

The New Zealand Medical Workforce in 2010

Protecting the public, promoting good medical practice <u>Te tiaki I te iwi wh</u>ānui me te whakatairanga pai e pā ana ki te taha rongoā

Introduction

This report summarises the most relevant results of the Medical Council of New Zealand 2010 workforce survey. It contains information about changes in the medical workforce including retention rates for doctors.

The data for the 2010 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. <u>www.nzhis.govt.nz</u>

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

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Facts at a glance	2010	2009	2008	2007	2006	2005
Size of the workforce ¹	13,883	13,408	12,949	12,643	12,283	11,578
Doctors per 100,000 population ²	317	310	303	299	297	283
Proportion of IMGs ³ (%)	41.1	40.6	38.9	38.4	39.9	37.5
Proportion of women (%)	40	40	39	38	37	36
Average age of workforce	45	45	45	45	44	44
Average weekly workload (hours)	43.9	44.2	44.7	44.8	45.3	45.5
Average proportion of new IMGs retained after 1 year ⁴		50.8	50.0	48.4	48.1	46.9

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 13,408 in 2009 to 13,883 in 2010. This change compares with increases of 2.9 percent between 2006 and 2007, and 6.1 percent between 2005 and 2006 (see Table 1).

	1980	1985	1990	1995	2000	2005	2008	2009	2010
Total workforce (based on registration data) ¹ Percentage change in total workforce from previous year measured by	-	-	_	_	9,779	11,578	12,949	13,408	13,883
registration data (%)	-	-	-	6.3	2.6	2.9	2.3	3.5	3.5
Short-term registrants ² Short-term registrants as a	-	-	165	129	421	287	134	139	122
percentage of workforce	-	-	2.5	1.7	4.3	2.5	1.0	1.0	0.9
Total workforce (based on survey response)	4,881	5,556	6,339	7,530	8,615	8,746	10,552	11,164	11,478
Graduated from:									
– New Zealand	3,266	4,095	4,480	5,024	5,645	5,459	6,446	6,630	6,766
– overseas	1,615	1,461	1,859	2,506	2,970	3,287	4,106	4,535	4,712
% IMGs	33.1	26.3	29.3	33.3	34.5	37.5	38.9	40.6	41.1
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

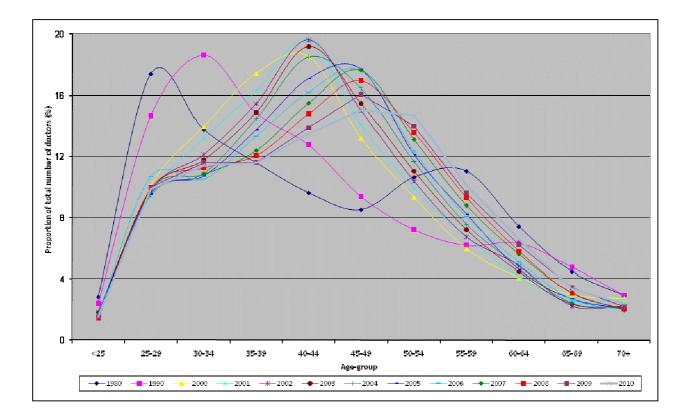
Figure 1 compares the age distribution of the active workforce over the last 10 years as well as historical workforce data from 1980 and 1990.

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

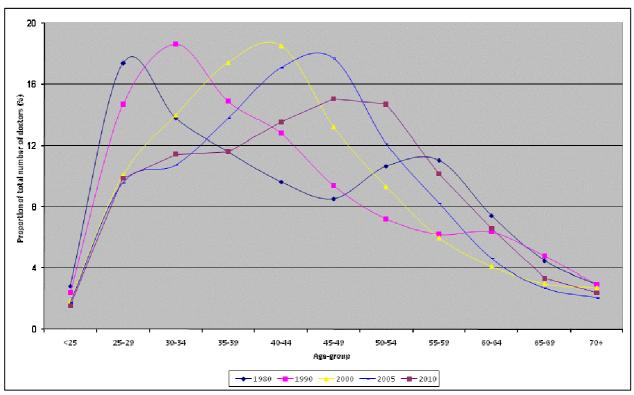
In earlier years (2000–2003), the largest group of doctors (almost 20 percent) was in the 40–44 year age group. By 2009, the largest group of doctors is aged 45–49.

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

Figure 1: Age distribution of the active workforce (1980–2010)







Gender distribution of the workforce

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

The younger age groups have more women than men: 45 percent of women in the workforce are under the age of 40, compared to 27 percent of men. Only 5 percent of women in the workforce are over the age of 60, compared to 17 percent of men.

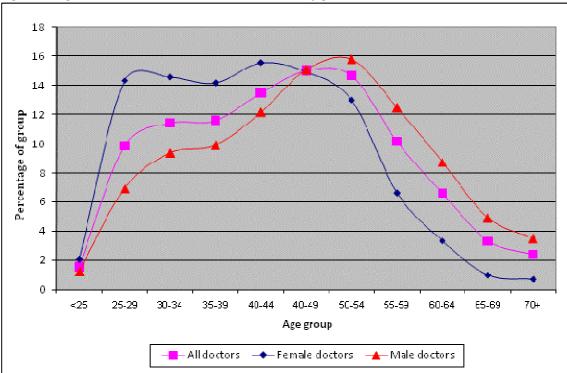


Figure 3: Age distribution of the active workforce by gender

Changes by work role

Table 2 shows how doctor numbers have changed, by work role at their main work site. All groups except for general practice and house officer show increases, ranging from 2.9 percent for specialists to 9.3 percent for 'primary care other than GP'.

Table 2. Changes in t	Active doctors ¹									
Workforce role ²	2005	2006	2007	2008	2009	2010	2009–2010			
General practice	2,924	3,106	3,195	3,435	3,541	3,532	-0.3			
House officer	811	911	841	891	970	961	-0.9			
Medical officer	307	329	363	411	500	526	5.2			
Primary care other than GP	157	181	203	172	150	164	9.3			
Registrar	1,365	1,504	1,529	1,653	1,689	1,774	5.0			
Specialist	2,940	3,175	3,359	3,713	3,879	3,993	2.9			
Other	207	248	237	237	275	291	5.8			
No answer	35	93	30	40	159	237	49.1			
Total	8,746	9,547	9,757	10,552	11,164	11,478	2.8			

Table 2: Changes in the medical workforce

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.

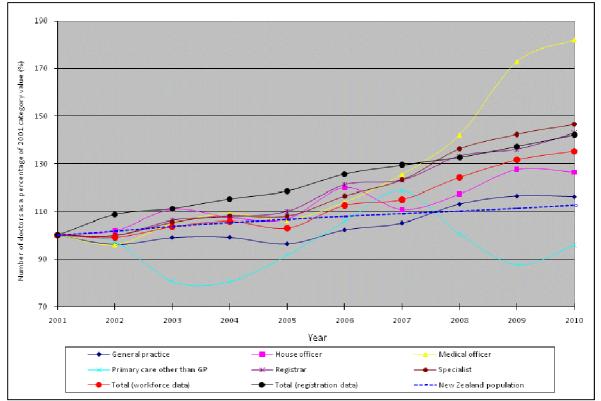


Figure 4: Changes in the medical workforce by work role (2001–2010)

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 the 2001 level in 2007. These work roles can overlap, so this variation may be due to doctors moving from year to year between primary care other than GP and general practice.

The Medical Officer category is relatively small and, as a result, increases that are small in comparison to the size of the medical workforce as a whole appear as large changes on this graph. The number of doctors in this category increased from 411 in 2008 to 526 in 2010.

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

Work type

The changes in work types since 2009 are shown in Table 3. Doctors working as house officers are not included in the table.

