



The New Zealand Medical Workforce in 2012

Protecting the public, promoting good medical practice

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

Introduction

This report presents the results of the Medical Council of New Zealand 2012 workforce survey. It contains information about changes in the medical workforce including retention rates for doctors.

The data for the 2012 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 Services Unit of the New Zealand Health Information Service.

www.moh.govt.nz

Results published in this report are based on the 2012 survey data unless otherwise stated.

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Facts at a glance

	2007	2008	2009	2010	2011	2012
Size of the workforce ¹	12,643	12,949	13,408	13,883	14,333	14,686
Doctors per 100,000 population ²	299.0	303.4	310.7	317.9	325.4	328.7
Proportion of IMGs ³ (%)	38.4	38.9	40.6	41.1	41.5	41.4
Proportion of females (%)	37.8	38.6	39.1	39.6	40.4	41.3
Average age of workforce	44.6	44.7	44.9	45.1	45.2	45.4
Average weekly workload (hours)	44.8	44.7	44.2	43.9	43.7	43.9
Average proportion of new IMGs retained after 1 year ⁴	48.4	50	50.8	51.7	52.7	53.5

¹ Figures are based on registration data. See Table 1 for more information.

² Figures are 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 45 for definition)

⁴ See 'Retention' on page 33 for more information, and 'Survey' on page 43 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 2.5 percent, from 14,333 in 2011 to 14,686 in 2012. This change compares with increases of 3.2 percent in 2011 and 3.5 percent in 2010 (see Table 1).

Table 1: Estimated yearly workforce growth and changes in composition

	1980	1985	1990	1995	2000	2005	2010	2011	2012
Total workforce (based on registration data)¹	–	–	–	–	9,779	11,578	13,883	14,333	14,686
Percentage change in total workforce from previous year measured by registration data (%)	–	–	–	6.3	2.6	2.9	3.5	3.2	2.5
Short-term registrants ²	–	–	165	129	421	287	122	138	118
Short-term registrants as a percentage of workforce	–	–	2.5	1.7	4.3	2.5	0.9	1.0	0.8
Total workforce (based on survey response)	4,881	5,556	6,339	7,530	8,615	8,746	11,478	11,688	12,017
Graduated from:									
– New Zealand	3,266	4,095	4,480	5,024	5,645	5,459	6,766	6,837	7,041
– overseas	1,615	1,461	1,859	2,506	2,970	3,287	4,712	4,851	4,976
% IMGs	33.1	26.3	29.3	33.3	34.5	37.5	41.1	41.5	41.4
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 and Medical Practitioners Act 1968. 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 and in 2012, the largest group is doctors aged 50–54.

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 (1980–2012)

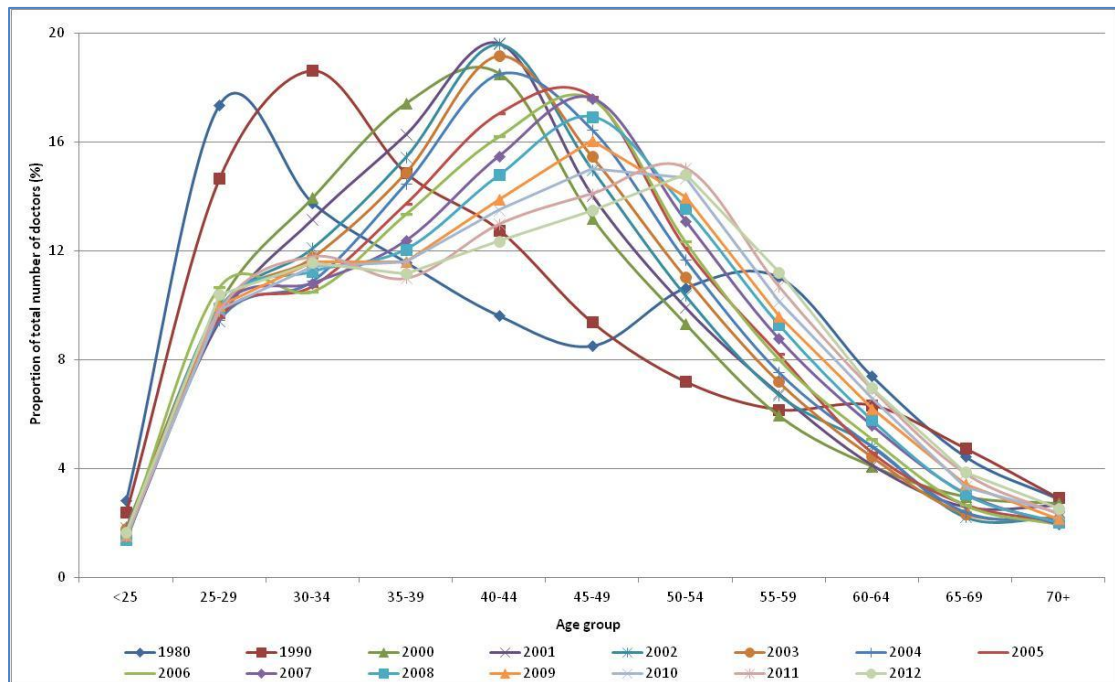
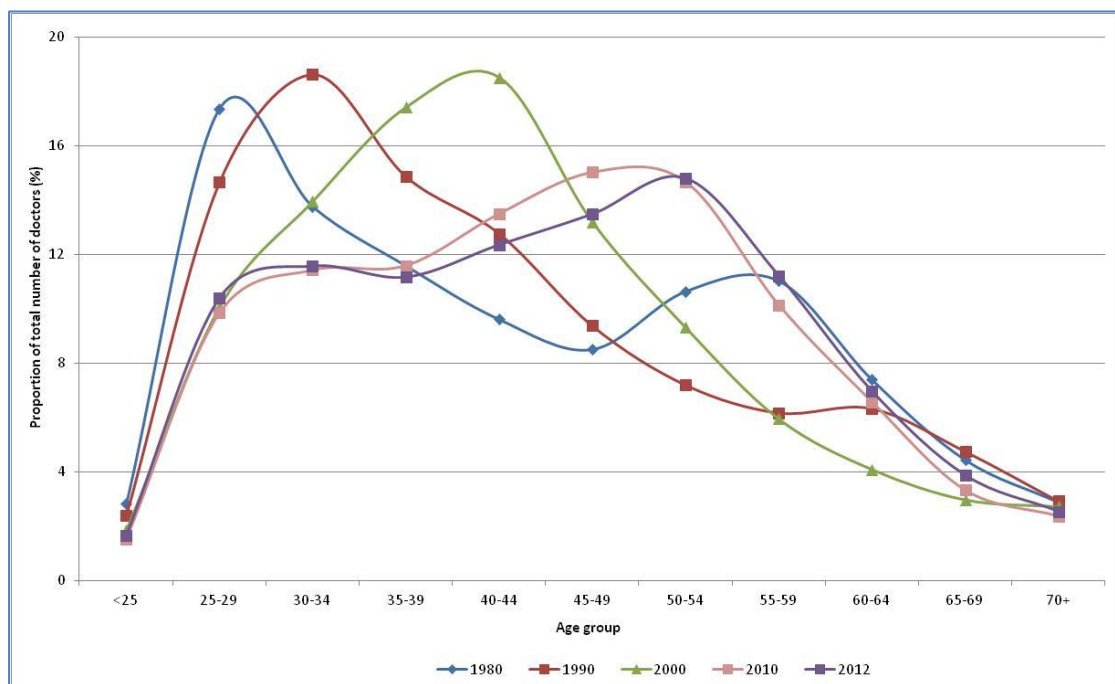


Figure 2: Age distribution of the active workforce (1980–2012), showing only 1980, 1990, 2000, 2010 and 2012 series



Gender distribution of the workforce

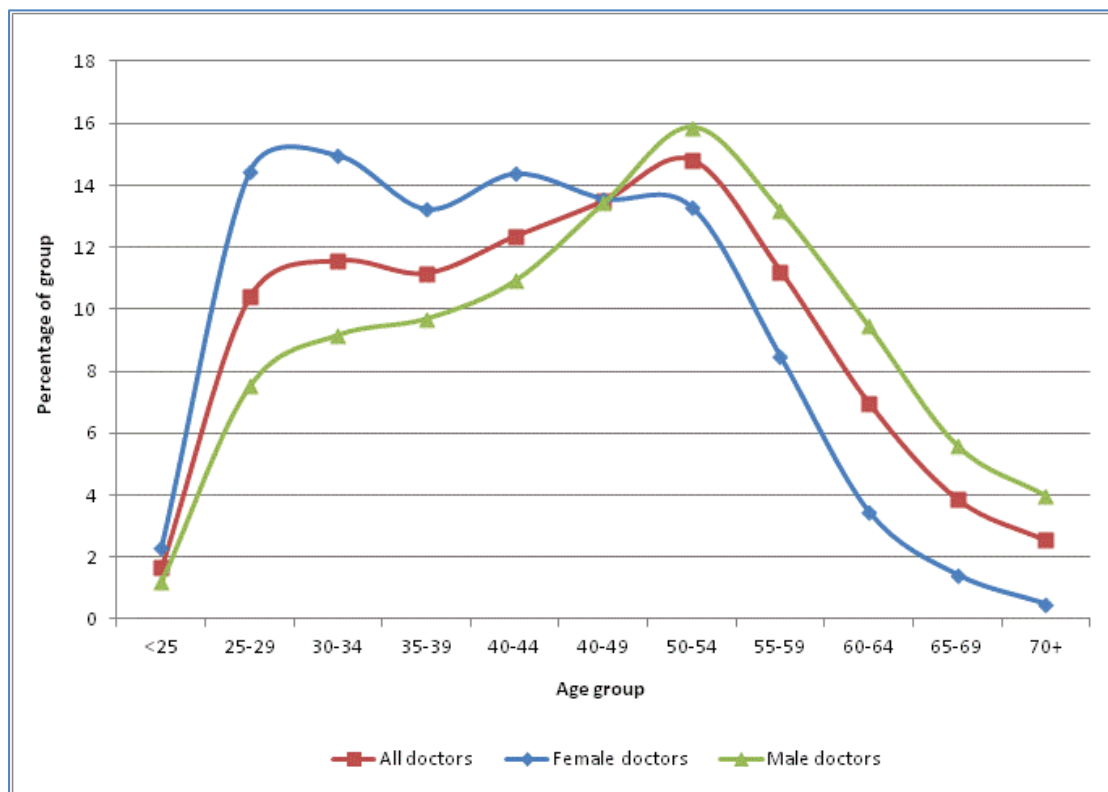
Figure 3 compares the age distribution of males and females in the active workforce.

Female doctors are more likely to be younger than 40 compared with male doctors: 45 percent of females in the workforce are under the age of 40, compared to 28 percent of males. Only 5 percent of females in the workforce are over the age of 60, compared to 19 percent of males.

This reflects that although male doctors have historically outnumbered female doctors, and still make up 59 percent of the medical workforce, this gap is decreasing. Females now outnumber males amongst new doctors: 58 percent of house officers, and 49 percent of registrars were female (see table 13 on page 27).

There is a slight dip for female doctors around the 35-39 age group. We don't know for sure what factors may be behind this, but one possibility might be female doctors taking time out from the workforce for family reasons.

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. The categories of specialist, and primary care other than general practice (called primary care other than GP from this point) are up 2.1 and 7.2 percent respectively and the general practitioner category is down 0.6 percent.

We have previously found that doctors sometimes shift between the categories of general practitioner and primary care other than GP from year to year depending on how they categorise the type of work they are doing. In addition, the categories of other and no answer increased in 2012. These factors may be part of the reason the number of general practitioners is slightly lower in 2012 than in 2011.

Table 2: Changes in the medical workforce

Workforce role ²	Active doctors ¹							Percentage change 2011–2012
	2006	2007	2008	2009	2010	2011	2012	
General practitioner	3,106	3,195	3,435	3,541	3,532	3,614	3,594	-0.6
House officer	911	841	891	970	961	1,034	1,071	3.6
Medical officer	329	363	411	500	526	523	554	5.9
Primary care other than GP	181	203	172	150	164	138	148	7.2
Registrar	1,504	1,529	1,653	1,689	1,774	1,787	1,897	6.2
Specialist	3,175	3,359	3,713	3,879	3,993	4,187	4,275	2.1
Other	248	237	237	275	291	247	275	11.3
No answer	93	30	40	159	237	158	203	28.5
Total	9,547	9,757	10,552	11,164	11,478	11,688	12,017	2.8

¹ Headcount based on doctors who responded to the survey.

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

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

Figure 4: Changes in the medical workforce by work role (2001–2012)

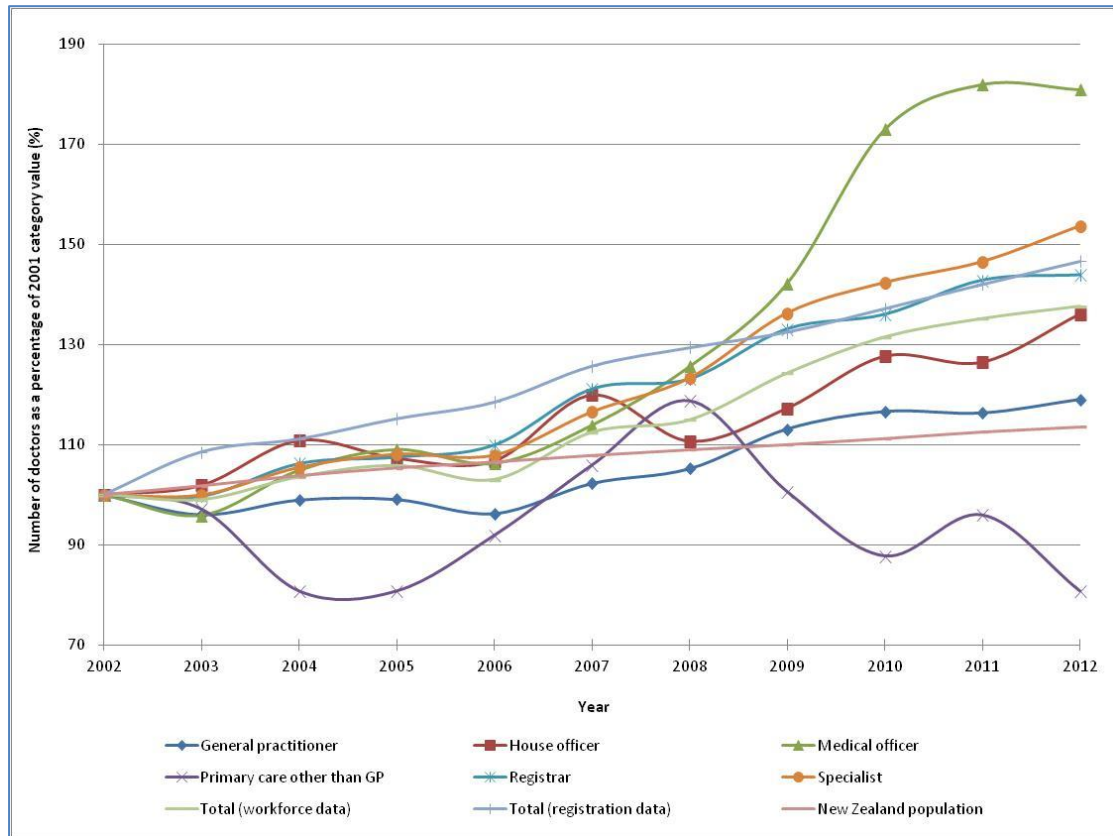


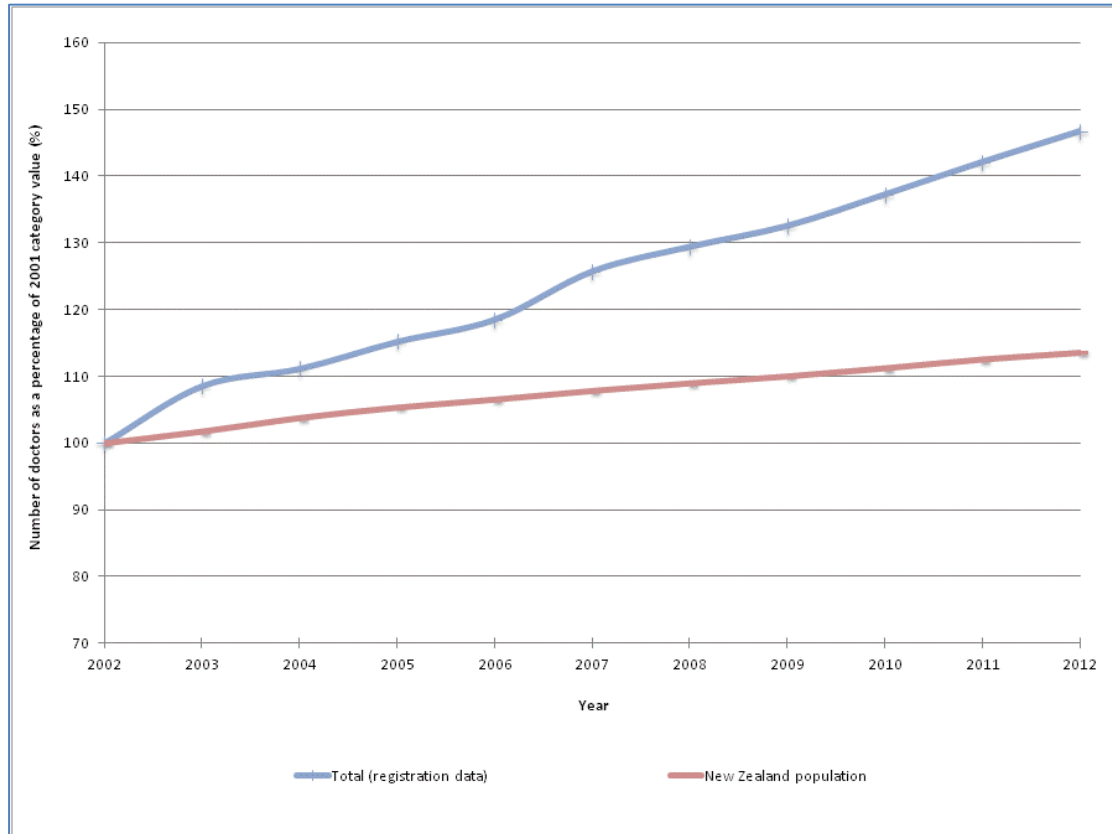
Figure 4 shows a gradual increase in most work roles since 2001.

