



The New Zealand Medical Workforce in 2008

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 2008 workforce survey. It contains information about changes in the medical workforce including retention rates for doctors.

The data for the 2008 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

	2008	2007	2006	2005	2004	2003
Size of the workforce ¹	12,949	12,643	12,283	11,578	11,253	10,857
Doctors per 100,000 population ²	303	299	297	283	281	271
Proportion of IMGs ³ (%)	38.9	38.4	39.9	37.5	35.6	34.1
Proportion of women (%)	39	38	37	36	35	35
Average age of workforce	44	44	44	44	44	43
Average weekly workload (hours)	44.7	44.8	45.3	45.5	45.8	46.2
Average proportion of new IMGs retained after 1 year ⁴	50.0	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 IMG: international medical graduate (see page 35 for definition)

⁴ See 'Retention' on page 25 for more information, and 'Method' on page 33 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 2.3 percent from 12,643 in 2007 to 12,949 in 2008. This compares with increases of 2.9 percent between 2006 and 2007, and 6.1 percent between 2005 and 2006 (see Table 1).

The 'Facts at a glance' table on page 1 shows that the New Zealand population has increased 11.8 percent since 2003. Over the same period the medical workforce has grown by 19.2 percent.

Table 1: Estimated yearly workforce growth and changes in composition

	1980	1985	1990	1995	2000	2005	2006	2007	2008
Total workforce (based on registration data)¹	–	–	–	–	9,779	11,578	12,283	12,643	12,949
Growth each year measured by registration data ²	–	–	–	6.3	2.6	2.9	6.1	2.9	2.3
Short-term registrants ³	–	–	165	129	421	287	119	124	134
Short-term registrants as a 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	9,547	9,757	10,552
Graduated from:									
– New Zealand	3,266	4,095	4,480	5,024	5,645	5,459	5,743	6,010	6,446
– overseas	1,615	1,461	1,859	2,506	2,970	3,287	3,813	3,747	4,106
% IMGs	33.1	26.3	29.3	33.3	34.5	37.5	39.9	38.4	38.9
Average age of workforce	–	–	42	41	43	44	44	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 'Growth per year' is the percentage change in total workforce numbers year to year.

³ 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.

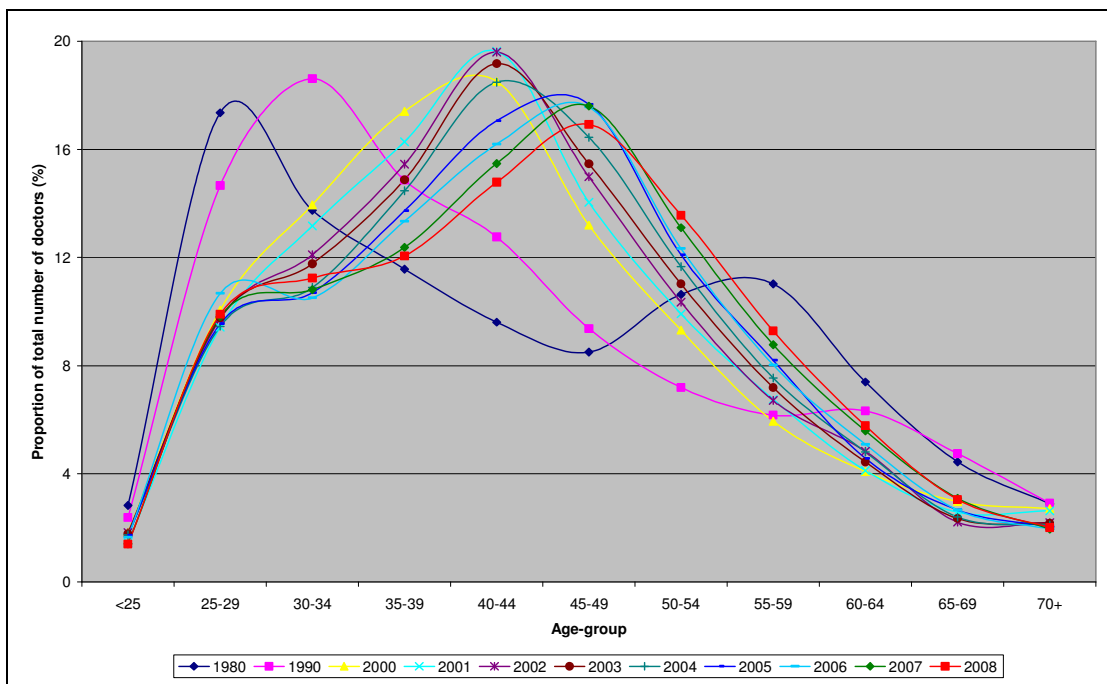
Age distribution of the workforce

Figure 1 compares the age distribution of the active workforce over the last 8 years as well as historical workforce data from 1980 and 1990.

In earlier years (2000–2003), the largest group of doctors was in the 40–44 year age group, making up almost 20 percent of the workforce. By 2008, this group makes up less than 15 percent of the total workforce.

The data from 1980 and 1990 show that the current medical workforce is older than it used to be, and the more recent data show the workforce is continuing to age. In more recent years (2005–2008), the distribution curve peaks one age group to the right, with the 45–49 year age group the largest group. In 2000, the 45–49 year age group made up only 13 percent of the workforce, but by 2008, this increased to 17 percent.

Figure 1: Age distribution of the active workforce (1980–2008)

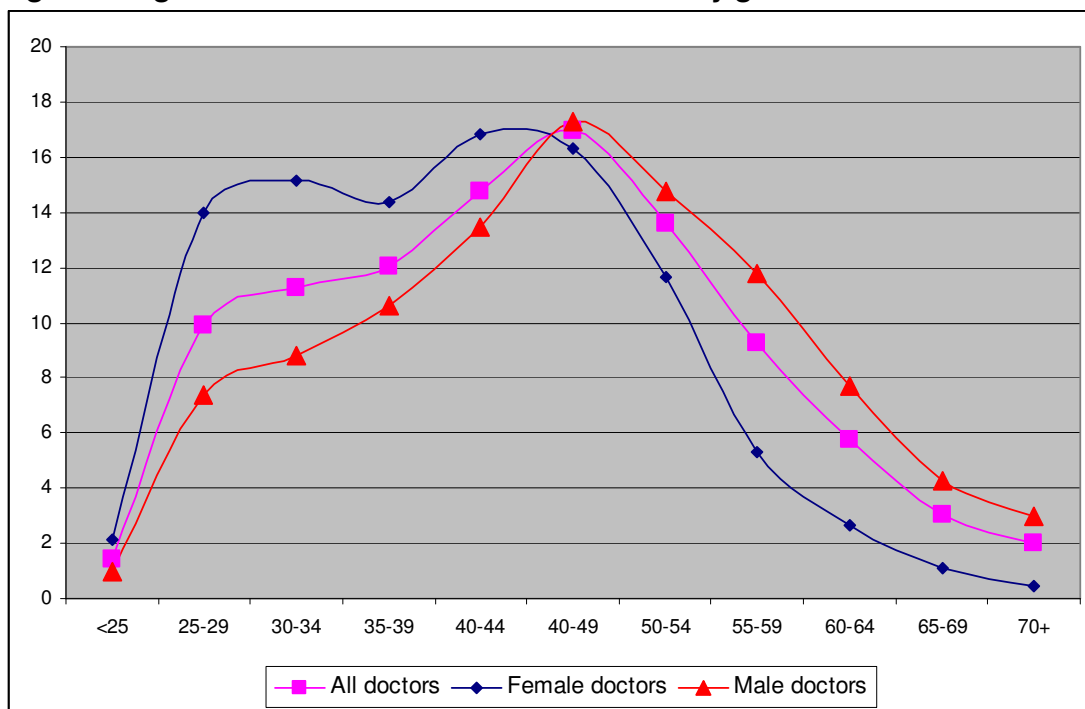


Gender distribution of the workforce

Figure 2 compares the age distribution of men and women in the active workforce.

Higher proportions of women work in the younger age groups compared with men: 46 percent of women in the workforce are under the age of 40 compared with only 28 percent of men. Only 4 percent of women in the workforce are over the age of 60 compared with 15 percent of men.

Figure 2: Age distribution of the active workforce by gender



Changes by work role

Table 2 shows how the number of doctors has changed by work role at their main work site. All groups except for 'primary care other than GP' show increases, ranging from 5.9 percent for house officers to 13.2 percent for medical officers. The number working in primary care other than GP fell from 203 to 172, a decrease of 15.3 percent. This is possibly due to doctors redefining their work role.

Table 2: Changes in the medical workforce

Workforce role ²	Active doctors ¹					Percentage change 2007–2008
	2004	2005	2006	2007	2008	
General practice	3,009	2,924	3,106	3,195	3,435	7.5
House officer	815	811	911	841	891	5.9
Medical officer	315	307	329	363	411	13.2
Primary care other than GP	138	157	181	203	172	-15.3
Registrar	1,335	1,365	1,504	1,529	1,653	8.1
Specialist	2,945	2,940	3,175	3,359	3,713	10.5
Other	314	207	248	237	237	0.0
No answer	111	35	93	30	40	33.3
Total	8,982	8,746	9,547	9,757	10,552	8.2

¹ Headcount based on doctors who responded to the survey.

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

Figure 3 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 3: Changes in the medical workforce by work role (2001–2008)

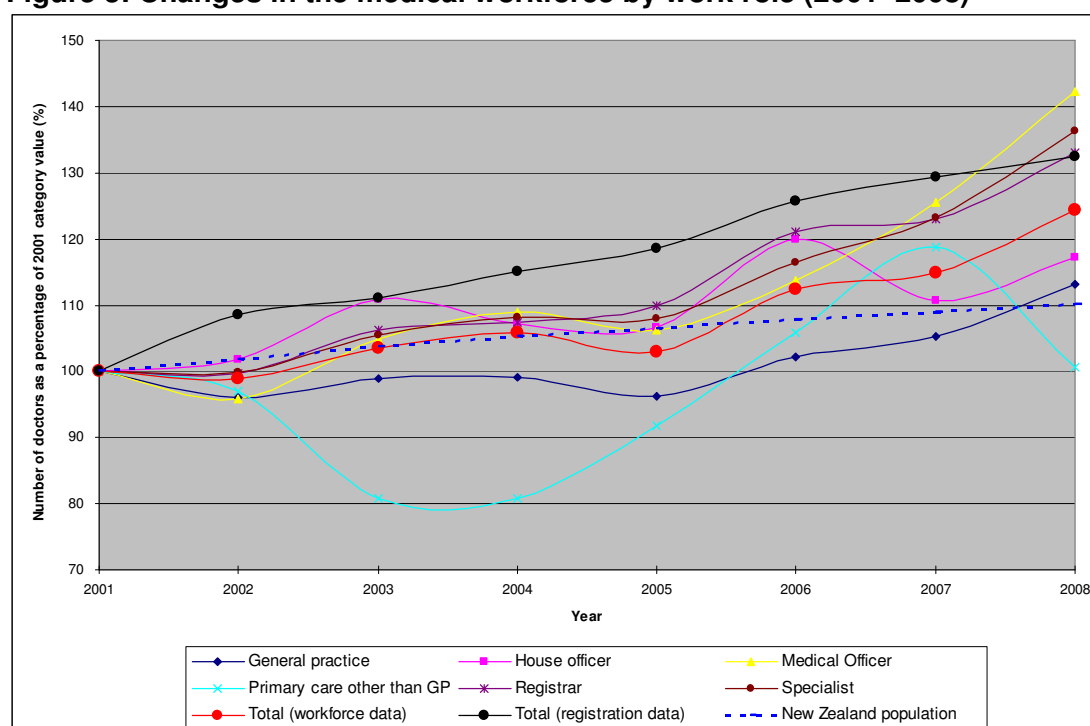


Figure 3 shows a gradual increase in most work roles since 2001. Primary care other than GP and GPs remained below their 2001 level until 2006.