Work type at main work site ¹	No. of doctors in main work site 2010	No. of doctors in main work site 2009	Percentage change 2009 to 2010	Average hours worked (all sites)	No. in vocational training ²	Average age 2010	Vocational registration, current PC, NZ address ³
Accident and medical practice	107	124	-14	38.5	25	46	117
Anaesthesia	678	687	-14	47.5	108	40	561
Basic medical science	45	37	22	48.9	8	43	501
Breast medicine	8	10	-20	31.6	0	49	
Clinical genetics	9	13	-31	38.1	*	49	8
Dermatology	54	53	2	40.5	*	51	56
Diagnostic and interventional radiology	328	343	-4	40.5	42	46	296
Emergency medicine	338	335	1	41.3	76	40	132
Family planning and reproductive health	28	25	12	28.9	*	50	25
General practice	2782	2970	-6	37.8	316	49	2678
Intensive care medicine	90	82	10	52.6	34	40	56
Internal medicine	1066	1084	-2	48.5	184	44	760
Medical administration	66	57	16	43.6	4	54	16
Musculoskeletal medicine	17	20	-15	41.9	0	56	22
Obstetrics and gynaecology	314	293	7	48.8	57	45	236
Occupational medicine	64	73	-12	41.4	8	53	49
Ophthalmology	128	137	-7	44.4	11	47	122
Paediatrics	394	364	8	47.0	75	43	286
Palliative medicine	54	54	0	37.4	4	53	42
Pathology	192	212	-9	43.1	23	48	231
Primary care	376	454	-17	36.8	42	51	-
Psychiatry	620	659	-6	42.3	79	48	478
Public health medicine	196	221	-11	39.7	16	48	154
Radiation oncology	54	59	-8	51.3	11	45	45
Rehabilitation medicine	28	28	0	43.1	4	45	14
Sexual health medicine	30	35	-14	30.9	*	48	20
Sports medicine	24	26	-8	39.2	*	46	20
Surgery: cardiothoracic	38	36	6	57.6	5	44	23
Surgery: general	254	277	-8	52.6	30	45	240
Surgery: neurosurgery	22	26	-15	55.4	*	48	20
Surgery: orthopaedic	288	306	-6	52.5	33	46	239
Surgery: other	45	44	2	51.6	5	46	16

Table 3: Work types at main work site (house officers excluded)

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 2010 with a vocational scope, current 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 – dermatology 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 2010	No. of doctors in main work site 2009	Percentage change 2009 to 2010	Average hours worked (all sites)	No. in vocational training ²	Average age 2010	Vocational registration, current APC, NZ address ³
Surgery: otolaryngology	98	106	-8	47.5	8	47	94
Surgery: paediatric	18	16	13	58.8	*	47	14
Surgery: plastic	55	69	-20	51.1	7	44	53
Surgery: urology	57	72	-21	51.0	6	48	53
Surgery: vascular	20	22	-9	56.8	3	49	25
Not answered	1635	649	152	43.8	398	42	-
Other	137	116	18	40.5	8	50	22
Grand total	10757	10194	6	43.3	1643	46	7223

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 2010 with a vocational scope, current 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 – dermatology 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.

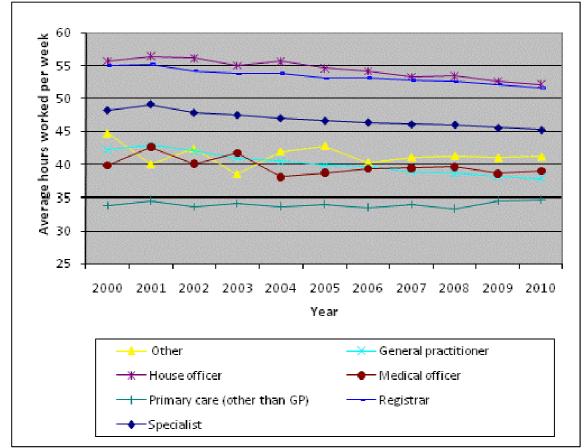


Figure 5: Average hours worked per week by work role at main work site

Hours worked by age and gender

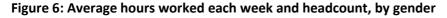
For all active doctors, the average number of hours worked was 43.9 per week. Table 4 shows that doctors aged in their twenties worked the most hours each week on average.

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 40–44 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.

Gender		Age group									All ages,	
	<=24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70+	average hours
Women	54.4	50.5	44.5	36.4	34.6	35.3	37.8	38.0	39.6	33.0	28.3	39.8
Men	54.7	52.6	50.6	48.4	47.5	47.2	47.5	46.1	43.8	37.8	27.5	46.6
Total	54.5	51.4	47.5	42.6	41.6	42.5	44.1	44.0	43.0	37.3	27.6	43.9

Table 4: Average of total hours worked, by age and gender



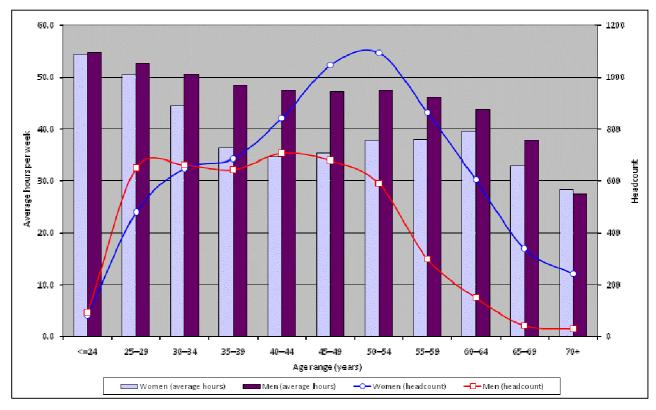


Table 5 shows that the average number of hours worked per week for both men and women is steadily decreasing, dropping from 44.2 overall in 2009 to 43.9 in 2010.

This information is self-reported. It 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 (2004–2010)

Gender	Year								
	2010	2009	2008	2007	2006	2005	2004		
Men	46.6	46.9	47.4	47.7	47.9	48.3	48.5		
Women	39.8	39.9	40.3	40.0	40.9	40.6	40.9		
Total	43.9	44.2	44.7	44.8	45.3	45.5	45.8		

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 oncall hours. Over 50 percent of specialists were on call, with 38 percent on call for 10 or more hours per week.

On-call hours, grouped	General practice	Primary care other than GP	House officer	Registrar	Medical officer	Specialist	Other
No on-call hours	74	88	96	86	79	49	88
1–4	8	2	0	1	2	4	2
5–9	5	1	1	4	3	9	3
10–19	5	4	1	5	8	17	4
20–49	6	5	1	3	7	17	2
50 and over	3	1	1	1	1	4	1
Total	100	100	100	100	100	100	100

Table 6: Doctors' on-call hours, grouped in each work role

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-two 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, 43 percent worked in a group private practice at their main work site, and a further 33 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	1.0	1.0	1.0
Government department / agency	1.2	0.6	0.9
Professional body	0.4	0.4	0.4
Group private practice	42.5	6.5	18.8
Private hospital	0.9	2.2	1.7
Public hospital	33.4	82.2	65.5
Solo private practice	11.7	4.3	6.8
University / polytechnic	1.5	1.2	1.3
Not answered	1.6	0.2	0.7
Other	5.9	1.4	2.9
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.

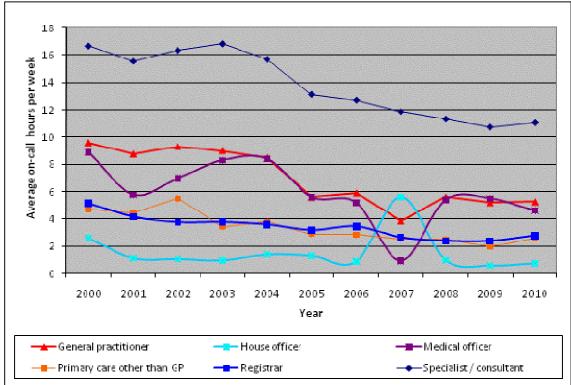


Figure 7: Average on-call¹ hours, by work role at main work site

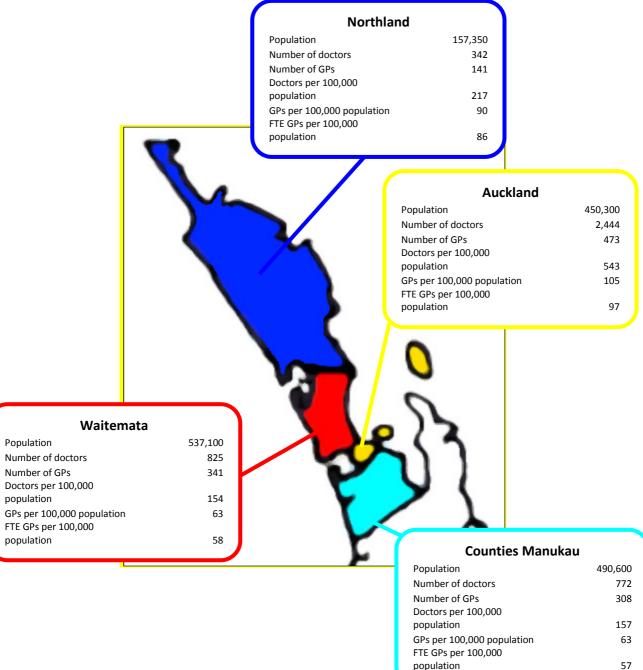
¹ On-call hours are defined as hours when the doctor was on call, but not actually working.