The category, primary care other than GP shows large variations from year to year. 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 practitioner.

The medical officer category is relatively small. As a result, increases that are small in comparison to the size of the medical workforce appear as large changes on this graph. The number of doctors in this category increased from 411 in 2008 to 554 in 2011.

Figure 5 shows just the size of the medical workforce as measured by registration data and the size of the New Zealand population. New Zealand population growth since 2001 has been far more gradual and consistent than the medical workforce's growth in the same period.

Figure 5: Change in size of the medical workforce compared to change in size of the New Zealand population (2001–2012)



Work type

The changes in work types since 2011 are shown in Table 3. Doctors working as house officers are not included in the table.

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

Work type at main work site ¹	No. of doctors in main work site 2011	No. of doctors in main work site 2012	Percentage change 2011 to 2012	Average hours worked (all sites)	No. in vocational training ²	Average age 2012	Vocational registration, current practising certificate, NZ address ³
Accident and medical practice	121	122	1	35.9	49	44	115
Anaesthesia	733	707	-4	47.8	162	45	615
Basic medical science	40	39	-3	47.2	13	47	-
Breast medicine	7	6	-14	24.5	0	50	-
Clinical genetics	9	32	256	43.3	10	48	10
Dermatology	56	47	-16	41.4	*	54	56
Diagnostic and interventional radiology	335	319	-5	43.6	42	48	342
Emergency medicine	356	355	0	40.7	111	41	155
Family planning and reproductive health	29	29	0	26.6	*	51	26
General practice ⁴	3,141	3,239	3	37.3	596	50	2,843
Intensive care medicine	69	81	17	53.0	24	42	66
Internal medicine	1,151	1,076	-7	48.2	262	45	811
Medical administration	54	49	-9	40.6	7	54	17
Musculoskeletal medicine	19	20	5	45.2	*	55	22
Obstetrics & gynaecology	326	297	-9	48.3	70	46	242
Occupational medicine	68	70	3	42.2	10	53	49
Ophthalmology	146	127	-13	42.4	18	48	124
Paediatrics	411	364	-11	45.0	96	44	310
Palliative medicine	66	58	-12	37.9	10	52	43
Pathology	195	205	5	42.5	25	49	241
Primary care	394	306	-22	36.3	46	52	-
Psychiatry	642	604	-6	42.5	114	49	490
Public health medicine	213	191	-10	39.7	20	49	166
Radiation oncology	54	55	2	49.0	12	44	50
Rehabilitation medicine	22	30	36	44.1	12	41	20
Sexual health medicine	25	23	-8	33.8	4	51	19
Sports medicine	21	24	14	39.1	*	48	20

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 2012 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.

⁴ General practice in this table represents the work type or area of practice of general practice, which is different from the work role or capacity of general practitioner. Most doctors in a work role of general practitioner will also be associated with the work type of general practice. However, it is possible for doctors in a work role of GP to report work in a work type other than general practice (i.e. occupational medicine as an example).

* 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 2011	No. of doctors in main work site 2012	Percentage change 2011 to 2012	Average hours worked (all sites)	No. in vocational training ²	Average age 2012	Vocational registration, current APC, NZ address ³
Surgery: cardiothoracic	36	34	-6	58.9	4	44	26
Surgery: general	289	280	-3	53.4	48	45	249
Surgery: neurosurgery	29	26	-10	56.4	4	46	20
Surgery: orthopaedic	300	287	-4	52.2	31	46	251
Surgery: other	43	38	-12	48.1	*	49	19
Surgery: otolaryngology	112	104	-7	47.9	12	48	96
Surgery: paediatric	20	20	0	61.8	*	44	17
Surgery: plastic	70	64	-9	51.6	10	45	57
Surgery: urology	63	60	-5	50.8	10	47	58
Surgery: vascular	25	23	-8	55.6	*	46	26
Not answered	993	1,360	37	45.3	431	41	-
Other	172	403	134	45.5	119	43	-
Grand total	10,855	11,174	3	43.1	2,400	47	7,721

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 2012 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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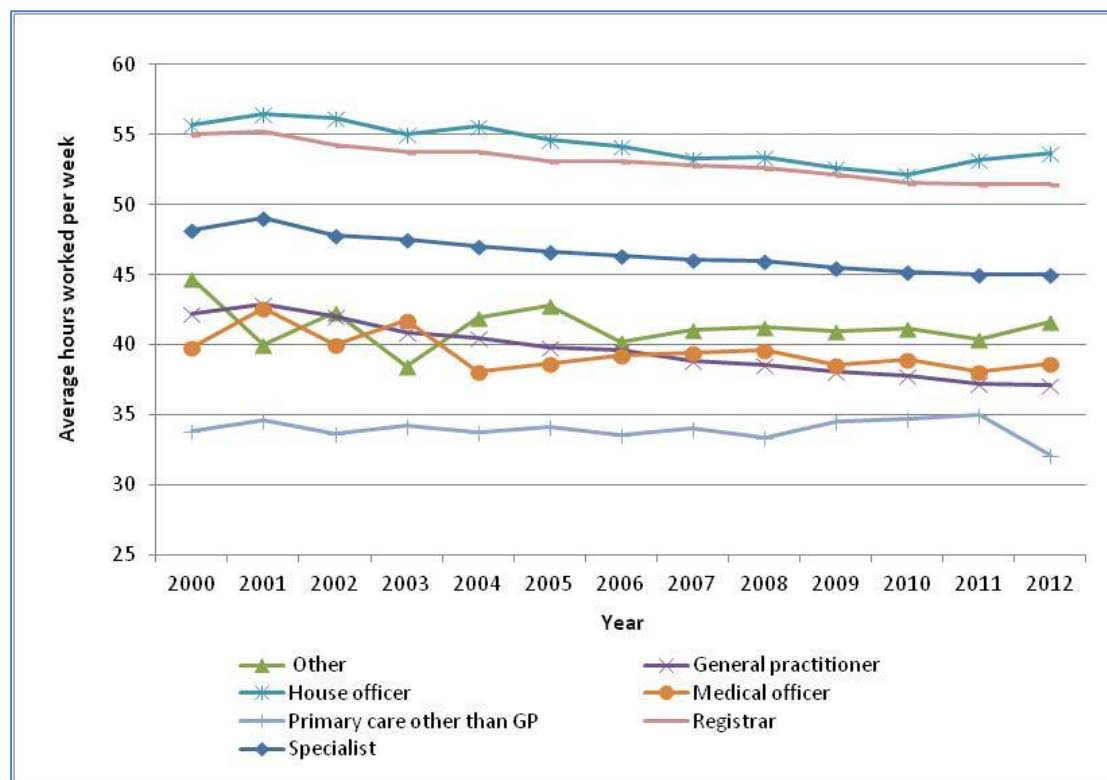
Workloads

Hours worked by work role

Figure 6 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 6: 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.

Females work a similar number of hours to males during their twenties. After the age of 30, males work more hours, and the gap is largest in the 40–44 age group. For males, the average number of hours remains above 50 hours per week until the 35–39 years age group.

For both males and females, 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 females than for males.

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

Gender	Age group											All ages, average hours
	<=24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	
Female	55.2	52.1	44.4	37.4	34.4	35.5	37.3	38.2	38.8	34.2	25.3	40.3
Male	55.5	53.9	50.2	48.5	47.4	47.0	46.7	46.1	43.7	37.3	28.9	46.4
All doctors	55.4	52.9	47.1	43.1	41.1	42.2	43.2	43.6	42.7	36.9	28.6	43.9

Figure 7: Average hours worked each week and headcount, by gender

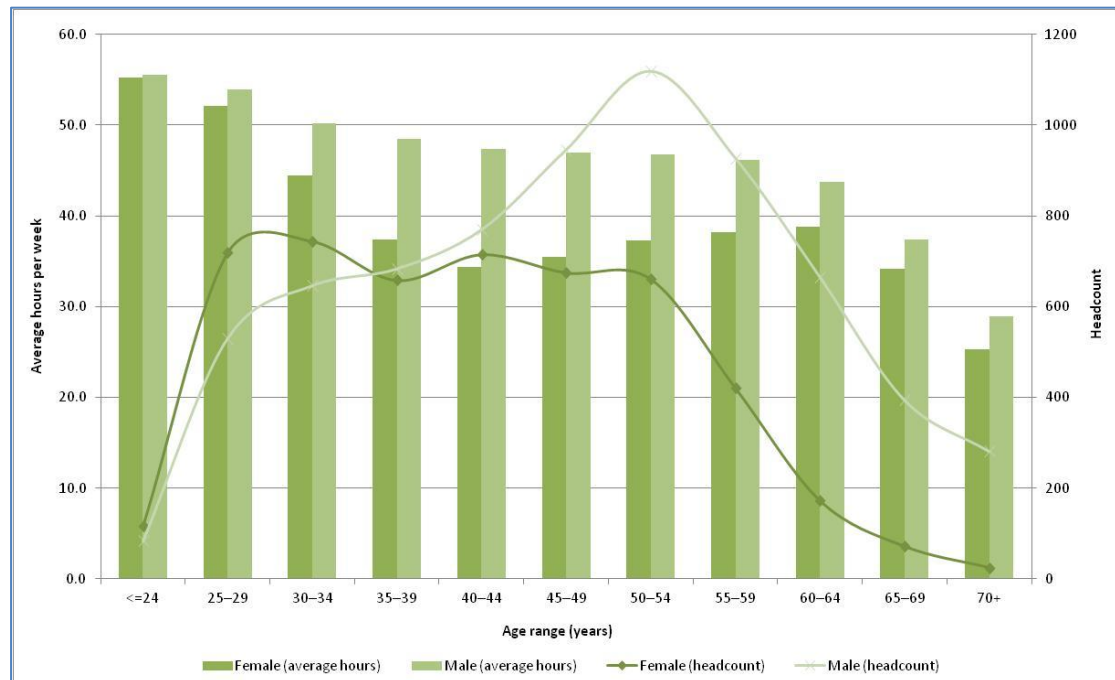


Table 5 shows that the average number of hours worked per week for males stayed the same at 46.4 hours. The average number of hours worked per week for females had been decreasing between 2008 and 2011, but is slightly up (from 39.8 hours to 40.3 hours) in 2012.

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 (2004–2012)

Gender	Year							
	2005	2006	2007	2008	2009	2010	2011	2012
Female	40.6	40.9	40	40.3	39.9	39.8	39.8	40.3
Male	48.3	47.9	47.7	47.4	46.9	46.6	46.4	46.4
All doctors	45.5	45.3	44.8	44.7	44.2	43.9	43.7	43.9

Hours on call by work role

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

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

Table 6 shows on-call hours by workforce roles. Seventy percent of doctors reported no on-call hours. Just under half of specialists were on call, with 35 percent on call for 10 or more hours per week.

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

On-call hours, grouped	General practice	Primary care other than GP	House officer	Registrar	Medical officer	Specialist	Other
No on-call hours	77	92	97	88	80	50	87
1-4	5	2	1	4	6	17	4
5-9	6	1	0	1	2	6	2
10-19	5	3	1	3	7	15	3
20-49	2	1	0	1	2	3	1
50 and over	5	1	1	3	3	8	4
Total¹	100	100	100	100	100	100	100

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

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-four 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, just over 48 percent worked in a group private practice at their main work site, and a further 35 percent worked in public hospitals.

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

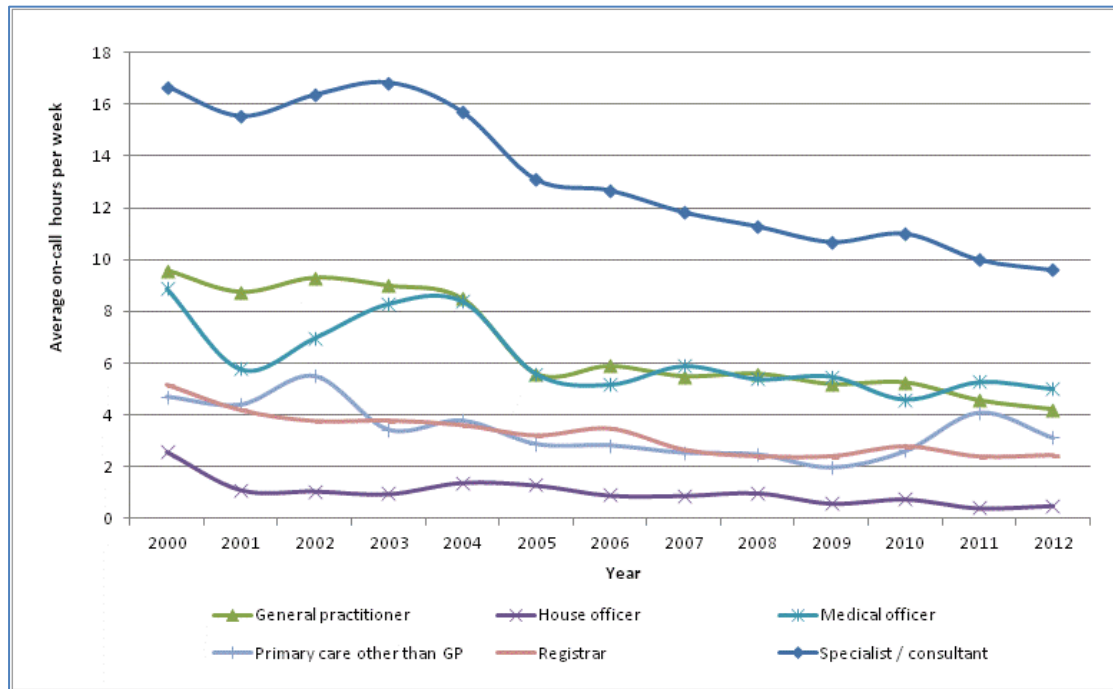
Main employer	Specialist	Other work roles	Total
Commercial company	1.2	1.2	1.2
Government department / agency	0.9	1.7	1.1
Professional body	0.0	0.2	0.0
Group private practice	7.0	48.2	19.7
Private hospital	1.8	0.9	1.5
Public hospital	84.0	35.2	68.9
Solo private practice	4.3	10.6	6.2
University / polytechnic	0.9	2.1	1.3
Not answered	0.1	1.2	0.4
Other	1.1	7.4	3.0
Grand total¹	100.0	100.0	100.0

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

Figure 8 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 8: 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

Important information about geographic data

Although care is taken in producing this data, we recommend that you use caution in interpreting and relying on figures in this section.

To allow data to be presented in geographic regions, we allocate every doctor who responds to the survey to their nearest territorial local authority (TLA) and district health board (DHB). However, there are a number of limitations which mean that this data may not always be completely accurate.