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. This may be due to doctors moving between primary care other than GP and general practice from year to year as these work roles can overlap more than other combinations of work roles.

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

General practice and primary care

Doctors 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 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					Percentage change 2007–2008
	2004	2005	2006	2007	2008	
General practice	2,668	2,663	2,782	2,540	2,777	9.3
Primary care	339	242	263	572	638	11.5
Accident and medical practice	68	79	84	110	99	-10.0
Family planning	19	23	25	30	23	-23.3
Occupational medicine	5	7	8	17	10	-41.2
Other work type	40	38	57	48	36	-25.0
Not recorded	12	29	68	81	24	-70.4
Total	3,151	3,081	3,287	3,398	3,607	6.2

¹ Headcount based on doctors who responded to the survey.

Work type and postgraduate training

The changes in work types since 2007 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:

- public health medicine (19 percent)
- internal medicine (17 percent)
- ophthalmology (17 percent)
- paediatrics (14 percent)
- surgery: otolaryngology (13 percent)
- anaesthesia (13 percent)

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 2008	No. of doctors in main work site 2007	Percentage change 2007 to 2008	Average hours worked (all sites)	No. in vocational training ²	Average age 2008	Vocational registration, current APC, NZ address ³
Accident and medical practice	140	141	-1	38	45	45	135
Anaesthesia	701	622	13	49	180	44	618
Basic medical science	36	36	0	44	6	48	-
Breast medicine	8	10	-20	28	1	44	5
Clinical genetics	6	4	50	43	1	45	8
Dermatology	53	50	6	41	3	50	54
Diagnostic and interventional radiology	347	318	9	45	72	45	343
Emergency medicine	312	290	8	43	122	40	135
Family planning and reproductive health	32	35	-9	28	7	45	26
General practice	2801	2579	9	38	538	48	2886
Intensive care medicine	72	79	-9	52	25	42	56
Internal medicine	1077	922	17	49	291	44	851
Medical administration	57	52	10	41	2	53	18
Musculoskeletal medicine	19	14	36	42	2	56	21
Obstetrics and gynaecology	287	260	10	49	70	45	290
Occupational medicine	71	72	-1	43	9	52	51
Ophthalmology	137	117	17	45	17	46	145
Paediatrics	375	328	14	48	124	42	302
Palliative medicine	53	48	10	38	7	50	38
Pathology	220	208	6	42	48	47	297
Primary care	687	608	13	39	140	49	-
Psychiatry	673	624	8	43	168	47	564
Public health medicine	242	203	19	41	43	47	194
Radiation oncology	49	52	-6	51	14	43	59
Rehabilitation medicine	19	18	6	43	6	47	13
Sexual health medicine	32	29	10	28	4	46	20
Sports medicine	23	19	21	40	5	44	18

Work type at main work site ¹	No. of doctors in main work site 2008	No. of doctors in main work site 2007	Percentage change 2007 to 2008	Average hours worked (all sites)	No. in vocational training ²	Average age 2008	Vocational registration, current APC, NZ address ³
Surgery: cardiothoracic	33	30	10	61	1	44	29
Surgery: general	288	273	5	55	76	44	290
Surgery: neurosurgery	27	21	29	63	4	43	21
Surgery: orthopaedic	293	264	11	53	64	45	245
Surgery: other	44	37	19	51	4	46	-
Surgery: otolaryngology	104	92	13	48	11	48	108
Surgery: paediatric	24	16	50 ⁴	63	4	44	18
Surgery: plastic	75	57	32 ⁴	53	22	42	57
Surgery: urology	66	44	50 ⁴	52	12	46	59
Surgery: vascular	23	19	21	58	6	46	24
Not answered	107	261	-59	45	39	40	-
Other	47	61	-23	40	5	52	-
Grand total	9660	8913	8	44	2198	46	7998

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 2008 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.

⁴ These increases, although not in groups larger than 75 doctors, are significant and unexpected. One possible explanation is that this is due to differences in the way doctors have classified their work sites rather than being actual increases in the number of doctors in these work types.

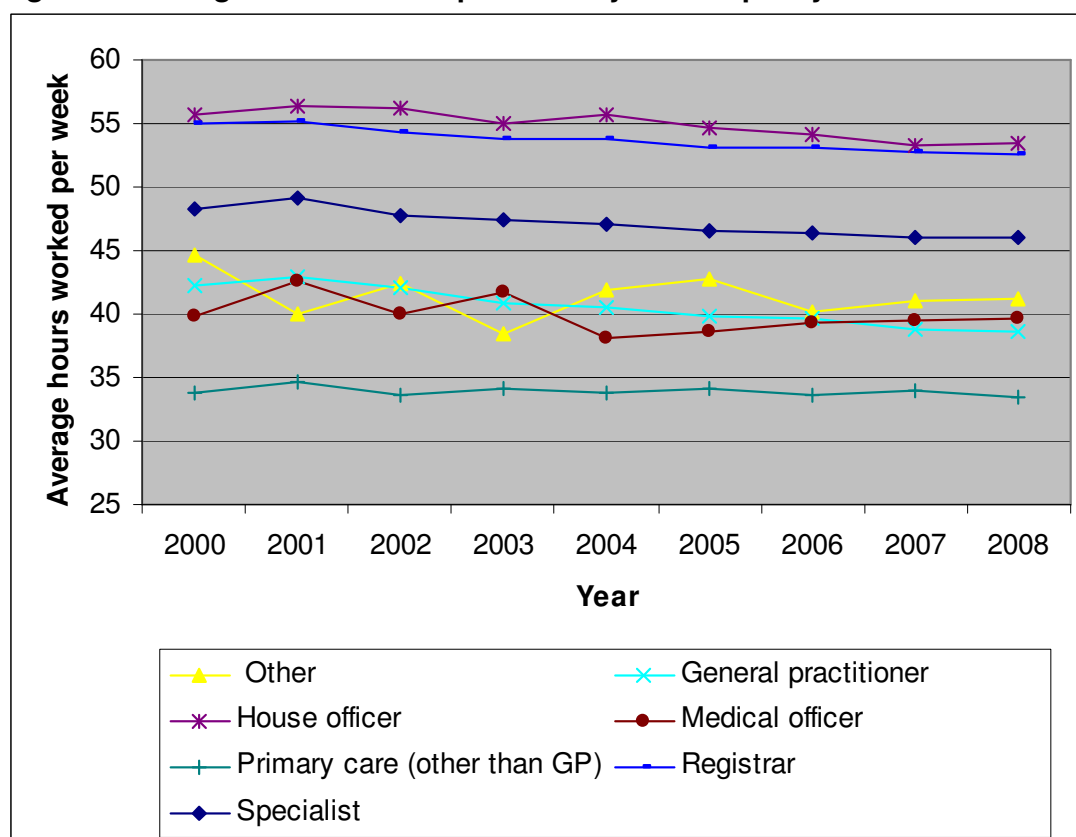
Workloads

Hours worked by work role

Figure 4 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 4: Average hours worked per week by work capacity at main work site



Hours worked by age and gender

The average number of hours worked by all active doctors was 44.7 per 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, 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 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	57.3	52.6	45.5	35.0	35.0	36.6	38.2	39.0	38.0	27.6	25.1	40.3
Men	56.8	53.0	51.8	48.8	48.2	48.4	48.1	47.0	43.7	36.8	26.2	47.4
Total	57.1	52.8	48.5	42.4	42.4	44.0	44.8	45.3	42.7	35.5	26.1	44.7

Figure 5: Average hours worked each week and headcount, by gender

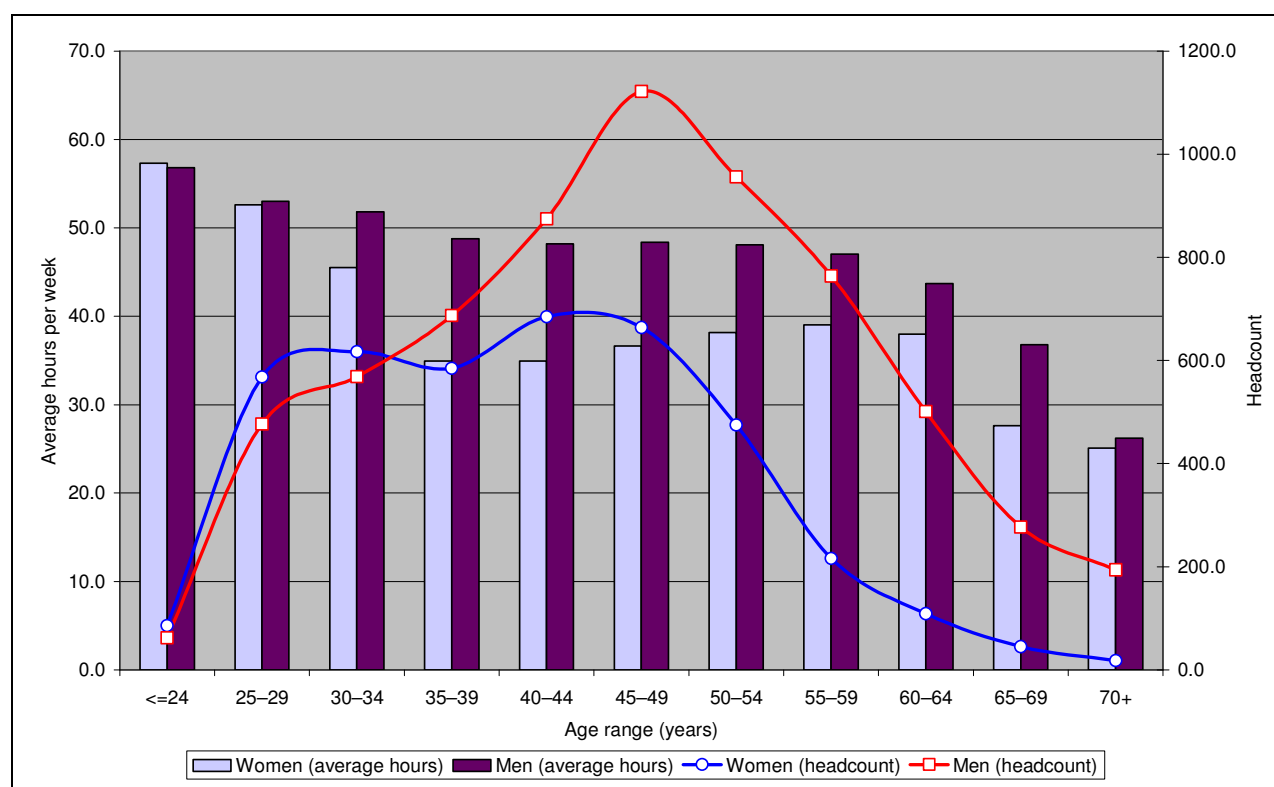


Table 6 shows that the average number of hours worked per week for both men and women is steadily decreasing, dropping from 46.2 overall in 2003 to 44.7 in 2007.

