



The New Zealand Medical Workforce in 2007

Protecting the public; promoting good medical practice

Te tiaki i te iwi whānui me te whakatairanga pai e pā ana kit e taha rongoā

Introduction

This report summarises the most relevant results of the Medical Council of New Zealand 2007 workforce survey. It contains information about changes in the medical workforce including retention rates for doctors.

The data for the 2007 workforce survey were collected under the Health Practitioners Competence Assurance Act 2003 (HPCAA). The terms used may differ from those used in previous years when the Medical Practitioners Act 1995 was in force.

The Ministry of Health can provide more detailed analysis of this survey. Discuss your particular information needs with the Analytical Unit of the New Zealand Health Information Service (www.nzhis.govt.nz).

Results published in this report are based on survey data unless otherwise stated.

Facts at a glance

	2007	2006	2005	2004	2003
Size of the workforce ¹	12,643	12,283	11,578	11,253	10,857
Doctors per 100,000 population ²	299	297	283	281	271
Proportion of IMGs (%)	38.4	39.9	37.5	35.6	34.1
Proportion of women (%)	38	37	36	35	35
Average age of workforce	44	44	44	44	43
Average weekly workload (hours)	44.8	45.3	45.5	45.8	46.2
Average proportion of new IMGs retained after one year ³	48.4	48.1	46.9	46.6	47.1

¹ Based on registration data. See Table 1 for more information.

² Based on the size of the workforce as measured by registration data (see Table 1) and Statistics New Zealand's estimated residential population as at 30 June of the particular survey period.

³ See "Retention" on page 21 for more information, and "Method" on page 29 for information on how this figure was calculated.

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Size of the medical workforce

Registration data shows that the number of active doctors increased by 2.9 percent from 12,283 in 2006 to 12,643 in 2007. This increase follows increases of 6.1 percent between 2005 and 2006 and 2.9 percent between 2004 and 2005 (see Table 1).

This brings the number of doctors up to the equivalent of one doctor for every 334 people in the New Zealand population or 2.99 doctors per 1,000 people.

Table 1: Estimates of yearly workforce growth and changes in composition

	1980	1985	1990	1995	2000	2003	2004	2005	2006	2007
Growth each year measured by registration data¹	–	–	–	6.3	2.6	2.9	4.2	2.9	6.1	2.9
Graduated from:										
– New Zealand	3266	4095	4480	5024	5645	5796	5788	5459	5743	6010
– overseas	1615	1461	1859	2506	2970	2994	3203	3287	3813	3747
Total workforce (based on survey response)	4881	5556	6339	7530	8615	8790	8991	8746	9547	9757
% IMGs	33.1	26.3	29.3	33.3	34.5	34.1	35.6	37.5	39.9	38.4
Total workforce (based on registration data)³	–	–	–	–	9779	10857	11253	11578	12283	12643
Short-term registrants ⁴	–	–	165	129	421	758	731	287	119	124
Short-term registrants as a Percentage of workforce	–	–	2.5	1.7	4.3	7.0	6.5	2.5	1.0	1.0
Average age of workforce	–	–	42	41	43	43	44	44	44	45

¹ 'Growth per year' is the percentage change in total workforce numbers year to year.

² Data are yearly for the last five years and then five-yearly. Some earlier data are not available.

³ The total workforce according to registration data is calculated by combining the number of survey forms sent out to doctors with New Zealand addresses during the workforce survey period and the number of short-term registrants on the register as at 31 March of the survey period.

⁴ Short-term registrants are not asked to complete the workforce survey. In 2003 and earlier years, this number also represents doctors holding temporary registration under the Medical Practitioners Act 1995. In 2004 and after, it represents a combination of doctors holding temporary registration under the Medical Practitioners Act 1995 and doctors with a special purpose scope of practice under the HPCAA. Data are from the Medical Register

Table 2 shows changes in the medical workforce to the numbers of doctors by work role at their main work site. All groups show increases except for house officers, ranging from 1.7 percent for registrars to 12.2 percent for primary care other than GP. The number of house officers decreased from 911 to 841, a decrease of 7.7 percent.

Doctors are able to report varying combinations of work role and work type. To better show changes in primary care, the numbers of doctors by work type at the main work site are shown in Table 3. This table only includes doctors with a work role of general practitioner or primary care other than GP.

Table 2: Changes in the medical workforce

Workforce role ²	Active doctors ¹ 2002	Active doctors ¹ 2003	Active doctors ¹ 2004	Active doctors ¹ 2005	Active doctors ¹ 2006	Active doctors ¹ 2007	Percentage change 2006–2007
General practice	2,917	3,006	3,009	2,924	3,106	3,195	2.9
House officer	774	842	815	811	911	841	-7.7
Medical officer	277	303	315	307	329	363	10.3
Primary care other than GP	166	138	138	157	181	203	12.2
Registrar	1,238	1,319	1,335	1,365	1,504	1,529	1.7
Specialist	2,723	2,873	2,945	2,940	3,175	3,359	5.8
Other	252	244	314	207	248	237	-4.4
No answer	56	65	111	35	93	30	-67.7
Total	8,403	8,790	8,982	8,746	9,547	9,757	2.2

¹ Headcount based on doctors who responded to the survey.

² Work role at the doctor's main work site.

Table 3: Work types for doctors with a work role of general practitioner or primary care other than GP

Work type at main site	Active doctors ¹ 2002	Active doctors ¹ 2003	Active doctors ¹ 2004	Active doctors ¹ 2005	Active doctors ¹ 2006	Active doctors ¹ 2007	Percentage change 2006–2007
General practice	2,539	2,669	2,668	2,663	2,782	2,540	-8.7
Primary care	428	346	339	242	263	572	117.5 ²
Accident and medical practice	15	57	68	79	84	110	30.9
Family planning	*	14	19	23	25	30	20.0
Occupational medicine	13	11	5	7	8	17	21.4
Other worktype	53	29	40	38	57	48	-15.8
Not recorded	35	6	12	29	68	81	19.1
Total	3,083	3,144	3,151	3,081	3,287	3,398	3.4

¹ Headcount based on doctors who responded to the survey.

² This result is likely to be due to doctors defining their work type at their main work site differently from year to year. General practice decreased by 8.7 percent or 242 doctors. Some of these doctors will have reported a work type of primary care causing a high percentage change between 2006 and 2007 because of the low overall number of doctors in that category.

* To prevent possible identification of individuals, categories that contain fewer than four doctors are omitted. The data have been replaced in the table with an asterisk.

Work type and postgraduate training

The changes in work types since 2006 are shown in Table 4. Doctors working as house officers are not included in the table. Vocational training is identified by respondents who use a broad definition of training so may include doctors who are not formally enrolled in a training programme.

Considering only the larger categories of work type (those with more than 75 doctors), significant increases occurred in:

- accident and medical practice (17 percent)
- diagnostic and interventional radiology (15 percent)
- intensive care medicine (13 percent)
- public health medicine (11 percent).

The general practice work type decreased by 9 percent. This decrease may in part be due to doctors reporting their work type as primary care, a category that more than doubled between 2006 and 2007.

Table 4: Vocational scope groups at main work site (house officers excluded)

Work type at main work site ¹	No. of doctors in main work site 2007	No. of doctors in main work site 2006	Percentage change 2006 to 2007	Average hours worked (all sites)	No. in vocational training ²	Average age 2007	Vocational registration current APC NZ address ³
Accident and medical practice	141	121	17	37	43	44	110
Anaesthesia	622	603	3	49	164	44	494
Basic medical science	36	31	16	47	*	50	–
Breast medicine	10	8	25	29	4	45	3
Clinical genetics	4	5	–20	40	*	47	8
Dermatology	50	48	4	42	*	51	49
Diagnostic and interventional radiology	318	277	15	45	73	45	262
Emergency medicine	290	285	2	43	121	39	103
Family planning and reproductive health	35	26	35	25	7	48	22
General practice	2579	2843	–9	39	487	48	2407
Intensive care medicine	79	70	13	53	22	44	42
Internal medicine	922	899	3	49	268	44	661
Medical administration	52	42	24	39		55	12
Musculoskeletal medicine	14	13	8	44	*	53	19
Obstetrics and gynaecology	260	262	–1	50	55	46	214
Occupational medicine	72	65	11	41	12	52	44
Ophthalmology	117	124	–6	46	16	47	118
Paediatrics	328	323	2	48	108	43	243
Palliative medicine	48	38	26	40	12	48	33
Pathology	208	207	0	42	47	47	217
Primary care	608	292	108	39	100	49	–
Psychiatry	624	589	6	43	167	47	407
Public health medicine	203	183	11	41	40	46	126
Radiation oncology	52	48	8	50	21	42	38
Rehabilitation medicine	18	15	20	42	5	44	10
Sexual health medicine	29	29	0	32	5	46	16
Sports medicine	19	18	6	44	7	43	14

Work type at main work site ¹	No. of doctors in main work site 2007	No. of doctors in main work site 2006	Percentage change 2006 to 2007	Average hours worked (all sites)	No. in vocational training ²	Average age 2007	Vocational registration current APC NZ address ³
Surgery: cardiothoracic	30	34	-12	59	4	45	22
Surgery: general	273	256	7	55	87	44	223
Surgery: neurosurgery	21	26	-19	52	*	49	16
Surgery: orthopaedic	264	282	-6	54	62	45	206
Surgery: other	37	44	-16	49	4	46	-
Surgery: otolaryngology	92	90	2	49	16	47	87
Surgery: paediatric	16	22	-27	61	*	47	15
Surgery: plastic and reconstructive	57	53	8	54	15	44	43
Surgery: urology	44	20	120	49	*	48	50
Surgery: vascular	19	47	-60	60	*	47	22
Not answered	261	357	-27	45	68	41	-
Other	61	88	-31	39	4	52	-
Grand total	8,913	8,783	1	44	2,061	46	6,165

¹ Based on vocational scopes, except for the following categories: basic medical science, primary care other than GP and surgery: other.

² The vocational training work type may be different from the work type at the main work site.

³ Number of doctors on the register at 31 March 2007 with a vocational scope, current annual practising certificate and New Zealand address. Doctors can hold multiple vocational scopes so may be counted twice or three times in different categories. However, as they can only select one work type as their main work site, it is possible for this column to have more doctors than there are at the main work site—clinical genetics is an example of this.

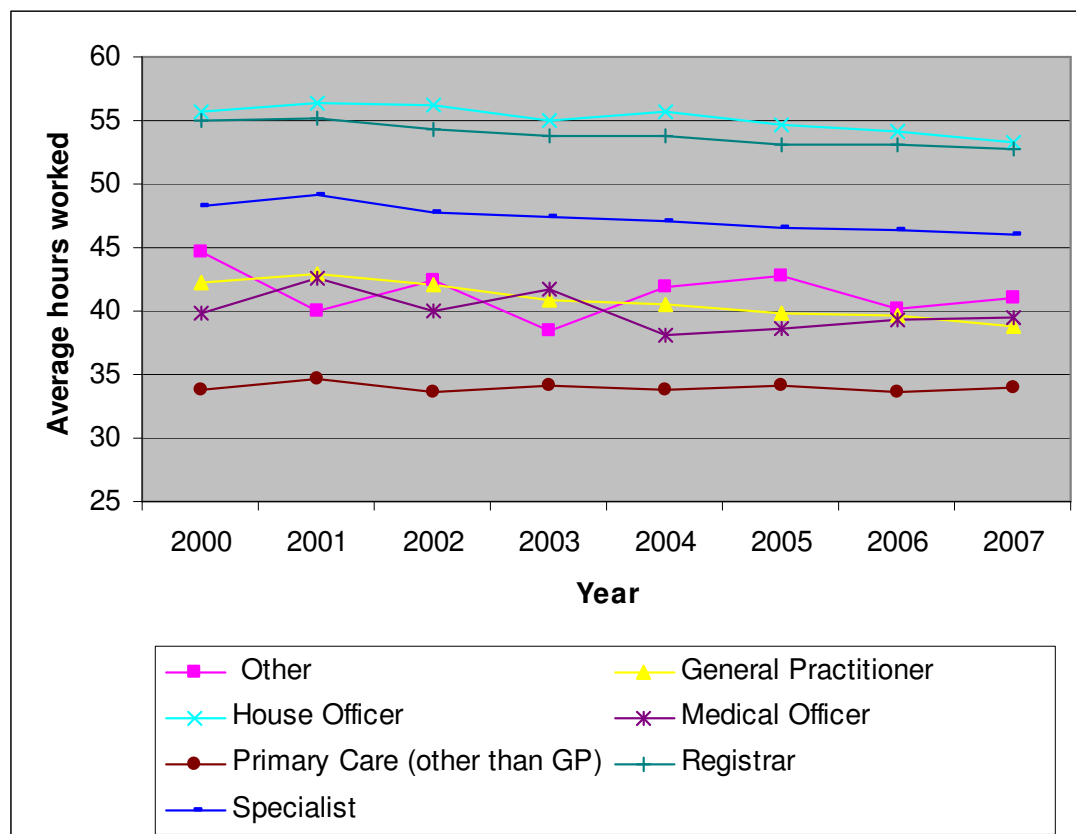
Workloads

Hours worked by work role

Figure 1 shows the average number of hours worked each week, by work role, at the doctor's main work site.