Geographic distribution

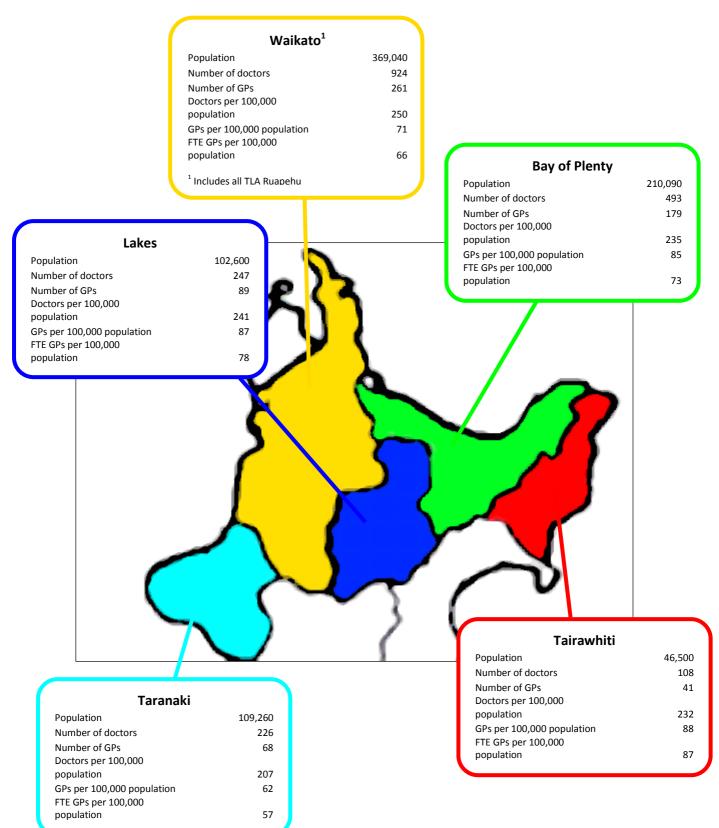
District health boards

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 41.

Northern / Auckland region

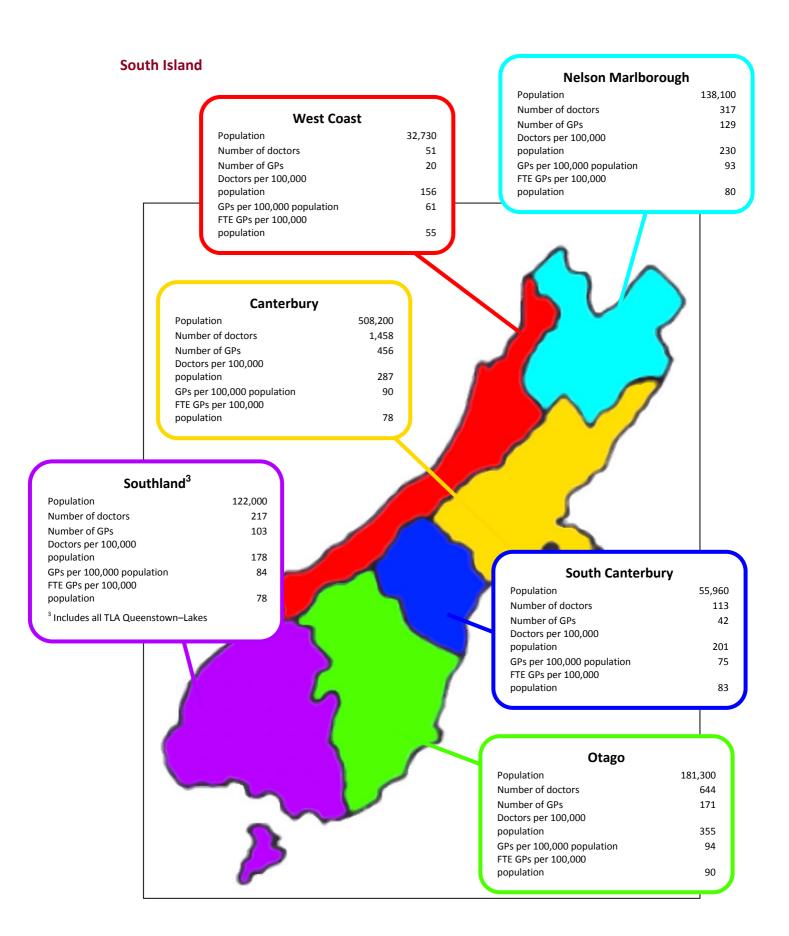


Central North Island



Lower North Island

		Hawke's Bay		
		Population	154,640	
		Number of doctors	372	
		Number of GPs	131	
Whanganui		Doctors per 100,000		
Population	58,400	population	241	
Number of doctors	125	GPs per 100,000 population	85	
Number of GPs	53	FTE GPs per 100,000		
Doctors per 100,000		population	79	
population	214			
GPs per 100,000 population	91			
FTE GPs per 100,000				
population	91			
	r v			
	\			
	- Y - Z -			
			Central	
		Population	1	159,350
		Number of doctors		390
		Number of GPs		110
		Doctors per 100,000		
		population		245
		GPs per 100,000 popula	tion	69
	Y	FTE GPs per 100,000		70
		population		70
		Wairarapa		
		Population	40,280	
		Number of doctors	57	
		Number of GPs	27	
		Doctors per 100,000		
		population	142	
		GPs per 100,000 population	67	
		FTE GPs per 100,000	70	
		population	70	
Capital & Coast ²				
Population 299,2		11)	
	53	Hutt		
	82	Population	143,800	
Doctors per 100,000		Number of doctors	300	
	52	Number of GPs	107	
	94	Doctors per 100,000		
FTE GPs per 100,000		population	209	
	81	GPs per 100,000 population	74	
² Includes all TLA Kapiti		FTE GPs per 100,000		
		population	67	



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).

	No. of all	No. of	FTEs	FTEs per	Average hours	No. of doctors per	IMGs	TLA
Site 1 TLA	doctors	GPs ¹	GPs ²	100,000	GPs	100,000	% of all	population ³
Cities	570				22	242		
North Shore City	570	164	143	63	33	249	41	229,000
Waitakere City	187	120	109	53	35	90	41	208,100
Auckland City Manukau City	2444 697	473 246	436 223	97 59	34 36	543 186	33 42	450,300 375,600
Hamilton City	748	128	118	83	36	523	42	143,000
Tauranga City	389	116	95	83	30	340	48	143,000
Napier City	167	54	51	89	37	290	42	57,600
Palmerston North City	322	68	68	83	39	396	49	81,300
Porirua City	71	42	35	67	33	136	41	52,100
Upper Hutt City	37	34	30	73	35	90	49	41,100
Lower Hutt City	263	73	66	64	36	256	40	102,700
Wellington City	937	198	169	85	32	474	32	197,700
Nelson City	216	57	45	98	31	475	31	45,500
Christchurch City	1369	381	324	86	32	363	36	376,700
Dunedin City	586	132	121	97	34	470	33	124,800
Invercargill City	143	45	45	86	39	273	62	52,400
All cities	9146	2331	2078	78	34	345	38	2,652,200
Districts								
Far North District	70	55	55	94	38	120	71	58,400
Whangarei District	259	74	67	83	35	324	45	80,000
Kaipara District	13	12	13	69	44	69	38	18,950
Rodney District	68	57	59	59	40	68	50	100,000
Papakura District	39	30	30	61	39	78	38	49,800
Franklin District	36	32	26	39	32	55	53	65,200
Thames Coromandel District	44	24	22	82	37	163	59	27,000
Hauraki District	11	11	10	56	36	61	64	17,900
Waikato District	16	14	14	29	38	33	63	48,300
Matamata–Piako District	26	23	23	73	39	82	54	31,800
Waipa District	34	27	26	56	35	74	44	45,700
Otorohanga District	4	4	4	45	42	43	50	9,300
South Waikato District	15	14	13	56	37	66	67	22,900
Waitomo District	12	7	7	68	33	124	33	9,640
Taupo District	32	24	23	68	38	94	53	34,000
Western BOP District Rotorua District	30 215	30 65	27 57	59 83	36 33	66 313	47 49	45,400 68,600
Whakatane District	63	25	24	70	36	183	79	34,400
Kawerau District	5	4	3	49	27	72	100	6,990
Opotiki District	6	4	4	49	38	67	67	9,000
Gisborne District	108	41	41	87	40	232	55	46,500
Wairoa District	7	5	5	58	39	83	86	8,440
Hastings District	189	64	57	76	35	252	44	75,100
Central Hawke's Bay District	9	8	8	62	42	67	67	13,500
New Plymouth District	208	55	48	66	33	284	53	73,200

