practice.

Of the 69 hygienists who reported a second employment type, 65 were in private practice (27 self-employed; 38 were employees), 1 worked for a DHB, and 3 worked in a University Dental School.

Table 3.3. Type of practice, by occupational category

	Number (%)
Dental hygienists	
Location of practice ^a	
Private practice ^b	215 (96.0)
DHB/MoH	5 (2.2)
University Dental School	4 (1.8)
Total	224 (100.0)
Dental auxiliaries	
Location of practice ^a	
Private practice ^c	34 (97.1)
DHB/MoH	1 (2.9)
University Dental School	0 (0.0)
Total	35 (100.0)
Orthodontic auxiliaries	
Location of practice ^a	
Private practice ^d	81 (93.9)
DHB/MoH	4 (4.9)
University Dental School	1 (1.2)
Total	82 (100.0)
No reply to question	48

^aNote: only the information on the first employer was analysed

^bOf these individuals, 71 were self-employed, while 144 were employees

^cOf these individuals, 8 were self-employed, while 26 were employees

^dOf these individuals, 4 were self-employed, while 73 were employees

(Data source: Workforce Survey)

Hours worked

An analysis of hours worked by hygienists is presented in Table 3.4. Because only 1 of the orthodontic auxiliaries and 4 of the dental auxiliaries completed the questionnaire section pertaining to the number of hours worked, it is not informative to include those data in Table 3.4.

Table 3.4. Work type (mean hours) by primary and secondary employer for dental hygienists

	Dental hygiene	Teaching ^b	Administration ^b	Total hours
Dental hygienists				
Primary employer				
Private practice (self-emp) ^a	26 (10) [N=71]	0	9 (8) [N=4]	26 (10) [N=71]
Private practice, employee	27 (9) [N=135]	0	0	27 (9) [N=135]
DHB or Min. of Health	33 (13) [N=4]	0	0	33 (13) [N=4]
University Dental School	22 (1) [N=2]	20 (20) [N=3]	0	29 (11) [N=3]
Secondary employer				
Private practice (self-emp) ^a	10 (5) [N=16]	8 (—) [N=1]		10 (5) [N=16]
Private practice, employee	12 (6) [N=30]	14 (—) [N=1]	8 (—) [N=1]	12 (6) [N=30]
DHB or Min. of Health	12 (—) [N=1]	0	0	12 (—) [N=1]
University Dental School	0	60 (62) [N=2]	0	60 (62) [N=2]

^aSolo or group practice

^bWhere specifically employed to do so

(Data source: Workforce Survey)

No. of respondents providing data on 1^o work type

217

No. of respondents providing data on 2^o work type

48

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 3.5.

Table 3.5. Hours worked per week by dental hygienists

No. of hours worked	No. of hygienists (%)
1 to 10	12 (4.3)
11 to 20	34 (12.2)
21 to 30	48 (17.3)
31 to 40	117 (42.1)
41 to 50	6 (2.2)
51 to 60	0
More than 60	2 (0.7)
Nil or no response	59 (21.2)
Total	278 (100.0)
Mean no. of hours/week (sd)	23.8 (sd 15.9)
Range	5 to 80

Workforce development

Postgraduate training

Some form of postgraduate training was reported by 8 respondents, of whom 7 were dental hygienists, 1 was a dental auxiliary, and none were orthodontic auxiliaries. Of the dental hygienists, 3 were undertaking a formal hygiene qualification, 2 were studying for postgraduate diplomas in public health, 2 were undertaking further training in local anaesthesia, and the remainder were undertaking other postgraduate study. The dental auxiliary was training for formal registration.

Scopes of practice

Data on scopes of practice are presented by occupational category in Table 3.6.