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 (2003–2008)

Gender	Year					
	2008	2007	2006	2005	2004	2003
Men	47.4	47.7	47.9	48.3	48.5	49.0
Women	40.3	40.0	40.9	40.6	40.9	40.7
Total	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, 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 39 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	95	79	88	87	48	89
1-4	6	0	1	2	1	4	1
5-9	4	1	2	2	3	9	3
10-19	6	2	6	3	5	17	1
20-49	7	1	9	3	4	18	3
50 and over	3	0	2	1	1	4	2
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-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, 48 percent worked in a group private practice at their main work site, and a further 28 percent worked in public hospitals.

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

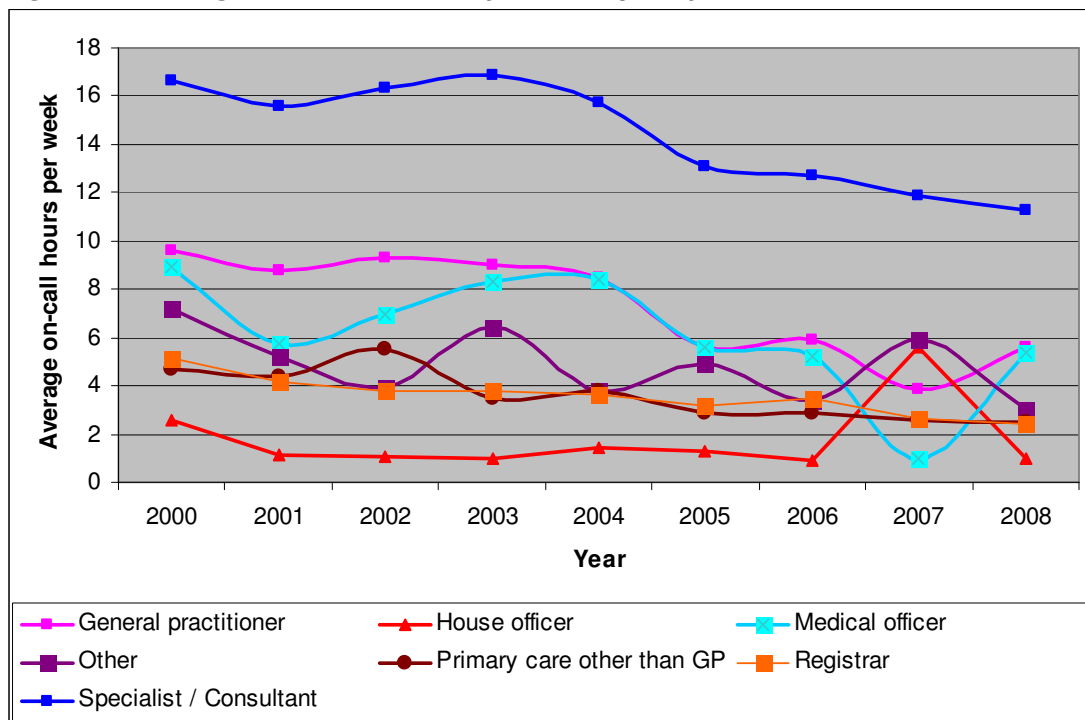
Main employer	Specialist	Other work roles	Total
Commercial company	1.6	0.7	1.3
Government department / agency	0.7	2.1	1.2
Professional body	0.0	0.4	0.1
Group private practice	7.4	48.3	22.3
Private hospital	2.2	1.2	1.8
Public hospital	81.4	28.7	62.1
Solo private practice	4.6	12.8	7.6
University / polytechnic	1.0	1.4	1.2
Not answered	0.0	0.1	0.0
Other	1.1	4.4	2.3
Grand total	100.0	100.0	100.0

Figure 6 shows the average weekly on-call hours, by work capacity at main work site, for each year back to 2000.

In general, on-call hours are decreasing across all work roles except for general practitioners and medical officers. General practitioners' hours increased from 3.9 per week in 2007 to 5.6 hours in 2008, and medical officers' hours increased from 0.9 to 5.4 hours. This brings medical officers back up to the 2006 level.

The increase in the average number of on-call hours worked by house officers observed in 2007 has not continued in 2008, and has dropped back to the level observed in 2006 and earlier years.

Figure 6: Average on-call¹ hours, by work capacity at main work site



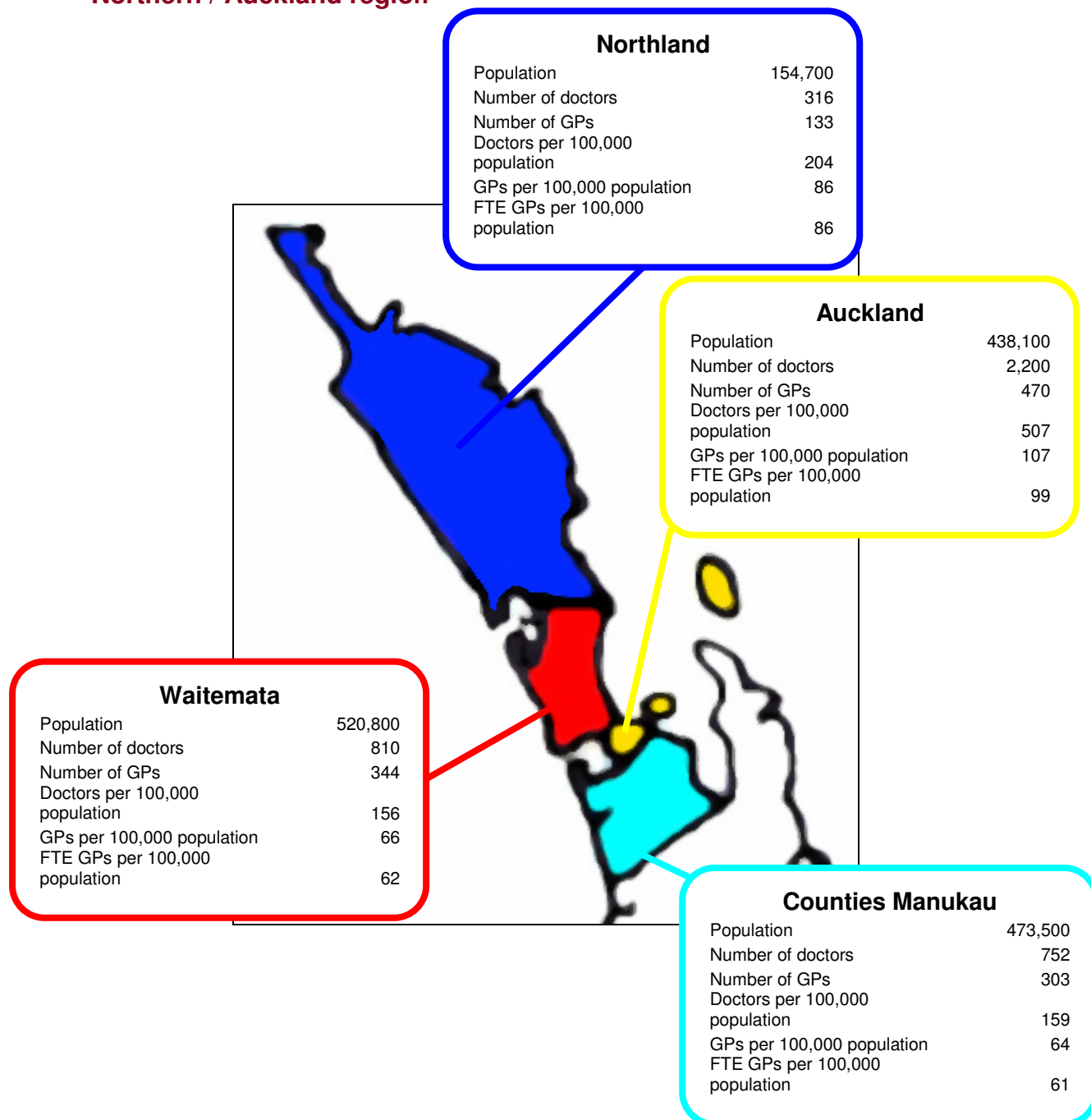
¹ On-call hours are defined as hours when the doctor was on call, but not actually working.

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 37.

Northern / Auckland region



Central North Island

Waikato¹

Population	361,220
Number of doctors	836
Number of GPs	247
Doctors per 100,000 population	231
GPs per 100,000 population	68
FTE GPs per 100,000 population	67

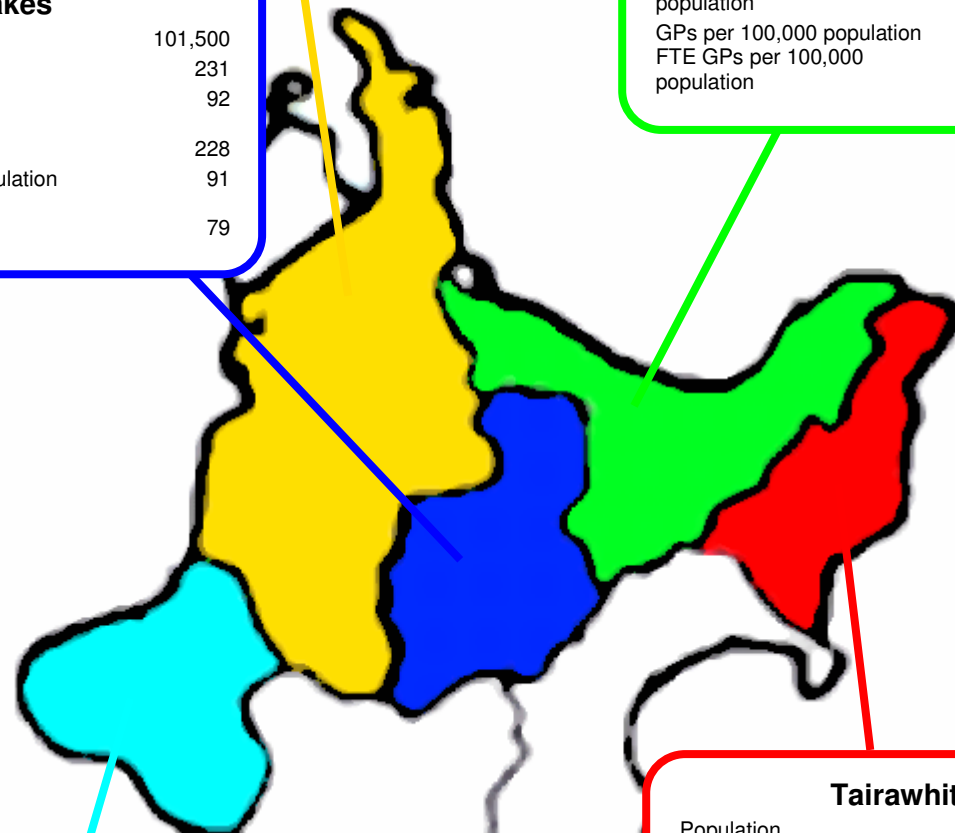
¹ Includes all TLA Ruapehu

Bay of Plenty

Population	205,410
Number of doctors	438
Number of GPs	175
Doctors per 100,000 population	213
GPs per 100,000 population	85
FTE GPs per 100,000 population	79

Lakes

Population	101,500
Number of doctors	231
Number of GPs	92
Doctors per 100,000 population	228
GPs per 100,000 population	91
FTE GPs per 100,000 population	79