House officers reported working the most hours each week closely followed by registrars. Primary care doctors reported working the least hours each week.

Figure 1: Average hours worked by work capacity at main work site



Hours worked by age and gender

The average number of hours worked by all active doctors was 44.8 hours a week. Table 5 shows that doctors aged in their twenties worked on average the most hours each week.

While aged in their twenties women work a similar number of hours to men. After the age of 30, men work more hours with the gap at its largest in the 35–39 age group. For men, the average number of hours remains above 50 hours a week until the 35–39 years age group.

For both men and women, the trend is for the average number of hours to decrease between the ages of 30 and 44, and then increase slightly, before again decreasing after the age of 60. This trend is more pronounced for women than men.

Table 5: Average of total hours worked, by age and gender

Gender	Age Group											All ages, average hours
	<=24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	
Women	54.4	52.3	44.5	35.3	35.0	36.0	38.2	40.4	36.7	27.7	27.2	40.0
Men	54.9	54.1	51.4	49.2	48.1	48.9	48.5	47.9	43.2	37.1	24.4	47.7
Total	54.6	53.1	47.9	42.9	42.5	44.1	45.3	46.3	42.1	35.9	24.6	44.8

Figure 2: Average hours worked each week and headcount, by gender

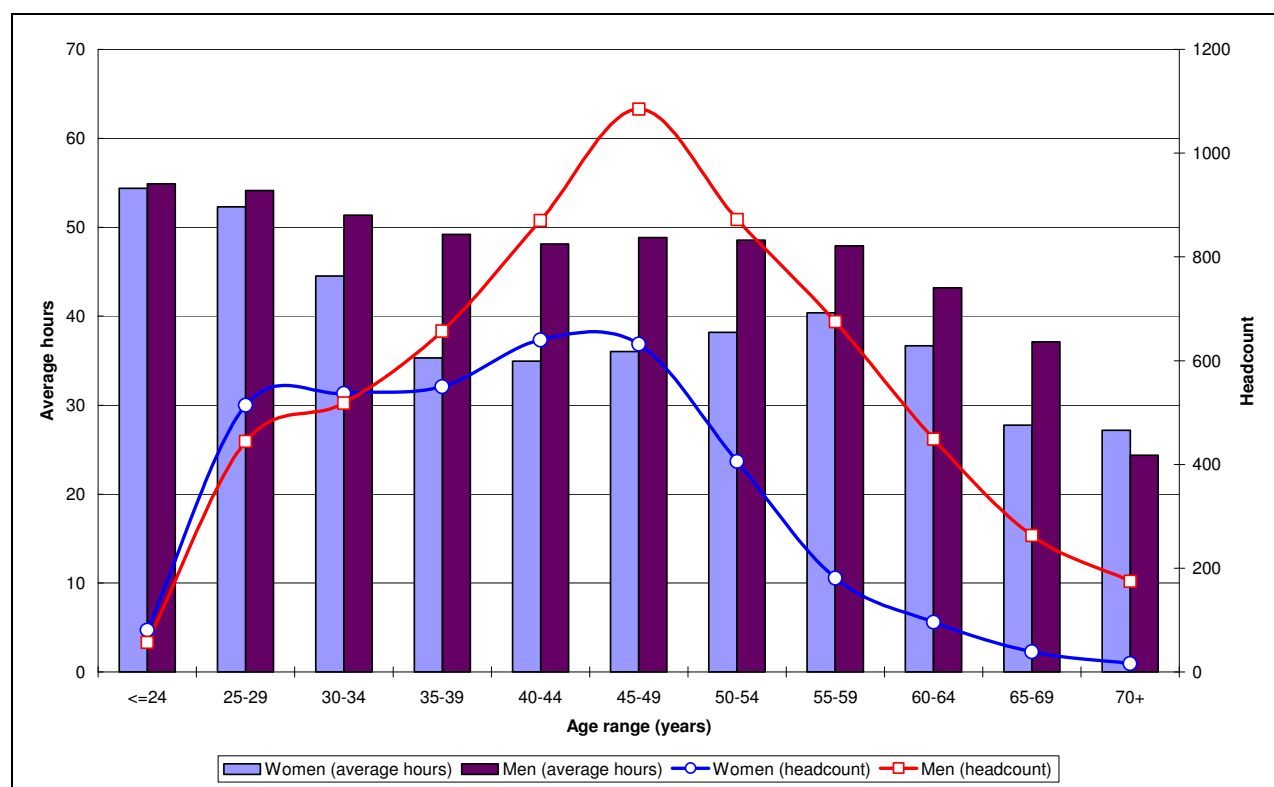


Table 6 shows that the average number of hours worked per week for both men and women is steadily decreasing, dropping to 44.8 in 2007 from 46.8 in 2002 overall.

This information is self-reported, includes specialists in private practice and is not benchmarked against district health board (DHB) employment data.

Table 6: Average hours worked, by gender and year (2002–2007)

Gender	Year					
	2007	2006	2005	2004	2003	2002
Men	47.7	47.9	48.3	48.5	49.0	49.6
Women	40.0	40.9	40.6	40.9	40.7	41.3
Total	44.8	45.3	45.5	45.8	46.2	46.8

Hours on call by work role

When completing the workforce survey, doctors are asked to record all hours they actually worked in an average week, including those on call, as “hours worked”.

Hours on call counts the additional hours when doctors were on call but were not required to work. No on-call hours reported can mean either that the doctor was not on call, or that the doctor chose not to provide details of their on-call hours.

Table 7 shows on-call hours by workforce roles. Sixty-nine percent of doctors reported no on-call hours. Over 50 percent of specialists were on call, with 40 percent on call for 10 or more hours a week.

Table 7: Doctors’ on-call hours, grouped in each work role

On-call hours, grouped	General practice	Primary care other than GP	House officer	Registrar	Medical officer	Specialist	Other
No on-call hours	74	85	94	85	75	49	95
1–4	5	2	0	1	0	4	3
5–9	5	2	2	4	3	8	2
10–19	7	6	3	5	7	17	5
20–49	6	4	2	3	13	18	5
50 and over	3	0	0	1	1	5	3
Total	100	100	100	100	100	100	100

Table 8 shows the main place of work for doctors on call for 10 or more hours each week and compares specialists to all other work roles. Eighty-two percent of specialists on call for 10 or more hours worked in a public hospital at their main work site.

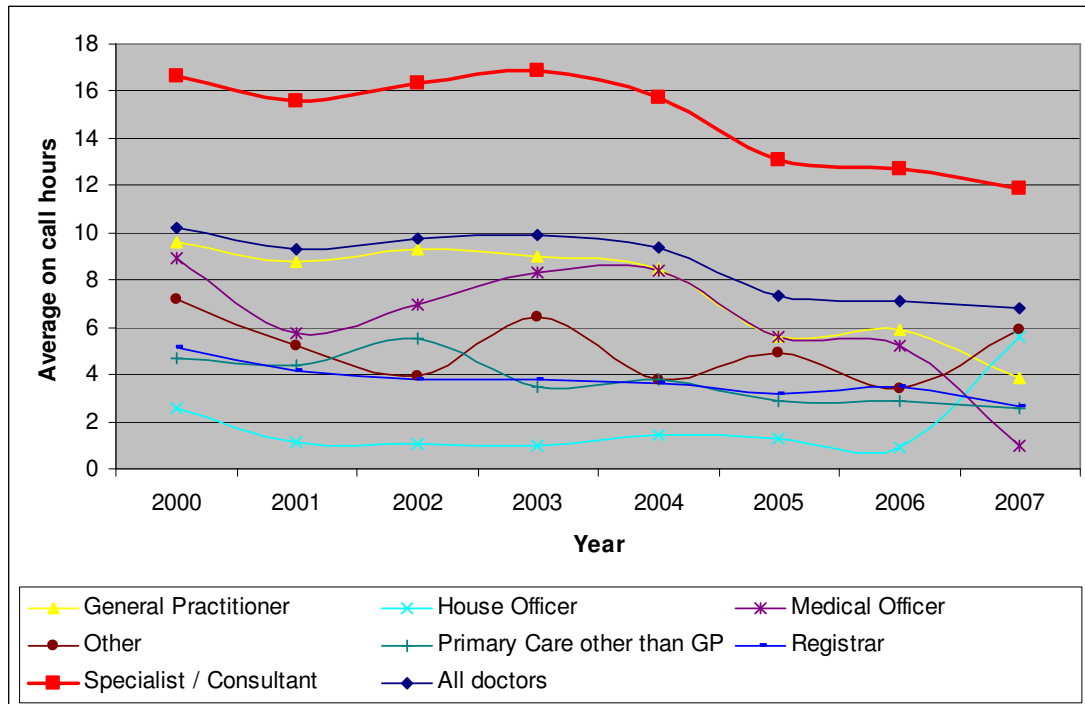
Table 8: Proportion of doctors on call for 10 or more hours each week, by employer

Main employer	Specialist	Other work roles	Total
Commercial company	1.0	1.3	1.1
Government department / agency	0.7	0.1	0.5
Group private practice	7.7	49.2	23.1
Private hospital	2.1	1.4	1.8
Public hospital	81.8	33.0	63.7
Solo private practice	5.6	13.1	8.4
University / polytechnic	1.2	1.8	1.4
Not answered	0.0	5.1	1.9
Other	1.5	1.0	1.3
Grand total	100.0	100.0	100.0

Figure 3 shows the average on-call hours, by work capacity at main work site for each year back to 2000.

In general, on-call hours across all work roles are decreasing, although there has been a jump in the average number of on-call hours worked by house officers this year.

Figure 3: Average on-call¹ hours, by work capacity at main work site



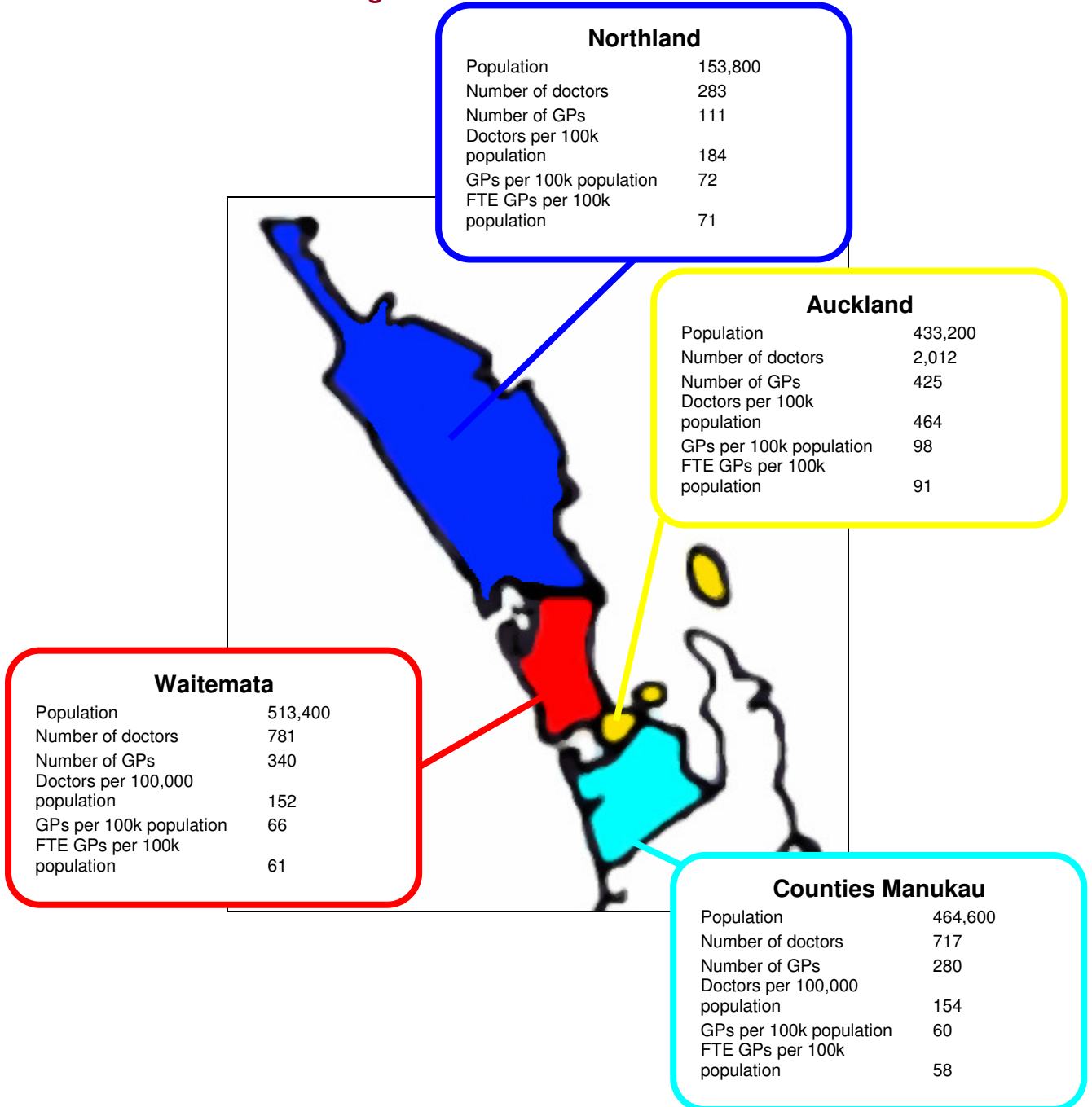
¹ On-call hours are defined as hours when the doctor was on call, but not actually working.