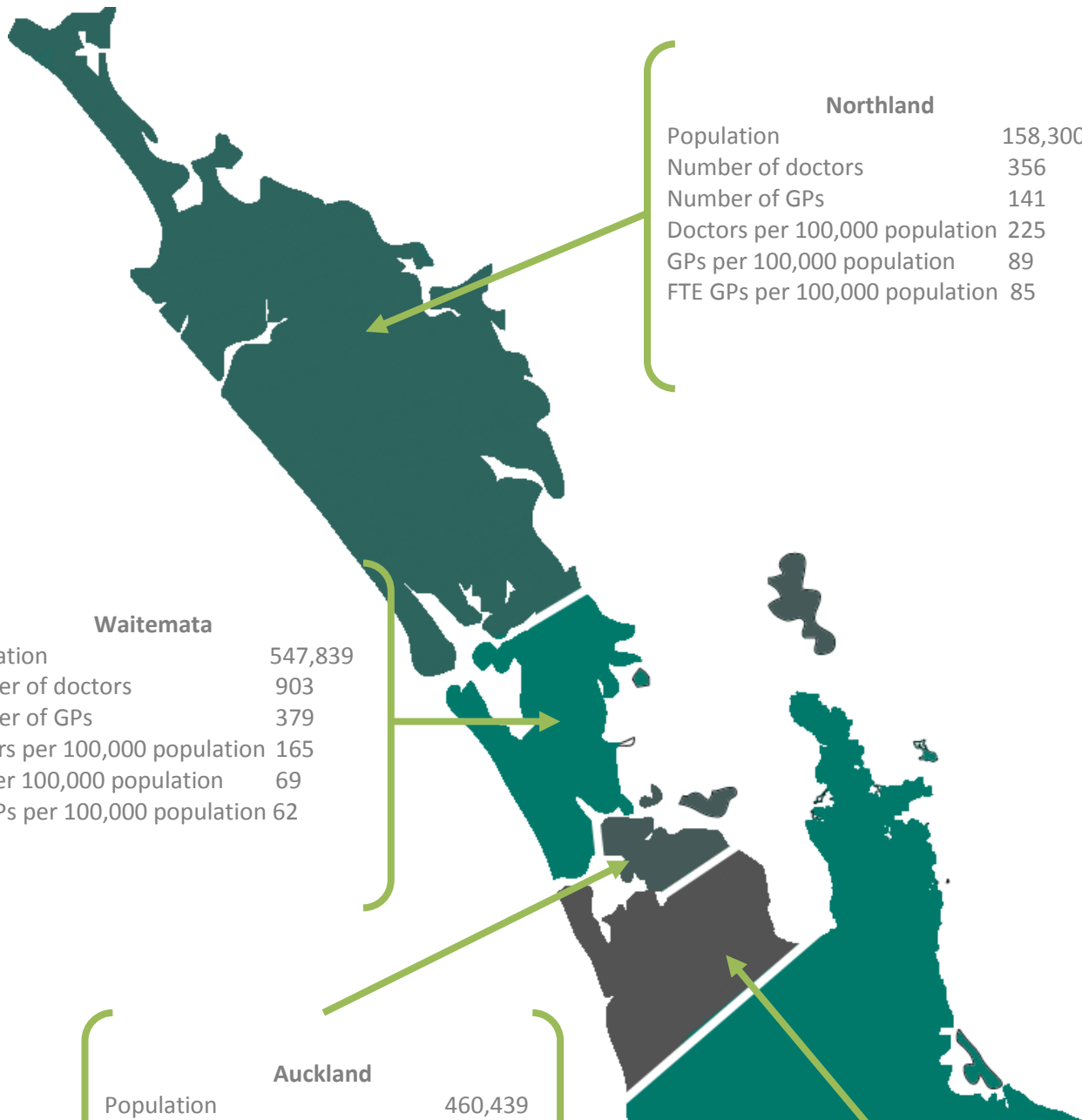
Doctors often work in more than one location and in allocating each doctor to a single TLA and DHB, we cannot fully represent every location in which the doctor is working. Some geographic regions are closely related, especially those in the wider Auckland region, and so to use this example, doctors might work across the entire Auckland region throughout the year but will only be represented in these figures against one TLA and DHB.

District health boards

The following pages show summary figures for each DHB. Note that the maps are for guidance only and do not accurately represent the actual boundaries between DHBs. The same information is presented in table form in Appendix 1 on page 47.

Southland and Otago District DHBs merged on 1 May 2010 to become a combined DHB called Southern DHB. This will eventually prevent us from reporting these groupings separately to allow comparison with previous years of data, but we will continue to do so while it is possible.

Northern / Auckland region



Northland

Population	158,300
Number of doctors	356
Number of GPs	141
Doctors per 100,000 population	225
GPs per 100,000 population	89
FTE GPs per 100,000 population	85

Waitemata

Population	547,839
Number of doctors	903
Number of GPs	379
Doctors per 100,000 population	165
GPs per 100,000 population	69
FTE GPs per 100,000 population	62

Auckland

Population	460,439
Number of doctors	2,559
Number of GPs	490
Doctors per 100,000 population	556
GPs per 100,000 population	106
FTE GPs per 100,000 population	97

Counties Manukau

Population	499,421
Number of doctors	827
Number of GPs	292
Doctors per 100,000 population	166
GPs per 100,000 population	58
FTE GPs per 100,000 population	54

Central North Island

Waikato

Population	391,590
Number of doctors	962
Number of GPs	263
Doctors per 100,000 population	246
GPs per 100,000 population	67
FTE GPs per 100,000 population	62

Bay of Plenty

Population	212,110
Number of doctors	517
Number of GPs	190
Doctors per 100,000 population	244
GPs per 100,000 population	90
FTE GPs per 100,000 population	78

Taranaki

Population	110,320
Number of doctors	236
Number of GPs	70
Doctors per 100,000 population	214
GPs per 100,000 population	63
FTE GPs per 100,000 population	58

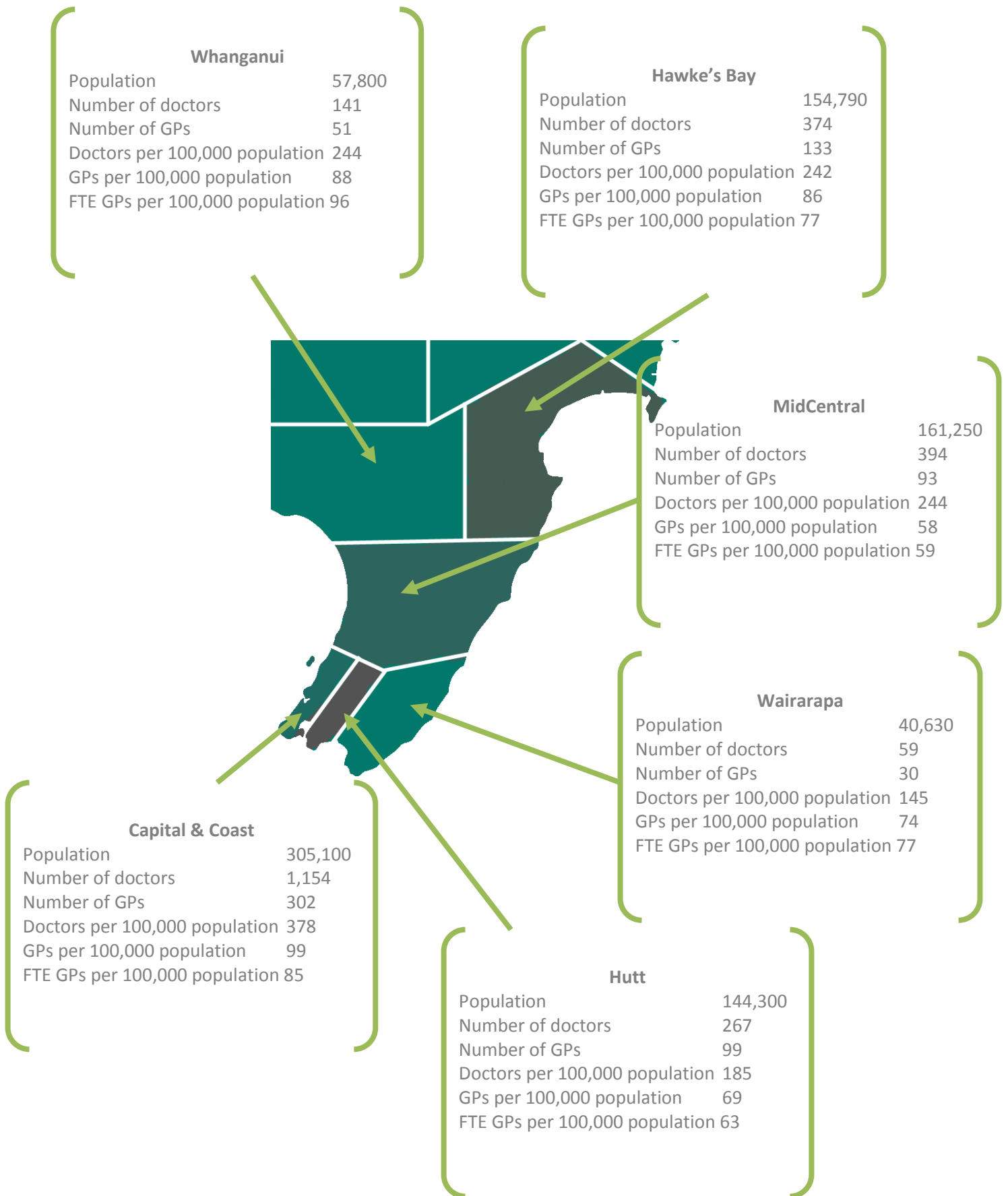
Lakes

Population	103,100
Number of doctors	265
Number of GPs	95
Doctors per 100,000 population	257
GPs per 100,000 population	92
FTE GPs per 100,000 population	83

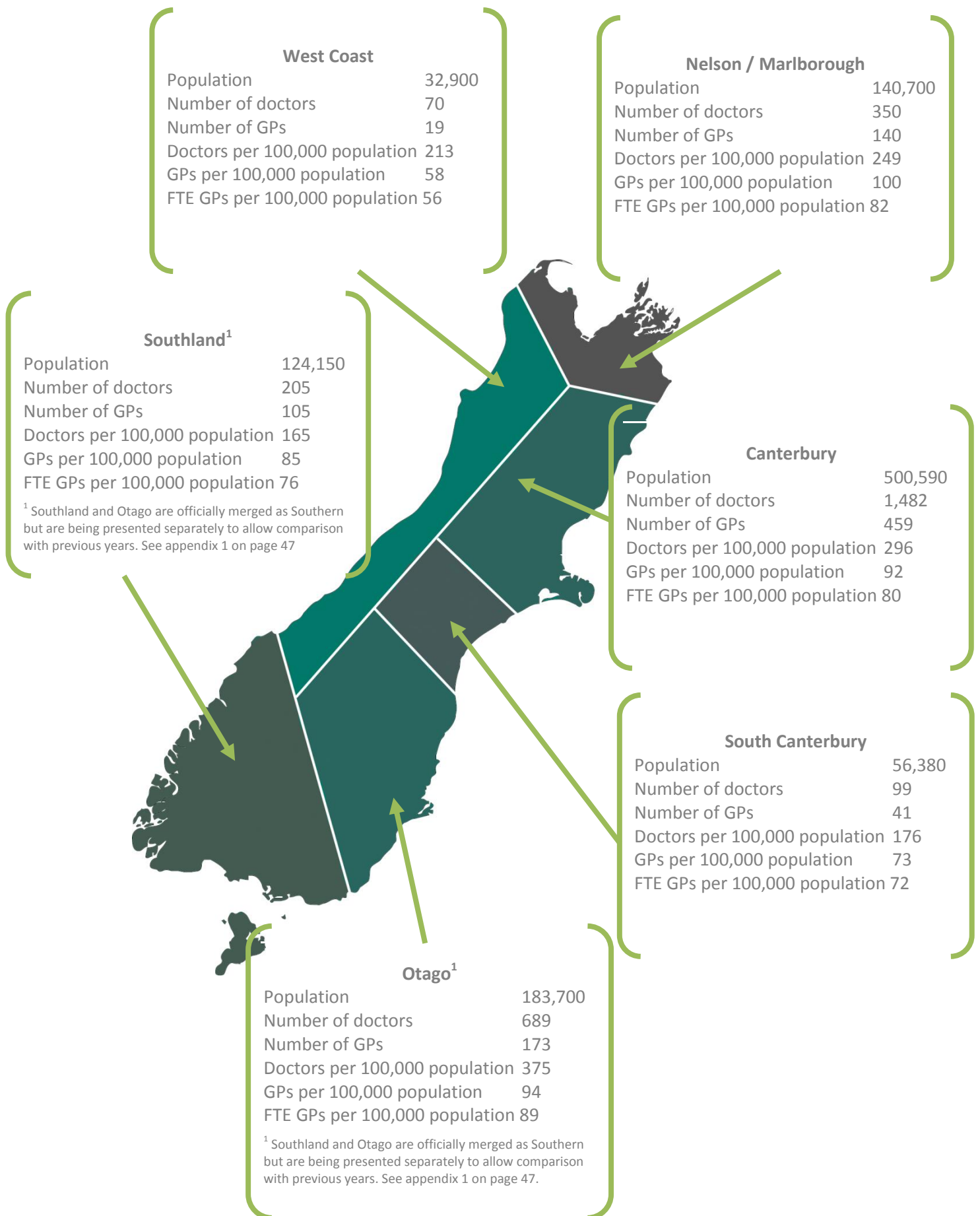
Tairāwhiti

Population	46,700
Number of doctors	100
Number of GPs	31
Doctors per 100,000 population	214
GPs per 100,000 population	66
FTE GPs per 100,000 population	62

Lower North Island



South Island



Urban/Rural

Method

Statistics New Zealand, in its report *New Zealand: An Urban/Rural Profile*¹ outlines the complexities involved in classifying an area as rural or urban, and notes that there is no internationally recognised definition of a 'rural' area.

One way of approximating how rural or urban an area will be is based on how densely it is populated. For the purposes of this section, we have allocated TLAs into one of three groups based on population density. The population density for each TLA was calculated by dividing its population by its land area (in km²)².

So as an example, Wellington City, an urban area is listed as having an area of 290km² and a population of 202,200 giving it an average population density of 697 people per square kilometre. South Wairarapa District, generally considered a rural area, is listed as having an area of 2,387km²³ and a population of 9,400 giving it an average population density of 3.9 people per square kilometre.

The three groups are defined as:

1. Main urban — areas with 100 or more people per square kilometre.
2. Secondary urban — areas with between 21 and 99 people per square kilometre.
3. Rural — areas with 20 or less people per square kilometre.

Table 8: Summary of workforce statistics by population density of area

Workforce measure	Population density		
	Main urban 100+ people per km ²	Secondary urban 21—99 people per km ²	Rural 0—20 people per km ²
Total doctors ¹	8,826	1,685	1,506
Total GPs ²	2,349	617	772
Population ³	2,574,629	782,170	1,075,480
Doctors per 100,000 population	342.8	215.4	140.0
GPs per 100,000 population	91.2	78.9	71.8
Average hours worked	44.2	43.1	42.4
Average hours worked by GPs	34.0	35.7	37.5
Average on call hours	4.7	6.5	8.6
Average age	44.8	46.2	48.3
Proportion of female doctors (%)	42.3	41.4	36.1
Proportion of IMGs (%)	38.7	44.1	54.0

¹ Represents all active doctors who responded to the survey.

² Represents active doctors who reported working as a general practitioner at one or more of their work sites.

³ Population figures are based on Statistics New Zealand's estimated residential population as at 30 June of the particular survey period, in this case, 30 June 2012.

¹ Statistics New Zealand: *New Zealand: An Urban/Rural Profile*

http://www.stats.govt.nz/browse_for_stats/people_and_communities/Geographic-areas/urban-rural-profile.aspx

² The land area for each TLA was sourced from the Department of Internal Affairs website

<http://www.localcouncils.govt.nz/>

Number of doctors

Urban areas have a higher concentration of doctors, and GPs compared with rural areas where population density is lower. Main urban areas have 342 doctors per 100,000 population compared with 140 doctors per 100,000 in rural areas.

Hours worked and on-call

For all doctors, the average number of hours worked per week is slightly lower in rural areas, but the number of on call hours is higher. Doctors in rural areas on average were on call for 8.6 hours per week compared with 4.7 for doctors in main urban areas.

When looking just at hours worked by GPs, the average hours worked per week is higher in rural areas than in urban areas – 37.5 hours per week in rural areas compared with 34 hours per week in main urban areas.

Age distribution

Overall, doctors working in rural areas are on average older than those working in urban areas – the average age is 48.3 in rural areas compared with 44.8 in main urban areas.