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

Site 1 TLA	No. of all doctors	No. of GPs ¹	FTEs GPs ²	FTEs per 100,000	Average hours GPs	No. of doctors per 100,000	IMGs % of all	TLA population ³
Stratford District	4	4	5	57	53	44	100	9,160
South Taranaki District	14	9	9	33	35	52	79	26,900
Ruapehu District	14	9	8	58	35	104	71	13,500
Whanganui District	117	45	45	104	38	269	72	43,500
Rangitikei District	8	8	8	55	41	54	50	14,900
Manawatu District	39	21	22	73	36	131	49	29,700
Tararua District	11	9	9	52	41	62	55	17,750
Horowhenua District	18	12	13	43	38	59	78	30,600
Kapiti Coast District	45	42	37	75	34	91	51	49,400
Masterton District	47	17	19	79	41	201	62	23,400
Carterton District	4	4	3	34	26	53	50	7,540
South Wairarapa District	6	6	7	70	43	64	67	9,340
Tasman District	37	37	31	66	34	78	62	47,300
Marlborough District	64	35	34	76	35	141	47	45,300
Kaikoura District	3	3	3	88	45	79	67	3,800
Buller District	7	7	6	55	31	70	57	10,000
Grey District	41	11	10	75	32	296	63	13,850
Westland District	3	2	2	25	45	34	100	8,880
Hurunui District	10	10	10	87	39	90	50	11,100
Waimakariri District	21	18	19	40	42	44	43	47,600
Selwyn District	28	25	21	53	34	71	46	39,600
Ashburton District	27	19	21	71	44	92	37	29,400
Timaru District	105	34	37	84	44	236	41	44,400
Mackenzie District	3	3	4	100	53	75	67	4,010
Waimate District	5	5	5	63	38	66	60	7,550
Waitaki District	22	17	17	82	40	106	68	20,800
Cent. Otago District	24	14	15	82	35	132	33	18,200
Queenstown–Lakes District	42	35	30	108	33	151	50	27,800
Clutha District	12	8	9	53	42	69	58	17,500
Southland District	16	13	12	41	37	54	56	29,500
Gore District	16	10	8	67	30	130	69	12,300
All districts	2332	1201	1146	67	37	136	53	1,714,600
All TLA	11,478	3,532	3,224	74	35	263	41	4,366,800

I	All TLA	11,478	3,532	3,224	74	35	263	41	4,366,80
1					с ,				

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 in GP role at all work sites. 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 remained at 3.0 percent, and the proportion of Pacific doctors dropped from 1.4 percent to 1.3 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 5.4 percent to 5.3 percent. 'Other European' rose from 18.2 percent to 19.7 percent, and the proportion identifying as Indian increased from 5.7 to 5.9 percent.

Māori, Pacific, Chinese and Indian 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.

	%	%	%	%	%	%	Avera	ge age
Ethnicity	2010	2009	2008	2007	2006	2005	Females	Males
New Zealand Māori	3.0	3.0	3.1	2.7	2.5	2.6	38	43
Pacific Island	1.3	1.4	1.8	1.6	1.6	1.5	37	43
Chinese	5.3	5.4	5.9	5.7	5.2	5.4	35	40
Indian	5.9	5.7	5.3	5.2	5.2	5.1	40	44
Other non-European	9.9	10.5	11.3	11.1	10.8	10.8	39	44
Other European	19.7	18.2	15.8	15.3	17.3	15.4	42	46
NZ European / Pakeha	53.3	53.9	55.3	56.9	55.9	57.5	43	50
Not answered	1.5	1.7	1.2	1.4	1.3	1.5	37	46
Refused	0.2	0.1	0.2	0.4	0.2	0.2	49	53
Total ¹	100	100	100	100	100	100	41	48

Table 9: Ethnicity and average ages of the medical workforce

¹Individual 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	но	МО	PC	R	S	Total ¹
New Zealand Māori	1	4	32	16	3	2	17	24	100
Pacific Island	0	2	28	17	3	3	26	21	100
Chinese	1	1	30	17	2	1	28	20	100
Indian	2	2	26	12	5	0	25	27	100
Other non-European	2	1	25	15	6	1	28	21	100
Other European	1	2	32	7	7	1	17	33	100
NZ European / Pakeha	2	3	32	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 (32 percent)
- specialist (24 percent)
- registrar (17 percent)
- house officer (16 percent).

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

- general practitioner (28 percent)
- specialist (21 percent)
- registrar (26 percent)
- house officer (17 percent).

Specialists made up 33 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 32 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	12	38	50	24	1.1	3.6
Anaesthesia	85	97	182	47	8.0	9.2
Dermatology	*	*	*	33	0.1	0.2
Diagnostic radiology	29	45	74	39	2.7	4.3
Emergency medicine	56	76	132	42	5.3	7.2
Family planning and reproductive health	4	0	4	100	0.4	0.0
General practice	369	270	639	58	34.7	25.5
Intensive care medicine	13	14	27	48	1.2	1.3
Internal medicine	144	171	315	46	13.5	16.2
Medical administration	4	*	*	57	0.4	0.3
Musculoskeletal medicine	0	*	*	0	0.0	0.1
Obstetrics and gynaecology	58	15	73	79	5.5	1.4
Occupational medicine	4	13	17	24	0.4	1.2
Ophthalmology	8	11	19	42	0.8	1.0
Paediatrics	77	33	110	70	7.2	3.1
Palliative medicine	6	*	8	75	0.6	0.2
Pathology	26	17	43	60	2.4	1.6
Psychological medicine or psychiatry	61	76	137	45	5.7	7.2
Public health medicine	20	9	29	69	1.9	0.9
Radiation oncology	9	8	17	53	0.8	0.8
Rehabilitation medicine	*	*	*	40	0.2	0.3
Sexual health medicine	4	*	*	80	0.4	0.1
Sports medicine	0	5	5	0	0.0	0.5
Surgery: cardiothoracic	*	4	*	20	0.1	0.4
Surgery: general	25	41	66	38	2.3	3.9
Surgery: neurosurgery	*	4	*	20	0.1	0.4
Surgery: orthopaedic	6	46	52	12	0.6	4.3
Surgery: other	0	*	*	0	0.0	0.3
Surgery: otolaryngology	7	5	12	58	0.7	0.5
Surgery: paediatric	0	*	*	0	0.0	0.1
Surgery: plastic and reconstructive	8	6	14	57	0.8	0.6
Surgery: urology	*	11	*	15	0.2	1.0
Surgery: vascular	*	4	*	20	0.1	0.4
Other	21	23	44	48	2.0	2.2
Grand total	1,064	1,058	2,122	50	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 (38 percent),
- accident and medical practice (24 percent)
- orthopaedic surgery (12 percent).

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

Women outnumbered men in vocational training in:

- general practice (58 percent),
- obstetrics and gynaecology (79 percent),
- paediatrics (70 percent),
- pathology (60 percent)
- public health medicine (69 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 40 percent. Women continued to outnumber men in house officer roles, making up 59 percent.

In most work roles, the proportion of women remained the same. In the role of medical officer, the proportion of women increased 2 percentage points to 47 percent, and women registrars were up 2 percentage point to 46 percent.

	Percentage of women											
Role at main work site	1980	1990	2000	2008	2009	2010						
House officer	32	44	47	56	57	59						
Registrar	23	29	38	46	44	46						
Medical officer	38	32	40	43	45	47						
Primary care other than GP	49	42	43	43	46	44						
Other	46	25	35	42	48	44						
General practitioner	13	24	37	43	44	44						
Specialist	9	13	19	26	27	27						

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

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 80 percent of doctors were women, and in paediatrics where 53 percent were women.