Table 3.6. Hygiene scopes of practice, by occupational category

	Hygienists	Dental auxiliaries	Orthodontic auxiliaries	All combined
Scope of practice				
General dental hygiene	267 (100.0)	0	0	267 (68.6)
Extra-oral radiography	42 (15.7)	1 (2.7)	36 (42.4)	79 (20.3)
Intra-oral radiography	194 (72.7)	5 (13.5)	31 (36.5)	230 (59.1)
Local anaesthetic	97 (36.3)	0	0	97 (24.9)
Orthodontic auxiliary practice	0	5 (13.5)	85 (100.0)	90 (23.1)
Orthodontic procedures in hygiene	94 (35.2)	0	0	94 (24.2)
Total number	267	37	85	389 (100.0)

Continuing professional development

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

Of the 267 hygienists, some 231 (86.5%) reported that they had completed at least 15 CPD hours during the previous two years, while 36 (13.5%) had not done so. Among the 37 dental auxiliaries, 30 (81.1%) had earned more than 15 CPD hours during 2007, while 7 (18.9%) had not done so. Of the 85 orthodontic auxiliaries, 74 (87.1%) had earned more than 10 hours CPD points during that year, while 11 (12.9%) had not done so. Overall, 335 (86.1%) of the individuals in the Dental Council database under the code 'H' had met the CPD requirements during 2006-2007.

Geographic distribution

The geographic distribution of dental hygienists is presented in Table 3.7, including region-level hygienist:population ratios according to the 2006 New Zealand census data. Much higher hygienist:population ratios were observed in the main metropolitan centers in New Zealand, (such as Auckland, Wellington, Christchurch, and Dunedin) than in more provincial areas. The number of hygienists is again presented in Table 3.8, alongside the numbers of dental and orthodontic auxiliaries in each DHB area.

Table 3.7 Distribution of full-time equivalent (FTE) dental hygienists by District Health Board (DHB) area

DHB area	No of hygienists with APC 07 ^b	FTE hygienists	Population-to-FTE hygienist ratio ^b	FTE per 100,000 population ^b
Northland	12	8.8	12917	7.7
Waitemata	20	12.0	31422	3.2
Auckland	66	41.4	7936	12.6
Counties-Manukau	9	4.6	69777	1.4
Waikato ^b	16	10.6	24086	4.2
Bay of Plenty	11	7.4	10062	9.9
Lakes	3	2.4	63038	1.6
Tairāwhiti	0	0.3	109350	0.9
Hawke's Bay	5	2.7	42284	2.4
Taranaki	5	2.8	29128	3.4
Wanganui	3	1.8	30517	3.3
MidCentral	12	8.4	14154	7.1
Capital and Coast ^c	27	20.5	10769	9.3
Hutt	9	4.0	26321	3.8
Wairarapa	0	0	-	0.0
Nelson-Marlboro.	7	4.8	21729	4.6
West Coast	0	0.1	249360	0.4
Canterbury	27	18	19612	5.1
South Canterbury	1	0.6	108455	0.9
Otago	18	12.8	11070	9.0
Southland ^d	4	0.6	151325	0.7
Total	255	164.2	19245	5.2

^aCalculated using the population aged over 14 years from the 2006 census (Table 1.23b)

^bIncludes all of the Ruapehu TLA (part of which is usually included in Wanganui DHB – affects Ohakune hygienists)

^cIncludes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki hygienists)

^dIncludes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka hygienists)

(Data sources: Workforce Survey and Statistics New Zealand)

It was not possible to include the dental auxiliaries to the above data as their non-response rate for the working hours section of the workforce questionnaire was high. As with the 2006 workforce report, the total number of hygienists and dental auxiliaries by DHB area has been tabulated in Table 3.8.

