



The New Zealand Medical Workforce in 2009

Protecting the public, promoting good medical practice

Te tiaki i te iwi whānui me te whakatairanga pai e pā ana ki te taha rongōā

Introduction

This report summarises the most relevant results of the Medical Council of New Zealand 2009 workforce survey. It contains information about changes in the medical workforce including retention rates for doctors.

The data for the 2009 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.

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Facts at a glance

	2009	2008	2007	2006	2005	2004
Size of the workforce ¹	13,269	12,949	12,643	12,283	11,578	11,253
Doctors per 100,000 population ²	307	303	299	297	283	281
Proportion of IMGs ³ (%)	40.6	38.9	38.4	39.9	37.5	35.6
Proportion of women (%)	39	39	38	37	36	35
Average age of workforce	45	45	45	44	44	44
Average weekly workload (hours)	44.2	44.7	44.8	45.3	45.5	45.8
Average proportion of new IMGs retained after 1 year ⁴	50.8	50.0	48.4	48.1	46.9	46.6

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 IMG: international medical graduate (see page 38 for definition)

⁴ See 'Retention' on page 27 for more information, and 'Survey' on page 36 for information on how this figure was calculated.

Changes in the medical workforce

Size of the workforce

Registration data show that the number of active doctors increased by 3.5 percent, from 12,949 in 2008 to 13,269 in 2009. This compares with increases of 2.9 percent between 2006 and 2007, and 6.1 percent between 2005 and 2006 (see Table 1).

Table 1: Estimated yearly workforce growth and changes in composition

	1980	1985	1990	1995	2000	2005	2007	2008	2009
Total workforce (based on registration data)¹	–	–	–	–	9,779	11,578	12,643	12,949	13,269
Percentage change in total workforce from previous year measured by registration data (%)	–	–	–	6.3	2.6	2.9	2.9	2.3	3.5
Short-term registrants ²	–	–	165	129	421	287	124	134	139
Short-term registrants as a percent percentage of workforce	–	–	2.5	1.7	4.3	2.5	1.0	1.0	1.0
Total workforce (based on survey response)	4,881	5,556	6,339	7,530	8,615	8,746	9,757	10,552	11,164
Graduated from:									
– New Zealand	3,266	4,095	4,480	5,024	5,645	5,459	6,010	6,446	6,630
– overseas	1,615	1,461	1,859	2,506	2,970	3,287	3,747	4,106	4,535
% IMGs	33.1	26.3	29.3	33.3	34.5	37.5	38.4	38.9	40.6
Average age of workforce	–	–	42	41	43	44	45	45	45

¹ 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.

² Short-term registrants are not asked to complete the workforce survey. In 2000 and earlier years, this number also represents doctors holding temporary registration under the Medical Practitioners Act 1995. In 2005 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.

Age distribution of the workforce

Figure 1 compares the age distribution of the active workforce over the last 9 years as well as historical workforce data from 1980 and 1990.

Figure 2 is the same graph with only selected series displayed to highlight the changes over time.

In earlier years (2000–2003), the largest group of doctors (almost 20 percent) was in the 40–44 year age group. By 2009, the largest group of doctors is aged 45–49.

Comparing this with the data from 1980 and 1990, the average age of the current medical workforce is older than it used to be, and this trend is continuing.

Figure 1: Age distribution of the active workforce (1980–2009)

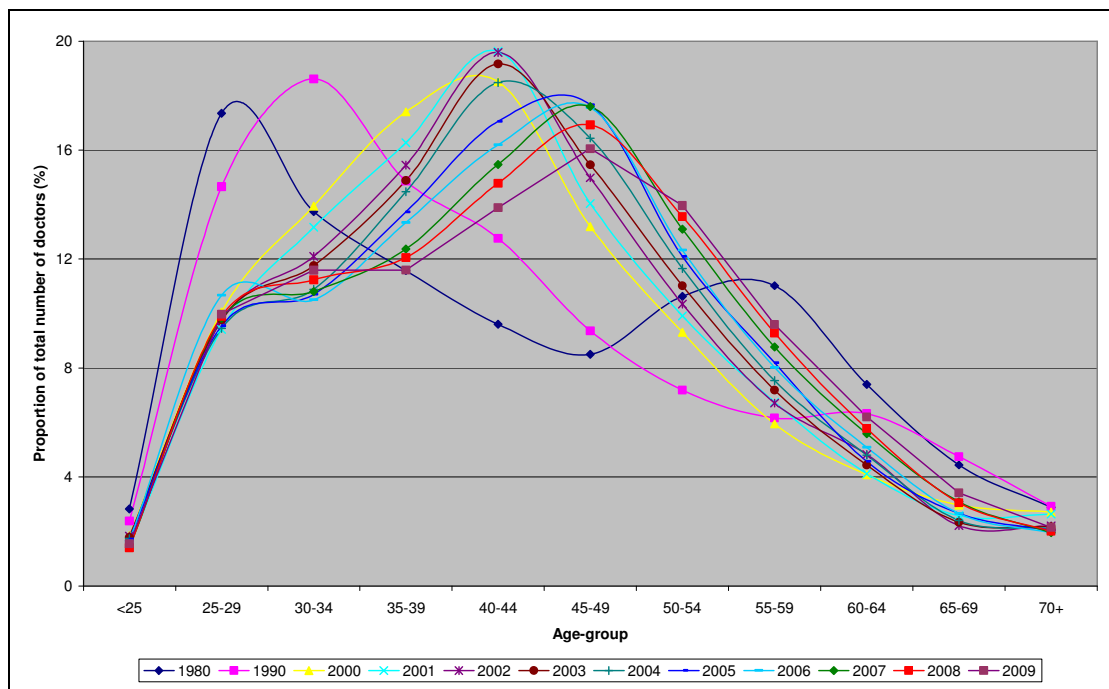
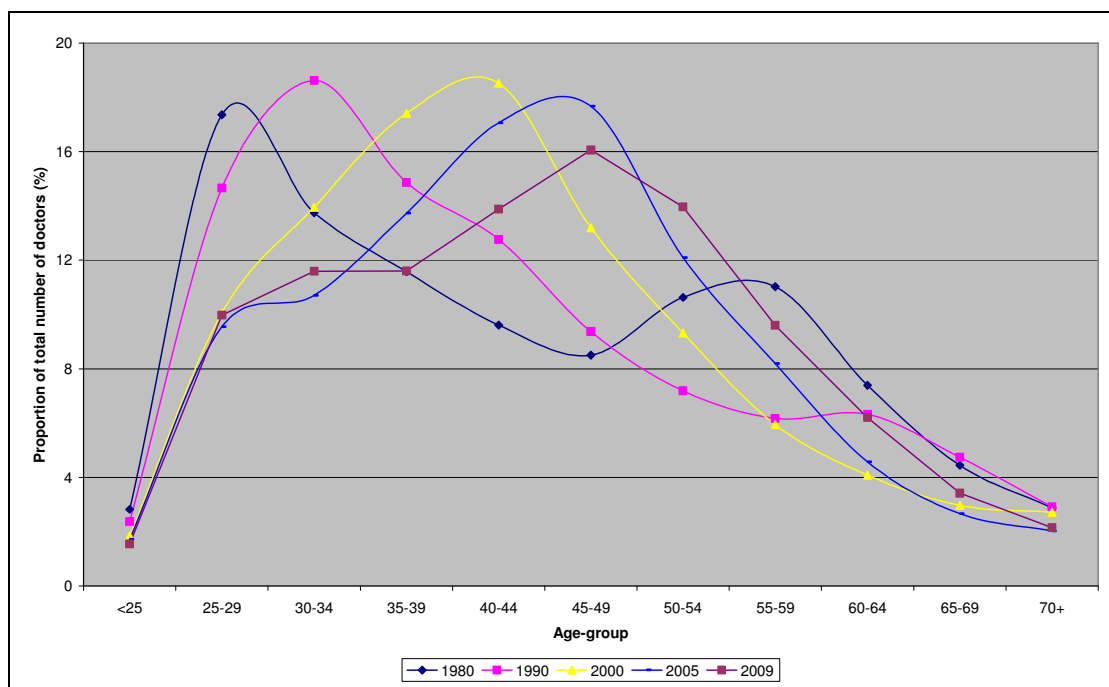


Figure 2: Age distribution of the active workforce (1980–2009), showing only 1980, 1990, 2005, and 2009 series

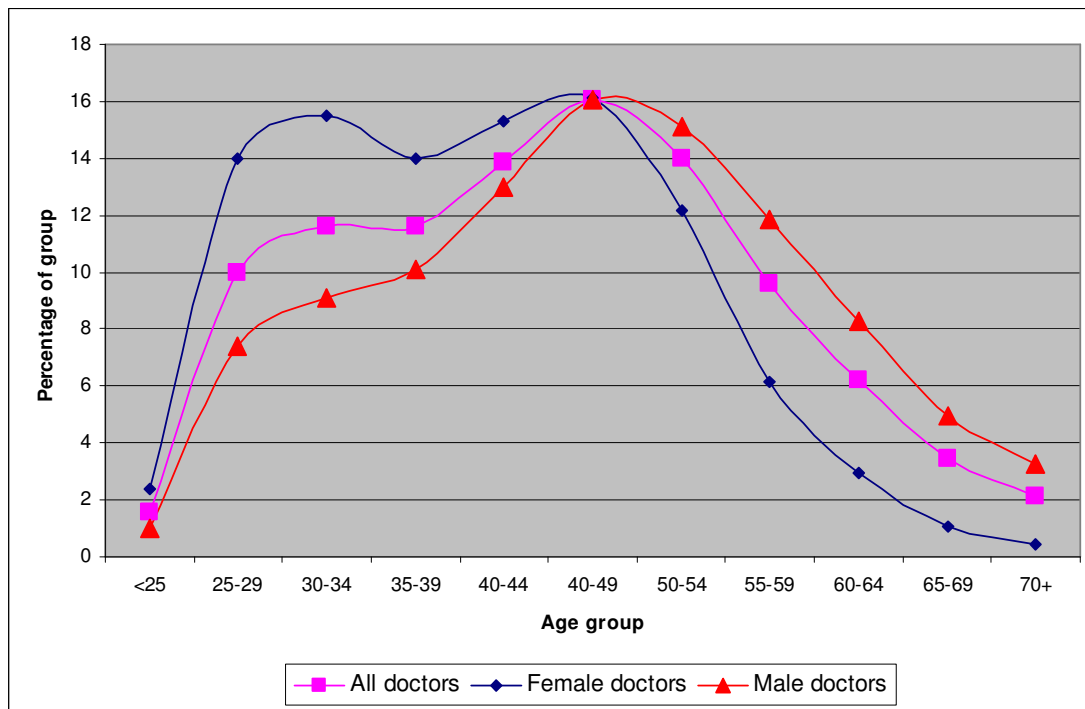


Gender distribution of the workforce

Figure 3 compares the age distribution of men and women in the active workforce.

In the younger age groups there are more women than men: 46 percent of women in the workforce are under the age of 40 compared to 28 percent of men. Only 4 percent of women in the workforce are over the age of 60, compared to 16 percent of men.

Figure 3: Age distribution of the active workforce by gender



Changes by work role

Table 2 shows how doctor numbers have changed by work role at their main work site. All groups except for 'primary care other than GP' show increases, ranging from 2.2 percent for registrars to 21.7 percent for medical officers. The number working in primary care other than GP continued to fall, dropping from 172 to 150 after falling from 203 to 172 in the previous year.

Table 2: Changes in the medical workforce

Workforce role ²	Active doctors ¹					Percentage change 2008–2009
	2005	2006	2007	2008	2009	
General practice	2,924	3,106	3,195	3,435	3,541	3.1
House officer	811	911	841	891	970	8.9
Medical officer	307	329	363	411	500	21.7
Primary care other than GP	157	181	203	172	150	-12.8
Registrar	1,365	1,504	1,529	1,653	1,689	2.2
Specialist	2,940	3,175	3,359	3,713	3,879	4.5
Other	207	248	237	237	275	16.0
No answer	35	93	30	40	159	297.5
Total	8,746	9,547	9,757	10,552	11,164	5.8

¹ Headcount based on doctors who responded to the survey.

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

Figure 4 represents the changes shown in Table 2, with category values represented as a percentage of their 2001 value. This means that changes in categories with vastly different totals can be compared on the same graph.