The proportion of women increased in 2010 in a number of vocational scopes – particularly in:

- rehabilitation medicine (from 21 percent to 46 percent)
- general surgery (from 8 percent to 19 percent)
- plastic surgery (from 8 percent to 22 percent)

Despite these three increases, women were significantly underrepresented in the surgical scopes. Only 13 percent of doctors working in surgical scopes were women, although this increased 6 percentage points from 7 percent in 2009.

			Percentage	of women		
Vocational scope	1980	1990	2000	2005	2009	2010
Accident and medical practice	_1	-	-	31	44	34
Anaesthesia	19	16	20	26	25	31
Basic medical science	12	16	7	0	22	27
Clinical genetics	-	-	-	0	45	67
Dermatology	3	17	19	29	29	24
Diagnostic and interventional radiology	8	14	23	29	29	31
Emergency medicine	-	0	26	28	29	41
Family planning and reproductive health	_	_	-	71	33	93
General practice	13	24	38	40	44	44
Intensive care medicine	-	-	18	16	15	27
Internal medicine	4	7	15	20	23	32
Medical administration	-	-	-	45	22	30
Musculoskeletal medicine	-	-	0	0	6	12
Obstetrics and gynaecology	10	17	29	36	38	54
Occupational medicine	-	5	17	14	14	16
Ophthalmology	6	11	12	15	20	24
Paediatrics	21	23	30	29	41	53
Palliative medicine	-	-	-	55	50	52
Pathology	15	22	30	35	37	39
Primary care	0	-	30	32	37	44
Psychiatry	19	28	33	36	39	43
Public health medicine	12	23	28	44	48	47
Radiation oncology	-	5	15	16	26	31

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

¹ A dash means data were not available.

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

		Percentage of women											
Vocational scope	1980	1990	2000	2005	2009	2010							
Rehabilitation medicine	-	-	0	0	21	46							
Sexual health medicine	17	-	50	70	80	80							
Sports medicine	-	-	25	9	21	21							
Surgery: cardiothoracic	-	-	6	6	10	13							
Surgery: general	-	-	6	5	8	19							
Surgery: neurosurgery	-	-	7	10	18	5							
Surgery: orthopaedic	-	-	3	4	5	7							
Surgery: other	-	-	3	8	7	11							
Surgery: otolaryngology	0	2	5	3	9	13							
Surgery: paediatric	-	-	15	8	15	17							
Surgery: plastic	-	-	3	3	8	22							
Surgery: urology	_	-	3	5	6	9							
Surgery: vascular	-	-	0	0	0	5							
Specialists and GPs ²	_	_	29	32	34	34							

¹ A dash means data were not available.
 ² Specialists and GPs exclude 'not answered' and 'other'.

International medical graduates

International medical graduates in this survey are doctors who obtained their primary medical qualification in a country other than New Zealand. Other countries define the term IMG differently, so take care when comparing the proportion of IMGs employed in New Zealand to the proportion employed in any other country.

From survey data, the proportion of international medical graduates (IMGs) is 41.1 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 43 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 64 percent. The proportion of IMGs in the work role of registrar increased to 41 percent from 40 percent. For house officers the proportion of IMGs decreased to 24 percent from 28 percent.

			Percentag	e of IMGs		
Role at main work site	1980	1990	2000	2008	2009	2010
House officer	27	21	25	21	28	24
Registrar	42	22	35	37	40	41
Medical officer	52	50	53	60	60	64
Primary care other than GP	42	39	33	36	33	33
Other	43	32	25	35	34	32
General practitioner	35	29	35	41	42	43
Specialist	28	32	35	40	41	42

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

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:

- emergency medicine
- palliative medicine
- psychiatry
- radiation oncology
- cardiothoracic surgery
- neurosurgery.

The proportion of IMGs increased in:

- emergency medicine (from 43 percent to 51 percent)
- cardiothoracic surgery (from 40 percent to 55 percent)
- paediatric surgery (from 15 percent to 50 percent).

The proportion of IMGs decreased in a number of other vocational scopes. The most notable decreases from 2009 to 2010 were in:

- palliative medicine (from 71 percent to 59 percent)
- accident and medical practice (from 59 percent to 50 percent).
- diagnostic and interventional radiology (from 35 percent to 26 percent).

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

			Percentag	e of IMGs		
Vocational scope	1980	1990	2000	2008	2009	2010
Accident and medical practice	_2	-	-	59	59	50
Anaesthesia	41	39	45	48	46	46
Basic medical science	31	42	20	45	56	24
Clinical genetics				0	55	22
Dermatology	30	20	23	30	29	31
Diagnostic and interventional radiology	24	27	32	34	35	26
Emergency medicine	-	50	48	45	43	51
Family planning and reproductive health	-	-	-	40	33	36
General practice	35	30	35	40	42	40
Intensive care medicine	_	_	18	26	33	32
Internal medicine	24	34	33	38	39	40
Medical administration	-	_	-	30	43	36
Musculoskeletal medicine	-	_	40	33	28	29
Obstetrics and gynaecology	24	28	45	49	52	50
Occupational medicine	-	41	31	33	35	33
Ophthalmology	18	16	22	25	21	23
Paediatrics	38	39	32	42	41	40
Palliative medicine	-	-	-	73	71	59
Pathology	21	26	38	45	44	44
Primary care	0	-	38	44	38	45
Psychiatry	41	50	57	57	58	59
Public health medicine	44	36	20	25	22	22
Radiation oncology	-	55	62	56	58	54
Rehabilitation medicine	-	-	29	63	57	64
Sexual health medicine	33	50	33	36	33	37
Sports medicine	-	-	4	24	32	29
Surgery: cardiothoracic	-	-	28	48	40	55
Surgery: general	-	_	30	37	37	32
Surgery: neurosurgery	-	-	50	65	65	64
Surgery: orthopaedic	-	-	13	19	22	28
Surgery: other	-	-	21	28	24	36
Surgery: otolaryngology	31	24	28	29	30	35
Surgery: paediatric	-	_	31	29	15	50
Surgery: plastic and reconstructive	_	_	19	23	25	27
Surgery: urology	_	_	29	20	21	23
Surgery: vascular			11	18	33	35
Specialists and GPs ³	_	_	35	41	41	41

All categories are vocational scopes except for basic medical science, breast medicine, primary care, and surgery: other.
 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 2009.

Final	Size			Р	ercent	age of	regist	ered ³	gradua	ates re	tained	, by po	ostgra	duate	year ⁴		
class year ¹	of class ²	Number registered	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1995	275	258	96	84	74	76	80	74	72	69	65	66	67	67	69	68	67
1996	275	264	97	88	78	80	78	77	75	69	64	64	61	64	66	67	
1997	284	266	97	86	73	68	72	72	70	68	64	65	61	63	62		
1998	288	251	96	80	69	77	77	73	70	66	61	61	59	58			
1999	305	270	99	79	75	77	77	72	70	67	59	56	58				
2000	323	286	94	82	74	77	78	79	76	74	67	60					
2001	297	271	95	79	78	81	80	78	74	72	65						
2002	308	285	94	81	76	79	82	78	76	72							
2003	329	302	94	81	80	78	79	75	74								
2004	342	284	101	87	85	88	85	81									
2005	318	297	100	84	77	78	77										
2006	322	287	99	89	85	80											
2007	323	284	96	83	79												
2008	356	308	102 ⁵	93													
2009	389	337	100														

Table 16: Graduate retention of class years 1995–2009

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 practising certificates 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, 84 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 61 and 69 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.



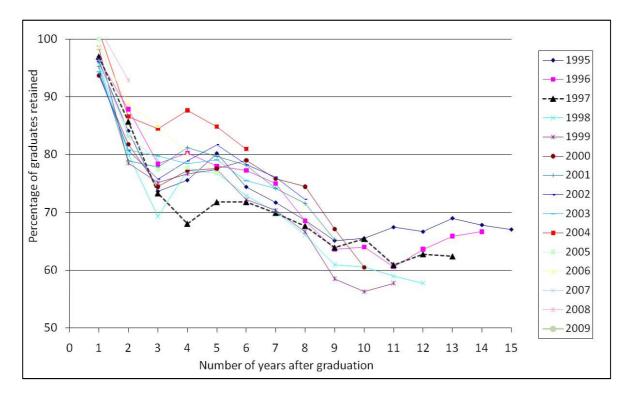


 Table 17: Average percentage of registered graduates retained, by postgraduate year

		0	8					raduate		6		,			
	1	2 3 4 5 6 7 8 9 10 11 12 13 14 15													
Average percentage of registered graduates retained	97	84	77	78	79	76	73	69	64	62	61	63	66	67	97
Standard deviation	2.7	4.2	4.4	4.5	3.3	3.2	2.5	3.0	2.9	3.6	3.7	3.7	3.3	0.8	-

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 2009. Reliable data are not available for the years before 2000.