Table 3.8 Number of hygienists and dental auxiliaries, by District Health Board (DHB) area

DHB area	No of hygienists	No of dental auxiliaries	Number of Orthodontic auxiliaries	Total number involved in hygiene practice
Northland	12	4	0	16
Waitemata	20	2	8	30
Auckland	66	6	24	96
Counties-Manukau	9	0	0	9
Waikato ^b	16	4	2	22
Bay of Plenty	11	1	2	14
Lakes	3	0	1	4
Tairāwhiti	0	4	2	6
Hawke's Bay	5	0	6	11
Taranaki	5	1	0	6
Wanganui	3	2	1	6
MidCentral	12	1	4	17
Capital and Coast ^c	27	5	4	36
Hutt	9	0	1	10
Wairarapa	0	0	0	0
Nelson-Marlboro.	7	0	6	13
West Coast	0	3	0	3
Canterbury	27	1	14	42
South Canterbury	1	2	0	3
Otago	18	0	4	22
Southland ^d	4	0	5	9
Total	255	36	84	375

^bIncludes all of the Ruapehu TLA (part of which is usually included in Wanganui DHB – affects Ohakune hygienists)

^cIncludes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki hygienists)

^dIncludes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka hygienists)

(Data sources: Workforce Survey and Statistics New Zealand)

Section 4. The Dental Technician Workforce

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 scope of practice). 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 408 individuals listed in the dental technology scopes on the Register, 373 (91.4%) had a current APC and were practising in New Zealand. Unless otherwise indicated, all subsequent analyses pertain to those 373 individuals, of whom 156 (41.8%) were registered in the clinical dental technology SOP. Note that the number of technicians on the Dental Council database has decreased from 2006 to 2007 due to the fact that a number of retired dental technicians were on the database in 2006; a project to remove those retired technicians was in progress when the data were extracted for analysis for the 2006 report, and that has now been completed.

Sociodemographic characteristics

The ages of active dental technicians ranged from 21 to 84, with a mean age of 45.0 years (SD, 13.1) and a median of 44 years. Overall, there were 291 males (78.0%) and 84 females (22.0%), while the gender of one technician was unknown; at 11.5%, 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 4.1.

Table 4.1. Age group by gender^a and occupational group

	Females	Males	All combined
Dental technicians			
21 to 29	20 (31.3)	20 (13.1)	40 (18.4)
30 to 34	13 (20.3)	25 (16.3)	38 (17.5)
35 to 39	13 (20.3)	25 (16.3)	38 (17.5)
40 to 44	11 (17.2)	27 (17.6)	38 (17.5)
45 to 49	5 (7.8)	18 (11.8)	23 (10.6)
50 to 54	2 (3.1)	18 (11.8)	20 (9.2)
55 to 59	0	12 (7.8)	12 (5.5)
60 to 64	0	3 (2.0)	3 (1.4)
65+	0	5 (3.3)	5 (2.3)
Total	64 (29.5)	153 (70.5)	217 (100.0)
Clinical dental technicians			
21 to 29	1 (5.6)	4 (2.9)	5 (3.2)
30 to 34	3 (16.7)	6 (4.3)	9 (5.8)
35 to 39	1 (5.6)	14 (10.1)	15 (9.6)
40 to 44	7 (38.9)	12 (8.7)	19 (12.2)
45 to 49	2 (11.1)	22 (15.9)	24 (15.4)
50 to 54	3 (16.7)	17 (12.3)	20 (12.8)
55 to 59	1 (5.6)	19 (13.8)	20 (12.8)
60 to 64	0	22 (15.9)	22 (14.1)
65+	0	22 (15.9)	22 (14.1)
Total	18 (11.5)	138 (88.5)	156 (100.0)
All combined			
21 to 29	21 (25.6)	24 (8.2)	45 (12.1)
30 to 34	16 (19.5)	31 (10.7)	47 (12.6)
35 to 39	14 (17.1)	39 (13.4)	53 (14.2)
40 to 44	18 (22.0)	39 (13.4)	57 (15.3)
45 to 49	7 (8.5)	40 (13.7)	47 (12.6)
50 to 54	5 (6.1)	35 (12.0)	40 (10.7)
55 to 59	1 (1.2)	31 (10.7)	32 (8.6)
60 to 64	0	25 (8.6)	25 (6.7)
65+	0	27 (9.3)	27 (7.2)
Total	82 (22.0)	291 (88.0)	373 (100.0)