Geographical distribution

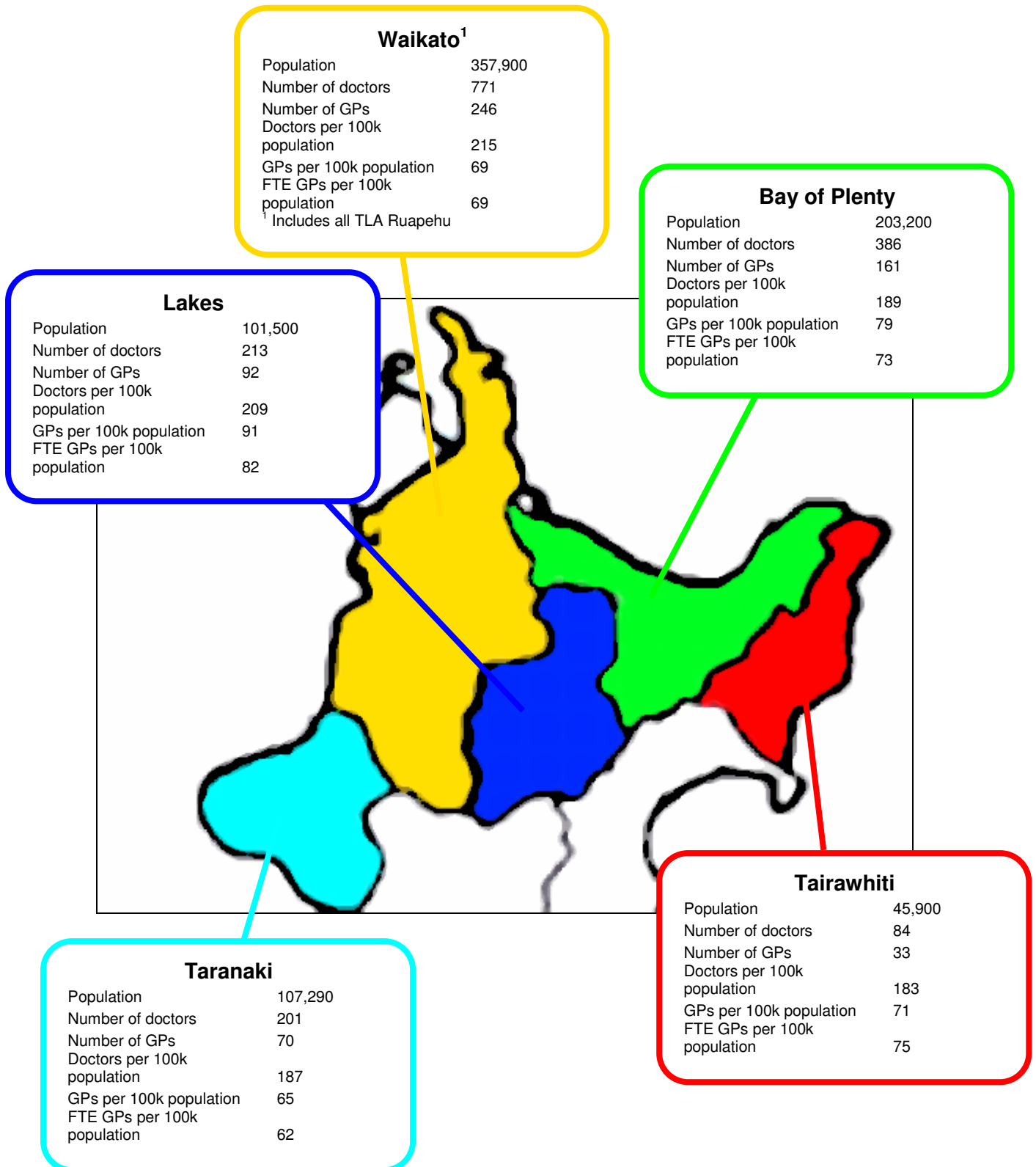
District health boards

Below are summary figures for each district health board (DHB). Note that the maps are only indicative of boundaries between DHBs and may not be completely accurate. The same information is presented in table form in Appendix A on page 35.

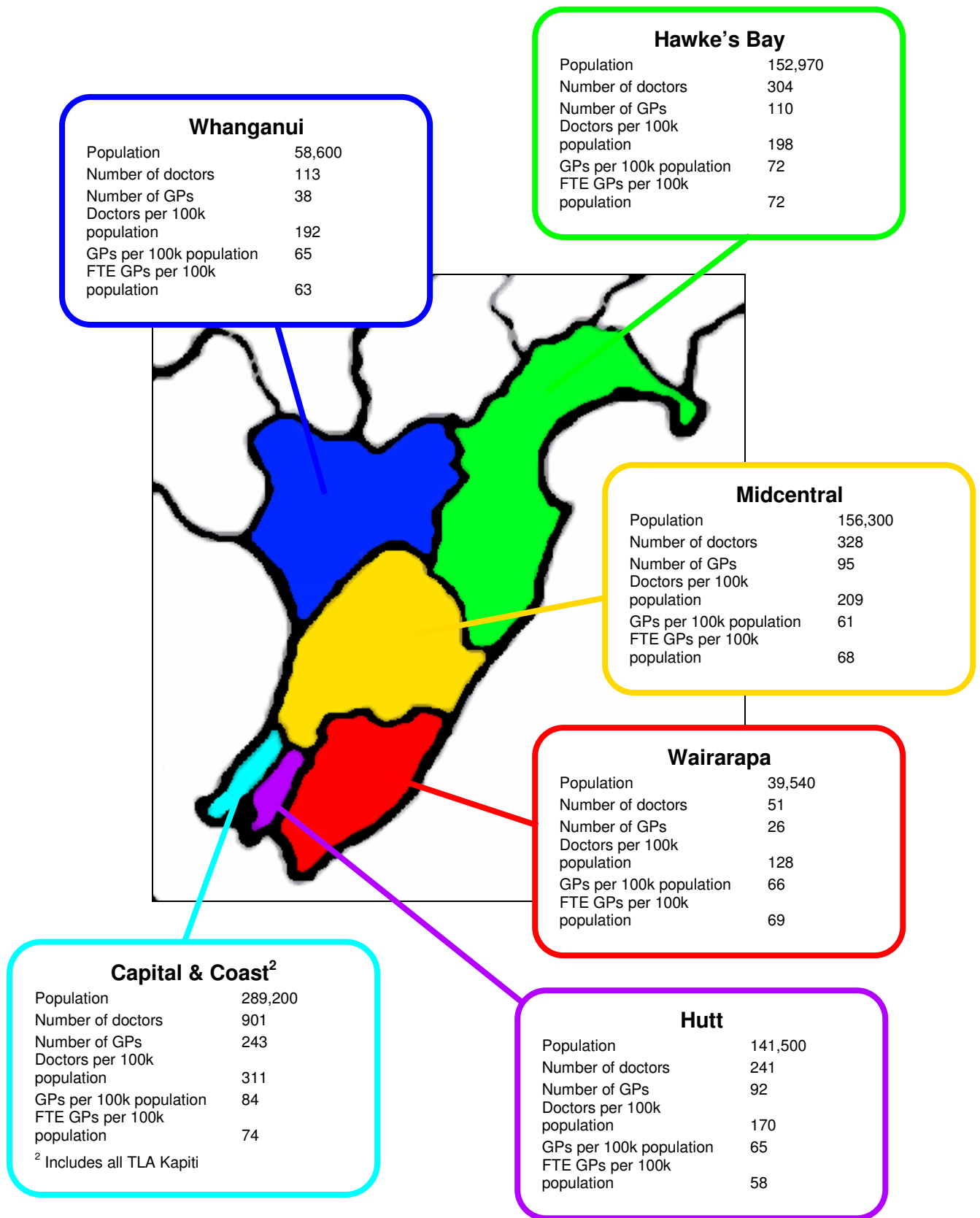
Northern / Auckland region



Central North Island



Lower North Island



South Island

West Coast	
Population	32,250
Number of doctors	46
Number of GPs	21
Doctors per 100k population	142
GPs per 100k population	65
FTE GPs per 100k population	67

Nelson Marlborough	
Population	134,500
Number of doctors	260
Number of GPs	111
Doctors per 100k population	193
GPs per 100k population	83
FTE GPs per 100k population	79

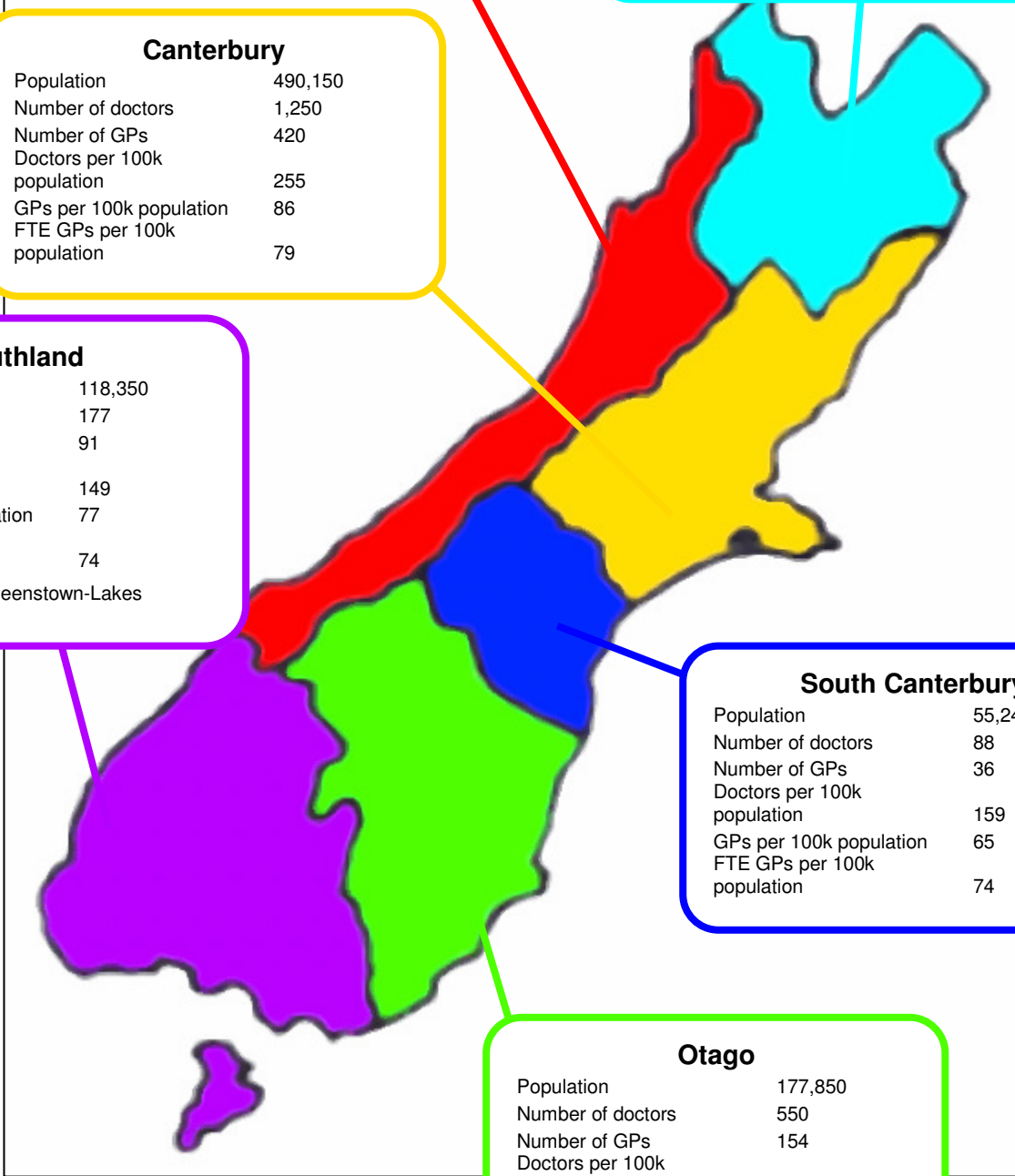
Canterbury	
Population	490,150
Number of doctors	1,250
Number of GPs	420
Doctors per 100k population	255
GPs per 100k population	86
FTE GPs per 100k population	79

Southland	
Population	118,350
Number of doctors	177
Number of GPs	91
Doctors per 100k population	149
GPs per 100k population	77
FTE GPs per 100k population	74

³ Includes all TLA Queenstown-Lakes

South Canterbury	
Population	55,240
Number of doctors	88
Number of GPs	36
Doctors per 100k population	159
GPs per 100k population	65
FTE GPs per 100k population	74

Otago	
Population	177,850
Number of doctors	550
Number of GPs	154
Doctors per 100k population	309
GPs per 100k population	87
FTE GPs per 100k population	88



Distribution of workforce by territorial local authorities

Territorial local authorities with 50 or fewer full-time equivalent GPs per 100,000 people were Franklin, Waikato, Opotiki, Central Hawke's Bay, Tararua, Horowhenua, Westland, Waimakariri, Waimate and Southland Districts (see Table 9).