First year	Number			Percenta	age of IMC	as retaine	d, by post	-registrat	ion year ²		
registered ¹	registered	1	2	3	4	5	6	7	8	9	10
2000	917	47.0	37.8	34.1	30.9	28.4	27.4	26.7	24.5	22.6	21.6
2001	930	46.1	35.8	32.4	30.9	29.9	29.6	29.0	27.0	26.3	
2002	1,078	48.2	36.9	32.1	31.3	28.6	32.3	31.6	31.5		
2003	1,090	44.9	32.8	29.4	28.8	27.8	27.2	26.3			
2004	1,017	48.2	32.5	29.1	26.9	26.2	26.2				
2005	1,130	54.0	36.2	32.1	30.7	30.1					
2006	969	50.5	35.2	32.5	31.0						
2007	1,105	61.4	45.6	39.5							
2008	1,097	57.1	37.0								
2009	1,162	59.4									

Table 18: Retention rates for IMGs, 2000–2009

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.

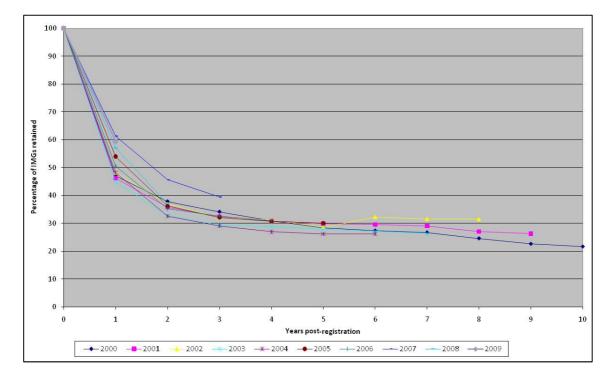


Figure 9: Retention rate for IMGs, 2000–2009

Table 19 shows that on average just over 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 fewer than 33 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.

				Р	ost-regist	ration yea	r				
	1	1 2 3 4 5 6 7 8 9 10									
Average percentage of IMGs											
retained	51.7	36.7	32.7	30.1	28.5	28.5	28.4	27.7	24.4	21.6	
Standard deviation	5.9	3.8	3.2	1.6	1.4	2.4	2.4	3.5	2.6	-	

Table 19: Average percentage of IMGs retained, by post-registration year

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 42.

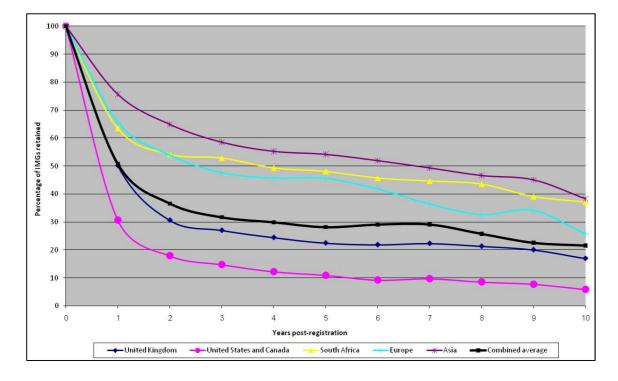


Figure 10: Retention rate for IMGs by country, 2000–2009

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 just over 30 percent retained 1 year after registration. Six years after registration, less than 10 percent remain.

Doctors from the United Kingdom also have lower-than-average retention rates. Just over 30 percent of these doctors are retained 2 years after registration, dropping to just over 20 percent after 9 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 44.

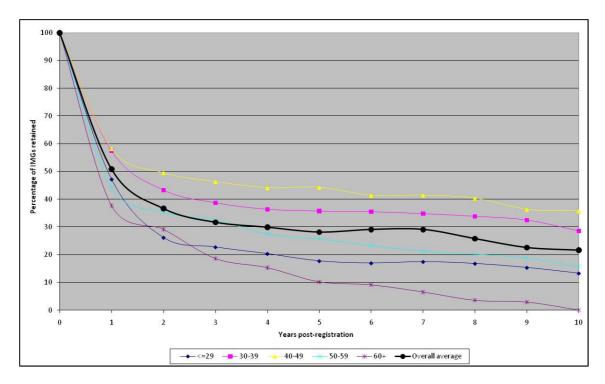


Figure 11: Retention rate for IMGs by age group, 2000–2009

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 8 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 4 years, and then levels out to just below 20 percent in subsequent years.

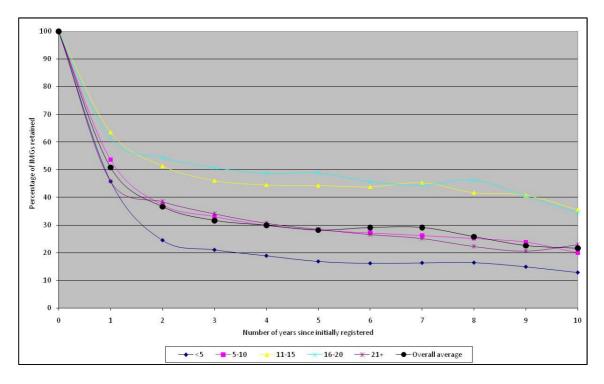
These figures suggest that doctors who come to New Zealand aged between 30 and 50 are more likely to stay long term.

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 46.





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 9 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 under 25 percent after 2 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.

Year	Number	Percentage of IMGs retained, by post-registration year ¹ 1 2 3 4 5 6 7 8 9 10 83 76 72 68 64 64 60 55 51 47												
registered	registered	1	2	3	4	5	6	7	8	9	10			
2000	256	83	76	72	68	64	64	60	55	51	47			
2001	242	83	76	74	69	64	61	57	54	51				
2002	250	87	78	72	73	68	66	63	61					
2003	316	90	81	79	74	71	68	66						
2004	311	83	75	69	66	64	60							
2005	323	77	72	68	65	66								
2006	284	81	76	69	68									
2007	331	82	76	75										
2008	384	75	71											
2009	469	80												
Average		82	76	72	69	66	64	62	56	51	47			
Standard devia	ation	4	3	4	3	3	3	4	4	0				

Table 20: Retention rate for IMGs after general scope obtained

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.

Year	Number			Percenta	ge of IMG	is retaine	d, by post	-registrat	ion year ¹		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	162	91	91	85	81	80	74	76	70	67	66
2001	275	92	85	87	81	81	79	77	74	71	
2002	201	93	92	88	89	84	83	82	77		
2003	220	95	89	86	80	80	75	71			
2004	223	89	83	82	78	73	70				
2005	205	92	85	79	80	75					
2006	204	89	86	81	76						
2007	223	80	78	73							
2008	229	84	78								
2009	237	83									
Average		89	85	83	81	79	76	76	74	69	66
Standard devia	ation	5	5	5	4	4	5	4	3	2	

Table 21: Retention rate for IMGs after vocational scope obtained

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 76 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 90 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

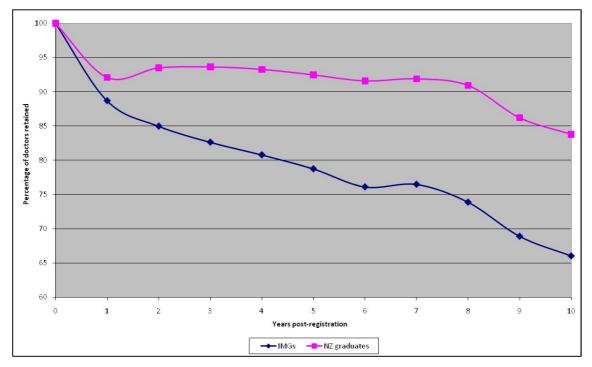


Table 22: Retention rate for New Zealand graduates after vocational scope obtained

Year	Number		Per	centage o	f NZ grad	uates reta	ined, by	post-regis	tration ye	ear1	
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	216	96	98	98	95	95	94	93	92	84	84
2001	360	97	95	96	94	94	93	94	91	89	
2002	273	93	94	93	98	95	94	92	90		
2003	246	96	91	96	93	93	90	88			
2004	210	93	98	90	91	90	86				
2005	231	93	90	97	93	88					
2006	224	89	96	94	88						
2007	215	89	89	85							
2008	220	89	89								
2009	220	87									
Average		92	94	94	93	92	92	92	91	86	84
Standard devia	ition	4	4	4	3	3	3	3	1	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.