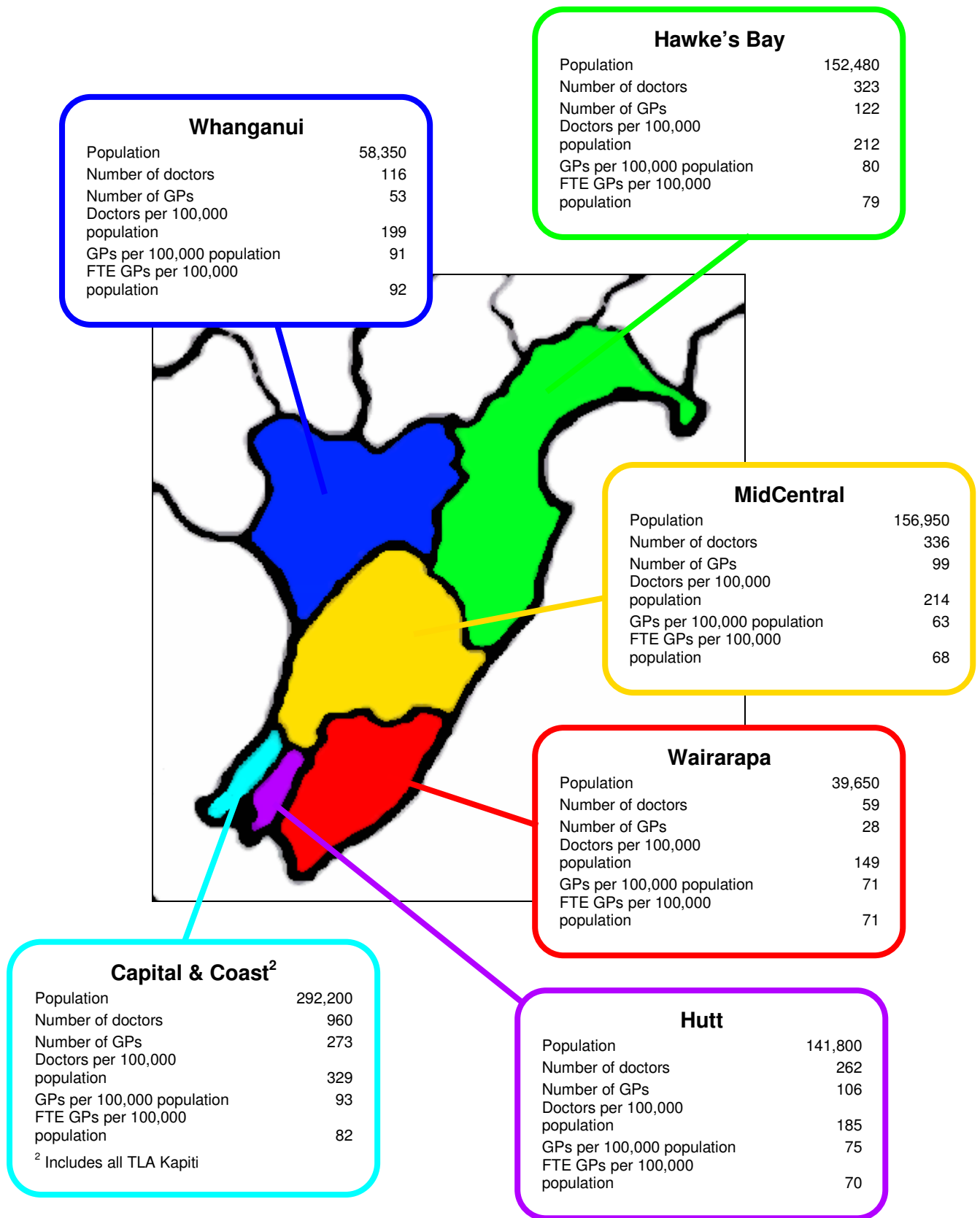
Tairāwhiti

Population	45,900
Number of doctors	90
Number of GPs	33
Doctors per 100,000 population	196
GPs per 100,000 population	72
FTE GPs per 100,000 population	82

Taranaki

Population	107,600
Number of doctors	204
Number of GPs	69
Doctors per 100,000 population	190
GPs per 100,000 population	64
FTE GPs per 100,000 population	59

Lower North Island



South Island

West Coast	
Population	32,360
Number of doctors	41
Number of GPs	20
Doctors per 100,000 population	127
GPs per 100,000 population	62
FTE GPs per 100,000 population	62

Nelson Marlborough	
Population	135,700
Number of doctors	280
Number of GPs	119
Doctors per 100,000 population	206
GPs per 100,000 population	88
FTE GPs per 100,000 population	78

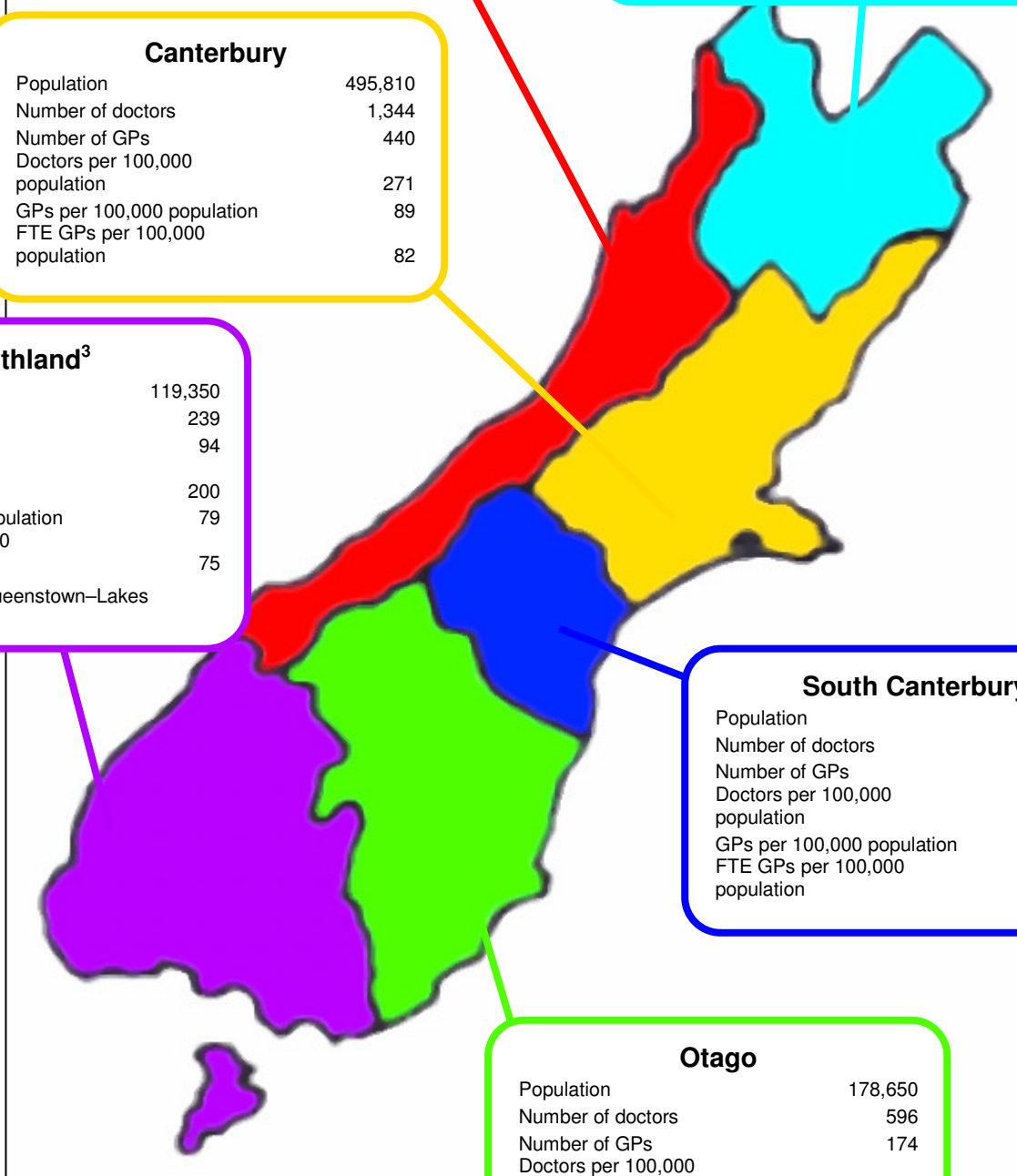
Canterbury	
Population	495,810
Number of doctors	1,344
Number of GPs	440
Doctors per 100,000 population	271
GPs per 100,000 population	89
FTE GPs per 100,000 population	82

Southland ³	
Population	119,350
Number of doctors	239
Number of GPs	94
Doctors per 100,000 population	200
GPs per 100,000 population	79
FTE GPs per 100,000 population	75

³ Includes all TLA Queenstown–Lakes

South Canterbury	
Population	55,300
Number of doctors	99
Number of GPs	41
Doctors per 100,000 population	179
GPs per 100,000 population	74
FTE GPs per 100,000 population	77

Otago	
Population	178,650
Number of doctors	596
Number of GPs	174
Doctors per 100,000 population	334
GPs per 100,000 population	97
FTE GPs per 100,000 population	96



Distribution of workforce by territorial local authorities

Territorial local authorities (TLAs) with 50 or fewer full-time equivalent GPs per 100,000 people were Waikato, Opotiki, South Taranaki, Horowhenua, Westland, Waimakariri, Waimate and Southland Districts (see Table 9).

TLAs with more than 90 full-time equivalent GPs per 100,000 people were Auckland, Tauranga, Nelson, and Dunedin Cities; and Whangarei, Thames Coromandel, Whakatane, Wanganui, Kaikoura, Hurunui, Mackenzie, and Queenstown–Lakes Districts.

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

Opotiki District had no IMGs, and Wellington and Dunedin Cities had a low proportion of IMGs (less than 30 percent).

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

Site 1 TLA	No. of GPs	FTEs GPs	FTEs per 100,000	Average hours GPs	No. of all doctors	No. of doctors per 100,000	IMGs % of all	TLA population ²
Cities								
North Shore City	168	150	67	37	549	246	38	223,000
Waitakere City	116	111	55	39	192	95	38	201,400
Auckland City	470	432	99	38	2,220	507	32	438,100
Manukau City	233	219	60	38	675	186	41	362,000
Hamilton City	109	99	72	37	666	481	48	138,500
Tauranga City	112	100	91	36	338	306	42	110,500
Napier City	51	50	89	42	140	246	40	56,900
Palmerston North City	62	66	83	43	280	353	39	79,300
Porirua City	36	34	68	38	69	135	42	51,000
Upper Hutt City	31	30	75	39	32	80	44	40,200
Lower Hutt City	75	69	68	37	230	226	41	101,600
Wellington City	197	168	87	35	848	440	28	192,800
Nelson City	57	51	113	37	189	423	31	44,700
Christchurch City	368	329	89	36	1,251	339	34	368,900
Dunedin City	135	131	107	39	547	445	30	122,900
Invercargill City	40	41	79	41	176	341	51	51,600
Districts								
Far North District	46	47	81	42	54	93	69	57,900
Whangarei District	73	73	93	41	248	317	47	78,200
Kaipara District	14	14	74	42	14	75	43	18,600
Rodney District	60	62	64	43	69	72	45	96,400
Papakura District	34	37	76	43	40	83	35	48,300
Franklin District	36	32	51	37	37	59	57	63,200
Thames Coromandel District	23	27	100	48	39	146	62	26,800
Hauraki District	14	14	80	42	14	79	43	17,750
Waikato District	18	19	41	43	21	45	52	46,800
Matamata–Piako District	19	20	65	43	20	64	50	31,400
Waipa District	32	29	64	36	34	76	53	44,700