Figure 4: Changes in the medical workforce by work role (2001–2009)

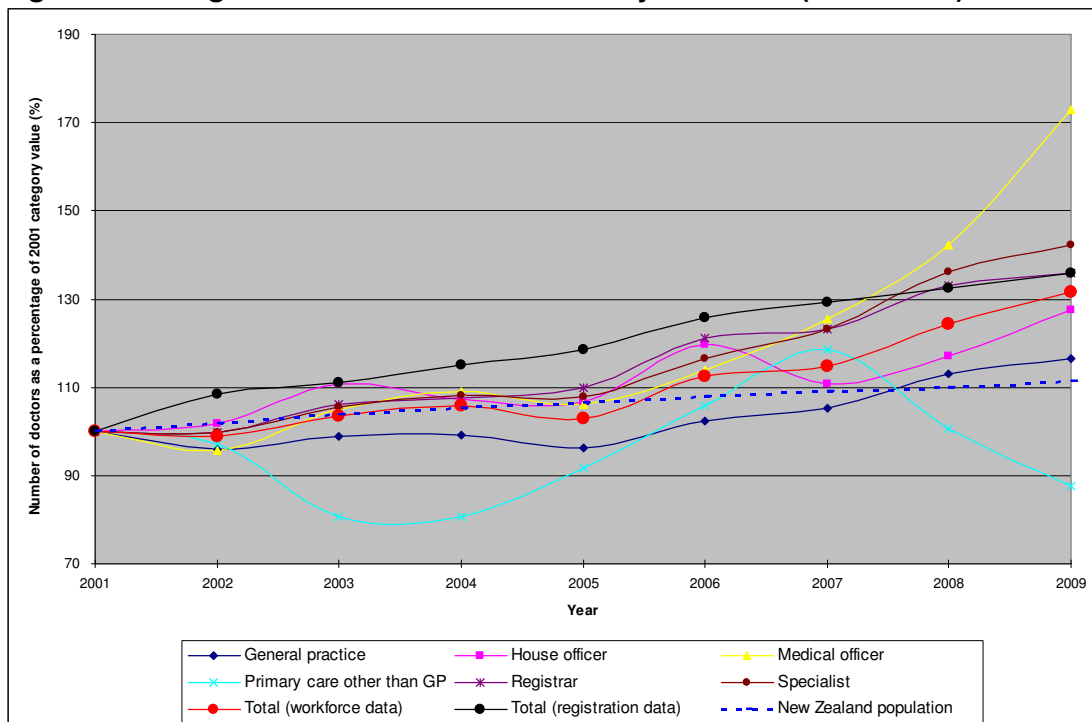


Figure 4 shows a gradual increase in most work roles since 2001.

Primary care other than GP in particular shows large variations from year to year, dropping to 80 percent of its 2001 level in 2003, and rising to almost 120 percent of 2001's level in 2007. These work roles can overlap, so this may be due to doctors moving from year to year between primary care other than GP and general practice.

New Zealand population growth since 2001 has been far more gradual and linear than the medical workforce's growth in the same period.

Work type

The changes in work types since 2008 are shown in Table 3. Doctors working as house officers are not included in the table.

Table 3: Vocational scope groups at main work site (house officers excluded)

Work type at main work site ¹	No. of doctors in main work site 2009	No. of doctors in main work site 2008	Percentage change 2008 to 2009	Average hours worked (all sites)	No. in vocational training ²	Average age 2009	Vocational registration, current APC, NZ address ³
Accident and medical practice	124	140	-11	37.1	40	45	117
Anaesthesia	687	701	-2	48.0	155	45	535
Basic medical science	37	36	3	49.1	6	48	0
Breast medicine	10	8	25	27.3	*	46	0
Clinical genetics	13	6	117	47.2	*	45	8
Dermatology	53	53	0	40.3	4	51	50
Diagnostic and interventional radiology	343	347	-1	45.2	66	46	292
Emergency medicine	335	312	7	42.1	127	40	122
Family planning and reproductive health	25	32	-22	26.8	6	48	25
General practice	2970	2801	6	38.0	515	49	2,573
Intensive care medicine	82	72	14	52.8	31	41	53
Internal medicine	1084	1077	1	48.7	270	45	731
Medical administration	57	57	0	40.7	*	53	15
Musculoskeletal medicine	20	19	5	42.7	*	56	19
Obstetrics and gynaecology	293	287	2	48.5	72	46	221
Occupational medicine	73	71	3	41.5	9	53	47
Ophthalmology	137	137	0	44.3	18	47	113
Paediatrics	364	375	-3	46.6	104	43	265
Palliative medicine	54	53	2	35.7	5	51	40
Pathology	212	220	-4	42.4	40	47	225
Primary care	454	687	-34	38.3	69	50	0
Psychiatry	659	673	-2	43.3	137	48	453
Public health medicine	221	242	-9	39.8	32	47	150
Radiation oncology	59	49	20	50.9	16	43	42
Rehabilitation medicine	28	19	47	45.2	8	46	15
Sexual health medicine	35	32	9	28.4	*	48	18
Sports medicine	26	23	13	40.5	*	44	20
Surgery: cardiothoracic	36	33	9	56.2	7	44	22
Surgery: general	277	288	-4	54.2	69	45	236
Surgery: neurosurgery	26	27	-4	52.8	4	47	19
Surgery: orthopaedic	306	293	4	53.4	55	45	228
Surgery: other	44	44	0	53.1	-	47	15

¹ Based on vocational scopes, except for these categories: basic medical science, breast medicine, 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 Based on registration data: number of doctors on the register at 31 March 2009 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. There is no link between these doctors and those who responded to the survey

* To avoid identifying individuals, categories with fewer than four doctors are omitted. The data have been replaced with an asterisk.

Work type at main work site ¹	No. of doctors in main work site 2009	No. of doctors in main work site 2008	Percentage change 2008 to 2009	Average hours worked (all sites)	No. in vocational training ²	Average age 2008	Vocational registration, current APC, NZ address ³
Surgery: otolaryngology	106	104	2	47.2	12	47	95
Surgery: paediatric	16	24	-33	57.7	*	49	15
Surgery: plastic	69	75	-8	50.9	11	44	49
Surgery: urology	72	66	9	51.0	12	48	54
Surgery: vascular	22	23	-4	60.0	5	46	23
Not answered	649	107	507	43.3	172	42	0
Other	116	47	147	39.6	18	47	0
Grand total	10,194	9,660	6	43.4	2,106	44	6,905

¹ Based on vocational scopes, except for these categories: basic medical science, breast medicine, 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 Based on registration data: number of doctors on the register at 31 March 2009 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. There is no link between these doctors and those who responded to the survey

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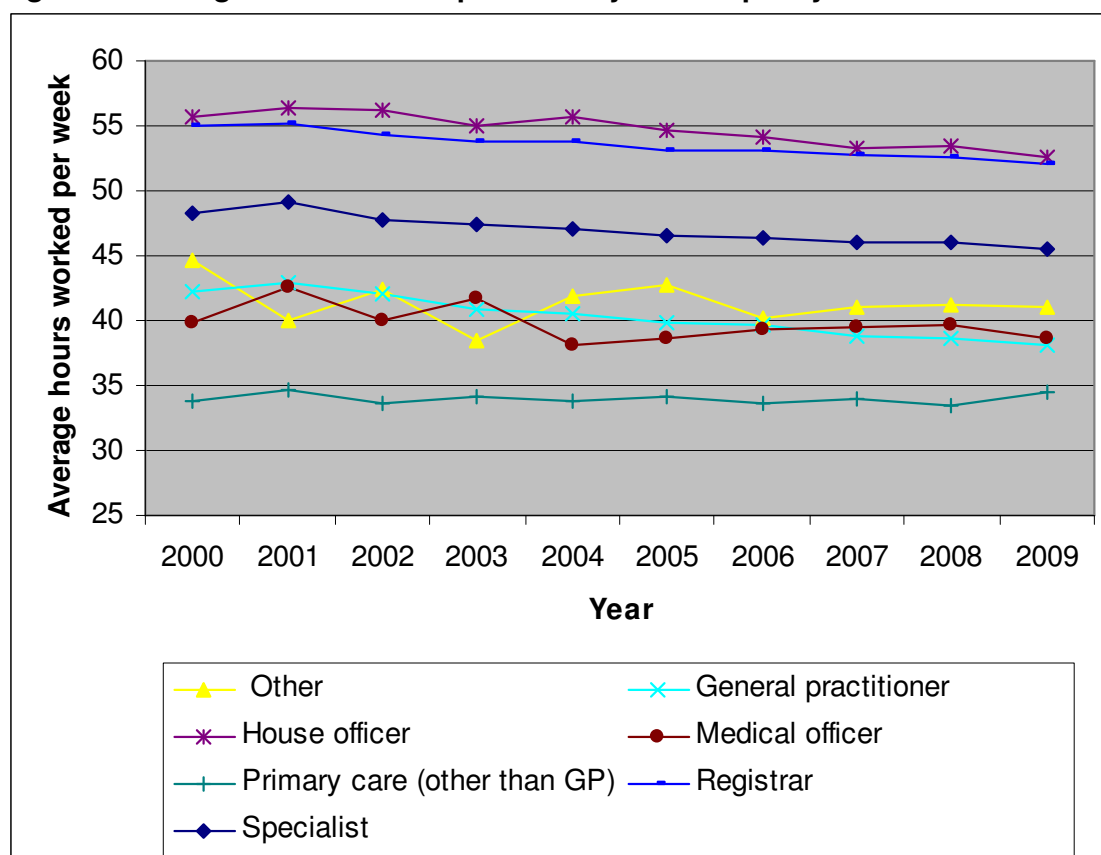
Workloads

Hours worked by work role

Figure 5 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 fewest hours each week.

Figure 5: Average hours worked per week by work capacity at main work site



Hours worked by age and gender

For all active doctors the average number of hours worked was 44.2 per week. Table 4 shows that doctors aged in their twenties worked the most hours each week on average.

Women work a similar number of hours to men during their twenties. After the age of 30, men work more hours, and the gap is largest in the 35–39 age group. For men, the average number of hours remains above 50 hours per 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 for men.

Table 4: 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	55.4	50.8	44.5	35.3	35.0	35.6	38.3	39.0	38.6	29.0	24.9	39.9
Men	56.3	52.9	51.1	48.6	48.0	47.6	47.9	46.6	43.5	36.6	26.9	46.9
Total	55.7	51.7	47.7	42.3	42.4	42.9	44.6	44.7	42.6	35.7	26.7	44.2

Figure 6: Average hours worked each week and headcount, by gender

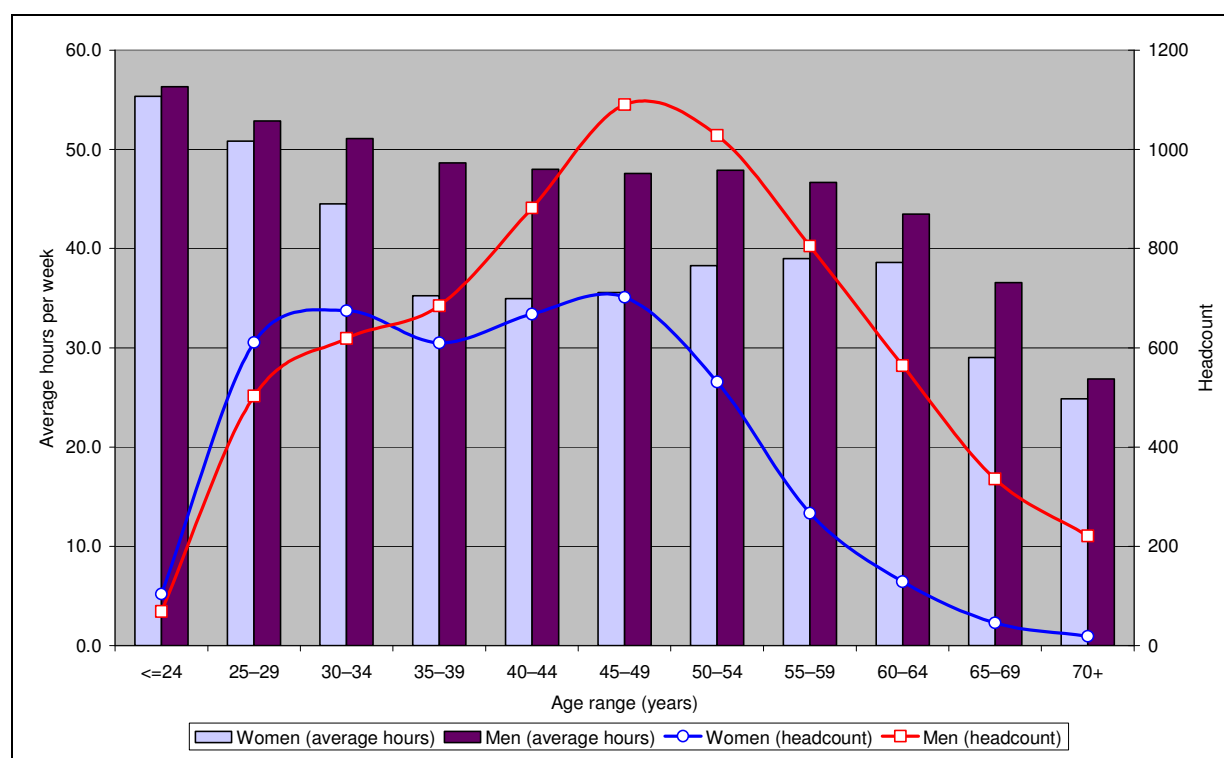


Table 5 shows that the average number of hours worked per week for both men and women is steadily decreasing, dropping from 46.2 overall in 2003 to 44.2 in 2009.