Survey method

Timing of the questionnaire

Workforce data are collected as part of the renewal of practising certificates. 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 2009, February 2010, May 2010, and August 2010.

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 practising certificate
- 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 2010 workforce survey, survey forms were sent out to 13,292 doctors with New Zealand addresses. Ninety-three percent (12,424) 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 11,478 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 practising certificate 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 2010.¹

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 a practising certificate 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.

¹ Statistics New Zealand: Estimated Resident Population as at 30 June 2009.

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.

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.

Medical Officer

The National DHB Collective Agreement (MECA) between the Association of Salaried Medical Specialists (ASMS) and DHBs² defines Medical Officer as 'any medical practitioner who is registered under the Health Practitioners Competence Assurance Act 2003 ... who is not a medical specialist'.

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: http://www.nzhis.govt.nz/ Phone: 04 922 1800

²http://www.asms.org.nz/Site/Employment_in_NZ/National_DHB_Collective_Agreement_-_MECA/MECA.aspx

If you would like to contact the Council's information systems analyst about this report, please email workforce@mcnz.org.nz.

Acknowledgements

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

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, and 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.

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	342	141	157,350	217	135	86	90
Waitemata	825	341	537,100	154	312	58	63
Auckland	2,444	473	450,300	543	436	97	105
Counties Manukau	772	308	490,600	157	279	57	63
Waikato ³	924	261	369,040	250	245	66	71
Bay of Plenty	493	179	210,090	235	153	73	85
Lakes	247	89	102,600	241	80	78	87
Tairawhiti	108	41	46,500	232	41	87	88
Hawke's Bay	372	131	154,640	241	122	79	85
Taranaki	226	68	109,260	207	62	57	62
Midcentral	390	110	159,350	245	112	70	69
Whanganui	125	53	58,400	214	53	91	91
Wairarapa	57	27	40,280	142	28	70	67
Hutt	300	107	143,800	209	96	67	74
Capital & Coast ⁴	1053	282	299,200	352	241	81	94
Nelson Marlborough	317	129	138,100	230	110	80	93
West Coast	51	20	32,730	156	18	55	61
Canterbury	1,458	456	508,200	287	398	78	90
Otago	644	171	181,300	355	162	90	94
South Canterbury	113	42	55,960	202	46	83	75
Southland ⁵	217	103	122,000	178	95	78	84
Total	11,478	3,532	4,366,800	263	3,202	73	81

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

Southern ⁶	861	274	303,300	284	258	85	90

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.

⁶ Southern is the result of a merger between Southland and Otago and was formed on 1 May 2010. For consistency with previous reports, the district health board localities for Southland and Otago are still shown separately in the main table, but the combined figures are shown underneath.

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.

First year	Number			Pe	rcentage r	etained, by	y post-regi	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	436	37.4	22.9	22.5	20.4	18.1	19.0	18.8	18.1	16.7	17.0
2001	444	41.0	29.1	24.5	25.0	25.5	24.8	23.6	22.2	23.4	
2002	507	41.4	27.7	24.8	26.6	25.0	24.1	25.0	23.6		
2003	527	39.5	24.7	22.7	23.3	22.7	21.7	21.9			
2004	504	43.7	22.8	21.8	19.7	19.0	19.7				
2005	565	50.8	29.7	25.1	25.5	24.6					
2006	404	53.5	32.7	32.7	30.7						
2007	447	64.0	49.0	42.1							
2008	458	62.4	37.1								
2009	485	68.2									
Average		50.2	30.6	27.0	24.5	22.5	21.9	22.3	21.3	20.1	17.0

Table 24: Retention rate for United Kingdom graduates 2000–2009

Table 25: Retention rate for South African graduates 2000–2009

First year	Number			Pe	rcentage re	etained, by	/ post-regis	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	89	66.3	66.3	56.2	52.8	50.6	43.8	43.8	39.3	34.8	37.1
2001	97	70.1	69.1	66.0	62.9	57.7	53.6	51.5	51.5	43.3	
2002	116	56.0	58.6	55.2	49.1	43.1	44.0	39.7	39.7		
2003	106	63.2	53.8	49.1	46.2	47.2	48.1	43.4			
2004	67	64.2	49.3	44.8	40.3	40.3	38.8				
2005	75	60.0	50.7	48.0	50.7	49.3					
2006	86	54.7	45.3	46.5	43.0						
2007	79	69.6	48.1	57.0							
2008	30	66.7	46.7								
2009	34	64.7									
Average		63.4	54.2	52.8	49.3	48.0	45.7	44.6	43.5	39.1	37.1

First year	Number			Per	centage re	etained, by	post-regis	stration ye	ar		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	101	23.8	14.9	11.9	6.9	6.9	5.9	5.0	5.0	5.0	5.9
2001	122	17.2	12.3	13.9	10.7	9.8	12.3	14.8	10.7	10.7	
2002	119	21.8	16.8	10.9	10.9	8.4	7.6	9.2	10.1		
2003	148	24.3	16.2	11.5	11.5	10.8	9.5	10.1			
2004	136	33.1	17.6	14.0	11.0	9.6	11.0				
2005	171	38.6	22.8	21.1	18.7	20.5					
2006	137	32.1	20.4	19.0	16.1						
2007	188	41.0	20.2	16.0							
2008	218	36.7	20.2								
2009	220	39.1									
Average		30.8	17.9	14.8	12.3	11.0	9.3	9.8	8.6	7.8	5.9

Table 26: Retention rate for United States and Canadian graduates 2000–2009

Table 27: Retention rate for European graduates 2000–2009

First year	Number			Pe	rcentage r	etained, by	y post-regi	stration ye	ar		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	35	62.9	60.0	45.7	40.0	37.1	34.3	34.3	25.7	25.7	25.7
2001	47	68.1	55.3	57.4	51.1	55.3	40.4	42.6	40.4	42.6	
2002	60	65.0	46.7	40.0	43.3	33.3	31.7	31.7	31.7		
2003	43	58.1	55.8	46.5	41.9	39.5	39.5	37.2			
2004	46	76.1	69.6	60.9	60.9	65.2	63.0				
2005	49	63.3	51.0	46.9	42.9	42.9					
2006	63	55.6	38.1	33.3	39.7						
2007	72	70.8	54.2	50.0							
2008	76	67.1	53.9								
2009	103	69.9									
Average		65.7	53.8	47.6	45.7	45.6	41.8	36.4	32.6	34.1	25.7

Table 28: Retention rate for Asian graduates 2000–2009

First year	Number			Pe	rcentage r	etained, by	y post-regi	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	133	76.7	72.2	65.4	62.4	58.6	53.4	51.9	46.6	45.1	38.3
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	55.0	53.0	53.0				
2005	112	77.7	69.6	63.4	58.9	54.5					
2006	115	70.4	56.5	47.0	44.3						
2007	148	79.7	60.8	54.1							
2008	107	76.6	59.8								
2009	102	77.5									
Average		75.7	64.9	58.5	55.3	54.2	52.0	49.4	46.6	45.1	38.3

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).