Figure 9: Distribution of doctors by age group and population density of area

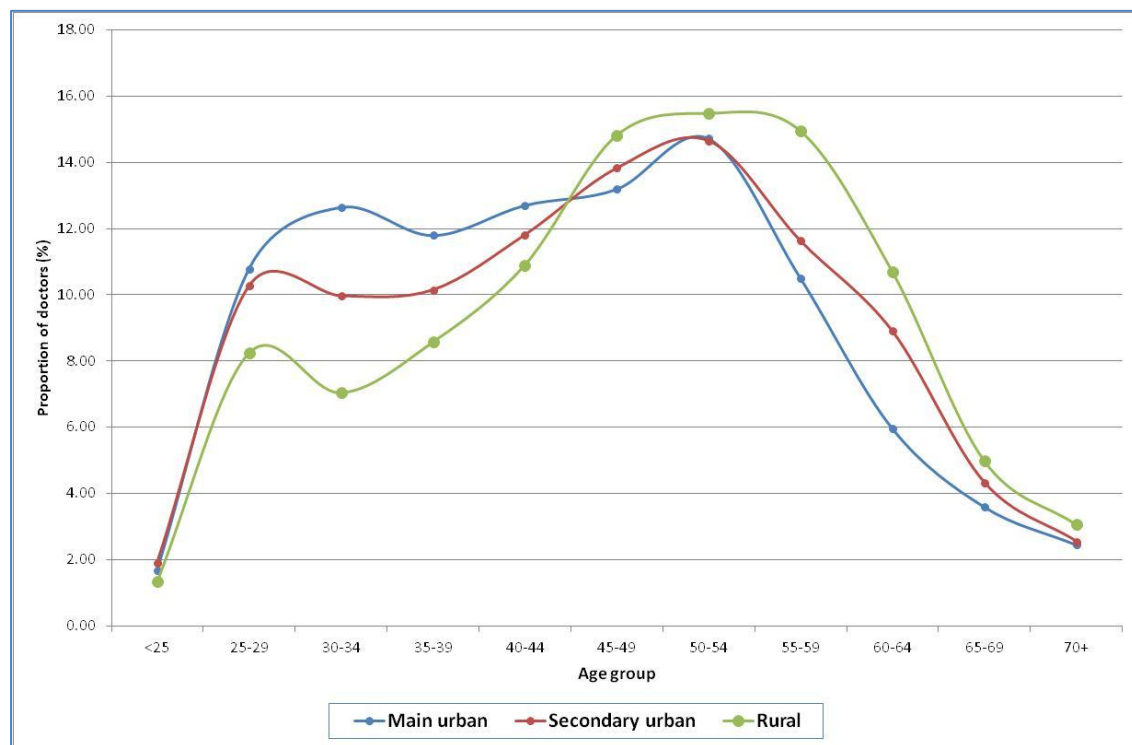


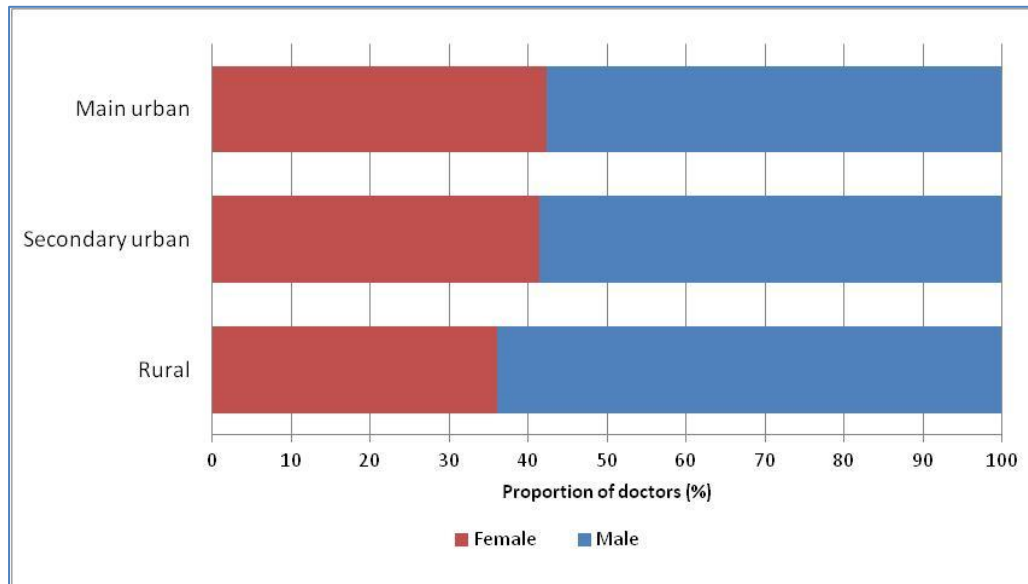
Figure 9 shows the distribution of doctors by age group and population density group. This highlights that a large proportion of doctors working in rural areas are aged 45-59.

While there is also a peak around doctors aged 50-54 in the urban areas, it is less pronounced. In urban areas, there is a higher proportion of doctors aged between 30 and 44 compared with rural areas.

Gender

There is a higher proportion of female doctors in urban areas compared with rural areas – 42.3 percent of doctors in main urban areas are female compared with 36.1 percent of doctors in rural areas.

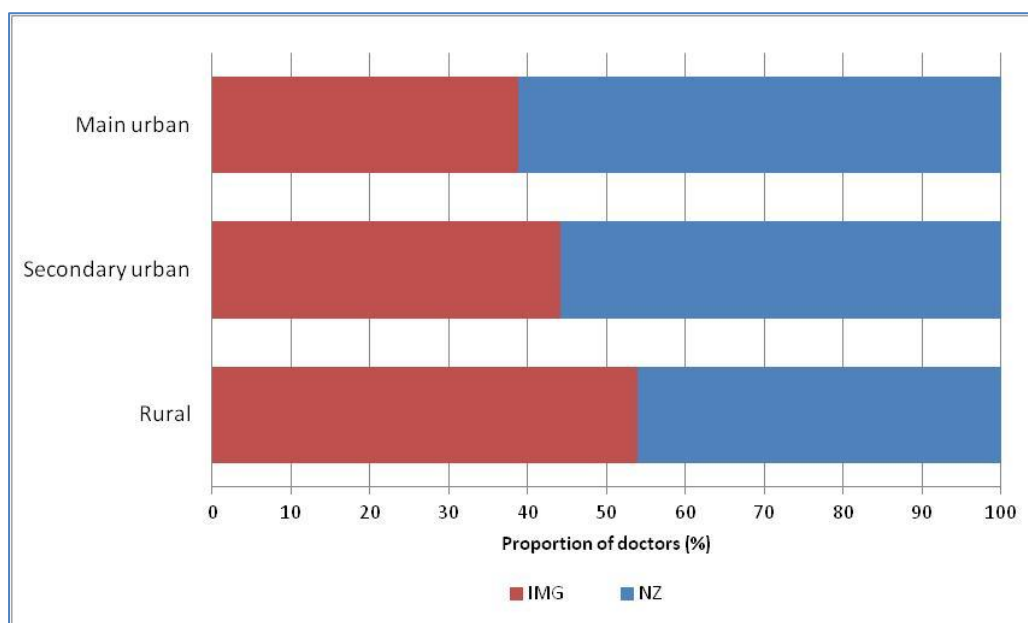
Figure 10: Proportion of doctors by gender and population density of area



International medical graduates

There is a higher proportion of international medical graduates (IMGs) in rural areas compared with urban areas – 54 percent of doctors in rural areas are IMGs compared to 38.7 percent in main urban areas. This may reflect that rural areas are sometimes harder to staff, and so positions in these areas are more likely to be filled by doctors from outside New Zealand.

Figure 11: Proportion of IMGs by population density of area



Ethnicity

The proportion of doctors who identified themselves as Māori increased to 2.9 percent, and the proportion of Pacific doctors increased from 1.6 percent to 1.8 percent (see Table 9). Both Māori and Pacific doctors continue to be noticeably under-represented compared to their proportion of the population.

The proportion of doctors identifying as Chinese increased from 5.1 percent to 5.3 percent. 'Other European' dropped from 18.2 percent to 16.9 percent, and the proportion identifying as Indian remained at 5.8 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 females and males. Both males and females identifying as New Zealand European / Pākehā had an average age higher than the overall figure.

Table 9: Proportion and average ages of doctors by ethnic group and gender

Ethnicity	%	%	%	%	%	%	%	Average age	
								Females	Males
New Zealand Māori	2.9	2.8	3.0	3.0	3.1	2.7	2.5	39	44
Pacific Island	1.8	1.6	1.3	1.4	1.8	1.6	1.6	37	43
Chinese	5.3	5.1	5.3	5.4	5.9	5.7	5.2	35	41
Indian	5.8	5.8	5.9	5.7	5.3	5.2	5.2	41	44
Other non-European	12.9	11.6	9.9	10.5	11.3	11.1	10.8	40	45
Other European	16.9	18.2	19.7	18.2	15.8	15.3	17.3	41	46
NZ European / Pākehā	52.7	53.2	53.3	53.9	55.3	56.9	55.9	44	51
Not answered	1.6	1.7	1.5	1.7	1.2	1.4	1.3	40	45
Refused	0.0	0.1	0.2	0.1	0.2	0.4	0.2	31	57
Total ¹	100.0	100.0	100	100	100	100	100	42	48

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

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

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

Ethnicity	No answer	Other	GP	HO	MO	PC	R	S	Total ¹
New Zealand Māori	1	5	30	15	4	1	20	24	100
Pacific Island	3	2	26	19	4	1	22	22	100
Chinese	1	2	25	18	2	1	28	23	100
Indian	1	1	25	11	6	0	26	29	100
Other non-European	2	2	27	14	6	1	23	26	100
Other European	1	2	30	8	6	1	20	31	100
NZ European / Pākehā	1	3	32	6	4	2	10	43	100

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

Doctors identifying as Māori reported their main work role as:

- GP (30 percent)
- specialist (24 percent)
- registrar (20 percent)
- house officer (15 percent).

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

- GP (26 percent)
- specialist (22 percent)
- registrar (22 percent)
- house officer (19 percent).

Specialists made up 31 percent of doctors identifying as ‘Other European’. For those doctors identifying as New Zealand European / Pākehā, 43 percent reported their main work role as specialist, and 32 percent as GP.

Figure 12: Proportion of ethnic groups by work role at main work site

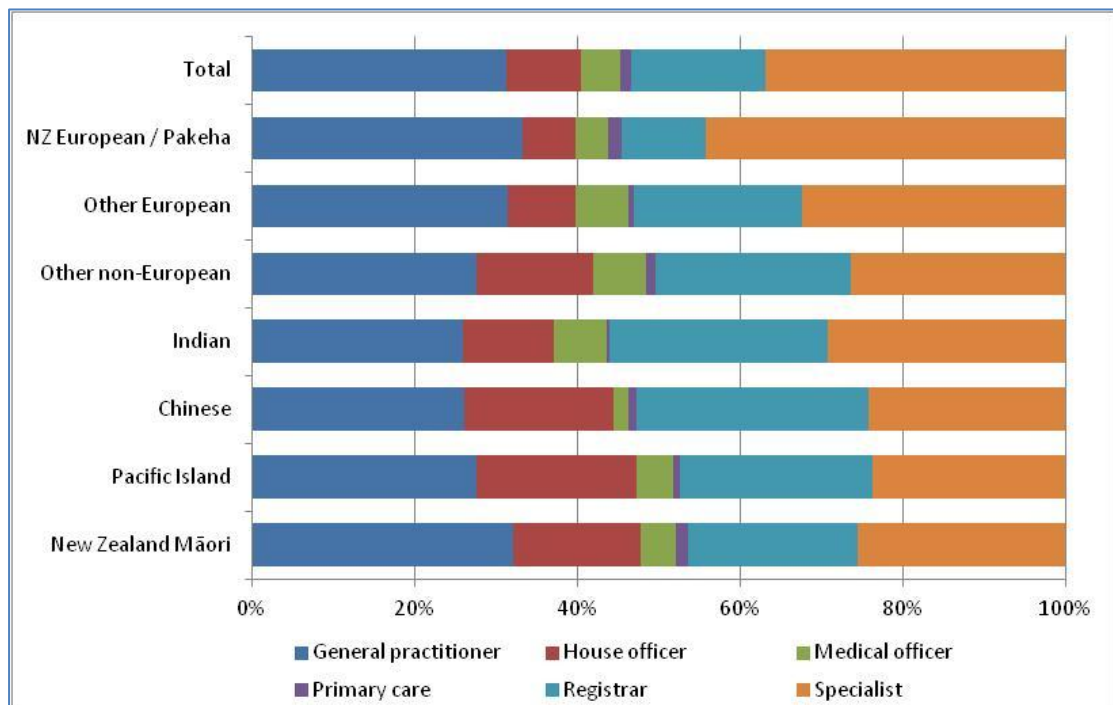


Table 11 represents the proportion of each work role made up by each ethnicity.

Table 11: Proportion of each work role at main work site by ethnicity

Ethnicity	Work role						All doctors
	GP	PC	MOSS	HO	R	S	
New Zealand Māori	2.9	3.4	2.5	4.9	3.6	2.0	2.9
Pacific Island	1.6	1.4	1.6	3.7	2.5	1.1	1.8
Chinese	4.5	4.1	2.0	10.7	9.4	3.5	5.3
Indian	4.9	1.4	7.9	7.1	9.6	4.6	5.8
Other	11.6	12.2	17.5	20.2	19.1	9.3	12.9
Other European	17.2	8.8	22.7	15.2	21.3	14.9	16.9
NZ European / Pākehā	56.6	66.9	44.6	36.3	33.4	63.1	52.7
No answer	0.7	2.0	1.1	1.9	0.9	1.5	1.6
Refused	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total¹	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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

Doctors identifying as New Zealand European / Pākehā made up 52.7 percent of all doctors, but were more highly represented amongst specialists (63.1 percent) and GPs (56.6 percent), and were less represented amongst house officers (36.3 percent), and registrars (33.4 percent). This reflects the increasing ethnic diversity of the medical workforce, which is a reflection of the increasing ethnic diversity of the New Zealand population as a whole.

Doctors identifying as New Zealand Māori made up 2.9 percent of all doctors, but were more highly represented amongst house officers (4.9 percent) and registrars (3.6 percent). This suggests that although they are currently underrepresented amongst specialists, this is likely to change in the future as those house officers and registrars advance into more senior positions within the workforce.

Doctors identifying as Pacific Island are in a similar situation to those identifying as New Zealand Māori. They make up 1.8 percent of all doctors, but 3.7 percent of house officers and 2.5 percent of registrars.

Other European and other non-European doctors were more highly represented amongst medical officers compared to their proportion of the workforce as a whole. They made up 16.9 percent and 12.9 percent of the workforce respectively, but they made up 22.7 percent and 17.5 percent of medical officers. This may in part be due to doctors from Europe, the United States, and Canada being employed to fill these roles.

Gender

Vocational trainees

Table 12 shows the proportion of trainees in each vocational training area by gender.

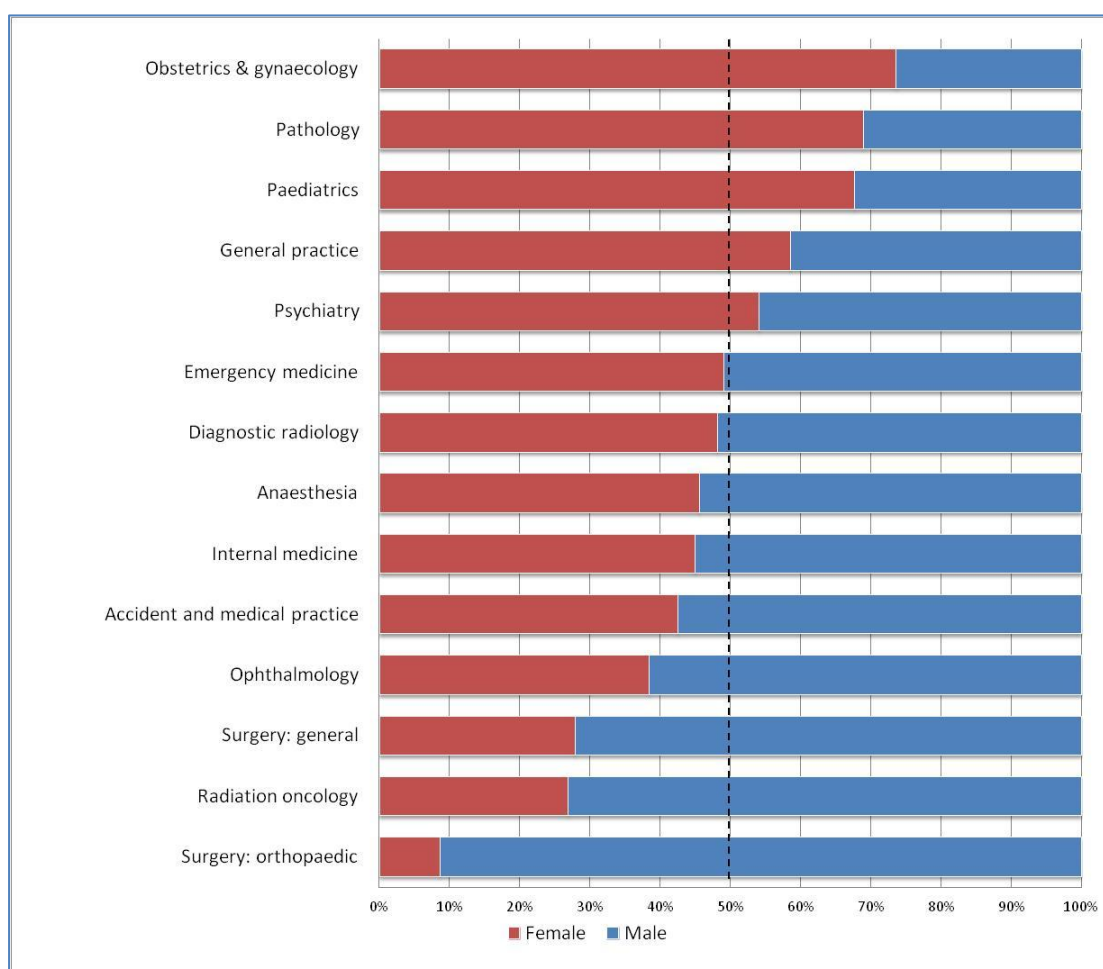
Table 12: Vocational training area by gender

Vocational training area ¹	Female	Male	Total	Females as % of total training in area	Females training in area as % of all females training	Males training in area as % of all males training
Accident and medical practice	20	27	47	43	1.6	2.4
Anaesthesia	92	110	202	46	7.5	9.7
Clinical genetics	2	1	3	67	0.2	0.1
Dermatology	5	2	7	71	0.4	0.2
Diagnostic radiology	26	28	54	48	2.1	2.5
Emergency medicine	74	77	151	49	6.1	6.8
Family Planning & reproductive health	4	0	4	100	0.3	0.0
General practice	444	314	758	59	36.4	27.8
Intensive care medicine	6	14	20	30	0.5	1.2
Internal medicine	161	197	358	45	13.2	17.4
Medical administration	3	3	6	50	0.2	0.3
Musculo-skeletal medicine	0	1	1	0	0.0	0.1
Obstetrics & gynaecology	67	24	91	74	5.5	2.1
Occupational medicine	4	7	11	36	0.3	0.6
Ophthalmology	10	16	26	38	0.8	1.4
Paediatrics	88	42	130	68	7.2	3.7
Palliative medicine	7	2	9	78	0.6	0.2
Pathology	31	14	45	69	2.5	1.2
Psychiatry	67	57	124	54	5.5	5.0
Public health medicine	17	3	20	85	1.4	0.3
Radiation oncology	7	19	26	27	0.6	1.7
Rehabilitation medicine	4	2	6	67	0.3	0.2
Sexual health medicine	5	1	6	83	0.4	0.1
Sports medicine	1	2	3	33	0.1	0.2
Surgery: cardiothoracic	1	3	4	25	0.1	0.3
Surgery: general	17	44	61	28	1.4	3.9
Surgery: neurosurgery	2	3	5	40	0.2	0.3
Surgery: orthopaedic	4	42	46	9	0.3	3.7
Surgery: other	2	2	4	50	0.2	0.2
Surgery: otolaryngology	9	10	19	47	0.7	0.9
Surgery: paediatric	2	2	4	50	0.2	0.2
Surgery: plastic & reconstructive	5	5	10	50	0.4	0.4
Surgery: urology	3	10	13	23	0.2	0.9
Surgery: vascular	0	3	3	0	0.0	0.3
Other	30	43	73	41	2.5	3.8
Total	1,220	1,130	2,350	52	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.