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

Table 5: Average hours worked, by gender and year (2003–2009)

Gender	Year						
	2009	2008	2007	2006	2005	2004	2003
Men	46.9	47.4	47.7	47.9	48.3	48.5	49.0
Women	39.9	40.3	40.0	40.9	40.6	40.9	40.7
Total	44.2	44.7	44.8	45.3	45.5	45.8	46.2

Hours on call by work role

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

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

Table 6 shows on-call hours by workforce roles. Seventy percent of doctors reported no on-call hours. Over 50 percent of specialists were on call, with 30 percent on call for 10 or more hours per week.

Table 6: 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	91	96	87	77	49	84
1-4	6	4	2	4	8	16	3
5-9	6	1	0	1	1	4	4
10-19	6	2	0	4	10	17	4
20-49	2	1	0	1	2	4	3
50 and over	5	1	1	3	3	9	2
Total	100	100	100	100	100	100	100

Table 7 shows the main place of work for doctors on call for 10 or more hours each week, and compares specialists with all other work roles. Eighty-one percent of specialists on call for 10 or more hours worked in a public hospital at their main work site.

Of the doctors from other work roles who were on call for 10 or more hours, 46 percent worked in a group private practice at their main work site, and a further 29 percent worked in public hospitals.

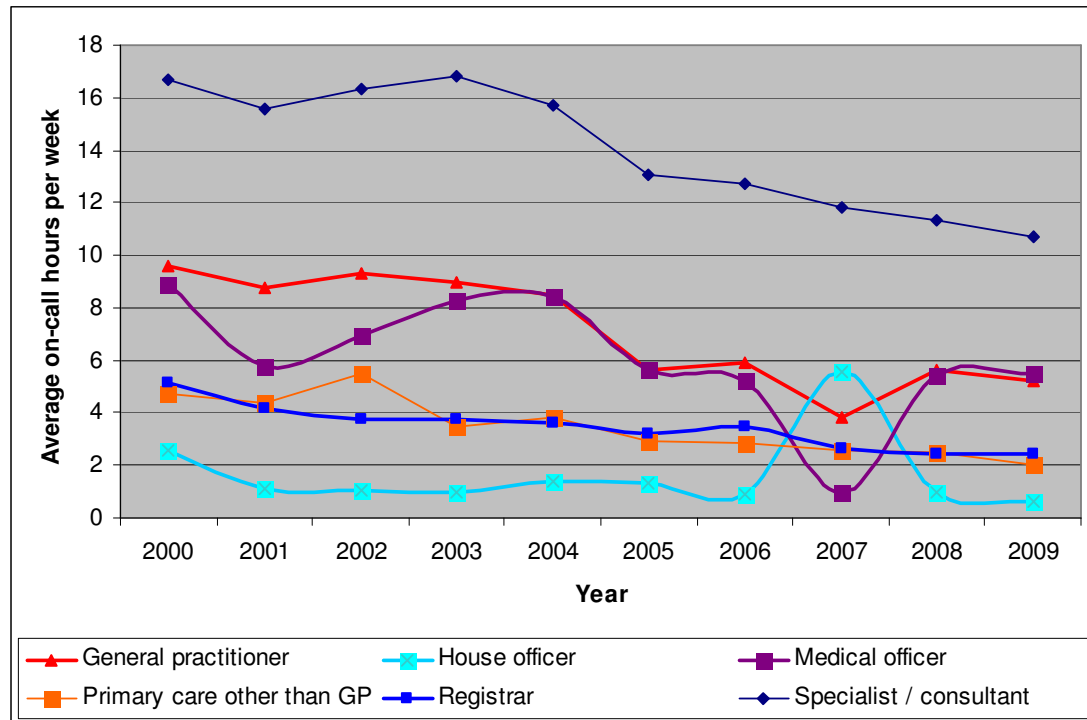
Table 7: Proportion of doctors on call for 10 or more hours each week, by employer

Main employer	Specialist	Other work roles	Total
Commercial company	0.9	1.4	1.1
Government department / agency	1.0	1.5	1.2
Professional body	0.1	0.5	0.3
Group private practice	6.4	46.0	21.1
Private hospital	2.4	0.9	1.9
Public hospital	81.5	28.8	62.0
Solo private practice	5.0	12.3	7.7
University / polytechnic	1.0	1.8	1.3
Not answered	0.0	0.7	0.3
Other	1.7	6.1	3.3
Grand total	100.0	100.0	100.0

Figure 7 shows the average weekly on-call hours, by work role at main work site, for each year back to 2000.

In general, on-call hours are decreasing across all work roles. Specialists have the highest average on-call hours, and house officers have the lowest. This is the opposite of average hours worked, where house officers work more hours per week than specialists.

Figure 7: Average on-call¹ hours, by work role at main work site



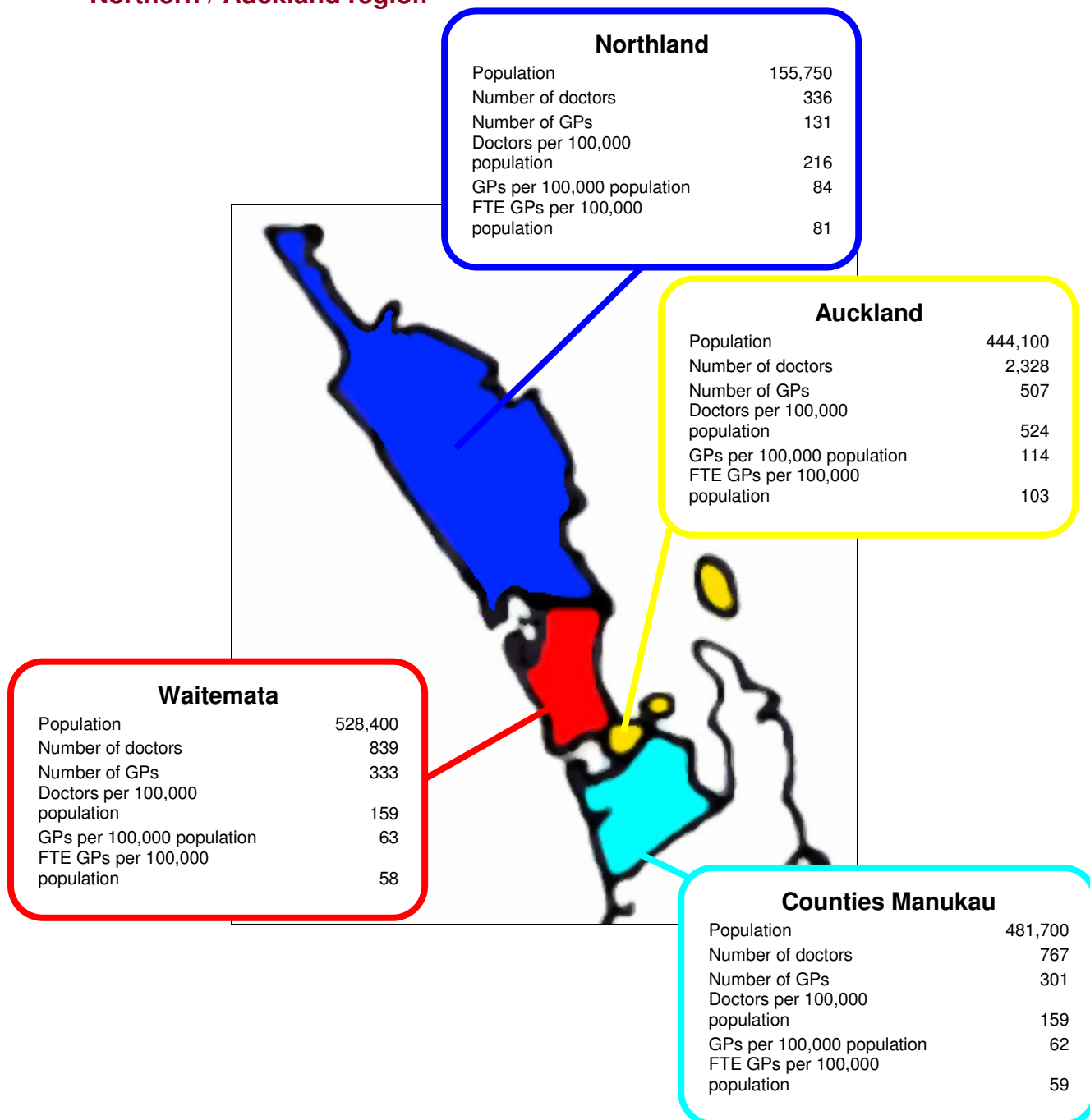
¹ On-call hours are defined as hours when the doctor was on call, but not actually working.

Geographic distribution

District health boards

Below are summary figures for each district health board (DHB). Note that the maps only indicate boundaries between DHBs and may not be completely accurate. The same information is presented in table form in Appendix 1 on page 40.

Northern / Auckland region



Central North Island

Waikato¹

Population	365,080
Number of doctors	892
Number of GPs	251
Doctors per 100,000 population	244
GPs per 100,000 population	69
FTE GPs per 100,000 population	67

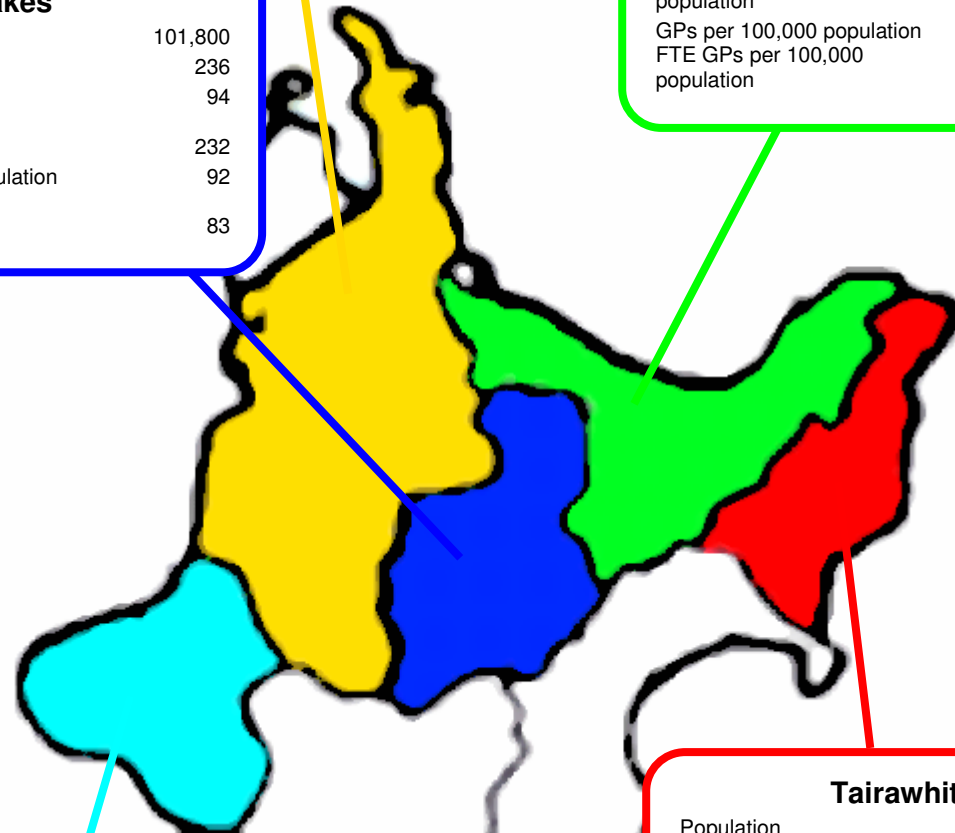
¹ Includes all TLA Ruapehu

Bay of Plenty

Population	207,220
Number of doctors	474
Number of GPs	180
Doctors per 100,000 population	228
GPs per 100,000 population	87
FTE GPs per 100,000 population	79

Lakes

Population	101,800
Number of doctors	236
Number of GPs	94
Doctors per 100,000 population	232
GPs per 100,000 population	92
FTE GPs per 100,000 population	83