First year	Number			Pe	rcentage r	etained, by	y post-regi	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	361	38.8	24.1	22.4	21.1	17.7	18.3	17.7	16.3	13.9	13.3
2001	338	37.3	20.1	16.9	17.5	18.6	19.2	18.0	15.4	16.9	
2002	390	39.5	21.5	19.5	20.5	19.2	18.5	18.7	18.7		
2003	384	38.0	18.2	16.9	16.1	16.1	14.8	15.4			
2004	400	38.8	16.5	15.8	15.3	13.0	14.0				
2005	448	49.1	27.2	23.4	23.0	21.7					
2006	309	45.6	32.7	29.8	29.1						
2007	348	67.2	45.1	37.4							
2008	397	57.4	30.0								
2009	427	60.2									
Average		47.2	26.2	22.8	20.4	17.7	17.0	17.5	16.8	15.4	13.3

Table 29: Retention rate for IMGs aged 29 or younger

Table 30: Retention rate for IMGs aged 30–39

First year	Number			Pe	rcentage r	etained, b	y post-regi	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	298	55.7	48.0	42.6	39.6	36.2	35.6	34.9	30.9	29.5	28.5
2001	333	55.3	47.4	42.9	42.0	39.6	39.3	36.9	36.0	35.4	
2002	376	54.0	47.9	42.3	40.4	37.5	36.2	34.6	34.6		
2003	376	50.8	40.2	36.4	36.4	35.9	33.8	32.7			
2004	305	53.4	40.3	34.1	30.8	31.5	32.5				
2005	352	58.2	39.2	34.9	33.2	33.5					
2006	369	58.5	37.1	33.6	32.0						
2007	446	64.1	46.9	42.8							
2008	404	61.6	42.6								
2009	387	62.5									
Average		57.4	43.3	38.7	36.4	35.7	35.5	34.8	33.8	32.5	28.5

First year	Number			Pe	rcentage r	etained, by	/ post-regis	stration ye	ar		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	151	53.0	53.0	50.3	47.0	47.7	43.0	42.4	40.4	38.4	35.8
2001	143	54.5	50.3	44.8	44.1	41.3	39.2	44.1	40.6	34.3	
2002	167	61.1	52.7	47.3	44.9	41.9	40.7	40.1	40.1		
2003	194	52.1	49.5	45.4	43.3	39.7	40.2	39.2			
2004	185	59.5	51.9	49.2	44.9	45.9	43.8				
2005	193	66.3	56.0	51.8	49.7	49.2					
2006	145	49.7	35.2	35.2	35.2						
2007	154	64.3	53.9	46.8							
2008	142	57.0	43.7								
2009	165	64.8									
Average		58.2	49.6	46.3	44.2	44.3	41.4	41.4	40.4	36.3	35.8

Table 31: Retention rate for IMGs aged 40–49

Table 32: Retention rate for IMGs aged 50–59

First year	Number			Pe	rcentage r	etained, b	y post-regi	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	70	44.3	38.6	32.9	22.9	21.4	15.7	17.1	18.6	15.7	15.7
2001	64	42.2	34.4	43.8	29.7	28.1	21.9	23.4	23.4	21.9	
2002	98	44.9	32.7	26.5	24.5	21.4	19.4	19.4	18.4		
2003	92	38.0	33.7	25.0	26.1	26.1	29.3	25.0			
2004	86	50.0	38.4	34.9	31.4	32.6	30.2				
2005	95	46.3	33.7	30.5	25.3	24.2					
2006	89	44.9	37.1	38.2	32.6						
2007	111	36.9	32.4	27.9							
2008	94	45.7	37.2								
2009	113	48.7									
		1									
Average		44.2	35.3	32.5	27.5	25.6	23.3	21.2	20.1	18.8	15.7

Table 33: Retention rate for IMGs aged 60 or older

First year	Number			Pe	rcentage r	etained, b	y post-regi	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	37	37.8	27.0	16.2	5.4	2.7	8.1	2.7	2.7	0.0	0.0
2001	52	26.9	25.0	17.3	13.5	11.5	9.6	7.7	5.8	5.8	
2002	47	36.2	29.8	12.8	12.8	2.1	2.1	2.1	2.1		
2003	44	36.4	22.7	18.2	15.9	15.9	15.9	13.6			
2004	41	46.3	31.7	19.5	22.0	12.2	9.8				
2005	42	31.0	21.4	14.3	16.7	16.7					
2006	57	35.1	33.3	24.6	21.1						
2007	46	43.5	41.3	26.1							
2008	60	41.7	30.0								
2009	70	41.4									
Average		37.6	29.1	18.6	15.3	10.2	9.1	6.5	3.5	2.9	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.)

First year	Number			Pe	rcentage r	etained, by	y post-regi	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	303	38.9	21.8	20.1	19.5	16.5	17.2	16.5	15.5	13.2	12.9
2001	306	37.6	20.9	17.6	18.0	19.6	20.3	19.0	16.0	16.7	
2002	343	37.6	20.4	17.5	19.2	18.4	16.9	16.3	17.8		
2003	367	34.3	17.4	16.1	14.7	15.0	13.6	13.6			
2004	370	37.6	14.9	13.8	13.5	11.9	13.0				
2005	432	47.7	25.5	22.2	21.3	19.9					
2006	279	43.0	29.7	26.5	26.2						
2007	352	65.1	41.5	34.7							
2008	409	57.2	28.6								
2009	445	59.1									
Average		45.8	24.5	21.1	18.9	16.9	16.2	16.4	16.4	14.9	12.9

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

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

First year	Number			Pe	rcentage r	etained, by	/ post-regi	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	245	46.5	38.4	33.5	30.2	26.5	27.8	26.1	23.3	21.2	20.0
2001	241	45.2	36.1	32.4	31.5	29.9	28.6	26.6	24.9	26.6	
2002	285	49.8	37.9	35.1	33.3	30.2	29.8	29.1	27.4		
2003	267	43.8	29.2	24.3	25.1	24.0	23.2	23.2			
2004	219	47.5	32.4	28.8	24.7	25.1	26.5				
2005	249	57.8	38.2	34.5	34.5	33.7					
2006	299	56.5	34.8	32.4	30.1						
2007	319	63.6	48.3	43.9							
2008	279	61.3	40.9								
2009	259	64.1									
Average		53.6	37.3	33.1	29.9	28.2	27.2	26.3	25.2	23.9	20.0

First year	Number			Pe	rcentage r	etained, by	y post-regi	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	124	61.3	56.5	51.6	48.4	45.2	41.1	43.5	37.1	36.3	35.5
2001	135	65.2	59.3	53.3	51.1	48.1	49.6	48.1	46.7	45.2	
2002	160	60.0	55.6	47.5	44.4	42.5	41.3	40.0	41.3		
2003	152	67.8	55.9	53.9	53.9	53.3	49.3	49.3			
2004	141	63.1	48.9	41.1	40.4	38.3	37.6				
2005	157	62.4	45.2	40.1	35.0	38.2					
2006	126	60.3	42.9	38.9	38.1						
2007	160	67.5	46.9	41.9							
2008	156	64.1	50.6								
2009	152	63.8									
Average		63.6	51.3	46.1	44.5	44.3	43.8	45.3	41.7	40.7	35.5

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

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

First year	Number			Pe	rcentage r	etained, by	y post-regi	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	84	58.3	58.3	56.0	48.8	52.4	42.9	41.7	40.5	38.1	34.5
2001	84	60.7	51.2	48.8	52.4	46.4	45.2	50.0	50.0	42.9	
2002	91	62.6	60.4	54.9	51.6	49.5	49.5	48.4	48.4		
2003	104	55.8	51.9	50.0	45.2	40.4	40.4	37.5			
2004	103	62.1	60.2	54.4	49.5	51.5	50.5				
2005	96	70.8	62.5	53.1	54.2	53.1					
2006	82	56.1	41.5	39.0	39.0						
2007	76	61.8	59.2	50.0							
2008	70	54.3	44.3								
2009	87	70.1									
Average		61.3	54.4	50.8	48.7	48.9	45.7	44.4	46.3	40.5	34.5

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

First year	Number			Pe	rcentage r	etained, by	y post-regi	stration ye	ear		
registered	registered	1	2	3	4	5	6	7	8	9	10
2000	161	46.0	42.2	36.6	30.4	28.0	27.3	26.1	26.1	23.6	23.0
2001	164	40.2	36.0	34.1	26.8	25.6	21.3	22.6	20.7	17.7	
2002	199	48.2	38.2	30.2	29.1	23.1	21.1	21.6	20.1		
2003	200	42.5	38.5	31.5	32.0	31.5	33.5	30.5			
2004	184	51.1	40.2	37.0	33.7	32.6	29.9				
2005	196	48.0	37.2	34.2	31.6	30.1					
2006	183	42.6	36.1	34.4	31.1						
2007	198	47.0	42.4	34.8							
2008	183	45.4	35.5								
2009	219	47.0									
	_										
Average		45.8	38.5	34.1	30.7	28.5	26.6	25.2	22.3	20.6	23.0