Territorial local authorities with more than 90 full-time equivalent GPs per 100,000 people were Auckland, Nelson, Dunedin and Invercargill Cities; and Whakatane, Kapiti Coast, Kaikoura and Hurunui Districts.

All doctors working in the Wairoa and Mackenzie Districts were international medical graduates (IMGs). South Taranaki, Horowhenua and Buller Districts also had a high proportion of IMGs (more than 75 percent).

Opotiki District had no IMGs, and Wellington City, and Hauraki, Westland, Waimakariri, and Central Otago Districts had a low proportion of IMGs (less than 30 percent).

Table 9: Medical workforce, by territorial local authority of main work site

Site1 territorial local authority	No. of GPs	FTEs GPs	FTEs per 100,000	Average hours GPs	No. of all doctors	No. of doctors per 100,000	IMGs doctors % of all	Territorial local authority population ²
Cities								
North Shore City	168	148	67	36	531	241	35	220300
Waitakere City	118	110	56	38	188	95	37	198400
Auckland City	425	394	91	38	2012	464	32	433200
Manukau City	221	212	60	40	651	184	41	354700
Hamilton City	109	102	75	38	598	438	46	136500
Tauranga City	97	86	79	36	282	259	38	108800
Napier City	46	47	83	42	122	214	39	56900
Palmerston North City	61	68	86	45	275	349	45	78800
Porirua City	31	29	57	37	66	130	44	50700
Upper Hutt City	26	22	56	33	28	70	43	40000
Lower Hutt City	66	59	59	36	213	210	42	101500
Wellington City	168	142	75	35	785	412	29	190500
Nelson City	50	47	106	38	169	381	31	44400
Christchurch City	344	308	84	37	1158	317	33	365700
Dunedin City	118	117	95	40	502	410	32	122500
Invercargill City	57	54	104	38	135	262	54	51,600
Districts								
Far North District	42	45	78	44	51	88	67	57700
Whangarei District	58	53	69	38	220	284	46	77500
Kaipara District	11	11	59	43	12	65	42	18600
Rodney District	54	57	60	44	62	65	44	94700
Papakura District	27	29	62	43	32	67	44	47700
Franklin District	32	29	47	38	34	55	62	62200
Thames Coromandel District	21	21	80	42	41	154	61	26700
Hauraki District	12	13	71	40	15	85	27	17650
Waikato District	16	18	38	45	16	35	56	46000
Matamata–Piako District	22	24	78	44	23	74	48	31200
Waipa District	31	33	74	41	35	79	54	44300

Site1 territorial local authority ¹	No. of GPs	FTEs GPs ³	FTEs per 100,000	Ave hours GPs	No. of all doctors	No. of doctors per 100,000	Overseas doctors % of all	Territorial local authority population ²
Otorohanga District	6	8	87	54	6	65	50	9250
South Waikato District	13	12	52	37	13	57	62	22900
Waitomo District	7	6	67	40	11	115	45	9600
Taupo District	25	23	69	37	30	90	50	33500
Western Bay of Plenty District	23	22	51	39	23	53	39	43800
Rotorua District	67	60	88	36	183	269	44	68000
Whakatane District	34	33	96	40	73	212	73	34400
Kawerau District	6	6	83	38	7	99	71	7070
Opotiki District	*	*	18	65	*	11	0	9130
Gisborne District	33	34	75	43	84	183	51	45900
New Plymouth District	49	44	62	38	174	244	48	71400
Stratford District	6	8	84	53	6	66	67	9090
South Taranaki District	15	15	57	44	21	78	86	26800
Ruapehu District	9	11	77	47	13	94	46	13800
Wairoa District	6	6	68	47	6	70	100	8580
Hastings District	53	51	69	40	168	228	38	73600
Central Hawke's Bay District	5	6	43	47	8	60	38	13250
Wanganui District	29	28	65	41	103	236	69	43600
Rangitikei District	9	9	59	43	10	67	50	15000
Manawatu District	18	22	74	47	32	110	31	29100
Tararua District	7	7	41	42	7	39	57	17900
Horowhenua District	9	10	32	43	14	46	86	30500
Kapiti Coast District	44	44	91	40	50	104	50	48000
Masterton District	17	19	80	46	42	182	52	23100
Carterton District	4	4	54	40	4	55	50	7300
South Wairarapa District	5	5	53	39	5	55	60	9140
Tasman District	27	25	54	37	29	63	48	46100
Marlborough District	34	34	77	44	62	141	39	44000
Kaikoura District	4	4	117	45	4	107	50	3750
Buller District	7	9	85	50	7	70	86	9960
Grey District	10	9	67	38	35	257	49	13600
Westland District	4	4	47	41	4	46	25	8690
Hurunui District	9	10	91	46	10	93	50	10800
Waimakariri District	19	20	45	44	20	44	25	45100
Selwyn District	28	28	76	40	32	88	47	36400
Ashburton District	16	19	66	49	26	92	31	28400
Timaru District	30	35	79	47	82	187	44	43900
Mackenzie District	*	*	77	60	*	51	100	3920
Waimate District	4	*	43	32	4	54	50	7420
Waitaki District	16	17	83	43	19	92	42	20700
Central Otago District	12	11	65	39	18	103	28	17450
Queenstown Lakes District	15	14	55	38	20	79	30	25400
Clutha District	8	11	65	58	11	64	64	17200
Southland District	12	11	39	38	12	41	50	29100
Gore District	7	9	72	50	10	82	60	12250
Total	3,195	3,048	72	37	9,757	231	38	4,226,600

¹ To prevent identification of individuals, categories which contain fewer than four doctors are omitted. The data have been replaced with an asterisk.

² Statistics New Zealand, estimated residential population as at 30 June 2007

³ Note: The calculation of GP FTE includes all hours recorded in GP role at all work sites.

Ethnicity

The proportion of doctors who identified as Māori increased slightly to 2.7 percent, and the proportion of Pacific doctors remained at 1.6 percent (see Table 10). Both Māori and Pacific doctors continue to be markedly underrepresented compared to their proportion of the population.

The number of doctors identifying as Chinese increased from 5.2 percent to 5.7 percent and is now approaching the previous peak of 5.8 percent reached in 2004.

Māori, Pacific and Chinese doctors all have average ages lower than the overall figure, with Chinese doctors having the lowest average ages for both women and men. Men identifying as New Zealand European / Pakeha had an average age higher than the overall figure, as did women identifying as other European.

Table 10: Ethnicity and average ages of the medical workforce

Ethnicity	%	%	%	%	%	%	%	Average age	
								Females	Males
New Zealand Māori	2.7	2.5	2.6	2.6	2.7	2.7	2.6	38	43
Pacific Island	1.6	1.6	1.5	1.3	1.1	1.0	1.1	38	43
Chinese	5.7	5.2	5.4	5.8	5.4	5.1	4.8	33	40
Indian	5.2	5.2	5.1	5.4	4.9	4.8	4.8	41	43
Other non-European	11.1	10.8	10.8	8.7	9.1	10.0	8.7	41	45
Other European ¹	15.3	17.3	15.4	16.2	14.6	12.8		42	46
NZ European / Pakeha	56.9	55.9	57.5	58.4	60.0	61.8	76.5	41	49
No answered	1.4	1.3	1.5	1.5	1.8	1.6	1.5	41	46
Refused	0.4	0.2	0.2	0.2	0.3	0.2	0.0	46	50
Total ²	100	100.0	100.0	100.0	100.0	100.0	100.0	41	47

¹ 2002 was the first year of reporting the other European category.

² Individual categories may not add up to total due to rounding.

Of doctors identifying as Māori, 33 percent reported their main work role as general practitioner, 21 percent as specialist, 18 percent as registrar and 17 percent as house officer.

Doctors identifying as Pacific Island showed similar figures with 34 percent reporting their main work role as general practitioner, 26 percent as specialist, 18 percent as registrar, and 14 percent as house officer.

Table 11 shows the distribution of each ethnic group by the work role at their main work site.

The largest proportion of doctors identifying as other European reported their main work role as general practitioner (37 percent). For those doctors identifying as New Zealand European / Pakeha, 40 percent reported their main work role as specialist.

Chinese doctors had the largest proportion of doctors with their main work role as house officer (20 percent) with a further 30 percent reporting their main work role as registrar.

Table 11: Proportion of ethnic groups by work role at main work site

Ethnicity	No answer	Other	GP	HO	MOSS	PC	R	S	Total ¹
New Zealand Māori	0	5	33	17	3	2	18	21	100.0
Pacific Island	1	2	34	14	3	3	17	26	100.0
Chinese	0	1	27	20	1	1	30	20	100.0
Indian	0	1	29	12	5	1	24	28	100.0
Other non-European	0	1	28	16	7	2	22	24	100.0
Other European	0	2	37	5	5	2	16	33	100.0
NZ European / Pakeha	0	3	33	6	3	2	12	40	100.0

¹ Individual categories may not add up to total due to rounding.

Table 12 shows the areas where Māori and Pacific doctors were working at the time of the workforce survey.

Analysis of the Māori workforce by DHB locality of main work site continues to show over 80 percent work in the North Island, with over 40 percent working in the greater Auckland region.

Analysis of the Pacific workforce shows similar results with over 50 percent working in the greater Auckland region. This result is in line with population estimates that show almost 70 percent of Pacific people reside in the greater Auckland region.

Table 12: Proportion of Māori doctors by district health board

DHB	Percentage of Māori doctors	Percentage of Māori population	Percentage of Pacific Island doctors	Percentage of Pacific Island population
Auckland	26.8	5.4	28.1	19.0
Waitemata	9.2	7.8	7.5	13.3
Counties Manukau	8.4	12.2	18.8	35.1
Canterbury	8.4	6.1	3.8	4.0
Capital & Coast	7.7	5.2	8.1	8.4
Waikato	6.1	11.9	10.0	3.9
Bay of Plenty	5.4	7.0	2.5	1.1
Northland	4.2	7.9	1.3	1.4
Nelson Marlborough	3.4	2.0	0.6	0.6
Lakes	3.4	5.7	1.9	1.4
Midcentral	3.1	4.5	3.8	1.7
Hutt	3.1	3.9	1.9	4.4
Hawke's Bay	2.7	5.6	1.3	1.9
Tairāwhiti	2.3	3.6	0.6	0.5
Otago	1.9	1.8	6.3	1.1
Other	3.8	9.4	3.8	2.2

Gender

Vocational trainees

Table 13 shows the proportion of trainees in each vocational training area by gender.

Table 13: Vocational training area by gender

Vocational training area ¹	Women	Men	Total	Women as % of total training in area	Women training in area as % of all women training	Men training in area as % of all men training
Accident and medical practice	11	29	40	28	1	3
Anaesthesia	79	100	179	44	8	9
Breast medicine	4	0	4	100	0	0
Clinical genetics	*	0	*	100	0	0
Dermatology	*	*	*	67	0	0
Diagnostic radiology	38	48	86	44	4	4
Emergency medicine	53	74	127	42	5	6
Family planning and reproductive health	5	*	*	83	0	0
General practice	328	334	662	50	32	29
Intensive care medicine	2	10	12	17	0	1
Internal medicine	121	160	281	43	12	14
Medical administration	0	*	*	0	0	0
Musculoskeletal medicine	*	*	*	25	0	0
Obstetrics and gynaecology	45	14	59	76	4	1
Occupational medicine	*	13	*	19	0	1
Ophthalmology	6	11	17	35	1	1
Paediatrics	89	34	123	72	9	3
Palliative medicine	5	4	9	56	0	0
Pathology	28	22	50	56	3	2
Psychological medicine or psychiatry	87	88	175	50	8	8
Public health medicine	31	12	43	72	3	1
Radiation oncology	8	7	15	53	1	1
Rehabilitation medicine	4	*	*	57	0	0
Sexual health medicine	6	0	6	100	1	0
Sports medicine	*	6	*	25	0	1
Surgery: cardiothoracic	0	4	4	0	0	0
Surgery: general	42	76	118	36	4	7
Surgery: neurosurgery	0	*	*	0	0	0
Surgery: orthopaedic	4	54	58	7	0	5
Surgery: other	0	4	4	0	0	0
Surgery: otolaryngology head and neck surgery	7	8	15	47	1	1
Surgery: paediatric	*	0	*	0	0	0
Surgery: plastic and reconstructive	6	10	16	38	1	1
Surgery: urology	*	*	*	40	0	0
Surgery: vascular	*	*	*	33	0	0
Other	*	4	*	20	0	0
Grand total	1,024	1,141	2,165	45	100	100

¹ House officers excluded.