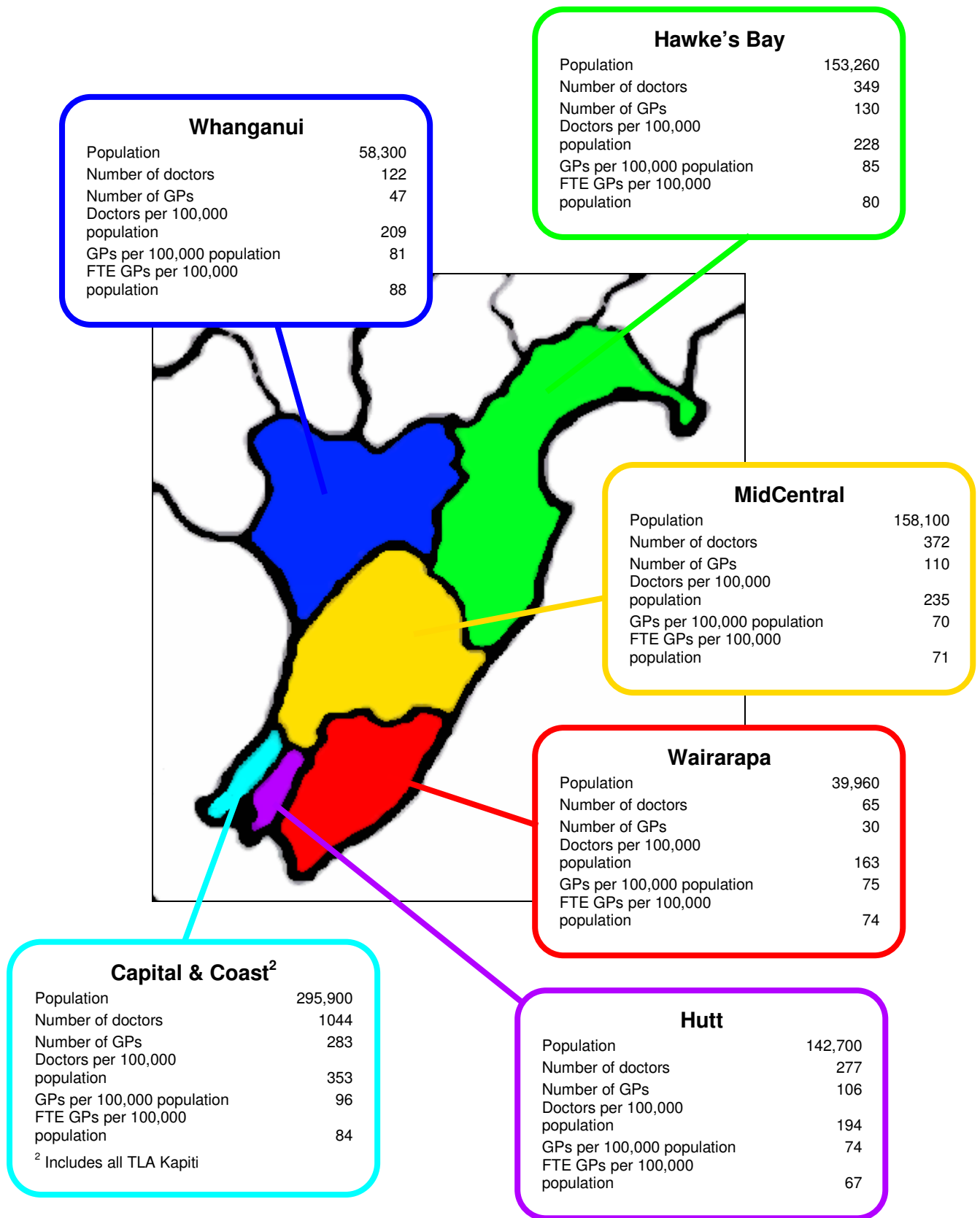
Tairāwhiti

Population	46,200
Number of doctors	101
Number of GPs	37
Doctors per 100,000 population	219
GPs per 100,000 population	80
FTE GPs per 100,000 population	84

Taranaki

Population	108,230
Number of doctors	222
Number of GPs	69
Doctors per 100,000 population	205
GPs per 100,000 population	64
FTE GPs per 100,000 population	56

Lower North Island



South Island

West Coast	
Population	32,590
Number of doctors	53
Number of GPs	25
Doctors per 100,000 population	163
GPs per 100,000 population	77
FTE GPs per 100,000 population	75

Nelson Marlborough	
Population	136,800
Number of doctors	299
Number of GPs	117
Doctors per 100,000 population	219
GPs per 100,000 population	86
FTE GPs per 100,000 population	75

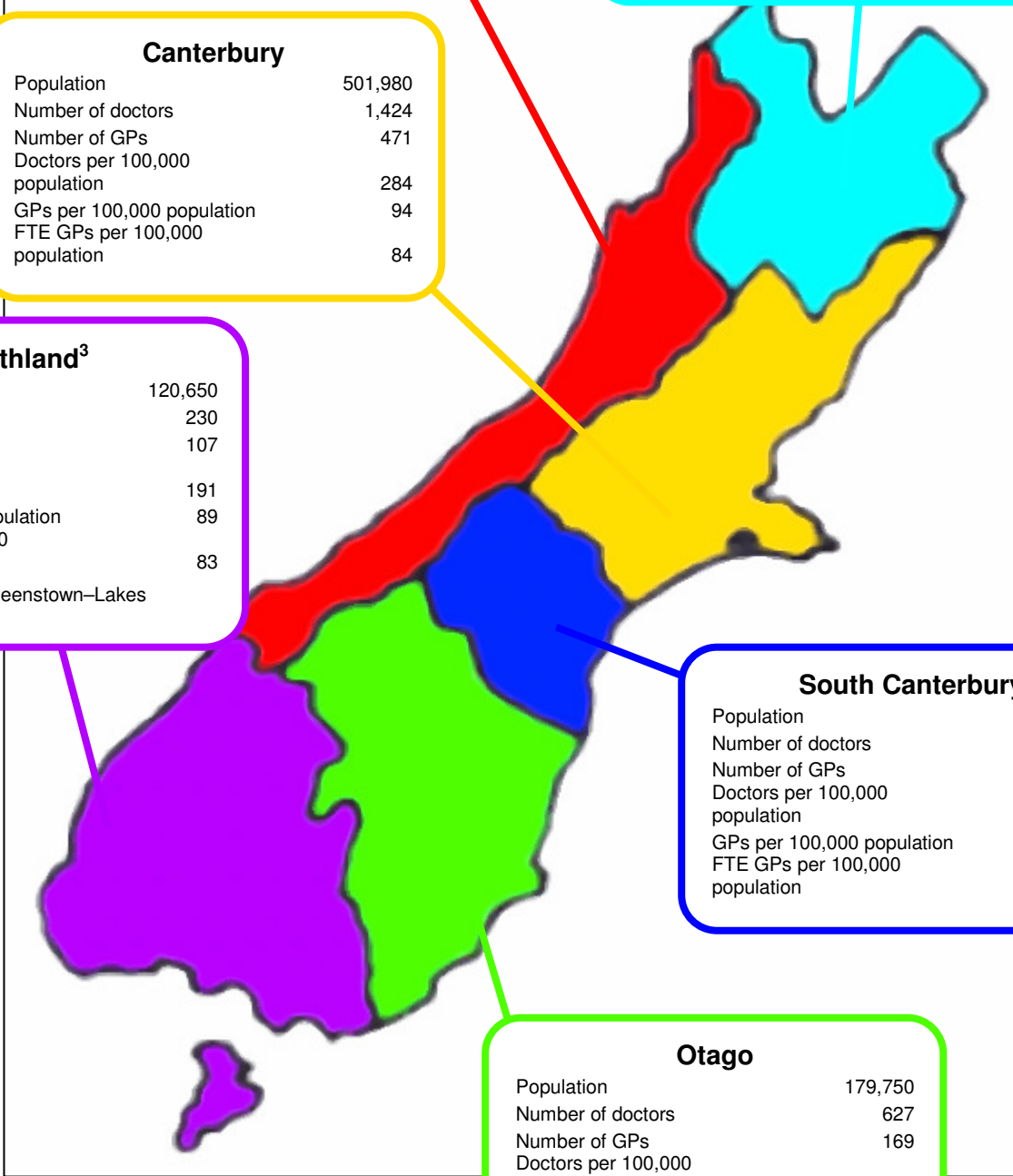
Canterbury	
Population	501,980
Number of doctors	1,424
Number of GPs	471
Doctors per 100,000 population	284
GPs per 100,000 population	94
FTE GPs per 100,000 population	84

Southland ³	
Population	120,650
Number of doctors	230
Number of GPs	107
Doctors per 100,000 population	191
GPs per 100,000 population	89
FTE GPs per 100,000 population	83

³ Includes all TLA Queenstown–Lakes

South Canterbury	
Population	55,560
Number of doctors	107
Number of GPs	43
Doctors per 100,000 population	193
GPs per 100,000 population	77
FTE GPs per 100,000 population	85

Otago	
Population	179,750
Number of doctors	627
Number of GPs	169
Doctors per 100,000 population	349
GPs per 100,000 population	94
FTE GPs per 100,000 population	94



Distribution of workforce by territorial local authority

Table 8 shows the distribution of the workforce generally, as well as the general practice workforce by territorial local authority (TLA).

Table 8: Medical workforce, by territorial local authority of main work site

Site 1 TLA	No. of all doctors	No. of GPs	FTEs GPs ¹	FTEs per 100,000	Average hours GPs	No. of doctors per 100,000	IMGs % of all	TLA population ²
Cities								
North Shore City	583	163	142	63	33	258	39	225,800
Waitakere City	189	113	104	51	36	92	41	204,500
Auckland City	2,328	507	458	103	34	524	33	444,100
Manukau City	689	232	220	60	36	187	43	368,500
Hamilton City	720	113	104	74	36	512	47	140,700
Tauranga City	362	110	97	87	34	322	44	112,500
Napier City	148	54	54	94	38	259	47	57,200
Palmerston North City	310	71	71	89	38	386	46	80,300
Porirua City	74	40	34	66	32	144	41	51,500
Upper Hutt City	34	33	30	74	36	84	47	40,600
Lower Hutt City	243	73	66	64	35	238	37	102,100
Wellington City	924	200	179	91	32	473	31	195,500
Nelson City	207	56	47	105	33	460	34	45,000
Christchurch City	1,338	395	345	93	34	359	35	372,600
Dunedin City	575	129	126	102	35	465	34	123,700
Invercargill City	156	45	46	89	41	300	62	52,000
All cities	8,880	2,334	2,123	81	36	339	38	2,616,600
Districts								
Far North District	66	51	51	87	37	114	74	58,000
Whangarei District	256	67	63	79	36	324	48	79,000
Kaipara District	14	13	12	67	38	75	43	18,750
Rodney District	67	57	59	61	40	68	46	98,100
Papakura District	41	33	34	69	40	84	39	49,000
Franklin District	37	36	33	51	37	58	54	64,200
Thames Coromandel District	40	20	22	81	43	149	60	26,800
Hauraki District	14	14	14	79	40	79	57	17,800
Waikato District	21	19	20	42	40	44	62	47,600
Matamata–Piako District	25	23	23	72	38	79	52	31,600
Waipa District	32	29	29	63	37	71	53	45,200
Otorohanga District	4	4	5	53	49	43	50	9,250
South Waikato District	12	12	12	52	39	52	58	22,900
Waitomo District	11	9	8	87	37	114	36	9,630
Taupo District	37	29	27	80	37	110	59	33,600
Western BOP District	31	31	30	66	38	69	52	44,800
Rotorua District	199	65	58	85	35	292	48	68,200
Whakatane District	70	29	29	83	37	203	80	34,400
Kawerau District	7	7	5	77	31	100	100	7,000
Opotiki District	4	*	*	37	44	44	75	9,020
Gisborne District	101	37	39	84	41	219	56	46,200
Wairoa District	4	4	4	48	41	48	100	8,410
Hastings District	189	64	57	76	35	254	40	74,300
Central Hawke's Bay District	8	8	8	61	41	60	50	13,350
New Plymouth District	203	56	46	64	33	281	45	72,300

Site 1 TLA	No. of all doctors	No. of GPs	FTEs GPs ¹	FTEs per 100,000	Average hours GPs	No. of doctors per 100,000	IMGs % of all	TLA population ²
Stratford District	5	5	6	70	51	55	80	9,130
South Taranaki District	14	8	8	29	35	52	79	26,800
Ruapehu District	13	8	9	66	45	96	62	13,600
Whanganui District	114	41	43	100	39	263	66	43,400
Rangitikei District	8	6	8	54	40	54	63	14,900
Manawatu District	31	16	18	60	42	105	45	29,500
Tararua District	13	10	11	60	42	73	62	17,700
Horowhenua District	18	13	14	44	39	59	78	30,600
Kapiti Coast District	46	43	38	77	35	94	43	48,900
Masterton District	52	18	19	81	38	223	62	23,300
Carterton District	7	6	5	61	30	94	43	7,410
South Wairarapa District	6	6	6	66	41	65	67	9,250
Tasman District	33	28	24	52	33	71	58	46,800
Marlborough District	59	33	31	70	36	131	47	45,000
Kaikoura District	4	4	4	103	39	106	50	3,780
Buller District	9	9	9	93	41	90	67	10,000
Grey District	43	15	14	100	34	313	63	13,750
Westland District	*	*	*	17	60	11	100	8,840
Hurunui District	10	10	11	102	45	91	60	11,000
Waimakariri District	17	17	17	37	41	36	41	46,900
Selwyn District	29	27	24	63	35	75	45	38,600
Ashburton District	26	18	19	66	43	89	35	29,100
Timaru District	96	32	36	82	44	218	44	44,100
Mackenzie District	4	4	5	121	48	101	50	3,960
Waimate District	7	7	6	84	36	93	57	7,500
Waitaki District	20	16	18	86	44	97	60	20,700
Cent. Otago District	19	12	12	67	37	106	32	17,950
Queenstown–Lakes District	42	35	29	107	32	155	50	27,100
Clutha District	13	12	13	77	41	75	69	17,400
Southland District	17	17	15	52	36	58	71	29,300
Gore District	15	10	10	80	39	122	60	12,250
All districts	2,284	1,207	1,174	69	38	135	52	1,697,930
All TLA	11,164	3,541	3,297	76	36	259	41	4,314,530

¹ The calculation of GP FTE includes all hours recorded in GP role at all work sites.