Ethnicity

Ethnicity data were missing for 13 dental technicians. Of the remainder, there were 197 NZ Europeans (54.7%), 3 Māori (0.8%), 72 'Other Europeans' (20.0%), 1 Samoan (0.3%), 1 Tongan (0.3%), 1 Niuean (0.3%), 2 Fijians (0.5%), 5 'Other East Asians' (1.3%), 16 Chinese (4.3%), 3 Indian (0.8%), 21 'Other Asians' (5.8%), and 38 of 'other' ethnicities. In the latter, the dominant groups in the latter category were Germans (13, or 3.8%), Japanese (11, 3.2%), South Africans (15, 4.4%) and Britons (14, 4.1%).

Practising characteristics

Full- or part-time practice

Full-time practice was reported by 339 respondents (90.9%); this included 91.7% of dental technicians and 89.7% of clinical dental technicians. Of the 34 (9.1%) overall who reported part-time practice: 5 (14.7%) were doing non-dental work; 3 (8.8%) reported that there was not enough dental work available; 10 (29.4%) were semi-retired from practice; 3 (8.8%) cited parental responsibilities; 6 (17.6%) did so by personal choice; and 7 (20.6%) indicated other reasons including study, cited by 2 respondents; research, 1 respondent; ethnicity, 1 respondent; other responsibilities, 1 respondent; and working holiday in NZ, 1 respondent. The final technician had limited his/her scope of practice to the manufacture of ocular implants only and was not doing oral-related dental technical work *per se*.

A total of 13 were not currently practising in New Zealand; of those, 6 were practising overseas, and 5 were in New Zealand. Among the latter, 1 was working in another health profession and the remaining 4 were full-time students.

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 4.2 for more detail. Data on the number of hours worked by technicians was unavailable for any technicians in 2007.

Table 4.2. Type of practice

	Dental technology	Clinical dental technology	Overall
MoH or DHB	10 (5.6)	6 (3.9)	16 (4.9)
Private self-employed	91 (45.8)	127 (83.6)	208 (63.2)
Private employed	79 (44.6)	16 (10.5)	95 (28.9)
University Dent School	7 (4.0)	3 (2.0)	10 (3.0)
Total ^a	177 (100.0)	152 (100.0)	329 (100.0)

^a44 technicians did not provide this information

Workforce development

Postgraduate training

Some form of postgraduate training was reported by 17 respondents (4.6%) overall, of whom 10 were dental technicians and 7 were clinical dental technicians. Of the dental technicians, 1 was studying for a Master of Health Sciences, 8 were studying clinical dental technology, and 1 was studying for a PhD. Of the clinical dental technicians, 3 reported studying clinical dental technology (although they actually graduated from that degree during 2006 and these individuals were already registered in the clinical dental technology SOP), 2 were studying for a Masters in Health Science, 1 was studying for the implant-supported overdentures SOP, and 1 did not specify.

Scopes of practice

Of the 156 clinical dental technicians, 11 (7.1%) were registered in the implant-supported overdentures in clinical dental technology scope.

Continuing professional development

Of the 217 dental technicians, 163 (75.1%) reported that they had undertaken at least 15 CPD hours during 2007. A slightly greater proportion of the 156 clinical dental technicians, 128 (82.1%), met the dental council CPD requirements during 2007. Overall, 82 technicians (22.0%) reported that they had not achieved at least 15 hours of CPD experience during 2007.

Geographic distribution

Table 4.3 presents data on the geographic distribution of both dental technicians and clinical dental technicians. The Table presents data for both dental technician categories combined, while the following two Tables 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 was available on the number of hours that dental technicians worked in 2007 was not provided by technicians.