* To prevent identification of individuals, categories that contain fewer than 4 doctors are omitted. The data in the table have been replaced with an asterisk.

Analysing only those areas with more than 20 trainees, areas where women were underrepresented are accident and medical practice (28 percent) and orthopaedic surgery (7 percent).

Between 40 and 50 percent of vocational trainees were women in anaesthesia, diagnostic radiology, emergency medicine, general practice, internal medicine, and psychiatry.

Women outnumbered men in vocational training in obstetrics and gynaecology (76 percent), paediatrics (72 percent), pathology (56 percent) and public health medicine (72 percent).

Work role

Table 14 shows the proportion of women in the workforce as well as their average age by work role at their main work site. The overall proportion of women in the workforce increased to 38 percent. Women continue to outnumber men in house officer roles for the fifth successive year making up 56 percent.

In most work roles the proportion of women increased slightly. For example, in the role of general practitioner, the proportion of women increased 1 percentage point to 42 percent, women registrars were up 2 percentage points to 45 percent, and women specialists were up 1 percentage point to 25 percent.

Table 14: Proportion of women by work role at main work site

Role at main work site	Percentage of women					Average age	
	1980	1990	2000	2006	2007	2006	2007
House officer	32	44	47	57	56	29	29
Registrar	23	29	38	43	45	34	33
Medical officer	38	32	40	44	44	46	45
Primary care other than GP	49	42	43	43	43	45	43
Other	46	25	35	42	40	46	45
General practitioner	13	24	37	41	42	47	45
Specialist	9	13	19	24	25	49	46

Work types

Table 15 shows the proportion of women working as specialists or general practitioners in vocational scopes ten-yearly from 1980 and then yearly for the last two years.

Vocational scopes where women outnumbered men were family planning, palliative medicine and sexual health medicine. In sexual health medicine, 75 percent of doctors were women.

The proportion of women increased in 2007 in a large number of vocational scopes with the biggest increases in public health medicine (from 43 percent to 49 percent), radiation oncology (19 percent to 28 percent) and sports medicine (15 percent to 20 percent).

Women were significantly underrepresented in the surgical scopes. Of all doctors working in surgical scopes, only 6.2 percent were women.

Table 15: Proportion of women by vocational scope (specialists and GPs)

Vocational scope	Percentage of women					Average age	
	1980	1990	2000	2006	2007	2006	2007
Accident and medical practice	–	–	–	39	36	43	47
Anaesthesia	19	16	20	25	25	48	53
Basic medical science	12	16	7	22	31	50	47
Breast medicine	3	0	100	100	100	43	48
Clinical genetics	–	–	–	–	67	45	51
Dermatology	8	17	19	25	22	51	43
Diagnostic and interventional radiology	–	14	23	27	28	48	52
Emergency medicine	13	0	26	23	25	43	52
Family planning and reproductive health	–	–	–	0	63	60	49
General practice	4	24	38	41	42	48	42
Intensive care medicine	10	–	18	5	15	46	53
Internal medicine	–	7	15	11	22	50	48
Medical administration	–	–	–	20	25	53	49
Musculoskeletal medicine	6	–	0	25	0	54	50
Obstetrics and gynaecology	21	17	29	38	38	49	54
Occupational medicine	15	5	17	11	15	52	52
Ophthalmology	0	11	12	15	16	49	50
Paediatrics	19	23	30	32	35	48	53
Palliative medicine	–	–	–	50	56	52	50
Pathology	12	22	30	32	33	50	49
Primary care	–	–	30	35	38	50	53
Psychiatry	–	28	33	38	40	49	51
Public health medicine	–	23	28	43	49	48	48
Radiation oncology	–	5	15	19	28	48	50
Rehabilitation medicine	–	–	0	0	0	50	49
Sexual health medicine	17	–	50	33	75	47	47
Sports medicine	–	–	25	15	20	48	49
Surgery: cardiothoracic	–	–	6	10	11	49	47
Surgery: general	–	–	6	5	8	51	45
Surgery: neurosurgery	–	–	7	12	5	53	49
Surgery: orthopaedic	–	–	3	3	4	50	52
Surgery: other	–	–	3	13	9	47	52
Surgery: otolaryngology	0	2	5	3	6	51	50
Surgery: paediatric	–	–	15	21	15	49	48
Surgery: plastic	–	–	3	3	0	50	51
Surgery: urology	–	–	3	3	6	50	49
Surgery: vascular	–	–	0	–	6	48	49
Specialists and GPs¹	–	–	29	32	33	48	49
All the above groups²	16	24	33	37	38	44	44

¹ Specialists and GPs excludes "not answered" and "other".

² "All the above groups" excludes "not answered".

– Data not available.

International medical graduates (IMGs)

Based on survey results, the overall proportion of IMGs dropped slightly to 38.4 percent from 39.9 percent.

Registration data published in the Medical Council's annual reports for the last three years (which will be a more accurate measure) show that the proportion of IMGs in the workforce at any given time is between 40 and 41 percent. Data also suggest that this figure is increasing only very gradually.

Work role

Table 16 shows that the medical officer work role again had the highest proportion of IMGs at 60 percent, up from 59 percent in 2006. The proportion of IMGs in the work role of registrar decreased to 36 percent from 40 percent and decreased to 23 percent from 31 percent for house officers.

Table 16: Proportion of IMGs by work role at main work site

Role at main work site	Percentage of IMGs					Average age	
	1980	1990	2000	2006	2007	2006	2007
House officer	27	21	25	31	23	29	29
Registrar	42	22	35	40	36	34	33
Medical officer	52	50	53	59	60	46	45
Primary care other than GP	42	39	33	40	33	45	43
Other	43	32	25	38	36	46	45
General practitioner	35	29	35	41	41	47	45
Specialist	28	32	35	40	40	49	46

Work type

Table 17 shows the proportion of IMGs working as specialists or general practitioners in vocational scopes ten-yearly from 1980 and then yearly for the last two years.

The proportion of IMGs was more than 50 percent in the following vocational scopes: accident and medical practice, breast medicine, family planning and reproductive health, obstetrics and gynaecology, palliative medicine, psychiatry, radiation oncology, rehabilitation medicine, cardiothoracic surgery and neurosurgery.

The proportion of IMGs increased in dermatology, cardiothoracic surgery, general practice, plastic surgery, obstetrics and gynaecology, neurosurgery and sports medicine.

The proportion of IMGs decreased in most other vocational scopes. The most notable decreases were in emergency medicine (from 47 percent in 2006 to 36 percent in 2007), musculoskeletal medicine (from 40 percent to 27 percent), and sexual health medicine (from 50 percent to 33 percent).

Table 17: Proportion of IMGs by vocational scope¹ (specialists and GPs)

Vocational scope	Percent IMGs					Av. age	
	1980	1990	2000	2006	2007	2006	2007
Accident and medical practice	–	–	–	64	62	43	47
Anaesthesia	41	39	45	47	46	48	53
Basic medical science	31	42	20	44	54	50	47
Breast medicine	–	–	0	100	67	43	48
Clinical genetics					33	45	51
Dermatology	30	20	23	27	33	51	43
Diagnostic and interventional radiology	24	27	32	33	32	48	52
Emergency medicine	–	50	48	47	36	43	52
Family planning and reproductive health	–	–	–	100	75	60	49
General practice	35	30	35	40	41	48	42
Intensive care medicine	–	–	18	25	21	46	53
Internal medicine	24	34	33	38	38	50	48
Medical administration	–	–	–	38	31	53	49
Musculoskeletal medicine	–	–	40	40	27	54	50
Obstetrics and gynaecology	24	28	45	49	52	49	54
Occupational medicine	–	41	31	30	30	52	52
Ophthalmology	18	16	22	22	19	49	50
Paediatrics	38	39	32	44	43	48	53
Palliative medicine	–	–	–	68	63	52	50
Pathology	21	26	38	45	44	50	49
Primary care	0	–	38	45	38	50	53
Psychiatry	41	50	57	57	58	49	51
Public health medicine	44	36	20	24	23	48	48
Radiation oncology	–	55	62	59	59	48	50
Rehabilitation medicine	–	–	29	60	57	50	49
Sexual health medicine	33	50	33	50	33	47	47
Sports medicine	–	–	4	15	20	48	49
Surgery: cardiothoracic	–	–	28	43	53	49	47
Surgery: general	–	–	30	36	36	51	45
Surgery: neurosurgery	–	–	50	65	68	53	49
Surgery: orthopaedic	–	–	13	22	20	50	52
Surgery: other	–	–	21	25	25	47	52
Surgery: otolaryngology	31	24	28	36	32	51	50
Surgery: paediatric	–	–	31	43	23	49	48
Surgery: plastic and reconstructive	–	–	19	23	24	50	51
Surgery: urology	–	–	29	27	25	50	49
Surgery: vascular	–	–	11	43	41	48	49
Specialists and GPs²	–	–	35	40	40	48	49
All the above groups³	34	29	35	40	38	44	44

¹ All categories are vocational scopes except for basic medical science and surgery: other.

² Specialists and GPs excludes “not answered” and “other”.

³ “All the above groups” excludes “not answered”.

– Data not available.

Retention

New Zealand graduates

Retention by graduate class

Table 18 and Figure 4 compare the retention rates at each year after graduation for successive classes of graduates from 1995 to 2006.

Tables 18 and 19 show that, on average, 83 percent of graduates are retained by the second year after graduation. This figure drops to 76 percent by the third year and then rises to 77 and then 78 percent in the fourth and fifth years after graduation. Retention rates level out to between 63 and 68 percent in years 8 to 12 after graduation.

Table 19 shows little variance in the percentage of registered graduates retained in any given postgraduate year across the class years analysed.

We have no firm statistics about what medical graduates do if they do not register to do their intern year in New Zealand. Available figures do include fee-paying students, and the initial drop in retention may possibly be caused by these graduates returning to their sponsoring countries. Others do their internship overseas, and some have the year off.

The Medical Council of New Zealand does not collect information about doctors no longer practising in New Zealand. They may be practising overseas, or not practising at all. Some doctors leave New Zealand to gain postgraduate qualifications and then return some years later.

Table 18: Graduate retention of class years 1995 to 2006

Final class year ¹	Size of class ²	Number registered	Percentage of registered ³ graduates retained, by postgraduate year ⁴											
			1	2	3	4	5	6	7	8	9	10	11	12
1995	275	258	96	84	74	76	80	74	72	69	65	66	67	67
1996	275	264	97	88	78	80	78	77	75	69	64	64	61	
1997	284	266	97	86	73	68	72	72	70	68	64	65		
1998	288	251	96	80	69	77	77	73	70	66	61			
1999	305	270	99	79	75	77	77	72	70	67				
2000	323	286	94	82	74	77	78	79	76					
2001	297	271	95	79	78	81	80	78						
2002	308	285	94	81	76	79	82							
2003	329	302	94	81	80	78								
2004	342	284	101	87	85									
2005	318	297	100	84										
2006	322	287	99											

¹ "Final class year" is used as Auckland and Otago medical schools identify graduate year differently.

² "Size of class" is taken from a list of those in final class years as given by medical schools. Not all will necessarily be eligible for graduation.

³ "Registered" is defined as those from the class year who have been registered at some time.

⁴ "Year" gives those who held one or more annual practising certificates (APC) in the year April to March as a percentage of the graduates from the class year who registered in New Zealand.