² Statistics New Zealand, estimated residential population as at 30 June 2009.

³ To avoid identifying individuals, categories with fewer than four doctors are omitted. The data have been replaced with an asterisk.

Ethnicity

The proportion of doctors who identified as Māori decreased slightly to 3.0 percent, and the proportion of Pacific doctors dropped from 1.8 percent to 1.4 percent (see Table 9). Both Māori and Pacific doctors continue to be markedly underrepresented compared to their proportion of the population. .

The proportion of doctors identifying as Chinese dropped from 5.9 percent to 5.4 percent. 'Other European' rose from 15.8 percent to 18.2 percent, and the proportion identifying as Indian increased from 5.3 to 5.7 percent.

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. Both men and women identifying as New Zealand European / Pakeha had an average age higher than the overall figure.

Table 9: Ethnicity and average ages of the medical workforce

Ethnicity	%	%	%	%	%	%	Average age	
							Females	Males
New Zealand Māori	3.0	3.1	2.7	2.5	2.6	2.6	38	42
Pacific Island	1.4	1.8	1.6	1.6	1.5	1.3	38	43
Chinese	5.4	5.9	5.7	5.2	5.4	5.8	34	40
Indian	5.7	5.3	5.2	5.2	5.1	5.4	40	43
Other non-European	10.5	11.3	11.1	10.8	10.8	8.7	41	45
Other European	18.2	15.8	15.3	17.3	15.4	16.2	41	45
NZ European / Pakeha	53.9	55.3	56.9	55.9	57.5	58.4	43	47
Not answered	1.7	1.2	1.4	1.3	1.5	1.5	37	47
Refused	0.1	0.2	0.4	0.2	0.2	0.2	45	55
Total ¹	100	100	100	100	100	100	41	47

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

Table 10 shows the distribution of each ethnic group by work role at their main work site.

Table 10: Proportion of ethnic groups by work role at main work site

Ethnicity	No answer	Other	GP	HO	MO	PC	R	S	Total ¹
New Zealand Māori	2	4	30	19	4	1	18	23	100
Pacific Island	2	2	30	13	3	3	23	24	100
Chinese	1	1	29	18	2	0	28	21	100
Indian	1	1	26	14	6	0	26	26	100
Other non-European	1	1	29	15	6	1	24	22	100
Other European	1	2	32	8	7	1	16	33	100
NZ European / Pakeha	1	3	33	6	4	2	10	41	100

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

Doctors identifying as Māori reported their main work role as:

- general practitioner (30 percent)
- specialist (23 percent)
- registrar (18 percent)
- house officer (19 percent).

Doctors identifying as Pacific Island showed similar figures, reporting their main work role as:

- general practitioner (30 percent)
- specialist (24 percent)
- registrar (23 percent)
- house officer (13 percent).

General practitioner and specialist each made up 32 percent of doctors identifying as 'Other European'. For those doctors identifying as New Zealand European / Pakeha, 41 percent reported their main work role as specialist, and 33 percent as general practitioner.

Gender

Vocational trainees

Table 11 shows the proportion of trainees in each vocational training area by gender.

Table 11: 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	10	27	37	27	1.0	2.4
Anaesthesia	69	94	163	42	6.8	8.5
Dermatology	*	*	*	33	0.1	0.2
Diagnostic radiology	31	43	74	42	3.1	3.9
Emergency medicine	60	75	135	44	5.9	6.7
Family planning and reproductive health	4	0	4	100	0.4	0.0
General practice	345	302	647	53	34.1	27.2
Intensive care medicine	9	13	22	41	0.9	1.2
Internal medicine	125	149	274	46	12.4	13.4
Medical administration	*	*	*	33	0.1	0.2
Musculoskeletal medicine	*	*	*	33	0.1	0.2
Obstetrics and gynaecology	60	18	78	77	5.9	1.6
Occupational medicine	*	8	*	27	0.3	0.7
Ophthalmology	6	14	20	30	0.6	1.3
Paediatrics	77	37	114	68	7.6	3.3
Palliative medicine	*	6	*	33	0.3	0.5
Pathology	28	18	46	61	2.8	1.6
Psychological medicine or psychiatry	58	80	138	42	5.7	7.2
Public health medicine	21	10	31	68	2.1	0.9
Radiation oncology	11	11	22	50	1.1	1.0
Rehabilitation medicine	*	*	*	50	0.3	0.3
Sexual health medicine	*	0	*	100	0.3	0.0
Sports medicine	0	*	*	0	0.0	0.3
Surgery: cardiothoracic	*	4	*	20	0.1	0.4
Surgery: general	24	50	74	32	2.4	4.5
Surgery: neurosurgery	0	*	*	0	0.0	0.3
Surgery: orthopaedic	4	53	57	7	0.4	4.8
Surgery: other	0	*	*	0	0.0	0.1
Surgery: otolaryngology	7	5	12	58	0.7	0.4
Surgery: paediatric	0	*	*	0	0.0	0.1
Surgery: plastic and reconstructive	7	4	11	64	0.7	0.4
Surgery: urology	*	14	*	7	0.1	1.3
Surgery: vascular	*	4	*	20	0.1	0.4
Other	36	56	92	39	3.6	5.0
Grand total	1,012	1,112	2,124	48	100.0	100.0

¹ House officers excluded.

* To avoid identifying individuals, categories with fewer than four doctors, as well as the resulting total, are omitted. The data in the table have been replaced with an asterisk.

Analysing only those areas with more than 20 trainees, women were underrepresented in:

- general surgery (32 percent),
- accident and medical practice (27 percent)
- orthopaedic surgery (7 percent).

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

Women outnumbered men in vocational training in:

- general practice (53 percent),
- obstetrics and gynaecology (77 percent),
- paediatrics (68 percent),
- pathology (61 percent)
- public health medicine (68 percent).

Work role

Table 12 shows the proportion of women in the workforce by work role at their main work site. The overall proportion of women in the workforce remained at 39 percent. Women continued to outnumber men in house officer roles for the seventh successive year, making up 57 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 44 percent, and women specialists were up 1 percentage point to 27 percent. In the role of registrar the proportion decreased from 46 percent to 44 percent.

Table 12: Proportion of women by work role at main work site

Role at main work site	Percentage of women					
	1980	1990	2000	2007	2008	2009
House officer	32	44	47	56	56	57
Registrar	23	29	38	45	46	44
Medical officer	38	32	40	44	43	45
Primary care other than GP	49	42	43	43	43	46
Other	46	25	35	42	42	48
General practitioner	13	24	37	41	43	44
Specialist	9	13	19	24	26	27

Work types

Table 13 shows the proportion of women working as specialists or general practitioners in vocational scopes 10-yearly from 1980, and then yearly for the last 3 years.

Women outnumbered men in the vocational scope of sexual health medicine, where 86 percent of doctors were women.

The proportion of women increased in 2009 in a number of vocational scopes – particularly in:

- rehabilitation medicine (from 13 percent to 21 percent)
- neurosurgery (from 6 percent to 18 percent)
- pathology (from 32 percent to 37 percent)
- occupational medicine (from 10 percent to 14 percent)
- musculoskeletal medicine (from 0 percent to 6 percent).

Women were significantly underrepresented in the surgical scopes. Only 7 percent of doctors working in surgical scopes were women.

Table 13: Proportion of women by vocational scope (specialists and GPs)

Vocational scope	Percentage of women					
	1980	1990	2000	2005	2008	2009
Accident and medical practice	– ¹	–	–	31	41	44
Anaesthesia	19	16	20	26	26	25
Basic medical science	12	16	7	0	36	22
Clinical genetics	–	–	–	29	50	45
Dermatology	8	17	19	29	26	29
Diagnostic and interventional radiology	–	14	23	28	30	29
Emergency medicine	13	0	26	71	26	29
Family planning and reproductive health	–	–	–	40	60	33
General practice	4	24	38	16	44	44
Intensive care medicine	10	–	18	20	19	15
Internal medicine	–	7	15	45	23	23
Medical administration	–	–	–	0	25	22
Musculoskeletal medicine	6	–	0	36	0	6
Obstetrics and gynaecology	21	17	29	14	40	38
Occupational medicine	15	5	17	15	10	14
Ophthalmology	0	11	12	29	19	20
Paediatrics	19	23	30	55	39	41
Palliative medicine	–	–	–	35	54	50
Pathology	12	22	30	32	32	37
Primary care	–	–	30	36	35	37
Psychiatry	–	28	33	44	41	39
Public health medicine	–	23	28	16	47	48
Radiation oncology	–	5	15	0	29	26

¹ A dash means data were not available.

² Specialists and GPs exclude 'not answered' and 'other'.

Vocational scope	Percentage of women					
	1980	1990	2000	2005	2008	2009
Rehabilitation medicine	–	–	0	70	13	21
Sexual health medicine	17	–	50	9	86	80
Sports medicine	–	–	25	6	18	21
Surgery: cardiothoracic	–	–	6	5	10	10
Surgery: general	–	–	6	10	8	8
Surgery: neurosurgery	–	–	7	4	6	18
Surgery: orthopaedic	–	–	3	8	4	5
Surgery: other	–	–	3	3	8	7
Surgery: otolaryngology	0	2	5	8	6	9
Surgery: paediatric	–	–	15	3	14	15
Surgery: plastic	–	–	3	5	6	8
Surgery: urology	–	–	3	0	8	6
Surgery: vascular	–	–	0	5	0	0
Specialists and GPs²	–	–	29	32	34	34

¹ A dash means data were not available.

² Specialists and GPs exclude 'not answered' and 'other'.

International medical graduates

From survey data, the proportion of international medical graduates (IMGs) is 40.6 percent. This is consistent with registration data published in the Medical Council's annual reports for the last 3 years, which 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 14 shows that the medical officer work role again had the highest proportion of IMGs, at 60 percent. The proportion of IMGs in the work role of registrar increased to 40 percent from 37 percent. For house officers it increased to 28 percent from 21 percent.

Table 14: Proportion of IMGs by work role at work site

Role at main work site	Percentage of IMGs					
	1980	1990	2000	2007	2008	2009
House officer	27	21	25	23	21	28
Registrar	42	22	35	36	37	40
Medical officer	52	50	53	60	60	60
Primary care other than GP	42	39	33	33	36	33
Other	43	32	25	36	35	34
General practitioner	35	29	35	41	41	42
Specialist	28	32	35	40	40	41

Work type

Table 15 shows the proportion of IMGs working as specialists or general practitioners in vocational scopes 10-yearly from 1980, and then yearly for the last 3 years.

The proportion of IMGs was more than 50 percent in the following vocational scopes:

- accident and medical practice
- clinical genetics
- obstetrics and gynaecology
- palliative medicine
- psychiatry
- radiation oncology
- rehabilitation medicine
- neurosurgery.

The proportion of IMGs increased in:

- clinical genetics
- intensive care medicine
- medical administration
- sports medicine
- vascular surgery.

The proportion of IMGs decreased in a number of other vocational scopes. The most notable decreases from 2008 to 2009 were in:

- paediatric surgery (from 29 percent to 15 percent)
- family planning and reproductive health (from 40 percent to 33 percent).

Table 15: Proportion of IMGs by vocational scope¹ (specialists and GPs)

Vocational scope	Percentage of IMGs					
	1980	1990	2000	2007	2008	2009
Accident and medical practice	– ²	–	–	62	59	59
Anaesthesia	41	39	45	46	48	46
Basic medical science	31	42	20	54	45	56
Clinical genetics				33	0	55
Dermatology	30	20	23	33	30	29
Diagnostic and interventional radiology	24	27	32	32	34	35
Emergency medicine	–	50	48	36	45	43
Family planning and reproductive health	–	–	–	75	40	33
General practice	35	30	35	41	40	42
Intensive care medicine	–	–	18	21	26	33
Internal medicine	24	34	33	38	38	39
Medical administration	–	–	–	31	30	43
Musculoskeletal medicine	–	–	40	27	33	28
Obstetrics and gynaecology	24	28	45	52	49	52
Occupational medicine	–	41	31	30	33	35
Ophthalmology	18	16	22	19	25	21
Paediatrics	38	39	32	43	42	41
Palliative medicine	–	–	–	63	73	71
Pathology	21	26	38	44	45	44
Primary care	0	–	38	38	44	38
Psychiatry	41	50	57	58	57	58
Public health medicine	44	36	20	23	25	22
Radiation oncology	–	55	62	59	56	58
Rehabilitation medicine	–	–	29	57	63	57
Sexual health medicine	33	50	33	33	36	33
Sports medicine	–	–	4	20	24	32
Surgery: cardiothoracic	–	–	28	53	48	40
Surgery: general	–	–	30	36	37	37
Surgery: neurosurgery	–	–	50	68	65	65
Surgery: orthopaedic	–	–	13	20	19	22
Surgery: other	–	–	21	25	28	24
Surgery: otolaryngology	31	24	28	32	29	30
Surgery: paediatric	–	–	31	23	29	15
Surgery: plastic and reconstructive	–	–	19	24	23	25
Surgery: urology	–	–	29	25	20	21
Surgery: vascular	–	–	11	41	18	33
Specialists and GPs³	–	–	35	40	41	41

¹ All categories are vocational scopes except for basic medical science, breast medicine, primary care, and surgery: other.