Site 1 TLA	No. of GPs	FTEs GPs ³	FTEs per 100,000	Average hours GPs	No. of all doctors	No. of doctors per 100,000	IMGs % of all	TLA population ²
Otorohanga District	5	6	65	48	5	54	40	9220
South Waikato District	12	12	51	39	12	53	58	22,800
Waitomo District	6	6	66	48	11	115	45	9,600
Taupo District	26	24	70	37	34	101	47	33,500
Western BOP District	25	23	51	37	25	56	40	44,400
Rotorua District	66	56	83	35	197	290	44	68,000
Whakatane District	33	33	96	40	69	201	80	34,400
Kawerau District	4	4	58	46	5	71	100	7,050
Opotiki District	1	2	17	60	1	11	0	9,060
Gisborne District	33	38	82	45	90	196	57	45,900
Wairoa District	5	5	58	51	5	59	100	8,480
Hastings District	59	57	78	39	170	230	38	73,800
Central Hawke's Bay District	7	8	57	45	8	60	63	13,300
New Plymouth District	52	45	63	37	181	252	49	71,800
Stratford District	6	8	82	52	6	66	83	9,100
South Taranaki District	11	11	40	38	17	64	82	26,700
Ruapehu District	9	11	78	47	14	103	57	13,650
Wanganui District	42	44	102	44	105	242	64	43,400
Rangitikei District	11	10	65	38	11	74	55	14,950
Manawatu District	17	19	64	45	32	109	44	29,300
Tararua District	10	10	57	41	10	56	60	17,750
Horowhenua District	10	12	39	46	14	46	79	30,600
Kapiti Coast District	40	37	76	38	43	89	47	48,400
Masterton District	17	18	78	43	47	203	60	23,100
Carterton District	6	5	63	32	6	82	50	7,360
South Wairarapa District	5	6	60	44	6	65	67	9,190
Tasman District	29	25	53	35	32	69	53	46,500
Marlborough District	33	30	68	39	59	133	42	44,500
Kaikoura District	4	5	132	52	4	106	50	3,760
Buller District	6	7	65	49	6	60	67	9,950
Grey District	11	10	76	40	32	234	53	13,650
Westland District	3	3	36	42	3	34	67	8,760
Hurunui District	11	13	119	48	20	184	45	10,850
Waimakariri District	13	14	30	43	13	28	31	46,100
Selwyn District	26	24	64	37	28	75	50	37,500
Ashburton District	18	21	74	48	28	98	36	28,700
Timaru District	34	36	81	43	91	207	45	43,900
Mackenzie District	3	4	95	50	3	76	67	3,950
Waimate District	4	3	43	32	5	67	40	7,450
Waitaki District	16	16	78	40	20	97	60	20,700
Central Otago District	12	12	70	47	17	96	35	17,700
Queenstown-Lakes District	33	28	106	34	39	148	46	26,400
Clutha District	11	12	68	47	12	69	67	17,350
Southland District	14	12	41	35	14	48	71	29,100
Gore District	7	8	69	48	10	82	50	12,250
Total	3,435	3,243	76	39	10,552	247	39	4,267,330

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 2008

³ 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 by 0.5 percentage points to 3.2 percent, and the proportion of Pacific doctors increased slightly to 1.8 percent (see Table 10). Both Māori and Pacific doctors continue to be markedly under-represented compared to their proportion of the population.

The number of doctors identifying as Chinese increased from 5.7 percent to 5.9 percent, and has exceeded the previous peak of 5.8 percent 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	3.2	2.7	2.5	2.6	2.6	2.7	37	42
Pacific Island	1.7	1.6	1.6	1.5	1.3	1.1	37	42
Chinese	5.9	5.7	5.2	5.4	5.8	5.4	34	40
Indian	5.3	5.2	5.2	5.1	5.4	4.9	41	44
Other non-European	11.3	11.1	10.8	10.8	8.7	9.1	41	45
Other European ¹	15.8	15.3	17.3	15.4	16.2	14.6	42	46
NZ European / Pakeha	55.3	56.9	55.9	57.5	58.4	60.0	42	46
Not answered	1.2	1.4	1.3	1.5	1.5	1.8	39	47
Refused	0.2	0.4	0.2	0.2	0.2	0.3	48	53
Total ¹	100.0	100.0	100.0	100.0	100.0	100.0	41	47

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

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

Of doctors identifying as Māori, 30 percent reported their main work role as general practitioner, 23 percent as specialist, 17 percent as registrar, and 20 percent as house officer.

Doctors identifying as Pacific Island showed similar figures, with 33 percent reporting their main work role as general practitioner, 22 percent as specialist, 26 percent as registrar, and 14 percent as house officer.

General practitioner and specialist each made up 34 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.

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	4	30	20	4	1	17	23	100
Pacific Island	0	2	33	14	1	3	26	22	100
Chinese	0	1	28	18	1	1	31	20	100
Indian	0	2	29	12	5	1	22	28	100
Other non-European	0	1	31	13	6	2	22	24	100
Other European	0	2	34	6	6	1	17	34	100
NZ European / Pakeha	0	3	33	6	3	2	12	41	100

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

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

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

Analysing 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 living 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	24.5	5.4	29.1	19.0
Waitemata	9.7	7.8	5.1	13.3
Counties Manukau	8.3	12.2	8.0	35.1
Canterbury	8.3	6.1	4.6	4.0
Capital & Coast	7.4	5.2	20.0	8.4
Waikato	5.9	11.9	1.7	3.9
Bay of Plenty	5.3	7.0	8.0	1.1
Northland	4.4	7.9	1.7	1.4
Nelson Marlborough	4.1	2.0	2.9	0.6
Lakes	3.5	5.7	3.4	1.4
MidCentral	3.2	4.5	1.1	1.7
Hutt	2.9	3.9	5.7	4.4
Hawke's Bay	2.7	5.6	0.6	1.9
Tairāwhiti	2.4	3.6	2.3	0.5
Otago	2.4	1.8	0.6	1.1
Other	2.1	2.1	0.6	0.6

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	13	38	51	25	1.2	3.3
Anaesthesia	86	104	190	45	7.8	9.0
Breast medicine	*	-	*	100	0.2	0.0
Clinical genetics	*	-	*	100	0.1	0.0
Dermatology	*	*	*	67	0.2	0.1
Diagnostic radiology	32	46	78	41	2.9	4.0
Emergency medicine	62	73	135	46	5.6	6.3
Family planning and reproductive health	*	-	*	100	0.3	0.0
General practice	380	333	713	53	34.5	28.8
Intensive care medicine	*	14	*	13	0.2	1.2
Internal medicine	147	152	299	49	13.4	13.1
Medical administration	*	*	*	33	0.1	0.2
Musculoskeletal medicine	*	5	*	17	0.1	0.4
Obstetrics and gynaecology	54	19	73	74	4.9	1.6
Occupational medicine	4	10	14	29	0.4	0.9
Ophthalmology	5	14	19	26	0.5	1.2
Paediatrics	84	46	130	65	7.6	4.0
Palliative medicine	*	5	*	29	0.2	0.4
Pathology	34	20	54	63	3.1	1.7
Psychological medicine or psychiatry	81	88	169	48	7.4	7.6
Public health medicine	30	15	45	67	2.7	1.3
Radiation oncology	6	9	15	40	0.5	0.8
Rehabilitation medicine	*	4	*	43	0.3	0.3
Sexual health medicine	6	-	6	100	0.5	0.0
Sports medicine	*	*	*	40	0.2	0.3
Surgery: cardiothoracic	-	*	*	0	0.0	0.2
Surgery: general	33	60	93	35	3.0	5.2
Surgery: neurosurgery	*	*	*	25	0.1	0.3
Surgery: orthopaedic	*	56	59	5	0.3	4.8
Surgery: other	-	4	4	0	0.0	0.3
Surgery: otolaryngology	7	5	12	58	0.6	0.4
Surgery: paediatric	*	*	*	67	0.2	0.1
Surgery: plastic and reconstructive	9	10	19	47	0.8	0.9
Surgery: urology	*	10	*	9	0.1	0.9
Surgery: vascular	*	*	*	40	0.2	0.3
Other	-	*	*	0	0.0	0.3
Grand total	1,101	1,158	2,259	49	100.0	100.0

¹ House officers excluded.

* To prevent identification of individuals, categories that contain fewer than 4 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, areas where women were underrepresented are general surgery (35 percent), accident and medical practice (25 percent), and orthopaedic surgery (5 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 (74 percent), paediatrics (65 percent), pathology (63 percent), and public health medicine (67 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 39 percent. Women continued to outnumber men in house officer roles for the sixth 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 2 percentage points to 43 percent; women registrars were up 1 percentage point to 46 percent; and women specialists were up 2 percentage points to 26 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	2007	2008	2006	2007
House officer	32	44	47	56	56	29	29
Registrar	23	29	38	45	46	33	34
Medical officer	38	32	40	44	43	45	46
Primary care other than GP	49	42	43	43	43	43	47
Other	46	25	35	42	42	45	48
General practitioner	13	24	37	41	43	45	48
Specialist	9	13	19	24	26	46	49

Work types

Table 15 shows the proportion of women working as specialists or general practitioners in vocational scopes 10-yearly from 1980, and then yearly for the last 2 years.

Women outnumbered men in the vocational scopes of family planning, palliative medicine, and sexual health medicine. In sexual health medicine, 86 percent of doctors were women.

The proportion of women increased in 2008 in a large number of vocational scopes: the biggest increases were in:

- rehabilitation medicine (from 0 percent to 13 percent)
- sexual health medicine (75 percent to 86 percent)
- accident and medical practice (36 percent to 41 percent).

Women were significantly underrepresented in the surgical scopes. Of all doctors working in surgical scopes, only 6.3 percent were women.

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

Vocational scope	Percentage of women					Average age	
	1980	1990	2000	2007	2008	2007	2008
Accident and medical practice	–	–	–	36	41	47	49
Anaesthesia	19	16	20	25	26	53	48
Basic medical science	12	16	7	31	36	47	51
Breast medicine	3	0	100	100	100	48	44
Clinical genetics	–	–	–	67	50	51	49
Dermatology	8	17	19	22	26	43	51
Diagnostic and interventional radiology	–	14	23	28	30	52	49
Emergency medicine	13	0	26	25	26	52	44
Family planning and reproductive health	–	–	–	63	60	49	46
General practice	4	24	38	42	44	42	48
Intensive care medicine	10	–	18	15	19	53	47
Internal medicine	–	7	15	22	23	48	50
Medical administration	–	–	–	25	25	49	56
Musculoskeletal medicine	6	–	0	0	0	50	57
Obstetrics and gynaecology	21	17	29	38	40	54	50
Occupational medicine	15	5	17	15	10	52	53
Ophthalmology	0	11	12	16	19	50	50
Paediatrics	19	23	30	35	39	53	48
Palliative medicine	–	–	–	56	54	50	53
Pathology	12	22	30	33	32	49	51
Primary care	–	–	30	38	35	53	49
Psychiatry	–	28	33	40	41	51	50
Public health medicine	–	23	28	49	47	48	49
Radiation oncology	–	5	15	28	29	50	47
Rehabilitation medicine	–	–	0	0	13	49	49
Sexual health medicine	17	–	50	75	86	47	46
Sports medicine	–	–	25	20	18	49	46
Surgery: cardiothoracic	–	–	6	11	10	47	49
Surgery: general	–	–	6	8	8	45	51
Surgery: neurosurgery	–	–	7	5	6	49	51
Surgery: orthopaedic	–	–	3	4	4	52	51
Surgery: other	–	–	3	9	8	52	46
Surgery: otolaryngology	0	2	5	6	6	50	51
Surgery: paediatric	–	–	15	15	14	48	48
Surgery: plastic	–	–	3	0	6	51	48
Surgery: urology	–	–	3	6	8	49	50
Surgery: vascular	–	–	0	6	0	49	52
Specialists and GPs¹	–	–	29	33	34	49	49

¹ Specialists and GPs exclude 'not answered' and 'other'.
– Data not available.