Figure 4: Graduate retention of class years 1995 to 2006

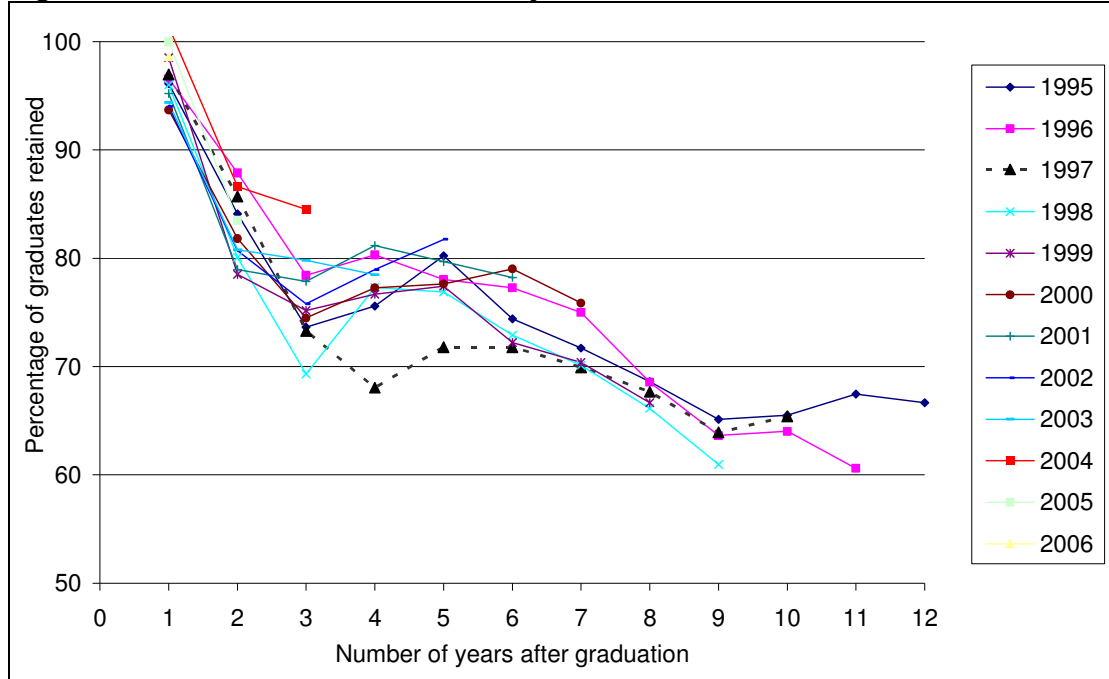


Table 19: Average percentage of registered graduates retained, by postgraduate year

	Postgraduate year											
	1	2	3	4	5	6	7	8	9	10	11	12
Average percentage of registered graduates retained	97	83	76	77	78	75	72	68	63	65	64	67
Standard deviation	2.4	3.2	4.2	3.8	3.0	3.0	2.6	1.1	1.8	0.8	4.8	–

International medical graduates

Table 20 compares the retention rates of IMGs at each year after initial registration for successive years from 2000 to 2007. Reliable data could not be obtained for the years before 2000.

Table 20: Retention rates for IMGs, 2000–2006

First year registered ¹	Number registered	Percentage of IMGs retained, by post-registration year ²						
		1	2	3	4	5	6	7
2000	917	47.0	37.8	34.1	30.9	28.4	27.4	26.7
2001	930	46.1	35.8	32.4	30.9	29.9	29.6	
2002	1,078	48.2	36.9	32.1	31.3	28.6		
2003	1,090	44.9	32.8	29.4	28.8			
2004	1,017	48.2	32.5	29.1				
2005	1,130	54.0	36.2					
2006	969	50.5						

1 IMGs are included in a grouping if they held a practising certificate in that year but not in the previous year. For example, for an international medical graduate to be included in the 2000 grouping, they must have held a practising certificate in 2000 and not held a practising certificate in 1999.

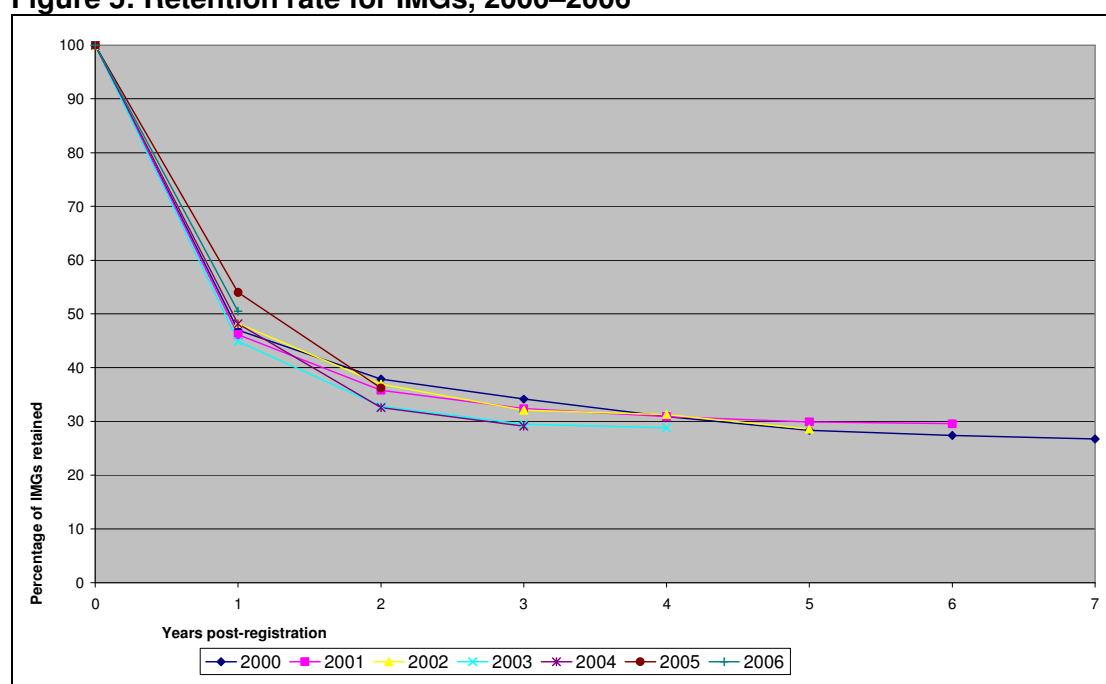
2 The retention rate is expressed as a percentage and equals the number of doctors from the grouping who held a practising certificate at some point in that year compared with the number of doctors originally in that grouping.

Table 21 shows that less than 50 percent of IMGs are retained in the year immediately after initial registration. After this initial drop, the percentage of IMGs continues to decrease more gradually, dropping to just over 31 percent after three years from initial registration. Table 21 shows that this trend has been consistent across the period analysed with little variance in the proportion retained.

Table 21: Average percentage of IMGs retained, by post-registration year

	Post-registration year						
	1	2	3	4	5	6	7
Average percentage of IMGs retained	48.4	35.4	31.4	30.4	28.9	28.5	26.7
Standard deviation	3.0	2.2	2.1	1.1	0.8	1.5	–
Percentage standard deviation	6.3	6.2	6.7	3.6	2.9	5.4	–

Figure 5: Retention rate for IMGs, 2000–2006



Retention of international medical graduates—by country

This section splits the IMGs we analysed into five groups based on the countries in which the doctors gained their primary medical qualifications. These groups are United Kingdom, South Africa, USA and Canada, Europe, and Asia.

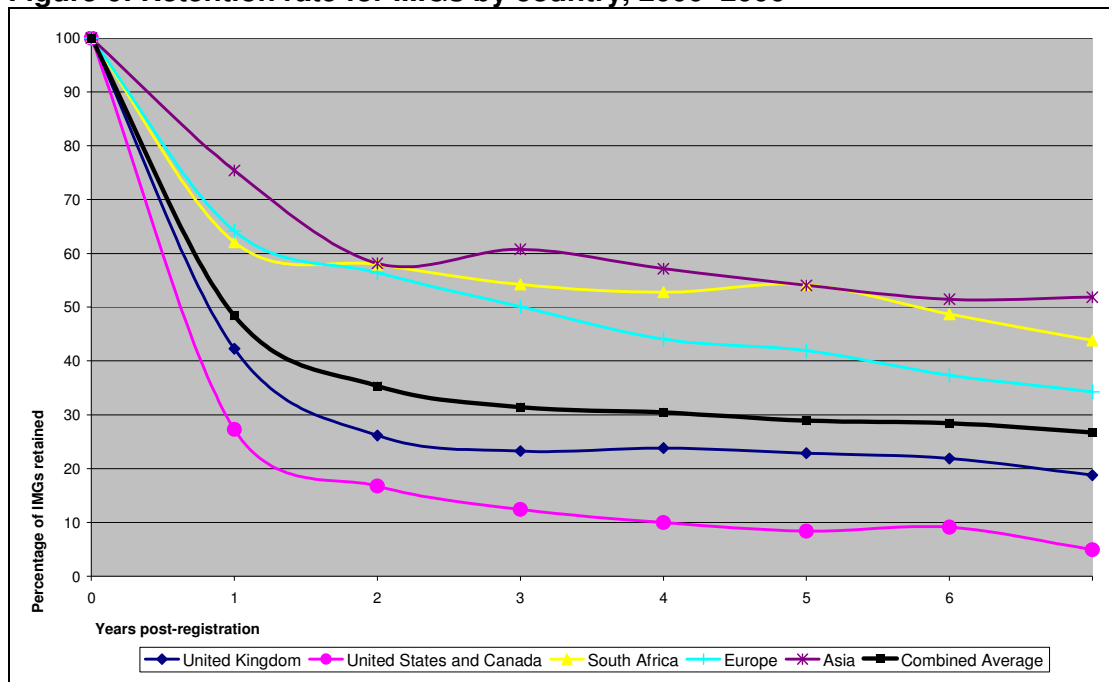
The United Kingdom group includes doctors with primary medical qualifications from England, Scotland, Wales and Northern Ireland.

The Europe group includes doctors with primary medical qualifications from Germany, Poland, Romania, Georgia, Bulgaria, Russia, Italy, Belgium, Switzerland, Sweden, Denmark, Hungary, Greece, France, Spain, Portugal and the former Yugoslav Republic of Macedonia.

The Asia group includes doctors with primary medical qualifications from Bangladesh, India, Iraq, Sri Lanka, Pakistan, Japan, China, the Philippines, Malaysia, Syria and Thailand.

Figure 6 shows the average retention rate at each year after initial registration for successive years of IMG registrants from each country group. The full data for each group is presented in table form in Appendix B on page 36.

Figure 6: Retention rate for IMGs by country, 2000–2006



Doctors from Asian countries have the highest retention rate, followed by South African and then European doctors.

More than 50 percent of doctors from Asian countries are retained even seven years after registration. The retention rate for South African doctors drops below 50 percent only after five years.

Doctors from the United States and Canada have the lowest retention rate, with less than 30 percent at one year after registration and less than 10 percent as early as four years after registration.

Doctors from the United Kingdom also have lower-than-average retention rates. Fewer than 30 percent of these doctors are retained two years after registration, and the rate drops below 20 percent after six years.

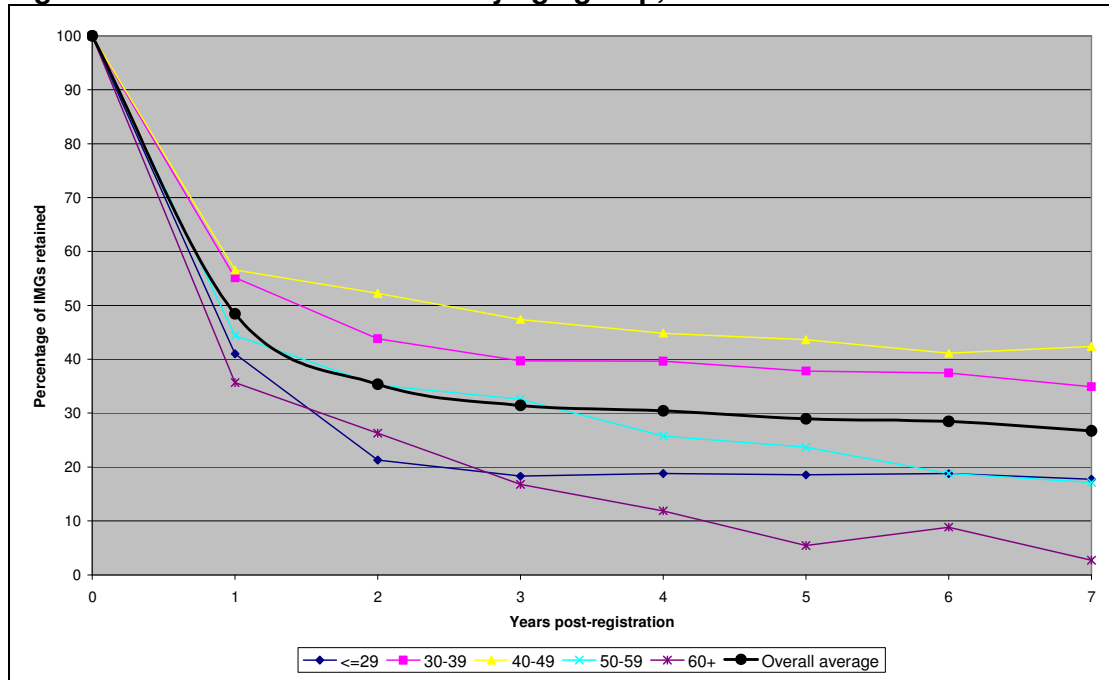
These figures suggest that doctors from North America and the United Kingdom are more likely to come to New Zealand to work for a limited period than doctors from Asia, South Africa and Europe.

Retention of international medical graduates—by age group

This section splits the IMGs analysed into five age-groups based on the doctor's age at 31 March of the original group year (i.e. doctors from the 2000 group have their age taken as at 31 March 2000). The groupings are < 29, 30–39, 40–49, 50–59 and 60 or older.