Table 4.3. Distribution of technicians by District Health Board (DHB) area

DHB area	Dental technicians	Clinical dental technicians	Overall
Northland	9	9	18
Waitemata	40	16	56
Auckland	70	18	88
Counties-Manukau	5	6	11
Waikato ^b	4	8	12
Bay of Plenty	6	6	12
Lakes	4	3	7
Tairāwhiti	1	2	3
Hawke's Bay	6	6	12
Taranaki	2	4	6
Wanganui	1	3	4
MidCentral	3	9	12
Capital and Coast ^c	15	9	24
Hutt	7	7	14
Wairarapa	1	1	2
Nelson-Marlboro.	5	5	10
West Coast	0	0	0
Canterbury	17	23	40
South Canterbury	1	3	4
Otago	17	14	31
Southland ^d	3	4	7
Total	217	156	373

^aCalculated using the population aged over 14 years (Table 1.23b)

^bIncludes all of the Ruapehu TLA (part of which is usually included in Wanganui DHB – affects Ohakune technicians)

^cIncludes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki technicians)

^dIncludes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka hygienists)

Table 4.4. Distribution of dental technicians by District Health Board (DHB) area

DHB area	No of technicians with APC 07 ^b	Population-to-technician ratio ^b	Technicians per 100,000 population ^b
Northland	9	12630	7.9
Waitemata	40	9427	10.6
Auckland	70	4694	21.3
Counties-Manukau	5	64195	1.6
Waikato ^b	4	63828	1.6
Bay of Plenty	6	12410	8.1
Lakes	4	37823	2.6
Tairāwhiti	1	32805	3.0
Hawke's Bay	6	19028	5.3
Taranaki	2	40779	2.5
Wanganui	1	54930	1.8
MidCentral	3	39631	2.5
Capital and Coast ^c	15	14717	6.8
Hutt	7	15040	6.6
Wairarapa	1	30459	3.3
Nelson-Marlboro.	5	20860	4.8
West Coast	0		0.0
Canterbury	17	20766	4.8
South Canterbury	1	65073	1.5
Otago	17	8335	12.0
Southland ^d	3	30265	3.3
Total	217	14562	6.9

^aCalculated using the population aged over 14 years (Table 1.23b)

^bIncludes all of the Ruapehu TLA (part of which is usually included in Wanganui DHB – affects Ohakune technicians)

^cIncludes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki technicians)

^dIncludes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka hygienists)

Table 4.5. Distribution of clinical dental technicians by District Health Board (DHB) area

DHB area	No of technicians with APC 07 ^b	Population-to-technician ratio ^b	Technicians per 100,000 population ^b
Northland	9	12630	7.9
Waitemata	16	23567	4.2
Auckland	18	18253	5.5
Counties-Manukau	6	53496	1.9
Waikato ^b	8	31914	3.1
Bay of Plenty	6	12410	8.1
Lakes	3	50430	2.0
Tairāwhiti	2	16403	6.1
Hawke's Bay	6	19028	5.3
Taranaki	4	20390	4.9
Wanganui	3	18310	5.5
MidCentral	9	13210	7.6
Capital and Coast ^c	9	24529	4.1
Hutt	7	15040	6.6
Wairarapa	1	30459	3.3
Nelson-Marlboro.	5	20860	4.8
West Coast	0		0.0
Canterbury	23	15349	6.5
South Canterbury	3	21691	4.6
Otago	14	10122	9.9
Southland ^d	4	22699	4.4
Total	156	20256	4.9

^aCalculated using the population aged over 14 years (Table 1.23b)

^bIncludes all of the Ruapehu TLA (part of which is usually included in Wanganui DHB – affects Ohakune technicians)

^cIncludes all of the Kapiti Coast TLA (part of which is usually included in MidCentral DHB – affects Otaki technicians)

^dIncludes all of the Queenstown Lakes TLA (part of which is usually included in Otago DHB – affects Wanaka technicians)

Author's comments on the workforce analysis process

This is the first year that I have prepared the DCNZ workforce report. I have done my best to maintain consistency with the format of the report used in previous years, in particular with the extended format used during 2006, while making some minor adjustments to improve the analytical correctness of some data presented in the tables in the report. I apologise for any errors which I may have made due to my unfamiliarity with the DCNZ dataset. 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.