Figure 13: Vocational training area by gender (areas with more than 20 trainees)



Analysing only those areas with more than 20 trainees, females were under-represented in:

- ophthalmology (38 percent)
- general surgery (28 percent)
- radiation oncology (27 percent)
- orthopaedic surgery (9 percent).

Between 40 and 50 percent of vocational trainees were female in accident and medical practice, internal medicine, anaesthesia, diagnostic radiology and emergency medicine.

Females outnumbered males in vocational training in:

- psychiatry (54 percent)
- general practice (59 percent)
- paediatrics (68 percent)
- pathology (69 percent)
- obstetrics and gynaecology (74 percent).

Work role

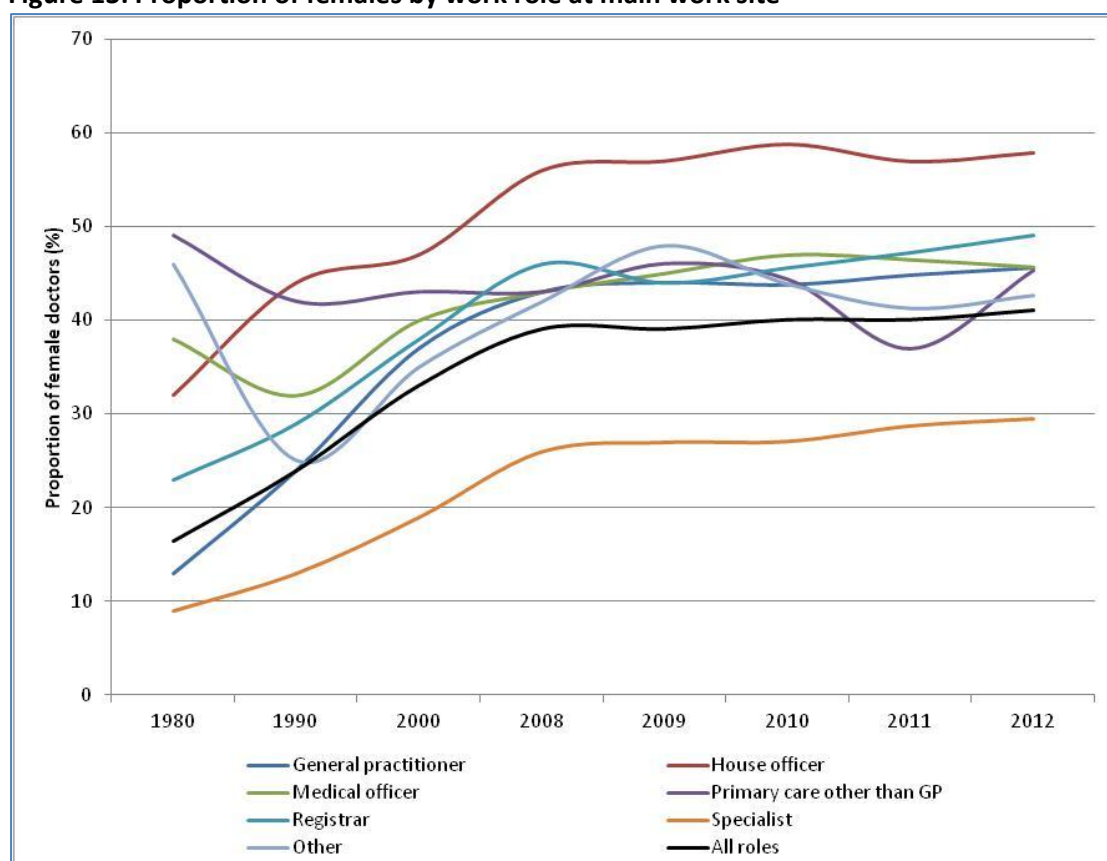
Table 13 shows the proportion of females in the workforce by work role at their main work site. The overall proportion of females in the workforce increased slightly to 41 percent. Females continued to outnumber males in house officer roles, making up 58 percent.

The proportion of females increased in all work roles.

Table 13: Proportion of females by work role at main work site

Role at main work site	Percentage female							
	1980	1990	2000	2008	2009	2010	2011	2012
General practitioner	13	24	37	43	44	44	45	46
House officer	32	44	47	56	57	59	57	58
Medical officer	38	32	40	43	45	47	46	46
Primary care other than GP	49	42	43	43	46	44	37	45
Registrar	23	29	38	46	44	46	47	49
Specialist	9	13	19	26	27	27	29	30
Other	46	25	35	42	48	44	41	43

Figure 13: Proportion of females by work role at main work site



Work types

Table 14 shows the proportion of females working as specialists or GPs by work type 10-yearly from 1980, and then yearly for the last 3 years.

Females outnumbered males in the areas of sexual health medicine, where 75 percent of doctors were female, as well as in family planning and reproductive health (67 percent).

The proportion of females increased in sports medicine (from 20 percent to 25 percent) and in cardiothoracic surgery (from 6 percent to 11 percent).

The proportion of females decreased in accident and medical practice (from 44 percent to 32 percent).

Females were significantly under-represented in the surgical scopes. Only 9 percent of doctors working in surgical specialties were female up slightly from 8 percent in 2011.

Figure 14 shows only those work types with a total of 50 or more doctors. Men outnumber women in all work types with a total of 50 or more doctors.

Figure 14: Proportion of doctors by work type and gender

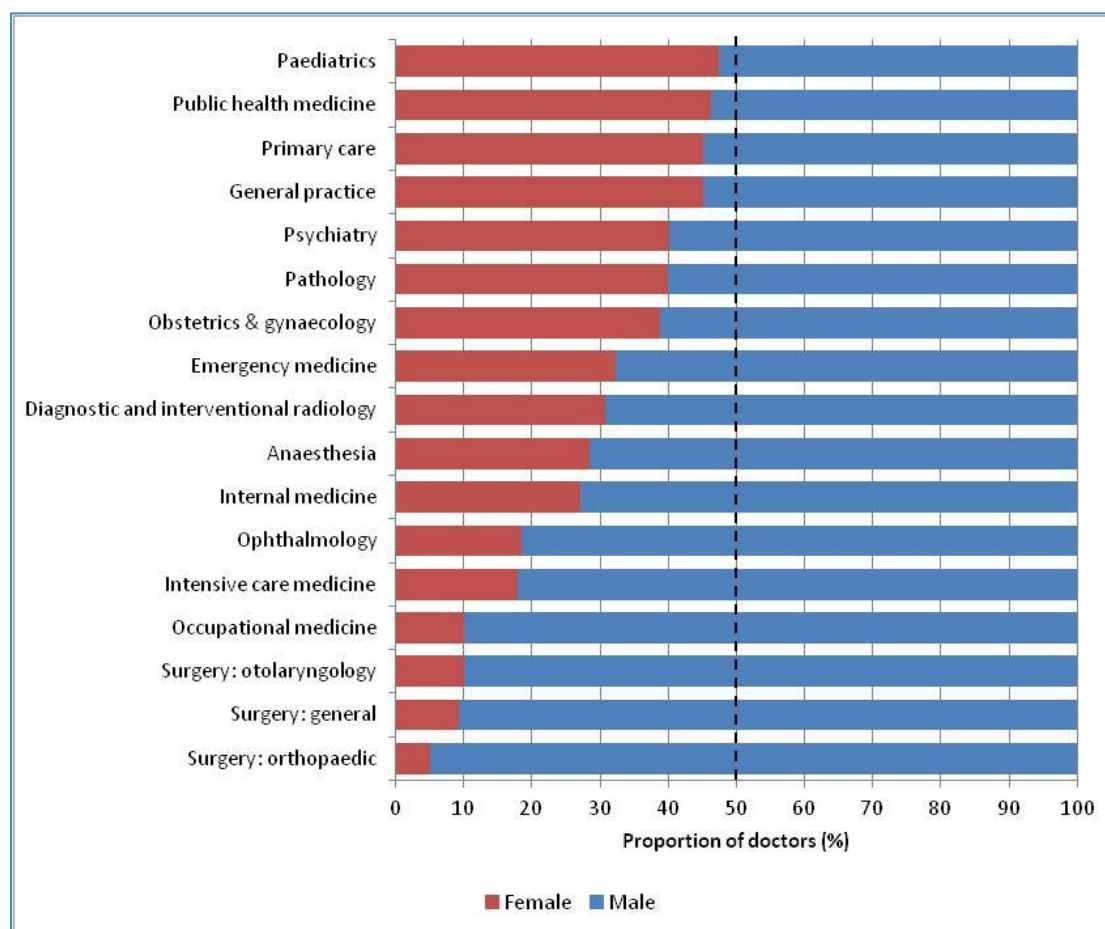


Table 14: Proportion of females by work type (specialists and GPs)

Work type	Percentage female							
	1980	1990	2000	2005	2009	2010	2011	2012
Accident and medical practice	– ¹	–	–	31	44	34	44	32
Anaesthesia	19	16	20	26	25	31	27	29
Basic medical science	12	16	7	0	22	27	36	25
Clinical genetics	–	–	–	0	45	67	29	39
Dermatology	3	17	19	29	29	24	28	27
Diagnostic and interventional radiology	8	14	23	29	29	31	30	31
Emergency medicine	–	0	26	28	29	41	33	32
Family planning and reproductive health	–	–	–	71	33	93	67	67
General practice	13	24	38	40	44	44	44	45
Intensive care medicine	–	–	18	16	15	27	23	18
Internal medicine	4	7	15	20	23	32	25	27
Medical administration	–	–	–	45	22	30	38	22
Musculoskeletal medicine	–	–	0	0	6	12	6	6
Obstetrics & gynaecology	10	17	29	36	38	54	41	39
Occupational medicine	–	5	17	14	14	16	15	10
Ophthalmology	6	11	12	15	20	24	20	18
Paediatrics	21	23	30	29	41	53	45	47
Palliative medicine	–	–	–	55	50	52	47	43
Pathology	15	22	30	35	37	39	40	40
Primary care	0	–	30	32	37	44	43	45
Psychiatry	19	28	33	36	39	43	40	40
Public health medicine	12	23	28	44	48	47	45	46
Radiation oncology	–	5	15	16	26	31	28	31
Rehabilitation medicine	–	–	0	0	21	46	33	36
Sexual health medicine	17	–	50	70	80	80	83	75
Sports medicine	–	–	25	9	21	21	20	25
Surgery: cardiothoracic	–	–	6	6	10	13	6	11
Surgery: general	–	–	6	5	8	19	10	9
Surgery: neurosurgery	–	–	7	10	18	5	5	6
Surgery: orthopaedic	–	–	3	4	5	7	6	5
Surgery: other	–	–	3	8	7	11	9	23
Surgery: otolaryngology	0	2	5	3	9	13	11	10
Surgery: paediatric	–	–	15	8	15	17	14	15
Surgery: plastic	–	–	3	3	8	22	10	7
Surgery: urology	–	–	3	5	6	9	6	4
Surgery: vascular	–	–	0	0	0	5	0	0
Specialists and GPs²	–	–	29	32	34	34	36	36

¹ A dash means data were not available.

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

International medical graduates

International medical graduates (IMGs) 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 care is needed when comparing the proportion of IMGs employed in New Zealand to the proportion employed in any other country.

From survey data, the proportion of IMGs is 41.4 percent. This is reasonably consistent with registration data which indicates that the proportion of IMGs in the workforce as at 30 June 2012 was around 43 percent. Data also suggest that this figure is increasing only very gradually.

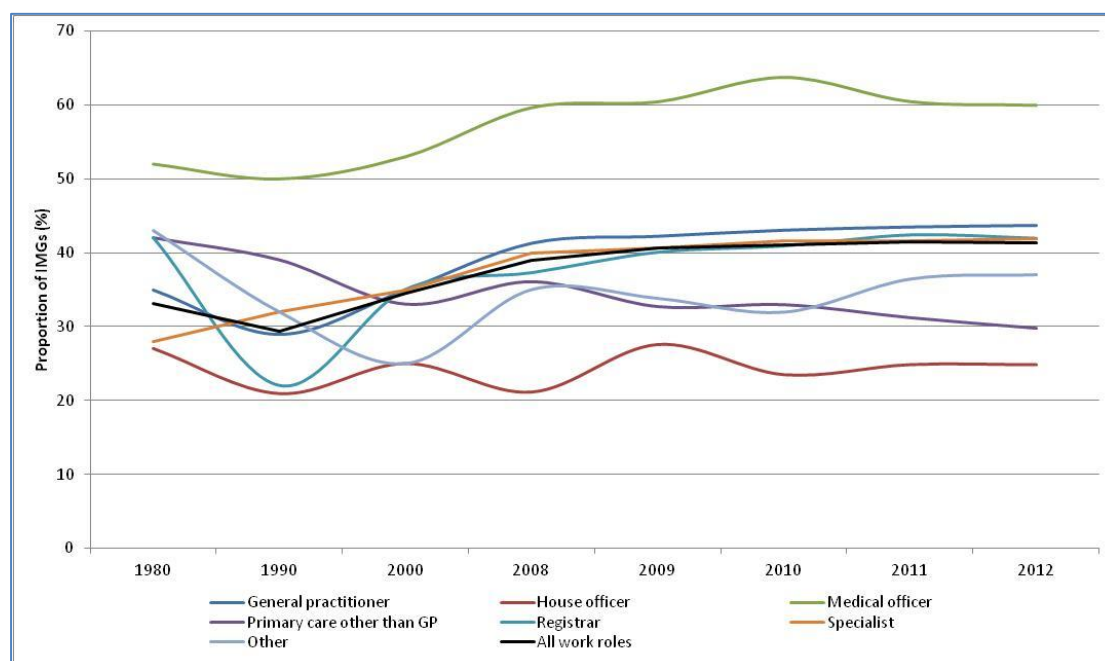
Work role

Table 15 shows that the medical officer work role again had the highest proportion of IMGs, at 60 percent. The proportion of IMGs in most work roles was either unchanged or only changed slightly compared to previous years.

Table 15: Proportion of IMGs by work role at work site

Role at main work site	Percentage of IMGs							
	1980	1990	2000	2008	2009	2010	2011	2012
General practitioner	35.0	29.0	35.0	41.3	42.2	43.1	43.5	43.7
House officer	27.0	21.0	25.0	21.2	27.5	23.5	24.9	24.8
Medical officer	52.0	50.0	53.0	59.6	60.4	63.7	60.4	59.9
Primary care other than GP	42.0	39.0	33.0	36.0	32.7	32.9	31.2	29.7
Registrar	42.0	22.0	35.0	37.3	40.0	40.9	42.4	41.9
Specialist	28.0	32.0	35.0	39.9	40.7	41.6	41.7	41.9
Other	43.0	32.0	25.0	35.0	33.8	32.0	36.4	37.0
All work roles	33.1	29.3	34.5	38.9	40.6	41.1	41.5	41.4

Figure 15: Proportion of IMGs by work role at main work site (1980-2012)



Work type

Figure 16 shows the proportion of IMGs working as specialists or general practitioners in vocational scopes for those areas with more than 50 doctors. The proportion of IMGs was more than 50 percent in obstetrics & gynaecology and psychiatry.