Figure 7 shows the average retention rate at each year after initial registration for successive years of IMG registrants from each group. The full data for each group are presented in table form in Appendix C on pages 36 and 37.

Figure 7: Retention rate for IMGs by age group, 2000–2006



Doctors in the 40–49 age group have the highest retention rate, followed by those in the 30–39 age group. More than 40 percent of doctors in the 40–49 age group are retained seven years after registration. The retention rate for those in the 30–39 age group drops below 40 percent after four years.

Doctors from the 60+ age group have the lowest retention rate, with the 20–29 age group the next lowest. The retention rate for doctors in the 20–29 age group drops to just above 20 percent after only two years and then levels out to just below 20 percent in subsequent years.

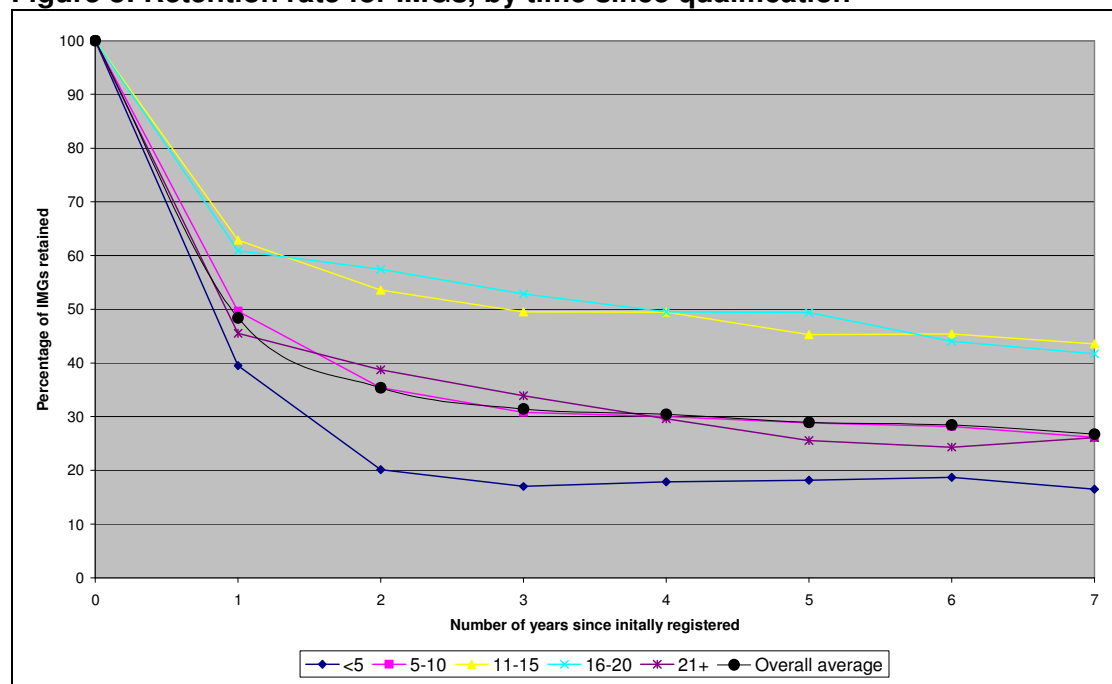
These figures suggest that doctors who come to New Zealand aged between 30 and 50 are more likely to stay long-term, and that doctors who come to New Zealand in their twenties stay only for a short time, perhaps as part of an extended overseas trip.

Retention of international medical graduates—by time since qualification

This section splits the IMGs we analysed into five groups based on the number of years since the doctors gained their primary qualification calculated at the original group year. For example, a doctor in the 2000 group who qualified in 1996 is included in the 1–4 group. The groups are <5, 5–10, 11–15, 16–20 and 21 or more.

Figure 8 shows the average retention rate at each year after initial registration for successive years of IMG registrants from each group. The full data for each group are presented in table form in Appendix D on pages 38 and 39.

Figure 8: Retention rate for IMGs, by time since qualification



Doctors who held their primary qualification for between 11 and 20 years at the time they came to New Zealand have the highest retention rate. More than 40 percent of doctors in these groups are retained more than seven years after registration.

Doctors who had only recently graduated at the time they registered in New Zealand (<5 years) have the lowest retention rate, dropping to just over 20 percent after two years and then levelling out just below 20 percent in subsequent years.

These results suggest that doctors who come to New Zealand early in their careers are less likely to stay long-term compared with doctors who arrive in the middle of their careers.

Retention of international medical graduates after full registration

All the figures in the previous sections reflect that many IMGs do not come to New Zealand with an intention to remain long-term and instead come to fill a particular short-term need (that is, a locum position).

This section analyses retention of IMGs after they have gained full registration (either a general or a vocational scope).

Table 23 shows the retention rate for IMGs in the years after they obtained a general scope of practice. To obtain a general scope, these doctors must have been working under supervision for one to two years.

One year after obtaining a general scope, 80 percent of IMGs are still working in New Zealand, steadily decreasing to 65 percent after five years.

Table 23: Retention rate for IMGs after general scope obtained

Year registered	Number registered	Percentage of IMGs retained, by post-registration year ¹						
		1	2	3	4	5	6	7
2000	256	83	76	72	68	64	64	60
2001	242	83	76	74	69	64	61	
2002	250	87	78	72	73	68		
2003	316	90	81	79	74			
2004	311	83	75	69				
2005	323	77	72					
2006	284	81						
Average		83	76	73	71	65	62	60
Standard deviation		4	3	4	3	3	2	–

¹ The retention rate equals the number of doctors from the group who held a practising certificate at some point in that year compared with the number of doctors originally in that group.

Table 24 shows the retention rate for IMGs in the years after they obtained a vocational scope of practice. The requirements to obtain a vocational scope can vary. Some IMGs will have already worked in New Zealand for a number of years and completed some or all of an approved vocational training programme in New Zealand. Other doctors who completed their postgraduate training overseas must have completed one to two years of supervised practice.

Table 24: Retention rate for IMGs after vocational scope obtained

Year registered	Number registered	Percentage of IMGs retained, by post-registration year ¹						
		1	2	3	4	5	6	7
2000	162	91	91	85	81	80	74	76
2001	275	92	85	87	81	81	79	
2002	201	93	92	88	89	84		
2003	220	95	89	86	80			
2004	223	89	83	82				
2005	205	92	85					
2006	204	89						
Average		91	87	86	83	82	76	76
Standard deviation		2	4	2	4	2	3	–

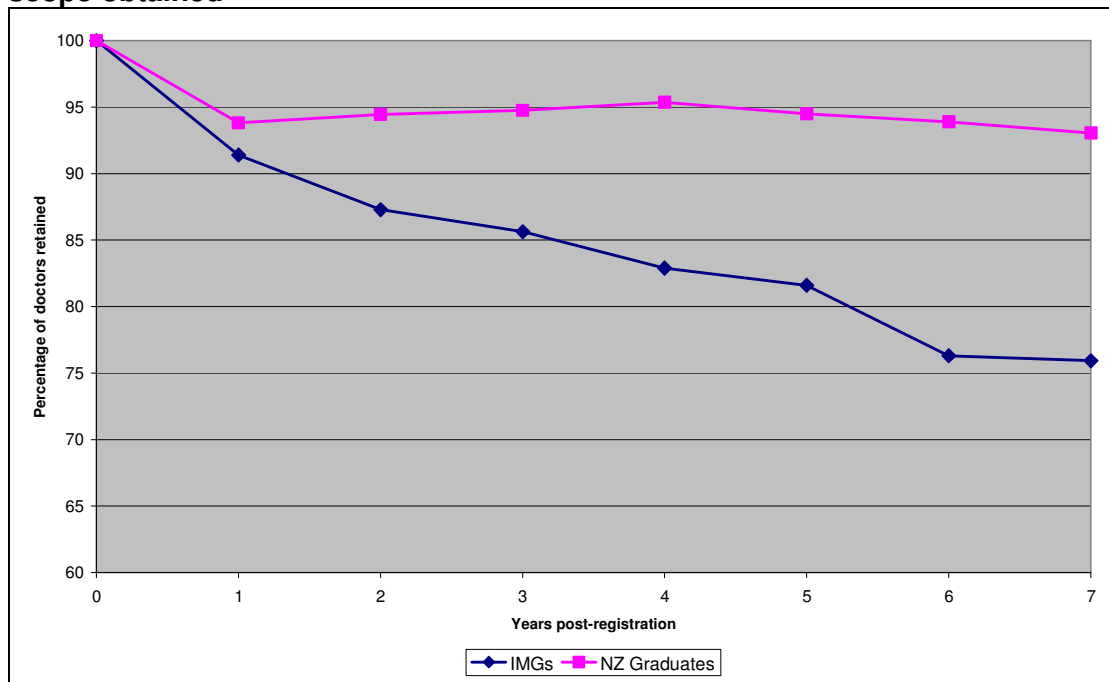
¹ The retention rate equals the number of doctors from the group who held a practising certificate at some point in that year compared with the number of doctors originally in that group.

One year after obtaining a vocational scope, 90 percent of IMGs are retained, decreasing gradually to 76 percent after six years.

Figure 9 compares the retention of IMGs and New Zealand graduates after they obtain a vocational scope.

The retention rate for both New Zealand graduates and IMGs is over 90 percent after one year. After two years the retention rate for New Zealand graduates stabilises to between 94 and 95 percent, but for IMGs decreases to around 76 percent after six years.

Figure 9: Retention rate for IMGs and New Zealand graduates after vocational scope obtained



Method

Timing of the questionnaire

Workforce data are collected as part of the renewal of annual practising certificates (APCs). In 2000 the certificate renewal process was changed from one date for everyone to four renewal periods based on the birth date of the doctor.

The four periods of data in this report ended November 2006, February 2007, May 2007 and August 2007, and are presented as at 31 March 2007.

The questionnaire was posted out a month or more before the end of each period, with up to two reminder letters sent to those not responding. All data were collected within three months of the end of a renewal period.

Sampling frame

The sampling frame for the workforce survey questionnaire consisted of doctors with:

- a general, provisional general, vocational or provisional vocational scope of practice
- a current APC
- a New Zealand address at the date the questionnaire was posted.

Changes to the Council's registration policies mean that this sampling frame now includes some doctors who previously held temporary registration and would have been excluded. However, the sampling frame does not include doctors registered for specific short-term purposes (special purpose scope of practice).

Responses to the survey

For the 2007 workforce survey, survey forms were sent out to 11,808 doctors with New Zealand addresses. Eighty-four percent (9,968) replied. The response rates for the last three years were lower than in previous years.

This decrease is likely to have been due to the introduction of the HPCAA. In the past, workforce survey forms were not sent to doctors holding temporary registration. Now, under the HPCAA, some doctors who are only in New Zealand for a limited time are also asked to complete the survey.

These doctors have often left New Zealand at the time the questionnaire is sent, or do not complete the APC renewal form and so are less likely to respond to the survey.

The results in this report include only the 9,757 active doctors—that is, those working four or more hours a week, as shown in Table 1 on page 2 of this report.

Some doctors in active employment may not have responded to the survey. No allowance has been made in figures for the response rate.

Categories of data

Data for this report were collected in employer, role and work type categories at a main work site, and at second and third work sites where appropriate.

Role options were:

- general practitioner
- primary care
- house officer
- registrar
- medical officer
- specialist/consultant
- other.

This report also includes data drawn from the Council's registration information, to avoid duplicating questions in the APC application (age, sex, registration date, and year and country of graduation).

Geographical analysis used territorial local authorities and district health board regions based on the employment information for the main work site.

DHB populations were determined by amalgamating territorial local authority population counts from the estimated resident population as at 30 June 2007.¹

Full-time equivalents (FTEs) were calculated proportionately, with 40 hours a week being one FTE.

Multiple responses of ethnicity are reported as a single category, according to a simplified version of Statistics New Zealand's prioritisation standard. A single ethnic category was selected from multiple responses in the following order of priority:

1. New Zealand Māori
2. Pacific Island
3. Chinese
4. Indian
5. Other non-European
6. Other European
7. New Zealand European.

Where the Council's registration database is cited as a source for additional analysis, issue of an APC is used as the measure of workforce participation.

Results were generated using Microsoft Access software.

Calculation of retention rates

New Zealand graduates

Retention of New Zealand graduates is calculated by comparing the list of graduates provided by the universities for a particular year with the lists of doctors who purchased APCs in subsequent years.

International medical graduates

International medical graduates are included in a group if they practised in New Zealand in that year but not in the previous year. For example, for an international medical graduate to be included in the 2000 cohort, they must have practised in New Zealand in 2000 but not in 1999.

¹ Statistics New Zealand : Estimated Resident Population as at 30 June 2007

The retention rate is calculated by comparing the number of IMGs active at some point during a year to the number originally in that group. The retention rate is expressed as a percentage.

Inclusion in a group does not relate in any way to the date that an IMG graduated in their home country.