² A dash means data were not available.

³ Specialists and GPs exclude 'not answered' and 'other'.

Retention

New Zealand graduates – retention by class

Table 16 and Figure 8 compare the retention rates at each year after graduation for successive classes of graduates from 1995 to 2008.

Table 16: Graduate retention of class years 1995–2008

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	13	14
1995	275	258	96	84	74	76	80	74	72	69	65	66	67	67	69	68
1996	275	264	97	88	78	80	78	77	75	69	64	64	61	64	66	
1997	284	266	97	86	73	68	72	72	70	68	64	65	61	63		
1998	288	251	96	80	69	77	77	73	70	66	61	61	59			
1999	305	270	99	79	75	77	77	72	70	67	59	56				
2000	323	286	94	82	74	77	78	79	76	74	67					
2001	297	271	95	79	78	81	80	78	74	72						
2002	308	285	94	81	76	79	82	78	76							
2003	329	302	94	81	80	78	79	75								
2004	342	284	101	87	85	88	85									
2005	318	297	100	84	77	78										
2006	322	287	99	89	85											
2007	323	284	96	83												
2008	356	308	102 ⁵													

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.

⁵ The percentage retained can be more than 100 percent where more graduates were registered in that year than were registered in the first postgraduate year.

Tables 16 and 17 show that, on average, 83 percent of graduates are retained 2 years after graduation. By the third year 77 percent are retained, rising to 78 and then 79 percent in the fourth and fifth years after graduation. Retention rates level out to between 63 and 68 percent in years 8 to 14 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 happens to medical graduates who do not register to do their intern year in New Zealand. Available figures 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 take a 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.

Figure 8: Graduate retention of class years 1995–2008

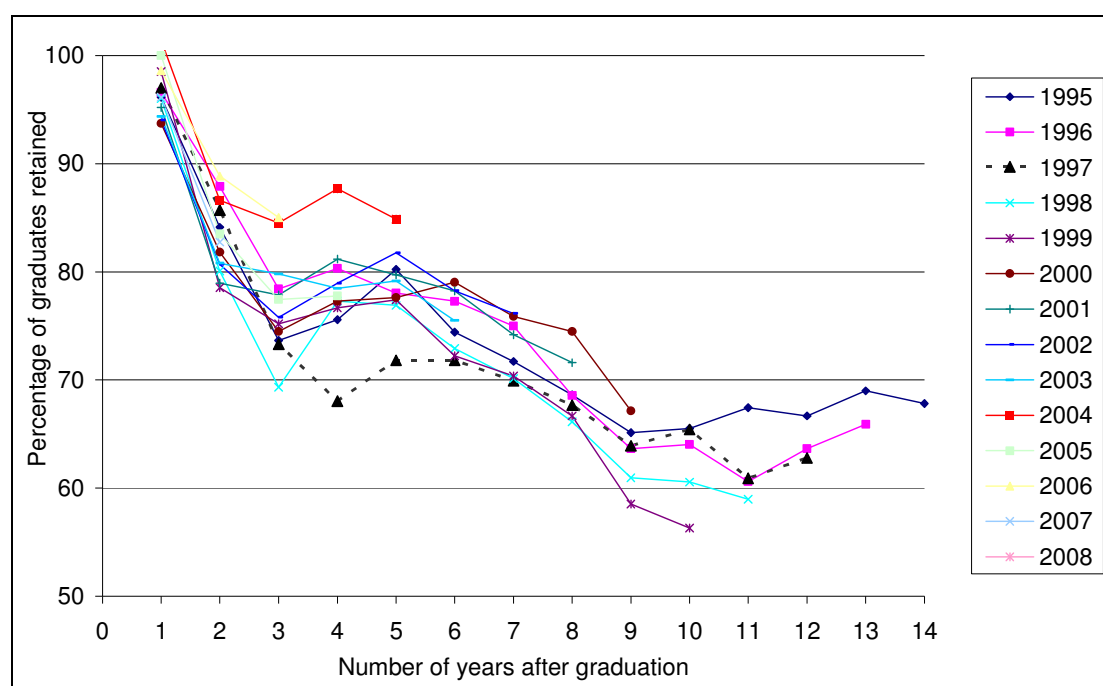


Table 17: Average percentage of registered graduates retained, by postgraduate year

	Postgraduate year													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Average percentage of registered graduates retained	97	83	77	78	79	76	73	69	63	62	62	64	67	68
Standard deviation	2.4	3.2	4.2	3.8	3.0	3.0	2.6	1.1	1.8	0.8	4.8	3.7	2.2	-

International medical graduates – retention after registration

Table 18 compares the retention rates of IMGs at each year after initial registration for successive years from 2000 to 2008. Reliable data are not available for the years before 2000.

Table 18: Retention rates for IMGs, 2000–2008

First year registered ¹	Number registered	Percentage of IMGs retained, by post-registration year ²								
		1	2	3	4	5	6	7	8	9
2000	917	47.0	37.8	34.1	30.9	28.4	27.4	26.7	24.5	22.6
2001	930	46.1	35.8	32.4	30.9	29.9	29.6	29.0	27.0	
2002	1,078	48.2	36.9	32.1	31.3	28.6	32.3	31.6		
2003	1,090	44.9	32.8	29.4	28.8	27.8	27.2			
2004	1,017	48.2	32.5	29.1	26.9	26.2				
2005	1,130	54.0	36.2	32.1	30.7					
2006	969	50.5	35.2	32.5						
2007	1,105	61.4	45.6							
2008	1,097	57.1								

- 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 IMG 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.

Figure 9: Retention rate for IMGs, 2000–2008

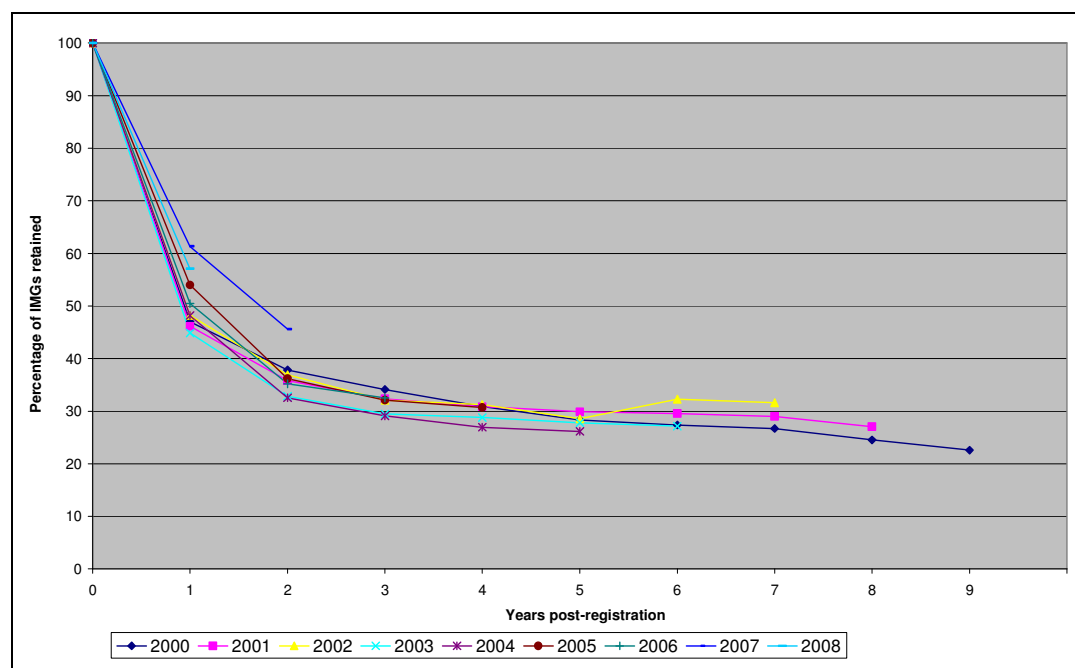


Table 19 shows that on average only 50 percent of IMGs are retained in the year immediately after initial registration.

After this initial drop, the percentage of IMGs continues to decrease more gradually, dropping to just over 31 percent after 3 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 19: Average percentage of IMGs retained, by post-registration year

	Post-registration year								
	1	2	3	4	5	6	7	8	9
Average percentage of IMGs retained	50.8	36.6	31.7	29.9	28.2	29.1	29.1	25.8	22.6
Standard deviation	5.5	4.1	1.8	1.7	1.4	2.4	2.5	1.8	-

Retention of international medical graduates – by country

This section splits the IMGs we analysed into five groups based on the country where they gained their primary medical qualification. These groups are the United Kingdom, South Africa, the United States of America and Canada, Europe, and Asia.

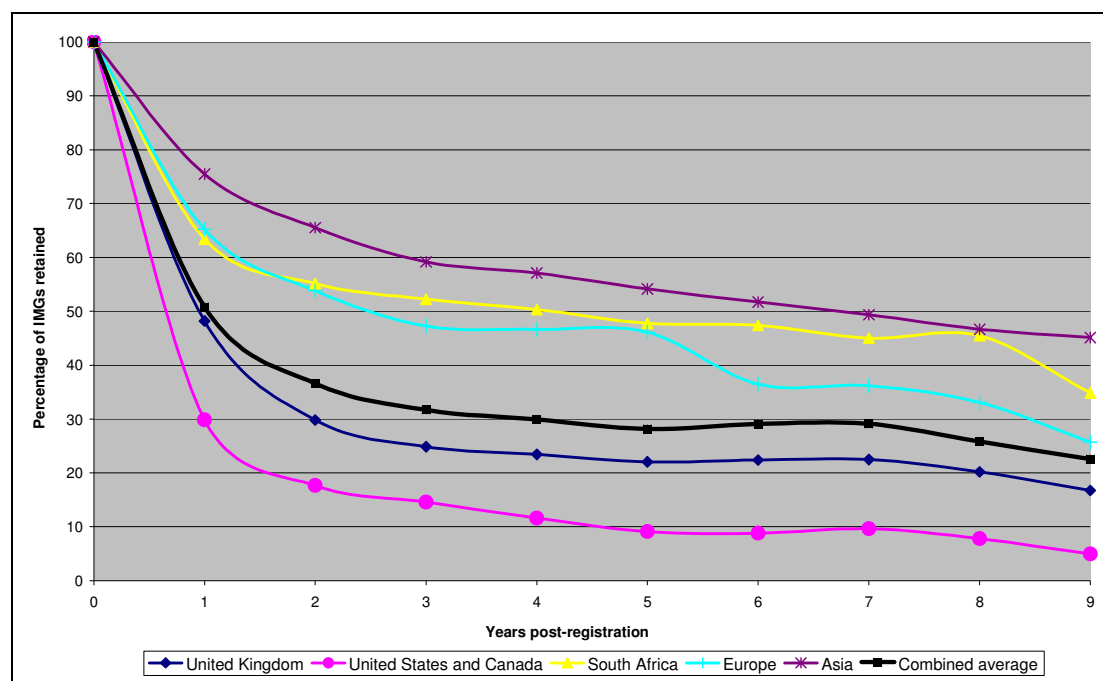
The United Kingdom group includes doctors with primary medical qualifications from England, Scotland, Wales, and Northern Ireland.

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 10 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 2 on page 41.

Figure 10: Retention rate for IMGs by country, 2000–2008



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 6 years after registration. The retention rate for South African doctors drops below 50 percent only after 4 years.

Doctors from the United States and Canada have the lowest retention rate, with less than 30 percent retained 1 year after registration. Five years after registration, less than 10 percent remain.

Doctors from the United Kingdom also have lower-than-average retention rates. Less than 30 percent of these doctors are retained 2 years after registration, dropping to just over 20 percent after 8 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.