Figure 16: Proportion of IMGs by vocational scope (areas with more than 50 doctors)

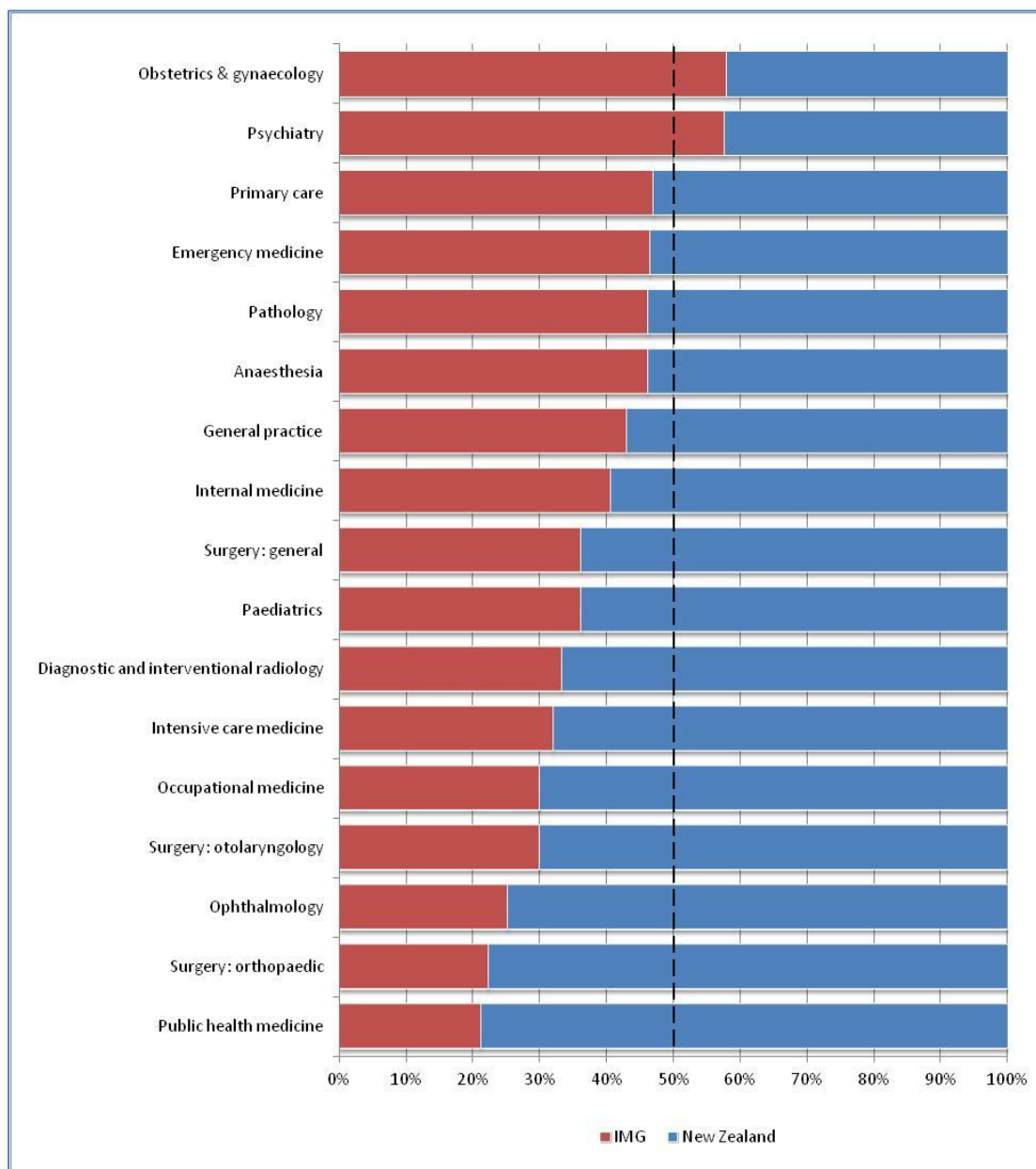


Table 16 shows the proportion of IMGs working as specialists or GPs in vocational scopes 10-yearly from 1980, and then yearly for the last 4 years.

The proportion of IMGs increased in:

- accident and medical practice (from 56 percent to 62 percent)
- sports medicine (from 13 to 20 percent)
- surgery: otolaryngology (from 23 percent to 30 percent)
- surgery: paediatric (from 21 percent to 31 percent).

The proportion of IMGs decreased in palliative medicine (from 79 percent to 71 percent).

Table 16: Proportion of IMGs by vocational scope¹ (specialists and GPs)

Vocational scope	Percentage IMGs							
	1980	1990	2000	2005	2009	2010	2011	2012
Accident and medical practice	–	–	–	59	59	50	56	62
Anaesthesia	41	39	45	48	46	46	46	46
Basic medical science	31	42	20	45	56	24	55	58
Clinical genetics				0	55	22	29	67
Dermatology	30	20	23	30	29	31	28	27
Diagnostic and interventional radiology	24	27	32	34	35	26	33	33
Emergency medicine	–	50	48	45	43	51	45	46
Family planning and reproductive health	–	–	–	40	33	36	100	33
General practice	35	30	35	40	42	40	42	43
Intensive care medicine	–	–	18	26	33	32	31	32
Internal medicine	24	34	33	38	39	40	40	41
Medical administration	–	–	–	30	43	36	42	39
Musculoskeletal medicine	–	–	40	33	28	29	29	35
Obstetrics & gynaecology	24	28	45	49	52	50	56	58
Occupational medicine	–	41	31	33	35	33	33	30
Ophthalmology	18	16	22	25	21	23	24	25
Paediatrics	38	39	32	42	41	40	37	36
Palliative medicine	–	–	–	73	71	59	79	71
Pathology	21	26	38	45	44	44	49	46
Primary care	0	–	38	44	38	45	46	47
Psychiatry	41	50	57	57	58	59	59	58
Public health medicine	44	36	20	25	22	22	21	21
Radiation oncology	–	55	62	56	58	54	60	54
Rehabilitation medicine	–	–	29	63	57	64	67	64
Sexual health medicine	33	50	33	36	33	37	33	25
Sports medicine	–	–	4	24	32	29	13	20
Surgery: cardiothoracic	–	–	28	48	40	55	50	44
Surgery: general	–	–	30	37	37	32	34	36
Surgery: neurosurgery	–	–	50	65	65	64	71	63
Surgery: orthopaedic	–	–	13	19	22	28	25	22
Surgery: other	–	–	21	28	24	36	33	32
Surgery: otolaryngology	31	24	28	29	30	35	23	30
Surgery: paediatric	–	–	31	29	15	50	21	31
Surgery: plastic	–	–	19	23	25	27	22	22
Surgery: urology	–	–	29	20	21	23	25	18
Surgery: vascular	–	–	11	18	33	35	32	20
All specialists and GPs²	–	–	35	41	41	41	42	43

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

2 A dash means data were not available.

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

Retention

New Zealand graduates – retention by class

Table 17 and Figure 17 compare the retention rates at each year after graduation for successive classes of graduates from 1995 to 2011.

As retention is checked over the period April to March in years following initial registration, the first retention period for graduates with a final class year of 2012 is not yet complete (it ends March 2014), and so this class has not been included in the report.

Table 17: Graduate retention of class years 1995–2011

Final class year ¹	Size of class ²	Number registered	Percentage of registered ³ graduates retained, by postgraduate year ⁴																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1995	275	257	96	85	74	76	81	75	72	69	66	66	68	67	70	68	68	68	68
1996	275	266	97	88	79	80	78	77	75	68	64	64	61	64	66	67	67	67	
1997	284	268	97	85	74	68	72	72	70	67	64	65	61	63	62	63	63		
1998	288	251	96	80	70	77	77	73	70	66	61	61	59	58	60	62			
1999	305	271	99	78	75	76	77	72	70	66	58	56	58	59	59				
2000	323	285	94	82	75	78	78	79	76	75	67	61	60	56					
2001	297	271	95	79	78	81	80	78	74	72	65	63	59						
2002	308	284	94	81	76	79	82	79	76	73	71	65							
2003	329	302	94	81	80	78	79	75	74	71	69								
2004	342	297	97	83	81	84	81	78	76	73									
2005	318	303	98	82	76	77	75	73	72										
2006	322	291	97	88	84	79	79	77											
2007	323	282	97	83	79	78	73												
2008	356	319	98	90	86	84													
2009	389	346	98	90	84														
2010	382	326	98	94															
2011	400	369	99																

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

² The 'Size of class' figure 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.

Tables 17 and 18 show that on average, 84 percent of graduates are retained 2 years after graduation and by the third year, 78 percent are retained, rising to 79 percent 5 years after graduation. Retention rates level out to between 61 and 70 percent in years 8 to 14 after graduation.

Table 18: Average percentage of registered graduates retained, by postgraduate year

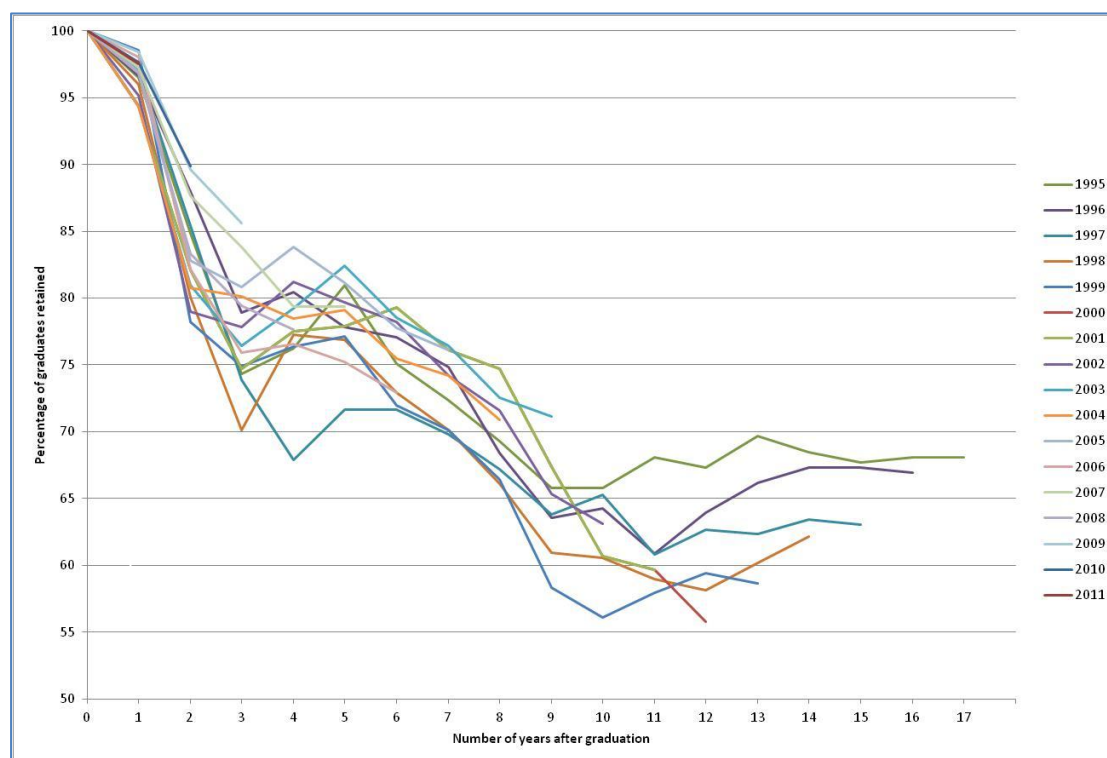
	Postgraduate year																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Average percentage of registered graduates retained	97	84	78	78	78	76	73	70	65	63	61	61	63	65	66	68	68
Standard deviation	1.4	4.4	4.3	3.9	3.1	2.7	2.5	3.0	3.9	3.3	3.4	4.2	4.5	3.0	2.6	0.8	

Table 18 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.

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

Figure 17: Graduate retention of class years 1995–2011



International medical graduates – retention after registration

Table 19 compares the retention rates of IMGs at each year after initial registration for successive years from 2000 to 2011. Reliable data are not available for the years before 2000.

Table 19: Retention rates for IMGs, 2000–2011

First year registered ¹	Number registered	Percentage of IMGs retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	924	47.4	38.2	34.5	31.0	28.4	27.5	26.6	24.7	22.7	21.6	22.1	20.5
2001	932	46.6	35.8	32.2	30.8	29.6	29.1	28.6	26.4	25.8	24.9	23.5	
2002	1073	48.6	36.7	32.0	31.0	28.3	27.3	26.7	26.7	25.7	24.7		
2003	1092	45.0	33.0	29.7	28.9	28.1	27.2	26.4	26.5	24.8			
2004	1014	47.9	32.3	28.9	27.3	26.1	26.2	25.0	24.0				
2005	1131	54.0	36.3	32.7	30.8	30.2	29.2	26.8					
2006	967	50.6	35.5	32.5	30.9	29.3	28.1						
2007	1105	62.0	45.7	39.5	37.7	37.0							
2008	1096	57.1	37.0	30.2	28.7								
2009	1163	59.4	35.2	31.0									
2010	1194	61.4	33.7										
2011	1254	61.7											

- 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 18: Retention rate for IMGs, 2000–2011

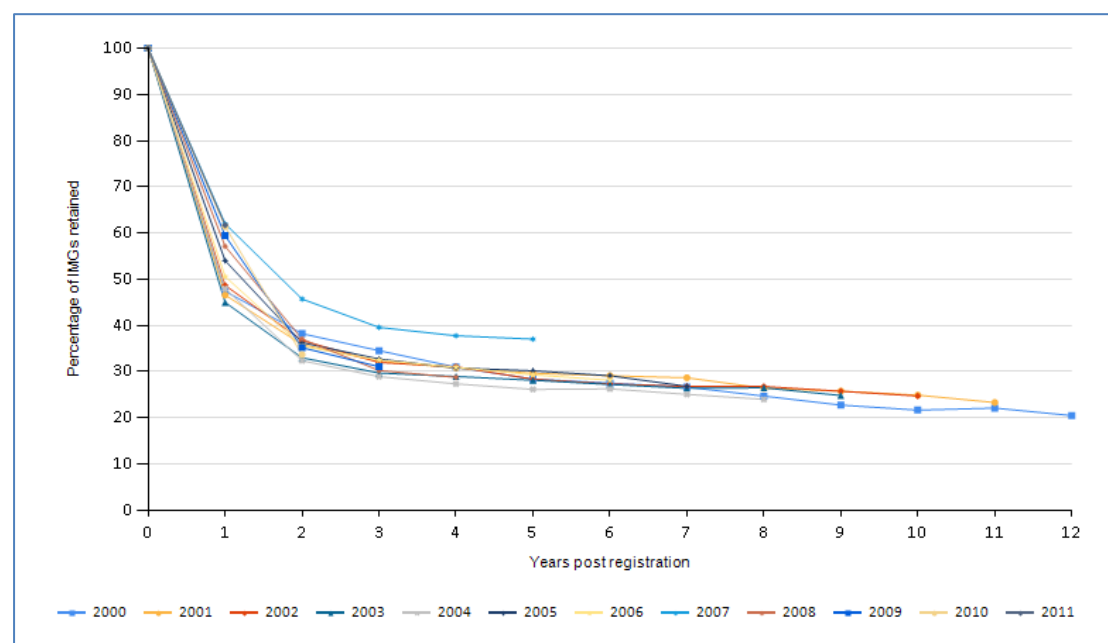


Table 20 shows that between 53 and 54 percent of IMGs are retained in the year immediately after initial registration.

After this initial drop, the percentage of IMGs continues to decrease more gradually, dropping to just less than 33 percent after 3 years from initial registration. Table 19 shows that this trend has been consistent across the period analysed, with little variance in the proportion retained.

Table 20: Average percentage of IMGs retained, by post-registration year

	Post-registration year											
	1	2	3	4	5	6	7	8	9	10	11	12
Average percentage of IMGs retained	53.5	36.3	32.3	30.8	29.6	27.8	26.7	25.6	24.8	23.7	22.7	20.5
Standard deviation	6.5	3.6	3.0	2.9	3.2	1.0	1.2	1.2	1.4	1.8	0.9	

Retention of international medical graduates – by region

This section splits the IMGs we analysed into groups based on the region where they gained their primary medical qualification. The groups are the Americas, Asia, Europe, North Africa and Middle East, Oceania, Sub-Saharan Africa and the United Kingdom.

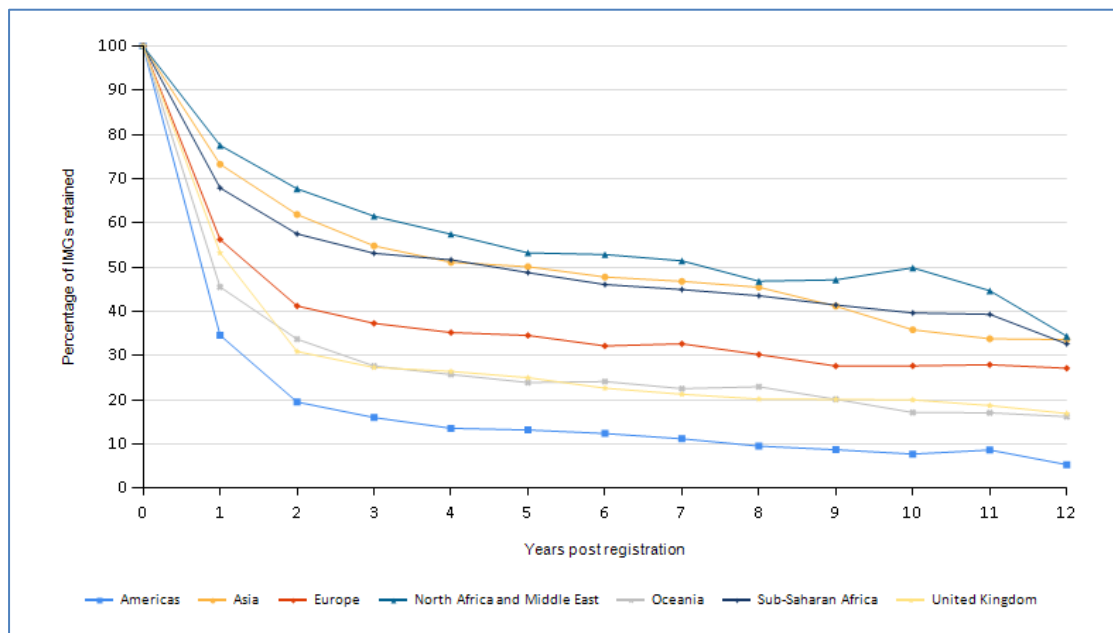
These groups are based on the level 1 major groups of the New Zealand Standard Classification for countries⁴ although some groups have been combined and others split to make the figures easier to read. These combinations are:

- South-East Asia, North-East Asia and Southern and Central Asia have been combined to form the Asia grouping.
- North-West Europe and Southern and Eastern Europe have been combined in the Europe grouping.
- The United Kingdom has been separated out into its own group. It would normally form part of North-West Europe but as the United Kingdom is one of the main areas of the world where our IMGs come from, it was important to look at them separately.
- Because this section is analysing the retention of IMGs, New Zealand is not included in the Oceania group. This group therefore effectively represents Australian graduates and a small number from the Pacific Islands.