International medical graduates

Registration data published in the Medical Council's annual reports for the last 3 years show that the proportion of international medical graduates (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.

Data from registrations will be more accurate than survey results which show the proportion of IMGs as 38.9 percent, an increase of half a percentage point from 2007.

Work role

Table 16 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 37 percent from 36 percent, and for house officers it decreased to 21 percent from 23 percent.

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

Role at main work site	Percentage of IMGs					Average age	
	1980	1990	2000	2007	2008	2007	2008
House officer	27	21	25	23	21	29	29
Registrar	42	22	35	36	37	33	34
Medical officer	52	50	53	60	60	45	46
Primary care other than GP	42	39	33	33	36	43	47
Other	43	32	25	36	35	45	48
General practitioner	35	29	35	41	41	45	48
Specialist	28	32	35	40	40	46	49

Work type

Table 17 shows the proportion of IMGs working as specialists or general practitioners in vocational scopes 10-yearly from 1980, and then yearly for the last 2 years.

The proportion of IMGs was more than 50 percent in the following vocational scopes: accident and medical practice, palliative medicine, psychiatry, radiation oncology, rehabilitation medicine and neurosurgery.

The proportion of IMGs increased in emergency medicine, intensive care medicine, musculoskeletal medicine, ophthalmology, palliative medicine, rehabilitation medicine, and paediatric surgery.

The proportion of IMGs decreased in most other vocational scopes. The most notable decreases were in:

- vascular surgery (from 41 percent in 2007 to 18 percent in 2008)
- family planning and reproductive health (from 75 percent to 40 percent)
- urology (from 25 percent to 20 percent)
- cardiothoracic surgery (from 53 percent to 48 percent).

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

Vocational scope	Percentage of IMGs					Average age	
	1980	1990	2000	2007	2008	2007	2008
Accident and medical practice	–	–	–	62	59	47	49
Anaesthesia	41	39	45	46	48	53	48
Basic medical science	31	42	20	54	45	47	51
Breast medicine	–	–	0	67	33	48	44
Clinical genetics				33	0	51	49
Dermatology	30	20	23	33	30	43	51
Diagnostic and interventional radiology	24	27	32	32	34	52	49
Emergency medicine	–	50	48	36	45	52	44
Family planning and reproductive health	–	–	–	75	40	49	46
General practice	35	30	35	41	40	42	48
Intensive care medicine	–	–	18	21	26	53	47
Internal medicine	24	34	33	38	38	48	50
Medical administration	–	–	–	31	30	49	56
Musculoskeletal medicine	–	–	40	27	33	50	57
Obstetrics and gynaecology	24	28	45	52	49	54	50
Occupational medicine	–	41	31	30	33	52	53
Ophthalmology	18	16	22	19	25	50	50
Paediatrics	38	39	32	43	42	53	48
Palliative medicine	–	–	–	63	73	50	53
Pathology	21	26	38	44	45	49	51
Primary care	0	–	38	38	44	53	49
Psychiatry	41	50	57	58	57	51	50
Public health medicine	44	36	20	23	25	48	49
Radiation oncology	–	55	62	59	56	50	47
Rehabilitation medicine	–	–	29	57	63	49	49
Sexual health medicine	33	50	33	33	36	47	46
Sports medicine	–	–	4	20	24	49	46
Surgery: cardiothoracic	–	–	28	53	48	47	49
Surgery: general	–	–	30	36	37	45	51
Surgery: neurosurgery	–	–	50	68	65	49	51
Surgery: orthopaedic	–	–	13	20	19	52	51
Surgery: other	–	–	21	25	28	52	46
Surgery: otolaryngology	31	24	28	32	29	50	51
Surgery: paediatric	–	–	31	23	29	48	48
Surgery: plastic and reconstructive	–	–	19	24	23	51	48
Surgery: urology	–	–	29	25	20	49	50
Surgery: vascular	–	–	11	41	18	49	52
Specialists and GPs²	–	–	35	40	41	49	49

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

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

– Data not available.

Retention

New Zealand graduates – retention by class

Table 18 and Figure 7 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 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 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 1995–2006

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 7: Graduate retention of class years 1995–2006

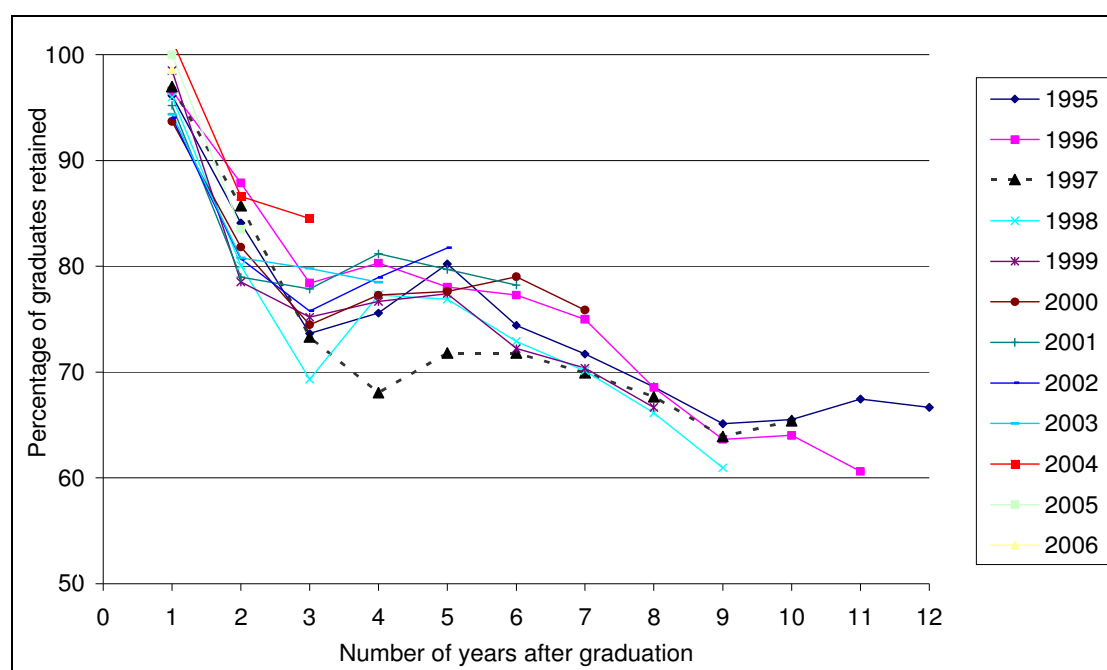


Table 19: Average percentage of registered graduates retained, by postgraduate year

	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, 2000–2007

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

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.

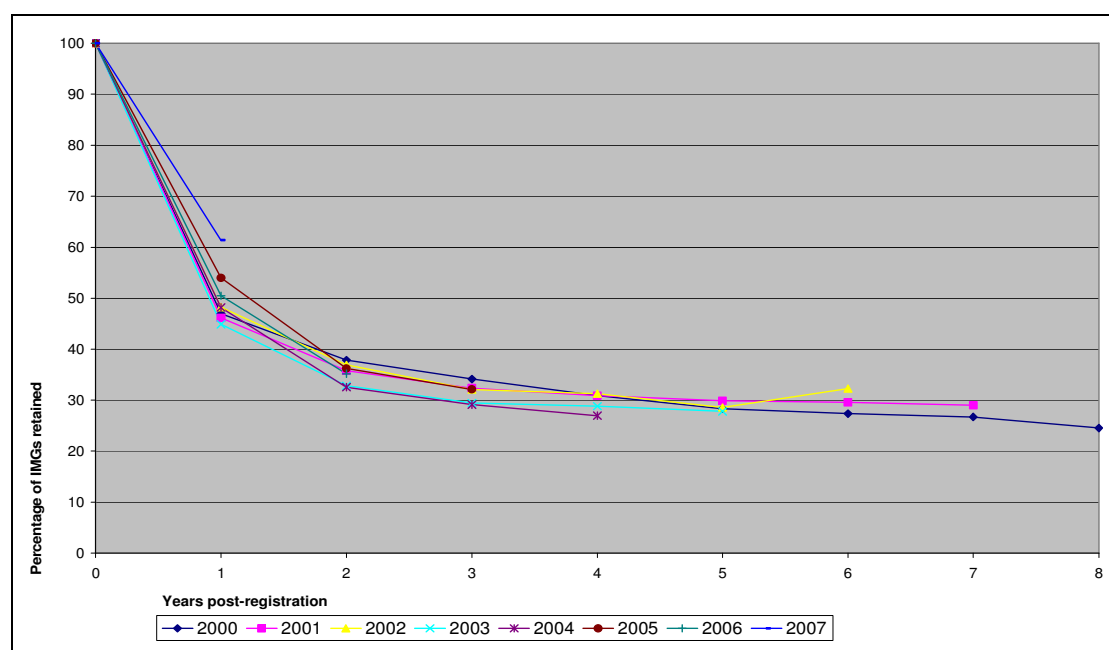
2 The retention rate is expressed as a percentage and equals the number of doctors from the grouping who held a practising certificate at some point in that year, compared with the number of doctors originally in that grouping.

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

	Post-registration year							
	1	2	3	4	5	6	7	8
Average percentage of IMGs retained	50.0	35.3	31.5	29.7	28.7	29.7	27.9	24.5
Standard deviation	3.0	2.0	1.9	1.8	0.9	2.5	1.6	-
Percentage standard deviation	6.1	5.6	6.1	6.2	3.1	8.3	5.8	-

Figure 8: Retention rate for IMGs, 2000–2007



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 the United Kingdom, South Africa, the United States of America and Canada, Europe, and Asia.

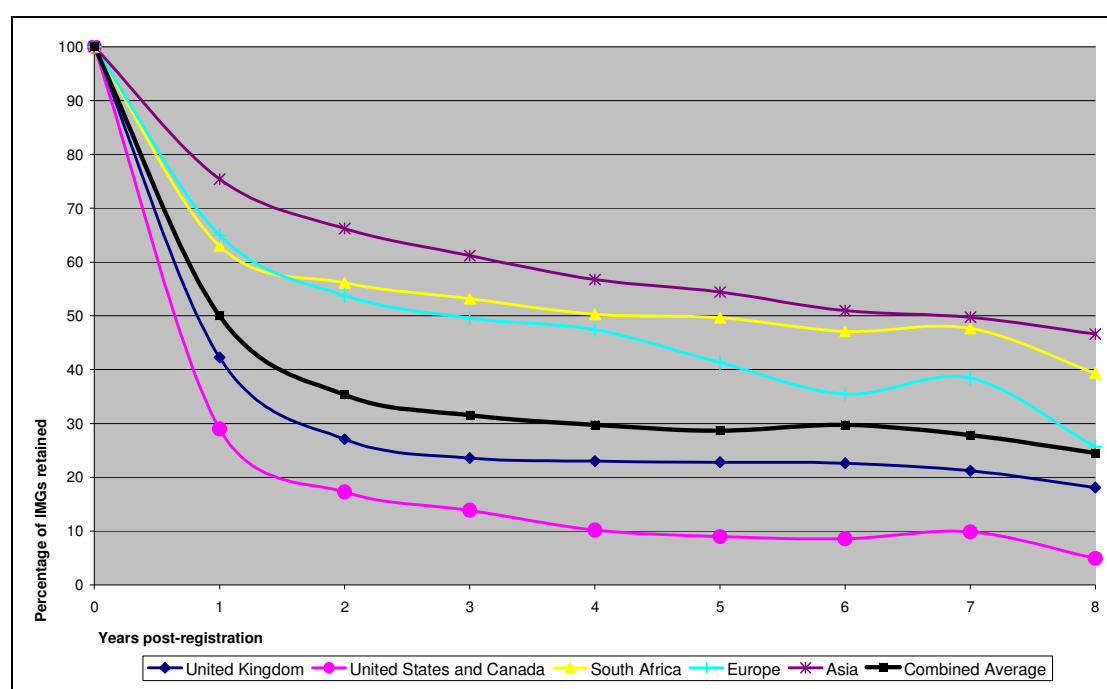
The United Kingdom group includes doctors with primary medical qualifications from England, Scotland, Wales, and Northern Ireland.