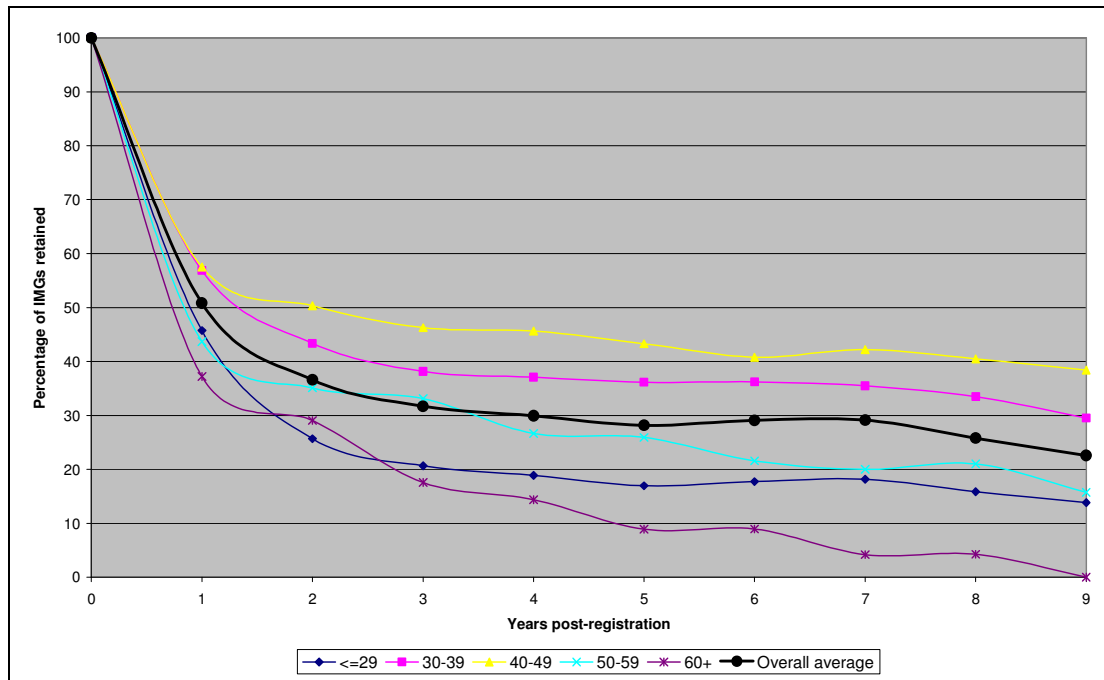
Retention of international medical graduates – by age group

This section splits the IMGs analysed into five age groups based on the doctor's age at 31 March of the original group year (for example, doctors from the 2000 group have their age taken as at 31 March 2000). The groupings are:

- ≤29
- 30–39
- 40–49
- 50–59
- 60 or older.

Figure 11 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 3 on page 43.

Figure 11: Retention rate for IMGs by age group, 2000–2008



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 7 years after registration. In the 30–39 age group the retention rate drops below 40 percent after 3 years.

Doctors from the 60+ age group have the lowest retention rate, followed by the 20–29 age group. The retention rate for doctors in the 20–29 age group drops to just above 20 percent after only 3 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
- doctors who come to New Zealand in their twenties stay only for a short time, perhaps as part of an extended overseas trip.

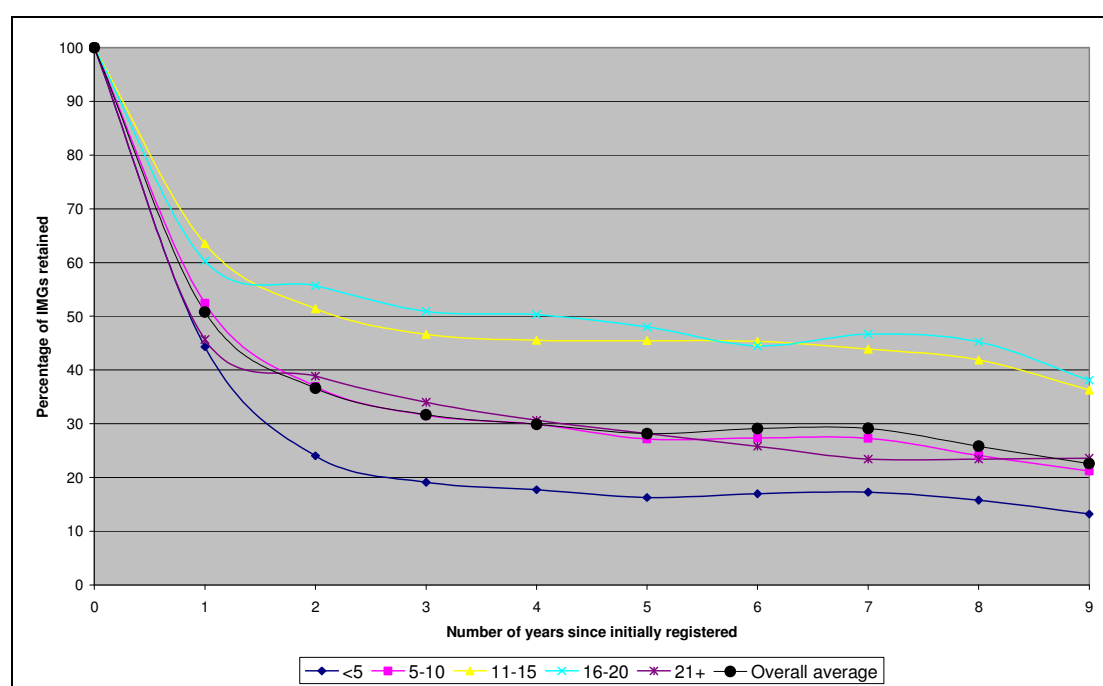
Retention of international medical graduates – by time since qualification

To analyse these figures, we split the IMGs into five groups based on the number of years since they 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, as it is 4 years since they qualified.

The groups are <5, 5–10, 11–15, 16–20, and 21 years or more.

Figure 12 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 4 on page 45.

Figure 12: 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 7 years after registration.

Doctors who had only recently graduated when they registered in New Zealand (<5 years) have the lowest retention rate, dropping to just over 20 percent after 2 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 than doctors who arrive in the middle of their careers.

Retention of international medical graduates after full registration

The figures in the previous sections show that many IMGs do not come to New Zealand intending to stay long term. Instead, they come to fill a particular short-term need (that is, a locum position).

This section analyses retention of IMGs after gaining full registration (in either a general or a vocational scope).

Table 20 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 worked under supervision for 1–2 years.

One year after obtaining a general scope, just over 80 percent of IMGs are still working in New Zealand. This decreases steadily to 66 percent after 5 years.

Table 20: 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	8	9
2000	256	83	76	72	68	64	64	60	55	51
2001	242	83	76	74	69	64	61	57	54	
2002	250	87	78	72	73	68	66	63		
2003	316	90	81	79	74	71	68			
2004	311	83	75	69	66	64				
2005	323	77	72	68	65					
2006	284	81	76	69						
2007	331	82	76							
2008	384	75								
Average		82	76	72	69	66	65	60	54	51
Standard deviation		5	2	4	4	3	3	3	1	-

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 21 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. Doctors who completed their postgraduate training overseas must have completed 1–2 years of supervised practice.

Table 21: 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	8	9
2000	162	91	91	85	81	80	74	76	70	67
2001	275	92	85	87	81	81	79	77	74	
2002	201	93	92	88	89	84	83	82		
2003	220	95	89	86	80	80				
2004	223	89	83	82	78	73				
2005	205	92	85	79	80					
2006	204	89	86	81						
2007	223	80	78							
2008	229	84								
Average		89	86	84	82	80	78	78	72	67
Standard deviation		5	5	3	4	4	4	3	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, 89 percent of IMGs are retained. This decreases gradually to 78 percent after 6 years.

Figure 12 compares the retention of IMGs and New Zealand graduates after they obtain a vocational scope. The vertical axis starts at 60 percent to better show the difference in retention for the two groups.

The retention rate after 1 year for New Zealand graduates is just over 90 percent, and just under 90 percent for IMGs. After 2 years the retention rate for New Zealand graduates stabilises between 92 and 95 percent. For IMGs it decreases steadily to around 78 percent after 6 years.

Figure 12: Retention rate for IMGs and New Zealand graduates after vocational scope obtained

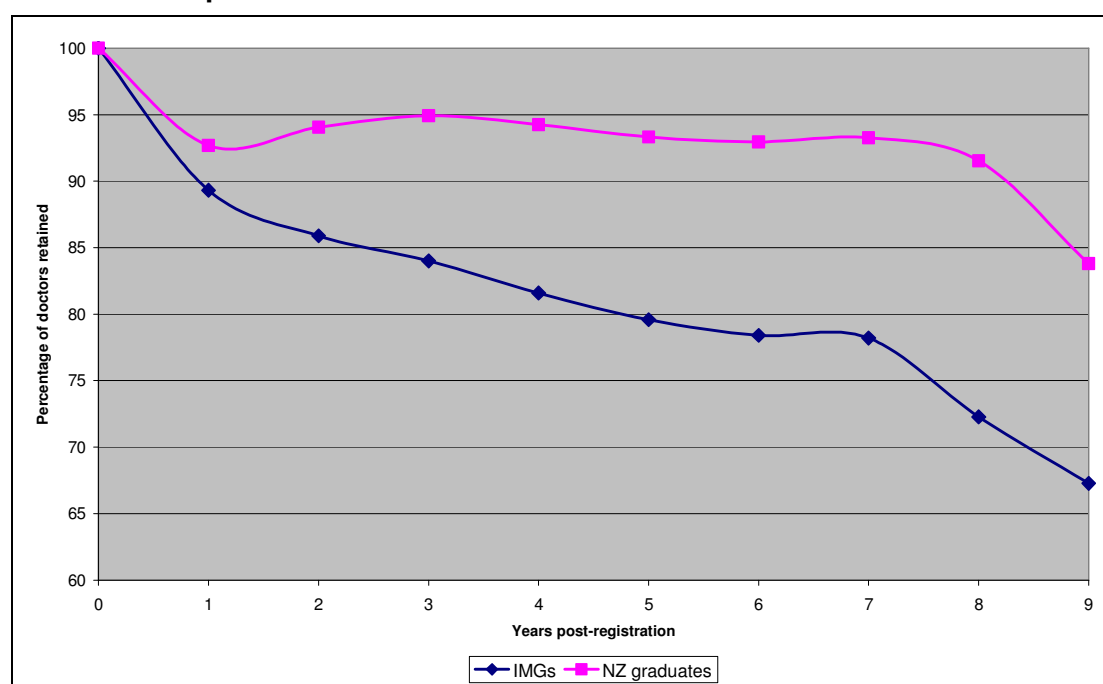


Table 22: Retention rate for New Zealand graduates after vocational scope obtained

Year registered	Number registered	Percentage of NZ graduates retained, by post-registration year ¹								
		1	2	3	4	5	6	7	8	9
2000	216	96	98	98	95	95	94	93	92	84
2001	360	97	95	96	94	94	93	94	91	
2002	273	93	94	93	98	95	94	92		
2003	246	96	91	96	93	93	90			
2004	210	93	98	90	91	90				
2005	231	93	90	97	93					
2006	224	89	96	94						
2007	215	89	89							
2008	220	89								
Average		93	94	95	94	93	93	93	92	84
Standard deviation		3	3	3	2	2	2	1	0	-

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.

Survey 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 universal date to four renewal periods, based on the doctor's birthdate.

The four periods of data in this report ended November 2008, February 2009, May 2009, and August 2009. They are presented as at 31 March 2009.

The questionnaire was posted out a month or more before the end of each period. All data were collected within 3 months of a renewal period ending.

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 2009 workforce survey, survey forms were sent out to 12,902 doctors with New Zealand addresses. Ninety-one percent (11,496) replied. This is an increase from the previous 3 years, and is returning to the response rates achieved earlier in the decade.

The results in this report include only the 11,164 active doctors – that is, those working 4 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 (TLAs) and district health board (DHB) regions based on the employment information for the main work site.

DHB populations were determined by amalgamating TLA population counts from the estimated resident population as at 30 June 2009.¹

Full-time equivalents (FTEs) were calculated proportionately, with 40 hours per 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.

Calculating 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

IMGs are included in a group if they practised in New Zealand in that year but not in the previous year. For example, for an IMG 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 2009.

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 is not related to the date of graduation in the IMG's home country.

Explanation of terms used

Active doctors

Active doctors are doctors who, by their own estimate, worked a total of at least 4 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.

General practitioner or GP

Unless otherwise stated, a general practitioner is any respondent who has indicated they are working in that work role (see Work role below) at one of their work sites. It does not specifically refer to doctors holding the FRNZCGP qualification or doctors holding a vocational scope of general practice.

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 (or IMG) 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

Doctors registered in a vocational scope of practice have met criteria set by the Medical Council of New Zealand. They have completed an approved or equivalent postgraduate training programme leading to the award of an approved or equivalent postgraduate qualification.

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
- other.

Work type

This is the category of work at main work site, from the options shown in Table 3 on page 7.

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.

Acknowledgements

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This report was prepared by Andrew Cullen with assistance from Christine Whiteford, who helped check the data. Dr John Adams, Dr Ian Brown, Dr Steven Lillis, Philip Pigou, Diane Latham, Bill Taylor also assisted in checking the report for errors and providing feedback.

Appendix 1 – Distribution of the workforce by district health board

Table 23 shows the distribution of all doctors and GPs by the DHB locality at the doctor's main work site.