Figure 19 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 48.

⁴ Statistics New Zealand – Country – Classifications and related statistical standards: http://www.stats.govt.nz/surveys_and_methods/methods/classifications-and-standards/classification-related-stats-standards/country.aspx

Figure 19: Retention rate for IMGs by country, 2000–2011



Doctors from North Africa and the Middle East have the highest retention rate, followed by Sub-Saharan Africa and Asia.

Doctors from the Americas have the lowest retention rate, with just under 35 percent retained 1 year after registration. Seven years after registration, just over 11 percent remain.

Doctors from the United Kingdom also have lower-than-average retention rates. Just under 31 percent of these doctors are retained 2 years after registration, dropping to just over 20 percent after 8 years.

Similarly, doctors from Oceania have lower-than-average retention rates. Just under 37 percent of these doctors are retained 2 years after registration dropping to just fewer than 23 percent after 8 years.

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

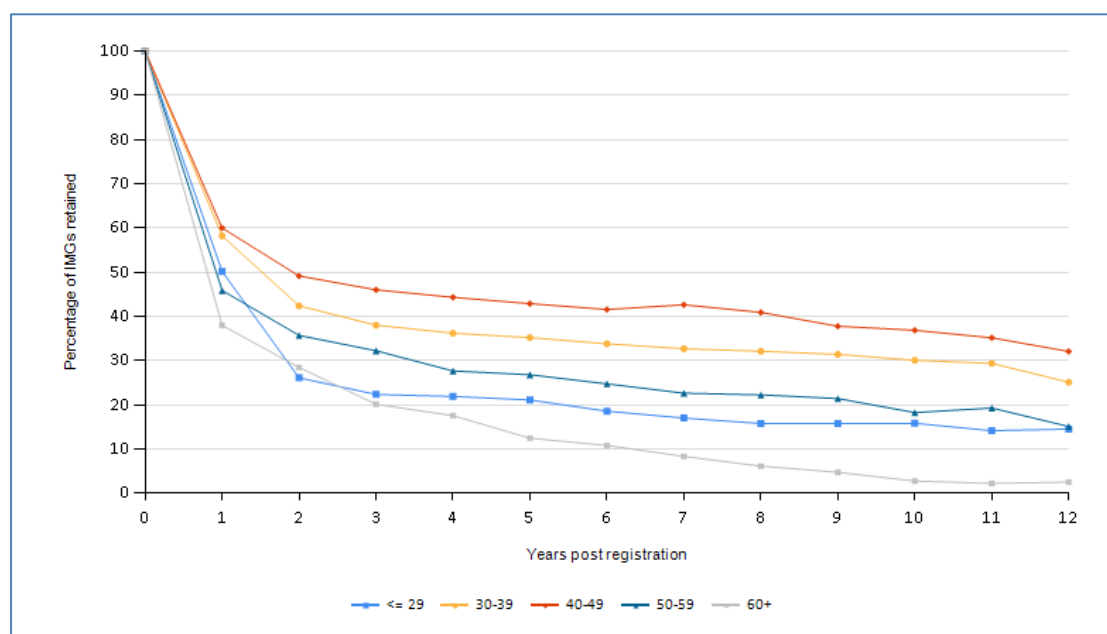
Retention of international medical graduates – by age group

This section splits the IMGs analysed into five age groups based on the doctor's age at 1 July of the original group year (for example, doctors from the 2000 group have their age taken as at 1 July 2000). The groupings are:

- Less than 30
- 30–39
- 40–49
- 50–59
- 60 or older.

Figure 20 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 52.

Figure 20: Retention rate for IMGs by age group, 2000–2011



Doctors in the 40–49 age group have the highest overall 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.

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 21 percent after only 5 years, and then levels out to around 15 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.

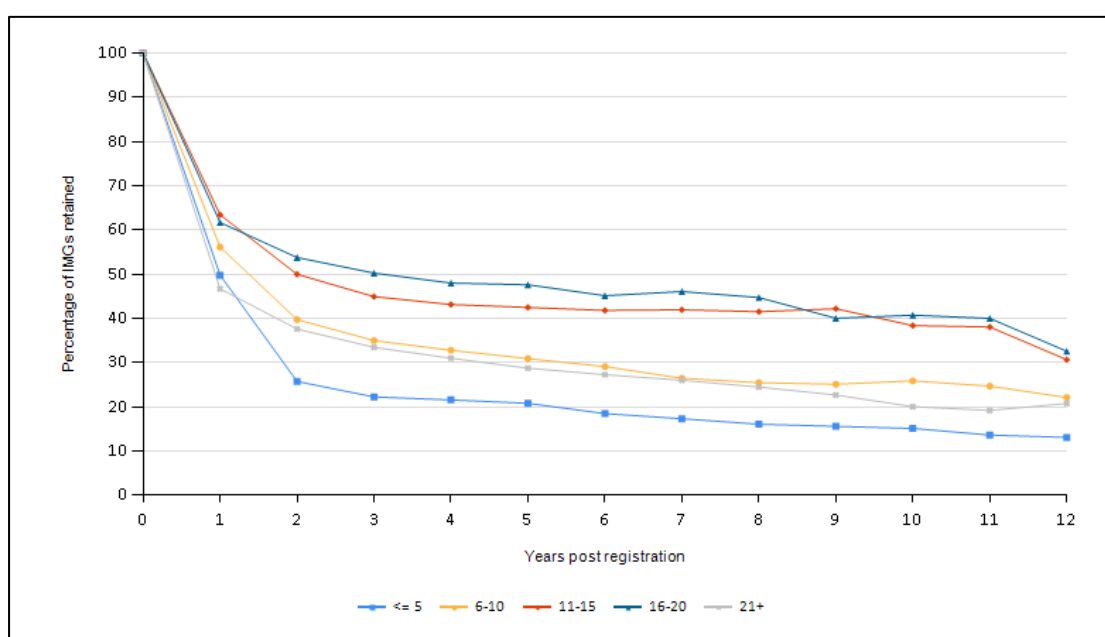
Retention of international medical graduates – by time since qualification

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 less than 5, 5–10, 11–15, 16–20, and 21 or more.

Figure 21 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 55.

Figure 21: 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 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 over 25 percent after 2 years and then dropping below 20 percent after 6 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).

General 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 fewer than 80 percent of IMGs are still working in New Zealand. This decreases steadily to just over 66 percent after 5 years.

It is notable that the number of IMGs who obtained a general scope has increased more dramatically in 2009 and 2010 than in previous years. Furthermore, the retention of IMGs who gained a general scope in 2010 and 2011 one year later is a lot lower than in previous years.

One possible explanation is that more IMGs are applying for a general scope once they become eligible for it. Holding a general scope makes it easier for an IMG to return to New Zealand, should they leave to work overseas. The Council is also proactive in notifying IMGs when they become eligible for a general scope. As a result, this means that some IMGs might be applying for a general scope, not because they intend to stay in New Zealand long-term, but to leave the option open should they wish to return in the future.

We will continue to examine this trend as more data become available in future years.

Table 21: Retention rate for IMGs after general scope obtained

First year registered ¹	Number registered	Percentage of IMGs retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	256	82.8	76.2	72.3	68.4	64.1	63.7	59.8	55.1	51.2	48.0	45.7	45.3
2001	242	82.6	75.6	74.0	69.0	63.6	60.7	57.4	53.7	51.7	52.1	49.6	
2002	250	87.2	78.4	72.4	72.8	68.4	66.8	63.2	61.6	60.4	57.2		
2003	316	89.9	80.7	78.8	73.7	71.2	67.7	66.8	66.5	60.4			
2004	311	83.3	74.6	69.1	66.2	63.7	59.8	57.6	54.3				
2005	323	77.4	72.8	68.7	64.7	65.6	64.4	62.8					
2006	284	80.6	76.1	69.4	67.6	65.5	60.9						
2007	331	82.5	76.7	75.2	71.0	67.4							
2008	384	74.7	70.8	65.1	61.7								
2009	470	79.6	69.8	65.7									
2010	574	69.0	63.6										
2011	567	61.2											
Average percentage of IMGs retained		79.2	74.1	71.1	68.4	66.2	63.4	61.3	58.2	55.9	52.4	47.6	45.3
Standard deviation		7.9	4.7	4.3	3.8	2.7	3.1	3.7	5.6	5.2	4.6	2.7	

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.

Vocational scope

Table 22 shows the retention rate for IMGs in the years after they obtained a vocational scope of practice, and Table 23 shows the equivalent figures for New Zealand graduates.

The requirements to obtain a vocational scope can vary. Some IMGs will have already worked in New Zealand for a number of years and completed some or all of an approved vocational training programme in New Zealand. Doctors who completed their postgraduate training overseas must have completed 1–2 years of supervised practice.

Table 22: Retention rate for IMGs after vocational scope obtained

First year registered ¹	Number registered	Percentage of IMGs retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	161	90.1	85.7	83.9	78.9	77.6	73.9	72.7	69.6	68.3	67.7	67.1	66.5
2001	278	89.9	83.8	84.5	80.2	78.8	75.2	74.8	74.5	73.0	72.7	69.4	
2002	202	90.6	89.1	87.1	85.6	82.7	81.2	81.7	79.2	76.7	76.7		
2003	223	92.4	87.9	84.8	79.8	78.5	76.2	74.9	74.4	73.1			
2004	226	86.7	80.1	80.1	75.7	72.1	70.4	68.1	67.3				
2005	206	89.3	83.0	79.6	77.7	74.3	75.2	72.8					
2006	206	86.4	84.0	79.6	76.2	74.3	72.3						
2007	223	78.9	75.3	74.4	73.1	68.2							
2008	229	82.5	79.0	72.1	70.3								
2009	239	82.8	76.2	72.4									
2010	241	84.6	77.2										
2011	327	84.1											
Average percentage of IMGs retained		86.5	81.9	79.8	77.5	75.8	74.9	74.2	73.0	72.8	72.4	68.3	66.5
Standard deviation		4.0	4.7	5.4	4.4	4.5	3.4	4.4	4.7	3.4	4.5	1.7	

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, 86.5 percent of IMGs are retained. This decreases gradually to just fewer than 75 percent after 6 years.

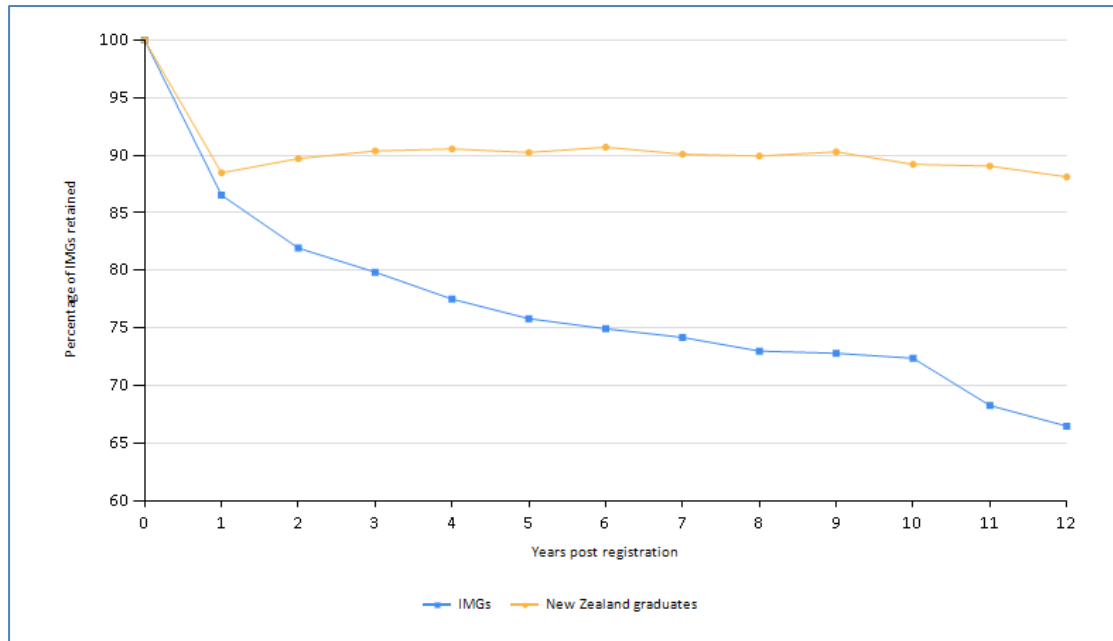
Table 23: Retention rate for New Zealand graduates after vocational scope obtained

First year registered ¹	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	219	95.0	94.1	94.5	95.0	94.5	95.0	91.8	90.0	90.4	89.5	88.6	88.1
2001	364	94.8	94.5	93.1	93.1	92.3	92.3	92.6	92.0	91.8	90.1	89.6	
2002	276	91.7	90.9	90.2	94.2	93.1	91.7	91.3	90.9	89.9	88.0		
2003	250	93.2	90.0	92.0	92.0	90.8	90.4	89.6	89.6	89.2			
2004	211	88.6	90.5	89.1	88.2	89.6	88.2	87.2	87.2				
2005	235	87.7	87.2	90.6	89.8	88.1	88.5	88.1					
2006	226	85.8	90.3	89.4	87.2	88.9	88.9						
2007	215	85.6	83.3	85.1	87.0	84.7							
2008	220	85.0	90.0	90.0	88.6								
2009	223	87.0	87.9	89.7									
2010	212	86.3	88.2										
2011	265	81.1											
Average percentage of IMGs retained		88.5	89.7	90.4	90.6	90.2	90.7	90.1	89.9	90.3	89.2	89.1	88.1
Standard deviation		4.3	3.1	2.5	3.1	3.1	2.5	2.2	1.8	1.1	1.1	0.7	

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.

Figure 22 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.

Figure 22: Retention rate for IMGs and New Zealand graduates after vocational scope obtained



The retention rate after 1 year for New Zealand graduates is just under 90 percent, and only slightly lower for IMGs. After 2 years, the retention rate for New Zealand graduates stabilises at just over 90 percent. For IMGs it decreases steadily to around 75 percent after 6 years.

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 birth date.

The four periods of data in this report are: November 2011, February 2012, May 2012, and August 2012.

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 2012 workforce survey, survey forms were sent out to 13,947 doctors with New Zealand addresses. Ninety-six percent (13,415) replied.

The results in this report include only the 12,017 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 2012⁵.

Because the TLAs in the Auckland region have been combined into one, population figures for the separated areas are no longer available. Therefore, the DHB locality populations for Waitemata, Auckland and Counties Manukau have been estimated. The estimates have been produced by dividing up the population of the new Auckland TLA as at 30 June 2012 into the proportions the previous TLA boundaries made up of the total at 30 June 2010 when these TLA were still separated out by Statistics New Zealand.

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. NZ European / Pākehā.

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 we granted practising certificates to 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.

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.

⁵ Statistics New Zealand: Estimated Resident Population as at 30 June 2011.

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

A doctor's main work site is the place where they spend most of their working hours.

Medical officer

The National DHB Collective Agreement (MECA) between the Association of Salaried Medical Specialists (ASMS) and DHBs⁶ defines Medical Officer as 'any medical practitioner who is registered under the Health Practitioners Competence Assurance Act 2003 ... who is not a medical specialist'.

⁶http://www.asms.org.nz/Site/Employment_in_NZ/National_DHB_Collective_Agreement_-_MECA/MECA.aspx

Registered within a vocational scope of practice

Doctors registered in a vocational scope of practice 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.

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 8.

Further information

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

Analytical Services
National Collections & Reporting
National Health Board
PO Box 1043
Wellington

Email: data-enquiries@moh.govt.nz

Website: www.moh.govt.nz

Phone: 04 816 2850

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

Acknowledgements

This report was prepared by Andrew Cullen, Senior Information Systems Analyst with assistance from Christine Whiteford, who helped check the data.

The Medical Council of New Zealand would like to thank the doctors who completed the workforce survey, as well as all those who helped in reviewing the report and providing feedback.