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 9 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 38.

Figure 9: Retention rate for IMGs by country, 2000–2007



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 7 years after registration. The retention rate for South African doctors drops below 50 percent only after 5 years.

Doctors from the United States and Canada have the lowest retention rate, with less than 30 percent at 1 year after registration. Four 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, and the rate drops to just above 20 percent after 6 years.

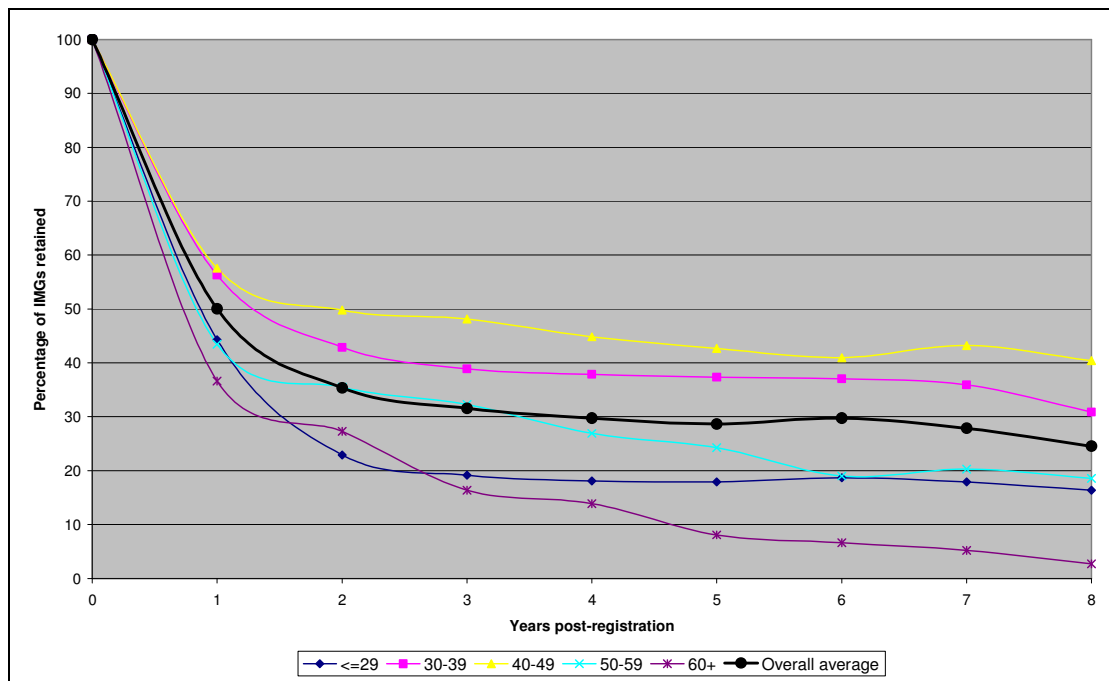
These figures suggest that doctors from North America and the United Kingdom are more likely to come to New Zealand to work for a limited period than doctors from Asia, South Africa, and Europe.

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, and 60 or older.

Figure 10 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 40.

Figure 10: Retention rate for IMGs by age group, 2000–2007



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, 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 2 years, and then levels out to just below 20 percent in subsequent years.

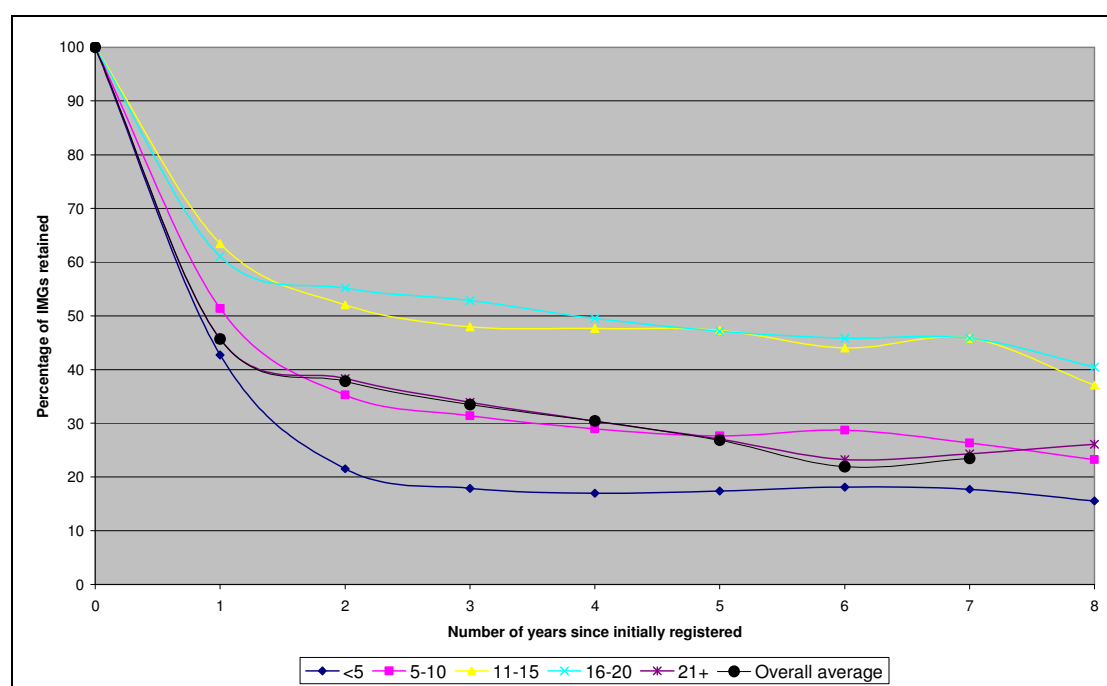
These figures suggest that doctors who come to New Zealand aged between 30 and 50 are more likely to stay long-term, and that doctors who come to New Zealand in their twenties stay only for a short time, perhaps as part of an extended overseas trip.

Retention of international medical graduates – by time since qualification

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

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 4 on page 42.

Figure 11: 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 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 1–2 years.

One year after obtaining a general scope, 80 percent of IMGs are still working in New Zealand. This decreases steadily to 67 percent after 5 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	8
2000	256	83	76	72	68	64	64	60	55
2001	242	83	76	74	69	64	61	57	
2002	250	87	78	72	73	68	66		
2003	316	90	81	79	74	71			
2004	311	83	75	69	66				
2005	323	77	72	68					
2006	284	81	76						
2007	331	82							
Average		83	76	72	70	67	64	58	55
Standard deviation		4	3	4	3	4	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 1–2 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	8
2000	162	91	91	85	81	80	74	76	70
2001	275	92	85	87	81	81	79	77	
2002	201	93	92	88	89	84	83		
2003	220	95	89	86	80	80			
2004	223	89	83	82	78				
2005	205	92	85	79					
2006	204	89	86						
2007	223	80							
Average		90	87	85	82	81	78	77	70
Standard deviation		4	3	3	4	2	4	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.

One year after obtaining a vocational scope, 90 percent of IMGs are retained, decreasing 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 retention rate for both New Zealand graduates and IMGs is over 90 percent after 1 year. After 2 years the retention rate for New Zealand graduates stabilises to between 94 and 95 percent. For IMGs it decreases steadily to around 76 percent after 6 years.

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

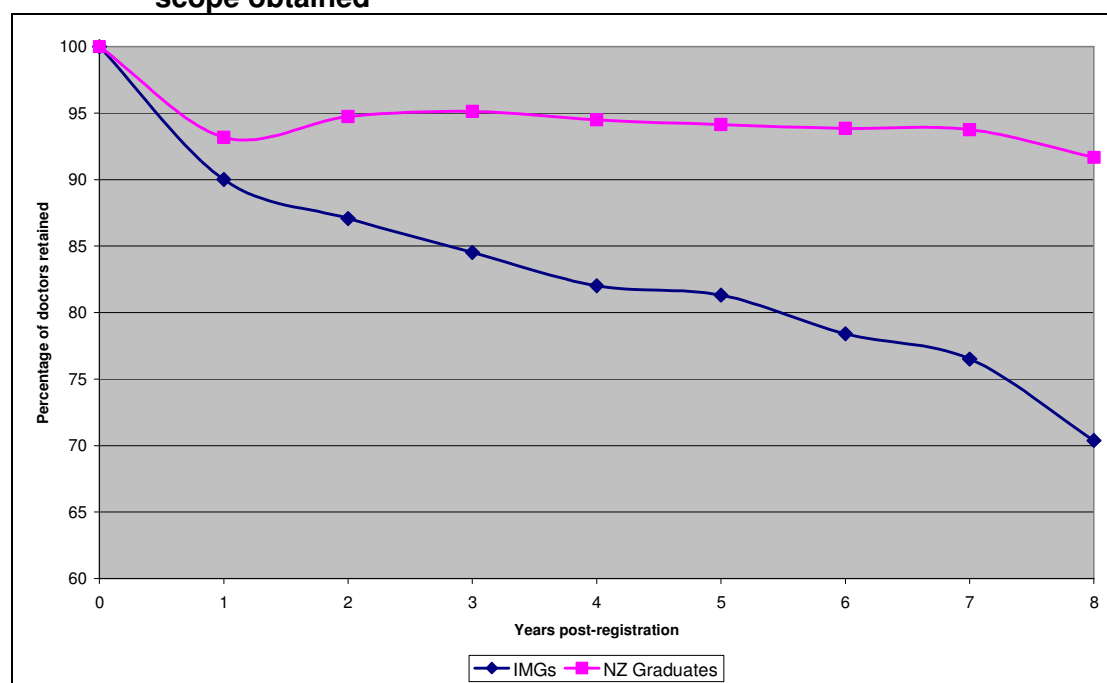


Table 25: Retention rate for New Zealand graduates after vocational scope obtained

Year registered	Number registered	Percentage of IMGs retained, by post-registration year ¹							
		1	2	3	4	5	6	7	8
2000	162	96	98	98	95	95	94	93	92
2001	275	97	95	96	94	94	93	94	
2002	201	93	94	93	98	95	94		
2003	220	96	91	96	93	93			
2004	223	93	98	90	91				
2005	205	93	90	97					
2006	204	89	96						
2007	215	89							
Average		93	95	95	94	94	94	94	92
Standard deviation		3	3	3	3	1	1	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.

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 birthdate of the doctor.

The four periods of data in this report ended November 2007, February 2008, May 2008, and August 2008. They are presented as at 31 March 2008.