Explanation of terms used

Active doctors

Active doctors are doctors who by their own estimate worked a total of at least four hours in medical (including non-clinical) work during a typical working week.

Full-time equivalent (FTE)

Proportional calculation of FTEs is based on a 40-hour week; for example, 60 hours equal 1.5 FTE.

On-call time is included in hours worked only if it is actually worked.

House officer

This work role category takes in doctors in their first few years out of medical school. Doctors in their first year out of medical school are also known as interns.

Hours on call

Refers to the additional hours when doctors are on call but not actually working.

Hours worked

Unless otherwise stated, hours worked are as reported by the survey respondent.

The combined total of hours worked across all work sites is based on a typical working week during the previous year (or the most recent week, if the respondent cannot identify a typical week).

International medical graduate

An international medical graduate is a doctor who obtained their primary medical qualification in a country other than New Zealand. Previously known as an overseas trained doctor.

Main work site

The place where a doctor spends most of their working hours.

Registered within a vocational scope of practice

Refers to a doctor who has met the criteria for a vocational scope of practice set by the Medical Council of New Zealand, and completed the requirements of the relevant college or branch advisory body.

Registration within a vocational scope of practice was previously known as vocational registration.

Specialist

This work role category is generally understood to require membership of the relevant specialist college, but survey respondents may apply the term more broadly to themselves.

To help with results analysis, GPs and doctors working in accident and medical practice or other primary care disciplines are recorded under separate work role categories.

However, GPs, specialists, and doctors working in primary care disciplines are all eligible for registration within a vocational scope.

Work role

Work role category options in the survey were GP, primary care other than GP, house officer, registrar, medical officer, specialist/consultant, and other.

Work type

This is the category of work at main work site, from the options shown in Table 3 on page 3.

Further information

If you would like further information about the medical workforce, contact:

Analytical Unit
New Zealand Health Information Service
P O Box 5013
Wellington

Email: inquiries@nzhis.govt.nz
Website: www.nzhis.govt.nz/stats.medpracstats
Phone: (04) 922-1800

If you would like to contact the Council's information systems analyst about this report, please email workforce@mcnz.org.nz or call 04 381-6813 or 0800 286-801 extension 813.

Acknowledgements

The Medical Council of New Zealand would like to thank the doctors who completed the workforce survey.

We would also like to thank Christine Whiteford, who helped check the data, and Professor John Campbell, Philip Pigou, Diane Latham and Bill Taylor for their valuable assistance in writing the report.

Appendix A – Distribution of the workforce by District Health Board

Table 24 shows the distribution of all doctors and GPs by the DHB locality at the doctor's main work site.

Table 24: Workforce by district health board locality of main work site

District health board locality	Number of doctors	Number of GPs ⁵	District health board locality population	Number of doctors per 100,000 population	FTEs for GPs at all work sites ⁴	FTEs for GPs per 100,000 population
Northland	283	111	153,800	184	109	71
Waitemata	781	340	513,400	152	315	61
Auckland	2,012	425	433,200	464	394	91
Counties Manukau	717	280	464,600	154	271	58
Waikato ¹	771	246	357,900	215	248	69
Bay of Plenty	386	161	203,200	189	149	73
Lakes	213	92	101,500	210	83	82
Tairāwhiti	84	33	45,900	183	34	75
Hawke's Bay	304	110	152,970	199	110	72
Taranaki	201	70	107,290	187	67	62
Midcentral	328	95	156,300	210	107	68
Whanganui	113	38	58,600	193	37	63
Wairarapa	51	26	39,540	129	27	69
Hutt	241	92	141,500	170	82	58
Capital & Coast ²	901	243	289,200	312	215	74
Nelson Marlborough	260	111	134,500	193	106	79
West Coast	46	21	32,250	143	22	67
Canterbury	1,250	420	490,150	255	389	79
Otago	550	154	177,850	309	156	88
South Canterbury	88	36	55,240	159	41	74
Southland ³	177	91	118,350	150	88	74
Total	9,757	3,195	4,227,240	231	3,048	72

¹ Includes all TLA Ruapehu to simplify analysis. Officially, Ruapehu District is split between Whanganui and Waikato District Health Boards.

² Includes all TLA Kapiti to simplify analysis. Officially, Kapiti Coast District is split between Capital & Coast and MidCentral District Health Boards.

³ Includes all TLA Queenstown-Lakes to simplify analysis. Officially, Queenstown-Lakes District is split between Southland and Otago District Health Boards.

⁴ Note: the calculation of GP FTE includes all hours recorded at site1, site 2 and site 3 where the work role was GP for that work site.

⁵ Number of GPs is the number of doctors who reported a work role of general practitioner at their main work site.

Appendix B – Retention of International Medical Graduates by country

Tables 25 to 29 show the cohort retention rate at each year after initial registration for successive years of IMG registrants from each group as described on page 25.

Table 25: Retention rate for United Kingdom graduates 2000–2006

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	436	37.4	22.9	22.5	20.4	18.1	19.0	18.8
2001	444	41.0	29.1	24.5	25.0	25.5	24.8	
2002	507	41.4	27.7	24.8	26.6	25.0		
2003	527	39.5	24.7	22.7	23.3			
2004	504	43.7	22.8	21.8				
2005	565	50.8	29.7					
2006	404	53.5						
Average		42.3	26.2	23.3	23.8	22.9	21.9	18.8

Table 26: Retention rate for South African graduates

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	89	66.3	66.3	56.2	52.8	50.6	43.8	43.8
2001	97	70.1	69.1	66.0	62.9	57.7	53.6	
2002	116	56.0	58.6	55.2	49.1			
2003	106	63.2	53.8	49.1	46.2			
2004	67	64.2	49.3	44.8				
2005	75	60.0	50.7					
2006	86	54.7						
Average		62.1	57.9	54.2	52.8	54.1	48.7	43.8

Table 27: Retention rate for USA and Canada graduates 2000–2006

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	101	23.8	14.9	11.9	6.9	6.9	5.9	5.0
2001	122	17.2	12.3	13.9	10.7	9.8	12.3	
2002	119	21.8	16.8	10.9	10.9	8.4		
2003	148	24.3	16.2	11.5	11.5			
2004	136	33.1	17.6	14.0				
2005	171	38.6	22.8					
2006	137	32.1						
Average		27.3	16.8	12.4	10.0	8.4	9.1	5.0

Table 28: Retention rate for European graduates 2000–2006

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	35	62.9	60.0	45.7	40.0	37.1	34.3	34.3
2001	47	68.1	55.3	57.4	51.1	55.3	40.4	
2002	60	65.0	46.7	40.0	43.3	33.3		
2003	43	58.1	55.8	46.5	41.9			
2004	46	76.1	69.6	60.9				
2005	49	63.3	51.0					
2006	63	55.6						
Average		64.1	56.4	50.1	44.1	41.9	37.4	34.3

Table 29: Retention rate for Asian graduates 2000–2006

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	133	76.7	72.2	65.4	62.4	58.6	53.4	51.9
2001	105	74.3	61.9	56.2	53.3	48.6	49.5	
2002	140	79.3	69.3	60.7	53.6	55.0		
2003	128	73.4	68.0	62.5	59.4			
2004	100	71.0	66.0	59.0				
2005	112	77.7	69.6					
2006	115	70.4	0					
Average		48.4	35.4	31.4	30.4	28.9	28.5	26.7

Appendix C – Retention of International Medical Graduates by age group

Tables 30 to 34 show the average retention rate at each year after initial registration for successive years of IMGs. The IMGs are split into five age-groups based on the doctor's age at 31 March of the year they were first registered as described on page 27.

Table 30: Retention rate for IMGs aged 29 or younger

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	361	38.8	24.1	22.4	21.1	17.7	18.3	17.7
2001	338	37.3	20.1	16.9	17.5	18.6	19.2	
2002	390	39.5	21.5	19.5	20.5	19.2		
2003	384	38.0	18.2	16.9	16.1			
2004	400	38.8	16.5	15.8				
2005	448	49.1	27.2					
2006	309	45.6						
Average		41.0	21.3	18.3	18.8	18.5	18.8	

Table 31: Retention rate for IMGs aged 30–39

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	298	55.7	48.0	42.6	39.6	36.2	35.6	34.9
2001	333	55.3	47.4	42.9	42.0	39.6	39.3	
2002	376	54.0	47.9	42.3	40.4	37.5		
2003	376	50.8	40.2	36.4	36.4			
2004	305	53.4	40.3	34.1				
2005	352	58.2	39.2					
2006	369	58.5						
Average		55.1	43.8	39.7	39.6	37.8	37.5	34.9

Table 32: Retention rate for IMGs aged 40–49

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	151	53.0	53.0	50.3	47.0	47.7	43.0	42.4
2001	143	54.5	50.3	44.8	44.1	41.3	39.2	
2002	167	61.1	52.7	47.3	44.9	41.9		
2003	194	52.1	49.5	45.4	43.3			
2004	185	59.5	51.9	49.2				
2005	193	66.3	56.0					
2006	145	49.7						
Average		56.6	52.2	47.4	44.8	43.6	41.1	42.4

Table 33: Retention rate for doctors aged 50–59

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	70	44.3	38.6	32.9	22.9	21.4	15.7	17.1
2001	64	42.2	34.4	43.8	29.7	28.1	21.9	
2002	98	44.9	32.7	26.5	24.5	21.4		
2003	92	38.0	33.7	25.0	26.1			
2004	86	50.0	38.4	34.9				
2005	95	46.3	33.7					
2006	89	44.9						
Average		44.4	35.2	32.6	25.8	23.7	18.8	17.1

Table 34: Retention rate for doctors aged 60 or older

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	37	37.8	27.0	16.2	5.4	2.7	8.1	2.7
2001	52	26.9	25.0	17.3	13.5	11.5	9.6	
2002	47	36.2	29.8	12.8	12.8	2.1		
2003	44	36.4	22.7	18.2	15.9			
2004	41	46.3	31.7	19.5				
2005	42	31.0	21.4					
2006	57	35.1						
Average		35.7	26.3	16.8	11.9	5.5	8.9	2.7

Appendix D – Retention of International Medical Graduates by time since qualification

Tables 35 to 39 show the average retention rate at each year after initial registration for successive years of IMGs. The IMGs are split into five groups based on the number of years since the doctor gained their primary qualification. The groupings are described on page 28.

Table 35: Retention rate for doctors less than five years post-qualification

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	303	38.9	21.8	20.1	19.5	16.5	17.2	16.5
2001	306	37.6	20.9	17.6	18.0	19.6	20.3	
2002	343	37.6	20.4	17.5	19.2	18.4		
2003	367	34.3	17.4	16.1	14.7			
2004	370	37.6	14.9	13.8				
2005	432	47.7	25.5					
2006	279	43.0						
Average		39.5	20.1	17.0	17.9	18.2	18.7	16.5

Table 36: Retention rate for doctors 5–10 years post-qualification

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	245	46.5	38.4	33.5	30.2	26.5	27.8	26.1
2001	241	45.2	36.1	32.4	31.5	29.9	28.6	
2002	285	49.8	37.9	35.1	33.3	30.2		
2003	267	43.8	29.2	24.3	25.1			
2004	219	47.5	32.4	28.8				
2005	249	57.8	38.2					
2006	299	56.5						
Average		49.6	35.4	30.8	30.0	28.9	28.2	26.1

Table 37: Retention rate for doctors 11–15 years post-qualification

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	124	61.3	56.5	51.6	48.4	45.2	41.1	43.5
2001	135	65.2	59.3	53.3	51.1	48.1	49.6	
2002	160	60.0	55.6	47.5	44.4	42.5		
2003	152	67.8	55.9	53.9	53.9			
2004	141	63.1	48.9	41.1				
2005	157	62.4	45.2					
2006	126	60.3						
Average		62.9	53.6	49.5	49.5	45.3	45.4	43.5

Table 38: Retention rate for doctors 16–20 years post-qualification

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	84	58.3	58.3	56.0	48.8	52.4	42.9	41.7
2001	84	60.7	51.2	48.8	52.4	46.4	45.2	
2002	91	62.6	60.4	54.9	51.6	49.5		
2003	104	55.8	51.9	50.0	45.2			
2004	103	62.1	60.2	54.4				
2005	96	70.8	62.5					
2006	82	56.1						
Average		60.9	57.4	52.8	49.5	49.4	44.0	41.7

Table 39: Retention rate for doctors 21 or more years post-qualification

First year registered	Number registered	Percentage retained, by post-registration year						
		1	2	3	4	5	6	7
2000	161	46.0	42.2	36.6	30.4	28.0	27.3	26.1
2001	164	40.2	36.0	34.1	26.8	25.6	21.3	
2002	199	48.2	38.2	30.2	29.1	23.1		
2003	200	42.5	38.5	31.5	32.0			
2004	184	51.1	40.2	37.0				
2005	196	48.0	37.2					
2006	183	42.6						
Average		45.5	38.7	33.9	29.6	25.6	24.3	26.1