Table 23: Workforce by district health board locality of main work site

DHB locality	Number of doctors	Number of GPs ¹	DHB locality population	Doctors per 100,000 population	FTEs for GPs at all work sites ²	FTEs for GPs per 100,000 population	GPs per 100,000 population
Northland	336	131	155,750	216	126	81	84
Waitemata	839	333	528,400	159	306	58	63
Auckland	2,328	507	444,100	524	458	103	114
Counties Manukau	767	301	481,700	159	286	59	62
Waikato ³	892	251	365,080	244	245	67	69
Bay of Plenty	474	180	207,720	228	164	79	87
Lakes	236	94	101,800	232	85	83	92
Tairāwhiti	101	37	46,200	219	39	84	80
Hawke's Bay	349	130	153,260	228	123	80	85
Taranaki	222	69	108,230	205	61	56	64
Midcentral	372	110	158,100	235	113	71	70
Whanganui	122	47	58,300	209	51	88	81
Wairarapa	65	30	39,960	163	29	74	75
Hutt	277	106	142,700	194	96	67	74
Capital & Coast ⁴	1,044	283	295,900	353	250	84	96
Nelson Marlborough	299	117	136,800	219	103	75	86
West Coast	53	25	32,590	163	25	75	77
Canterbury	1,424	471	501,980	284	421	84	94
Otago	627	169	179,750	349	170	94	94
South Canterbury	107	43	55,560	193	47	85	77
Southland ⁵	230	107	120,650	191	100	83	89
Total	11,164	3,541	4,314,530	259	3,297	76	82

¹ Number of GPs is the number of doctors who reported a work role of general practitioner at their main work site.

² The calculation of GP FTE includes all hours recorded at site 1, site 2, and site 3 where the work role was GP for that work site.

³ Includes all TLA Ruapehu to simplify analysis. Officially, Ruapehu District is split between Whanganui and Waikato District Health Boards.

⁴ Includes all TLA Kapiti to simplify analysis. Officially, Kapiti Coast District is split between Capital & Coast and MidCentral District Health Boards.

⁵ Includes all TLA Queenstown–Lakes to simplify analysis. Officially, Queenstown–Lakes District is split between Southland and Otago District Health Boards.

Appendix 2 – Retention of international medical graduates by country

Tables 24 to 28 show the cohort retention rate at each year after initial registration for successive years of IMG registrants from each group, as described on page 30.

Table 24: Retention rate for United Kingdom graduates 2000–2008

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	436	37.4	22.9	22.5	20.4	18.1	19.0	18.8	18.1	16.7
2001	444	41.0	29.1	24.5	25.0	25.5	24.8	23.6	22.2	
2002	507	41.4	27.7	24.8	26.6	25.0	24.1	25.0		
2003	527	39.5	24.7	22.7	23.3	22.7	21.7			
2004	504	43.7	22.8	21.8	19.7	19.0				
2005	565	50.8	29.7	25.1	25.5					
2006	404	53.5	32.7	32.7						
2007	447	64.0	49.0							
2008	458	62.4								
Average		48.2	29.8	24.9	23.4	22.0	22.4	22.5	20.2	16.7

Table 25: Retention rate for South African graduates 2000–2008

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	89	100.0	66.3	66.3	56.2	52.8	50.6	43.8	43.8	39.3
2001	97	100.0	70.1	69.1	66.0	62.9	57.7	53.6	51.5	51.5
2002	116	100.0	56.0	58.6	55.2	49.1	43.1	44.0	39.7	
2003	106	100.0	63.2	53.8	49.1	46.2	47.2	48.1		
2004	67	100.0	64.2	49.3	44.8	40.3	40.3			
2005	75	100.0	60.0	50.7	48.0	50.7				
2006	86	100.0	54.7	45.3	46.5					
2007	79	100.0	69.6	48.1						
2008	30	100.0	66.7							
Average		63.4	55.1	52.2	50.3	47.8	47.4	45.0	45.4	34.8

Table 26: Retention rate for United States and Canadian graduates 2000–2008

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	101	23.8	14.9	11.9	6.9	6.9	5.9	5.0	5.0	5.0
2001	122	17.2	12.3	13.9	10.7	9.8	12.3	14.8	10.7	
2002	119	21.8	16.8	10.9	10.9	8.4	7.6	9.2		
2003	148	24.3	16.2	11.5	11.5	10.8	9.5			
2004	136	33.1	17.6	14.0	11.0	9.6				
2005	171	38.6	22.8	21.1	18.7					
2006	137	32.1	20.4	19.0						
2007	188	41.0	20.2							
2008	218	36.7								
Average		29.8	17.7	14.6	11.6	9.1	8.8	9.6	7.8	5.0

Table 27: Retention rate for European graduates 2000–2008

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	35	62.9	60.0	45.7	40.0	37.1	34.3	34.3	25.7	25.7
2001	47	68.1	55.3	57.4	51.1	55.3	40.4	42.6	40.4	
2002	60	65.0	46.7	40.0	43.3	33.3	31.7	31.7		
2003	43	58.1	55.8	46.5	41.9	39.5	39.5			
2004	46	76.1	69.6	60.9	60.9	65.2				
2005	49	63.3	51.0	46.9	42.9					
2006	63	55.6	38.1	33.3						
2007	72	70.8	54.2							
2008	76	67.1								
Average		65.2	53.8	47.3	46.7	46.1	36.5	36.2	33.1	25.7

Table 28: Retention rate for Asian graduates 2000–2008

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	133	76.7	72.2	65.4	62.4	58.6	53.4	51.9	46.6	45.1
2001	105	74.3	61.9	56.2	53.3	48.6	49.5	47.6	46.7	
2002	140	79.3	69.3	60.7	53.6	55.0	50.0	48.6		
2003	128	73.4	68.0	62.5	59.4	55.5	53.9			
2004	100	71.0	66.0	59.0	55	53				
2005	112	77.7	69.6	63.4	58.9					
2006	115	70.4	56.5	47.0						
2007	148	79.7	60.8							
2008	107	76.6								
Average		75.5	65.5	59.2	57.1	54.1	51.7	49.4	46.6	45.1

Appendix 3 – Retention of international medical graduates by age group

Tables 29 to 33 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 32).

Table 29: 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	8	9
2000	361	38.8	24.1	22.4	21.1	17.7	18.3	17.7	16.3	13.9
2001	338	37.3	20.1	16.9	17.5	18.6	19.2	18.0	15.4	
2002	390	39.5	21.5	19.5	20.5	19.2	18.5	18.7		
2003	384	38.0	18.2	16.9	16.1	16.1	14.8			
2004	400	38.8	16.5	15.8	15.3	13.0				
2005	448	49.1	27.2	23.4	23.0					
2006	309	45.6	32.7	29.8						
2007	348	67.2	45.1							
2008	397	57.4								
Average		45.7	25.7	20.7	18.9	16.9	17.7	18.2	15.9	13.9

Table 30: 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	8	9
2000	298	55.7	48.0	42.6	39.6	36.2	35.6	34.9	30.9	29.5
2001	333	55.3	47.4	42.9	42.0	39.6	39.3	36.9	36.0	
2002	376	54.0	47.9	42.3	40.4	37.5	36.2	34.6		
2003	376	50.8	40.2	36.4	36.4	35.9	33.8			
2004	305	53.4	40.3	34.1	30.8	31.5				
2005	352	58.2	39.2	34.9	33.2					
2006	369	58.5	37.1	33.6						
2007	446	64.1	46.9							
2008	404	61.6								
Average		56.9	43.4	38.1	37.1	36.2	36.2	35.5	33.5	29.5

Table 31: 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	8	9
2000	151	53.0	53.0	50.3	47.0	47.7	43.0	42.4	40.4	38.4
2001	143	54.5	50.3	44.8	44.1	41.3	39.2	44.1	40.6	
2002	167	61.1	52.7	47.3	44.9	41.9	40.7	40.1		
2003	194	52.1	49.5	45.4	43.3	39.7	40.2			
2004	185	59.5	51.9	49.2	44.9	45.9				
2005	193	66.3	56.0	51.8	49.7					
2006	145	49.7	35.2	35.2						
2007	154	64.3	53.9							
2008	142	57.0								
Average		57.5	50.3	46.3	45.6	43.3	40.8	42.2	40.5	38.4

Table 32: Retention rate for IMGs aged 50–59

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	70	44.3	38.6	32.9	22.9	21.4	15.7	17.1	18.6	15.7
2001	64	42.2	34.4	43.8	29.7	28.1	21.9	23.4	23.4	
2002	98	44.9	32.7	26.5	24.5	21.4	19.4	19.4		
2003	92	38.0	33.7	25.0	26.1	26.1	29.3			
2004	86	50.0	38.4	34.9	31.4	32.6				
2005	95	46.3	33.7	30.5	25.3					
2006	89	44.9	37.1	38.2						
2007	111	36.9	32.4							
2008	94	45.7								
Average		43.7	35.1	33.1	26.6	25.9	21.6	20.0	21.0	15.7

Table 33: Retention rate for IMGs aged 60 or older

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	37	37.8	27.0	16.2	5.4	2.7	8.1	2.7	2.7	0.0
2001	52	26.9	25.0	17.3	13.5	11.5	9.6	7.7	5.8	
2002	47	36.2	29.8	12.8	12.8	2.1	2.1	2.1		
2003	44	36.4	22.7	18.2	15.9	15.9	15.9			
2004	41	46.3	31.7	19.5	22.0	12.2				
2005	42	31.0	21.4	14.3	16.7					
2006	57	35.1	33.3	24.6						
2007	46	43.5	41.3							
2008	60	41.7								
Average		37.2	29.0	17.5	14.4	8.9	8.9	4.2	4.2	0.0

Appendix 4 – Retention of international medical graduates by time since qualification

Tables 34 to 38 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 33.)

Table 34: Retention rate for IMGs less than 5 years post-qualification

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	303	38.9	21.8	20.1	19.5	16.5	17.2	16.5	15.5	13.2
2001	306	37.6	20.9	17.6	18.0	19.6	20.3	19.0	16.0	
2002	343	37.6	20.4	17.5	19.2	18.4	16.9	16.3		
2003	367	34.3	17.4	16.1	14.7	15.0	13.6			
2004	370	37.6	14.9	13.8	13.5	11.9				
2005	432	47.7	25.5	22.2	21.3					
2006	279	43.0	29.7	26.5						
2007	352	65.1	41.5							
2008	409	57.2								
Average		44.3	24.0	19.1	17.7	16.3	17.0	17.3	15.8	13.2

Table 35: Retention rate for IMGs 5–10 years post-qualification

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	245	46.5	38.4	33.5	30.2	26.5	27.8	26.1	23.3	21.2
2001	241	45.2	36.1	32.4	31.5	29.9	28.6	26.6	24.9	
2002	285	49.8	37.9	35.1	33.3	30.2	29.8	29.1		
2003	267	43.8	29.2	24.3	25.1	24.0	23.2			
2004	219	47.5	32.4	28.8	24.7	25.1				
2005	249	57.8	38.2	34.5	34.5					
2006	299	56.5	34.8	32.4						
2007	319	63.6	48.3							
2008	279	61.3								
Average		52.5	36.9	31.6	29.9	27.1	27.4	27.3	24.1	21.2

Table 36: Retention rate for IMGs 11–15 years post-qualification

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	124	61.3	56.5	51.6	48.4	45.2	41.1	43.5	37.1	36.3
2001	135	65.2	59.3	53.3	51.1	48.1	49.6	48.1	46.7	
2002	160	60.0	55.6	47.5	44.4	42.5	41.3	40.0		
2003	152	67.8	55.9	53.9	53.9	53.3	49.3			
2004	141	63.1	48.9	41.1	40.4	38.3				
2005	157	62.4	45.2	40.1	35.0					
2006	126	60.3	42.9	38.9						
2007	160	67.5	46.9							
2008	156	64.1								
Average		63.5	51.4	46.6	45.5	45.5	45.3	43.9	41.9	36.3

Table 37: Retention rate for IMGs 16–20 years post-qualification

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	84	58.3	58.3	56.0	48.8	52.4	42.9	41.7	40.5	38.1
2001	84	60.7	51.2	48.8	52.4	46.4	45.2	50.0	50.0	
2002	91	62.6	60.4	54.9	51.6	49.5	49.5	48.4		
2003	104	55.8	51.9	50.0	45.2	40.4	40.4			
2004	103	62.1	60.2	54.4	49.5	51.5				
2005	96	70.8	62.5	53.1	54.2					
2006	82	56.1	41.5	39.0						
2007	76	61.8	59.2							
2008	70	54.3								
Average		60.3	55.7	50.9	50.3	48.0	44.5	46.7	45.2	38.1

Table 38: Retention rate for IMGs 21 or more years post-qualification

First year registered	Number registered	Percentage retained, by post-registration year								
		1	2	3	4	5	6	7	8	9
2000	161	46.0	42.2	36.6	30.4	28.0	27.3	26.1	26.1	23.6
2001	164	40.2	36.0	34.1	26.8	25.6	21.3	22.6	20.7	
2002	199	48.2	38.2	30.2	29.1	23.1	21.1	21.6		
2003	200	42.5	38.5	31.5	32.0	31.5	33.5			
2004	184	51.1	40.2	37.0	33.7	32.6				
2005	196	48.0	37.2	34.2	31.6					
2006	183	42.6	36.1	34.4						
2007	198	47.0	42.4							
2008	183	45.4								
Average		45.7	38.9	34.0	30.6	28.2	25.8	23.4	23.4	23.6