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 2008 workforce survey, survey forms were sent out to 12,217 doctors with New Zealand addresses. Eighty-seven percent (10,616) replied. This is an increase from the previous 3 years, but is still lower overall than the response rates achieved earlier in the decade.

This continued decrease is probably 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 before 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 10,552 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 and district health board 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 2008.¹

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

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 2008.

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 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.

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

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 5.

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, Dr Ian Brown, Philip Pigou, Diane Latham, and Bill Taylor for their valuable assistance in writing the report.

Appendix 1 – Distribution of the workforce by district health board

Table 26 shows the distribution of all doctors and GPs by the DHB locality at the doctor's main work site.

Table 26: 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	316	133	154,700	204	133	86
Waitemata	810	344	520,800	156	323	62
Auckland	2,220	470	438,100	507	432	99
Counties Manukau	752	303	473,500	159	287	61
Waikato ¹	836	247	361,220	231	243	67
Bay of Plenty	438	175	205,410	213	162	79
Lakes	231	92	101,500	228	80	79
Tairāwhiti	90	33	45,900	196	38	82
Hawke's Bay	323	122	152,480	212	120	79
Taranaki	204	69	107,600	190	63	59
MidCentral	336	99	156,950	214	107	68
Whanganui	116	53	58,350	199	54	92
Wairarapa	59	28	39,650	149	28	71
Hutt	262	106	141,800	185	99	70
Capital & Coast ²	960	273	292,200	329	239	82
Nelson Marlborough	280	119	135,700	206	106	78
West Coast	41	20	32,360	127	20	62
Canterbury	1,344	440	495,810	271	406	82
Otago	596	174	178,650	334	171	96
South Canterbury	99	41	55,300	179	43	77
Southland ³	239	94	119,350	200	89	75
Total	10,552	3,435	4,267,330	247	3,243	76

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 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.

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

Appendix 2 – Retention of international medical graduates by country

Tables 27 to 31 show the cohort retention rate at each year after initial registration for successive years of IMG registrants from each group, as described on page 27.

Table 27: Retention rate for United Kingdom graduates 2000–2007

First year registered	Number registered	Percentage retained, by post-registration year							
		1	2	3	4	5	6	7	8
2000	436	37.4	22.9	22.5	20.4	18.1	19.0	18.8	18.1
2001	444	41.0	29.1	24.5	25.0	25.5	24.8	23.6	
2002	507	41.4	27.7	24.8	26.6	25.0	24.1		
2003	527	39.5	24.7	22.7	23.3	22.7			
2004	504	43.7	22.8	21.8	19.7				
2005	565	50.8	29.7	25.1					
2006	404	53.5	32.7						
2007	447	64.0							
Average		42.3	27.1	23.6	23.0	22.8	22.6	21.2	18.1

Table 28: Retention rate for South African graduates 2000–2007

First year registered	Number registered	Percentage retained, by post-registration year							
		1	2	3	4	5	6	7	8
2000	89	66.3	66.3	56.2	52.8	50.6	43.8	43.8	39.3
2001	97	70.1	69.1	66.0	62.9	57.7	53.6	51.5	
2002	116	56.0	58.6	55.2	49.1	43.1	44.0		
2003	106	63.2	53.8	49.1	46.2	47.2			
2004	67	64.2	49.3	44.8	40.3				
2005	75	60.0	50.7	48.0					
2006	86	54.7	45.3						
2007	79	69.6							
Average		63.0	56.1	53.2	50.3	49.6	47.1	47.7	39.3

Table 29: Retention rate for United States and Canadian graduates 2000–2007

First year registered	Number registered	Percentage retained, by post-registration year							
		1	2	3	4	5	6	7	8
2000	101	23.8	14.9	11.9	6.9	6.9	5.9	5.0	5.0
2001	122	17.2	12.3	13.9	10.7	9.8	12.3	14.8	
2002	119	21.8	16.8	10.9	10.9	8.4	7.6		
2003	148	24.3	16.2	11.5	11.5	10.8			
2004	136	33.1	17.6	14.0	11.0				
2005	171	38.6	22.8	21.1					
2006	137	32.1	20.4						
2007	188	41.0							
Average		29.0	17.3	13.9	10.2	9.0	8.6	9.9	5.0

Table 30: Retention rate for European graduates 2000–2007

First year registered	Number registered	Percentage retained, by post-registration year							
		1	2	3	4	5	6	7	8
2000	35	62.9	60.0	45.7	40.0	37.1	34.3	34.3	25.7
2001	47	68.1	55.3	57.4	51.1	55.3	40.4	42.6	
2002	60	65.0	46.7	40.0	43.3	33.3	31.7		
2003	43	58.1	55.8	46.5	41.9	39.5			
2004	46	76.1	69.6	60.9	60.9				
2005	49	63.3	51.0	46.9					
2006	63	55.6	38.1						
2007	72	70.8							
Average		65.0	53.8	49.6	47.4	41.3	35.5	38.4	25.7

Table 31: Retention rate for Asian graduates 2000–2007

First year registered	Number registered	Percentage retained, by post-registration year							
		1	2	3	4	5	6	7	8
2000	133	76.7	72.2	65.4	62.4	58.6	53.4	51.9	46.6
2001	105	74.3	61.9	56.2	53.3	48.6	49.5	47.6	
2002	140	79.3	69.3	60.7	53.6	55.0	50.0		
2003	128	73.4	68.0	62.5	59.4	55.5			
2004	100	71.0	66.0	59.0	55				
2005	112	77.7	69.6	63.4					
2006	115	70.4	56.5						
2007	148	79.7							
Average		75.4	66.2	61.2	56.7	54.4	51.0	49.7	46.6

Appendix 3 – Retention of international medical graduates by age group

Tables 32 to 36 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 29.

Table 32: 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
2000	361	38.8	24.1	22.4	21.1	17.7	18.3	17.7	16.3
2001	338	37.3	20.1	16.9	17.5	18.6	19.2	18.0	
2002	390	39.5	21.5	19.5	20.5	19.2	18.5		
2003	384	38.0	18.2	16.9	16.1	16.1			
2004	400	38.8	16.5	15.8	15.3				
2005	448	49.1	27.2	23.4					
2006	309	45.6	32.7						
2007	348	67.2							
Average		44.3	22.9	19.2	18.1	17.9	18.7	17.9	16.3

Table 33: 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
2000	298	55.7	48.0	42.6	39.6	36.2	35.6	34.9	30.9
2001	333	55.3	47.4	42.9	42.0	39.6	39.3	36.9	
2002	376	54.0	47.9	42.3	40.4	37.5	36.2		
2003	376	50.8	40.2	36.4	36.4	35.9			
2004	305	53.4	40.3	34.1	30.8				
2005	352	58.2	39.2	34.9					
2006	369	58.5	37.1						
2007	446	64.1							
Average		56.3	42.9	38.9	37.9	37.3	37.0	35.9	30.9

Table 34: 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
2000	151	53.0	53.0	50.3	47.0	47.7	43.0	42.4	40.4
2001	143	54.5	50.3	44.8	44.1	41.3	39.2	44.1	
2002	167	61.1	52.7	47.3	44.9	41.9	40.7		
2003	194	52.1	49.5	45.4	43.3	39.7			
2004	185	59.5	51.9	49.2	44.9				
2005	193	66.3	56.0	51.8					
2006	145	49.7	35.2						
2007	154	64.3							
Average		57.5	49.8	48.1	44.8	42.6	41.0	43.2	40.4

Table 35: 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
2000	70	44.3	38.6	32.9	22.9	21.4	15.7	17.1	18.6
2001	64	42.2	34.4	43.8	29.7	28.1	21.9	23.4	
2002	98	44.9	32.7	26.5	24.5	21.4	19.4		
2003	92	38.0	33.7	25.0	26.1	26.1			
2004	86	50.0	38.4	34.9	31.4				
2005	95	46.3	33.7	30.5					
2006	89	44.9	37.1						
2007	111	36.9							
Average		43.5	35.5	32.3	26.9	24.3	19.0	20.3	18.6

Table 36: 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
2000	37	37.8	27.0	16.2	5.4	2.7	8.1	2.7	2.7
2001	52	26.9	25.0	17.3	13.5	11.5	9.6	7.7	
2002	47	36.2	29.8	12.8	12.8	2.1	2.1		
2003	44	36.4	22.7	18.2	15.9	15.9			
2004	41	46.3	31.7	19.5	22.0				
2005	42	31.0	21.4	14.3					
2006	57	35.1	33.3						
2007	46	43.5							
Average		36.6	27.3	16.4	13.9	8.1	6.6	5.2	2.7

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

Tables 37 to 41 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 30.

Table 37: 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
2000	303	38.9	21.8	20.1	19.5	16.5	17.2	16.5	15.5
2001	306	37.6	20.9	17.6	18.0	19.6	20.3	19.0	
2002	343	37.6	20.4	17.5	19.2	18.4	16.9		
2003	367	34.3	17.4	16.1	14.7	15.0			
2004	370	37.6	14.9	13.8	13.5				
2005	432	47.7	25.5	22.2					
2006	279	43.0	29.7						
2007	352	65.1							
Average		42.7	21.5	17.9	17.0	17.4	18.1	17.7	15.5

Table 38: 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
2000	245	46.5	38.4	33.5	30.2	26.5	27.8	26.1	23.3
2001	241	45.2	36.1	32.4	31.5	29.9	28.6	26.6	
2002	285	49.8	37.9	35.1	33.3	30.2	29.8		
2003	267	43.8	29.2	24.3	25.1	24.0			
2004	219	47.5	32.4	28.8	24.7				
2005	249	57.8	38.2	34.5					
2006	299	56.5	34.8						
2007	319	63.6							
Average		51.4	35.3	31.4	29.0	27.6	28.7	26.3	23.3

Table 39: 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
2000	124	61.3	56.5	51.6	48.4	45.2	41.1	43.5	37.1
2001	135	65.2	59.3	53.3	51.1	48.1	49.6	48.1	
2002	160	60.0	55.6	47.5	44.4	42.5	41.3		
2003	152	67.8	55.9	53.9	53.9	53.3			
2004	141	63.1	48.9	41.1	40.4				
2005	157	62.4	45.2	40.1					
2006	126	60.3	42.9						
2007	160	67.5							
Average		63.4	52.0	47.9	47.6	47.3	44.0	45.8	37.1

Table 40: 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
2000	84	58.3	58.3	56.0	48.8	52.4	42.9	41.7	40.5
2001	84	60.7	51.2	48.8	52.4	46.4	45.2	50.0	
2002	91	62.6	60.4	54.9	51.6	49.5	49.5		
2003	104	55.8	51.9	50.0	45.2	40.4			
2004	103	62.1	60.2	54.4	49.5				
2005	96	70.8	62.5	53.1					
2006	82	56.1	41.5						
2007	76	61.8							
Average		61.0	55.1	52.9	49.5	47.2	45.8	45.8	40.5

Table 41: 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
2000	161	46.0	42.2	36.6	30.4	28.0	27.3	26.1	26.1
2001	164	40.2	36.0	34.1	26.8	25.6	21.3	22.6	
2002	199	48.2	38.2	30.2	29.1	23.1	21.1		
2003	200	42.5	38.5	31.5	32.0	31.5			
2004	184	51.1	40.2	37.0	33.7				
2005	196	48.0	37.2	34.2					
2006	183	42.6	36.1						
2007	198	47.0							
Average		45.7	38.3	33.9	30.4	27.0	23.3	24.3	26.1