Appendix 1 – Distribution of the workforce by district health board

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

Table 24: Workforce by DHB locality of main work site

DHB locality	Doctors	GPs ¹	DHB locality population ⁷	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	356	141	158,300	225	134	85	89
Waitemata	903	379	547,839	165	342	62	69
Auckland	2,559	490	460,439	556	447	97	106
Counties Manukau	827	292	499,421	166	272	54	58
Waikato ³	962	263	391,590	246	245	62	67
Bay of Plenty	517	190	212,110	244	166	78	90
Lakes	265	95	103,000	257	86	83	92
Tairāwhiti	100	31	46,700	214	29	62	66
Hawke's Bay	374	133	154,790	242	120	77	86
Taranaki	236	70	110,320	214	64	58	63
MidCentral	394	93	161,250	244	95	59	58
Whanganui	141	51	57,800	244	55	96	88
Wairarapa	59	30	40,630	145	31	77	74
Hutt	267	99	144,300	185	90	63	69
Capital & Coast ⁴	1154	302	305,100	378	260	85	99
Nelson Marlborough	350	140	140,700	249	115	82	100
West Coast	70	19	32,900	213	18	56	58
Canterbury	1,482	459	500,590	296	402	80	92
Otago	689	173	183,700	375	164	89	94
South Canterbury	107	39	56,650	189	45	79	69
Southland ⁵	205	105	124,150	165	95	76	85
Total	12,017	3,594	4,432,279	271	3,274	74	81
Southern ⁶	894	278	307,850	290	259	84	90

¹ Number of GPs is the number of doctors who reported a work role of GP 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 DHBs.

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

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

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 DHB localities for Southland and Otago are still shown separately in the main table, but the combined figures are shown underneath.

⁷ The DHB locality populations for Waitemata, Auckland and Counties Manukau are estimates because the TLA which made up these DHB regions previously have been merged into one Auckland TLA and so TLA populations are no longer available. The estimates have been produced by dividing up the population of the new Auckland TLA as at 30 June 2012 into the proportions the previous TLA boundaries made up of the total at 30 June 2010 when these TLA were still separated out by Statistics New Zealand.

Appendix 2 – Retention of international medical graduates by country

Tables 25 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 36.

Table 25: Retention rate for graduates from the Americas, 2000–2010

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	113	29.2	19.5	15.0	9.7	9.7	8.8	7.1	7.1	6.2	7.1	7.1	5.3
2001	128	18.8	14.1	12.5	9.4	8.6	11.7	14.1	10.2	10.2	8.6	10.2	
2002	121	24.8	19.0	11.6	10.7	8.3	7.4	9.1	9.9	7.4	7.4		
2003	155	24.5	17.4	12.9	12.9	12.3	11.0	11.6	11.0	11.0			
2004	138	31.9	16.7	13.8	10.9	10.1	10.9	9.4	9.4				
2005	178	39.9	23.6	21.9	19.1	21.3	18.0	15.7					
2006	150	34.7	20.7	19.3	16.7	19.3	18.7						
2007	200	43.0	21.0	16.0	16.0	15.5							
2008	225	37.8	21.3	16.4	16.0								
2009	238	39.9	21.4	20.2									
2010	249	44.2	19.3										
2011	239	46.4											
Average percentage of IMGs retained		34.6	19.4	16.0	13.5	13.1	12.4	11.2	9.5	8.7	7.7	8.6	5.3
Standard deviation		8.8	2.6	3.5	3.5	5.0	4.3	3.3	1.5	2.2	0.8	2.2	

Table 26: Retention rate for graduates from Asia, 2000–2010

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	119	73.9	69.7	63.0	58.0	53.8	49.6	48.7	43.7	42.0	36.1	36.1	33.6
2001	89	70.8	58.4	50.6	50.6	44.9	46.1	44.9	42.7	38.2	34.8	31.5	
2002	126	74.6	66.7	56.3	49.2	50.0	44.4	42.9	43.7	42.1	36.5		
2003	125	69.6	65.6	59.2	56.0	52.0	50.4	48.0	47.2	42.4			
2004	90	68.9	65.6	57.8	54.4	53.3	52.2	51.1	50.0				
2005	100	78.0	68.0	62.0	57.0	54.0	53.0	45.0					
2006	109	68.8	54.1	45.9	43.1	40.4	38.5						
2007	149	78.5	59.7	53.0	51.7	52.3							
2008	103	76.7	58.3	43.7	39.8								
2009	99	76.8	59.6	56.6									
2010	85	74.1	55.3										
2011	99	68.7											
Average percentage of IMGs retained		73.3	61.9	54.8	51.1	50.1	47.7	46.8	45.4	41.2	35.8	33.8	33.6
Standard deviation		3.8	5.4	6.5	6.3	4.9	5.1	3.0	3.1	2.0	0.9	3.3	

Table 27: Retention rate for graduates from Europe, 2000–2010

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	59	50.8	49.2	40.7	33.9	32.2	30.5	32.2	27.1	27.1	25.4	30.5	27.1
2001	71	47.9	38.0	39.4	35.2	36.6	29.6	29.6	26.8	29.6	29.6	26.8	
2002	100	59.0	40.0	37.0	38.0	32.0	32.0	31.0	33.0	28.0	28.0		
2003	93	41.9	34.4	29.0	28.0	28.0	26.9	25.8	26.9	25.8			
2004	91	61.5	51.6	44.0	45.1	47.3	45.1	42.9	37.4				
2005	116	64.7	43.1	39.7	34.5	35.3	34.5	34.5					
2006	127	44.9	31.5	28.3	30.7	26.8	26.8						
2007	131	66.4	49.6	42.7	38.2	38.2							
2008	174	58.6	42.5	35.6	33.3								
2009	201	58.2	40.3	36.3									
2010	163	61.3	33.1										
2011	175	59.4											
Average percentage of IMGs retained		56.2	41.2	37.3	35.2	34.5	32.2	32.7	30.2	27.6	27.7	28.6	27.1
Standard deviation		7.9	6.8	5.2	4.9	6.5	6.3	5.8	4.8	1.6	2.1	2.7	

Table 28: Retention rate for graduates from North Africa and the Middle East, 2000–2010

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	32	78.1	71.9	71.9	71.9	62.5	59.4	56.3	56.3	53.1	43.8	37.5	34.4
2001	27	74.1	59.3	63.0	51.9	51.9	51.9	48.1	51.9	48.1	48.1	51.9	
2002	26	80.8	69.2	65.4	57.7	57.7	57.7	57.7	57.7	53.8	57.7		
2003	18	72.2	55.6	50.0	50.0	44.4	44.4	33.3	33.3	33.3			
2004	20	80.0	65.0	55.0	55.0	45.0	55.0	45.0	35.0				
2005	22	81.8	81.8	77.3	72.7	68.2	68.2	68.2					
2006	12	66.7	75.0	58.3	50.0	41.7	33.3						
2007	11	72.7	63.6	54.5	54.5	54.5							
2008	15	73.3	66.7	60.0	53.3								
2009	15	86.7	73.3	60.0									
2010	22	86.4	63.6										
2011	18	77.8											
Average percentage of IMGs retained		77.5	67.7	61.5	57.4	53.2	52.8	51.4	46.8	47.1	49.9	44.7	34.4
Standard deviation		6.0	7.5	8.2	8.8	9.3	11.2	12.0	11.8	9.5	7.1	10.1	

Table 29: Retention rate for graduates from Oceania, 2000–2010

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	68	48.5	42.6	38.2	32.4	29.4	30.9	26.5	23.5	16.2	13.2	16.2	16.2
2001	67	50.7	34.3	31.3	25.4	25.4	26.9	26.9	20.9	20.9	20.9	17.9	
2002	64	50.0	43.8	35.9	34.4	26.6	25.0	18.8	21.9	18.8	17.2		
2003	61	52.5	34.4	32.8	29.5	26.2	29.5	31.1	34.4	24.6			
2004	93	40.9	28.0	21.5	19.4	17.2	15.1	12.9	14.0				
2005	74	45.9	32.4	27.0	21.6	20.3	23.0	18.9					
2006	70	38.6	35.7	22.9	22.9	21.4	18.6						
2007	77	44.2	29.9	28.6	27.3	24.7							
2008	80	41.3	28.8	20.0	18.8								
2009	78	35.9	24.4	17.9									
2010	82	46.3	36.6										
2011	115	52.2											
Average percentage of IMGs retained													
Standard deviation													

Table 30: Retention rate for graduates from Sub-Saharan Africa, 2000–2010

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	95	67.4	67.4	56.8	53.7	51.6	46.3	45.3	40.0	36.8	37.9	35.8	32.6
2001	105	71.4	66.7	62.9	61.0	54.3	51.4	50.5	49.5	41.9	42.9	42.9	
2002	131	58.0	61.1	55.7	51.1	44.3	45.8	41.2	41.2	42.7	38.2		
2003	113	65.5	55.8	52.2	48.7	49.6	49.6	44.2	45.1	44.2			
2004	79	64.6	51.9	46.8	48.1	45.6	44.3	43.0	41.8				
2005	75	62.7	52.0	52.0	53.3	50.7	50.7	45.3					
2006	96	56.3	46.9	45.8	43.8	38.5	34.4						
2007	90	72.2	65.6	58.9	58.9	54.4							
2008	41	73.2	51.2	51.2	46.3								
2009	47	66.0	53.2	48.9									
2010	36	75.0	61.1										
2011	35	82.9											
Average percentage of IMGs retained		67.9	57.5	53.1	51.7	48.6	46.1	44.9	43.5	41.4	39.6	39.3	32.6
Standard deviation		7.5	7.1	5.4	5.7	5.5	5.8	3.1	3.9	3.2	2.8	5.0	

Table 31: Retention rate for graduates from the United Kingdom, 2000–2010

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	438	37.7	23.5	22.8	20.5	18.0	18.9	18.7	18.3	16.9	17.1	17.8	16.9
2001	445	41.3	28.8	24.0	24.7	24.9	24.3	23.4	21.6	22.7	21.8	19.8	
2002	505	41.6	24.0	21.4	23.0	21.6	20.8	21.8	20.6	20.6	21.0		
2003	527	39.5	23.7	21.8	22.4	22.2	20.9	21.1	20.9	20.1			
2004	503	43.5	23.7	22.7	20.9	19.7	20.5	20.1	19.5				
2005	566	50.9	29.9	26.0	25.6	24.7	23.7	22.4					
2006	403	53.6	33.3	32.8	30.8	29.5	29.3						
2007	447	64.4	49.2	42.3	39.8	39.1							
2008	458	62.4	37.1	30.8	29.9								
2009	485	68.2	33.6	28.5									
2010	557	67.5	33.4										
2011	573	67.9											
Average percentage of IMGs retained		53.2	30.9	27.3	26.4	25.0	22.6	21.2	20.2	20.1	20.0	18.8	16.9
Standard deviation		12.3	7.8	6.6	6.2	6.7	3.5	1.7	1.3	2.4	2.5	1.4	

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 38).

Table 32: Retention rate for IMGs aged 29 or younger, 2000-2011

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	352	38.9	24.4	22.4	20.7	17.6	18.2	17.6	16.5	14.2	13.6	13.9	14.5
2001	328	36.3	19.8	16.2	16.8	18.0	18.9	18.3	15.2	16.8	16.5	14.3	
2002	376	39.1	20.2	18.1	19.7	18.4	17.8	18.1	18.6	17.3	17.3		
2003	376	37.2	18.1	17.0	16.0	16.0	14.6	15.2	15.7	14.6			
2004	394	38.6	16.2	15.5	14.7	12.7	13.7	13.7	12.7				
2005	436	49.3	27.1	23.9	22.9	21.6	20.4	19.0					
2006	291	45.4	32.6	29.6	28.9	27.8	26.1						
2007	336	67.9	45.5	37.5	36.3	36.6							
2008	382	57.9	29.8	22.3	20.9								
2009	420	60.0	26.0	21.0									
2010	474	65.8	27.2										
2011	453	65.6											
Average percentage of IMGs retained		50.2	26.1	22.3	21.9	21.1	18.5	17.0	15.7	15.7	15.8	14.1	14.5
Standard deviation		12.5	8.2	6.8	6.9	7.7	4.1	2.1	2.1	1.5	1.9	0.3	

Table 33: Retention rate for IMGs aged 30–39, 2000-2011

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	303	55.1	46.9	41.9	38.6	34.7	34.3	33.7	29.7	28.1	27.1	27.1	25.1
2001	341	56.6	46.9	42.8	41.9	39.6	38.7	36.4	34.9	34.6	33.1	32.3	
2002	384	53.9	47.7	42.2	39.8	37.0	35.7	33.9	33.6	31.8	29.9		
2003	379	50.7	39.3	35.9	35.9	35.4	33.0	32.2	32.2	31.1			
2004	302	53.0	39.4	33.8	31.5	31.5	32.5	30.8	30.1				
2005	360	57.5	39.2	35.0	33.1	33.3	31.7	29.2					
2006	380	58.2	37.4	33.4	31.8	31.6	30.8						
2007	448	64.7	47.3	43.1	39.7	38.6							
2008	415	61.0	41.9	34.9	33.3								
2009	387	62.8	41.1	37.0									
2010	369	62.1	39.0										
2011	410	63.2											
Average percentage of IMGs retained		58.2	42.4	38.0	36.2	35.2	33.8	32.7	32.1	31.4	30.0	29.7	25.1
Standard deviation		4.5	4.0	4.0	3.9	3.0	2.7	2.5	2.2	2.7	3.0	3.7	

Table 34: Retention rate for IMGs aged 40–49, 2000-2011

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	156	55.8	55.8	52.6	49.4	50.0	45.5	43.6	41.7	40.4	37.8	37.2	32.1
2001	148	54.7	50.0	43.9	43.2	39.9	39.2	43.2	39.9	33.8	33.8	33.1	
2002	167	63.5	53.9	48.5	46.1	43.1	41.9	41.9	41.9	41.3	38.9		
2003	197	53.8	50.3	45.7	43.7	40.6	41.1	39.6	39.1	35.5			
2004	186	58.6	51.6	48.4	47.3	46.2	44.6	42.5	41.9				
2005	196	66.8	55.6	52.6	49.5	49.0	48.5	44.9					
2006	150	50.7	36.0	35.3	35.3	32.7	30.0						
2007	164	64.6	51.8	45.7	43.9	41.5							
2008	144	58.3	45.1	42.4	40.3								
2009	169	65.1	46.7	45.0									
2010	163	65.0	43.6										
2011	199	62.8											
Average percentage of IMGs retained		60.0	49.1	46.0	44.3	42.9	41.5	42.6	40.9	37.8	36.8	35.1	32.1
Standard deviation		5.4	5.9	5.1	4.5	5.6	5.9	1.8	1.3	3.7	2.7	2.9	

Table 35: Retention rate for IMGs aged 50–59, 2000-2011

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	73	42.5	37.0	32.9	23.3	21.9	16.4	17.8	19.2	16.4	13.7	19.2	15.1
2001	62	43.5	33.9	43.5	29.0	27.4	22.6	24.2	24.2	22.6	21.0	19.4	
2002	95	45.3	32.6	27.4	24.2	21.1	18.9	18.9	17.9	20.0	20.0		
2003	94	38.3	35.1	26.6	27.7	26.6	29.8	25.5	27.7	26.6			
2004	90	52.2	40.0	35.6	30.0	31.1	28.9	26.7	22.2				
2005	93	45.2	34.4	32.3	25.8	25.8	25.8	22.6					
2006	88	45.5	36.4	37.5	31.8	30.7	30.7						
2007	108	37.0	32.4	27.8	28.7	29.6							
2008	92	46.7	37.0	28.3	28.3								
2009	115	49.6	37.4	30.4									
2010	110	54.5	36.4										
2011	100	50.0											
Average percentage of IMGs retained		45.9	35.7	32.2	27.6	26.8	24.7	22.6	22.2	21.4	18.2	19.3	15.1
Standard deviation		5.2	2.3	5.4	2.8	3.8	5.6	3.6	3.9	4.3	3.9	0.1	

Table 36: Retention rate for IMGs aged 60 or older, 2000-2011

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	40	40.0	27.5	17.5	5.0	2.5	7.5	2.5	2.5		2.5	2.5	2.5
2001	53	26.4	26.4	17.0	13.2	11.3	9.4	7.5	5.7	5.7	3.8	1.9	
2002	51	37.3	27.5	11.8	11.8	2.0	2.0	2.0	2.0	2.0	2.0		
2003	46	37.0	23.9	19.6	17.4	17.4	17.4	15.2	10.9	6.5			
2004	42	42.9	31.0	19.0	21.4	14.3	11.9	9.5	9.5				
2005	46	34.8	21.7	15.2	17.4	15.2	15.2	13.0					
2006	58	34.5	34.5	25.9	22.4	10.3	12.1						
2007	49	42.9	40.8	26.5	28.6	24.5							
2008	63	39.7	30.2	22.2	19.0								
2009	72	40.3	26.4	26.4									
2010	78	33.3	21.8										
2011	92	47.8											
Average percentage of IMGs retained		38.1	28.3	20.1	17.4	12.2	10.8	8.3	6.1	4.7	2.7	2.2	2.5
Standard deviation		5.5	5.6	5.1	6.8	7.5	5.1	5.4	4.0	2.4	0.9	0.4	

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 39.)

Table 37: Retention rate for IMGs 5 years or less post-qualification, 2000-2011

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	360	38.1	23.1	20.8	19.2	16.1	16.9	16.4	15.6	13.1	12.5	12.2	13.1
2001	361	39.1	22.2	18.6	18.6	20.2	20.2	19.4	16.6	18.0	16.9	15.0	
2002	410	39.5	20.7	18.0	20.2	18.3	16.8	17.1	17.3	16.1	15.9		
2003	417	37.6	19.4	18.0	16.5	16.8	15.8	16.1	16.8	15.1			
2004	423	38.5	16.8	15.8	15.1	13.2	14.7	15.1	13.9				
2005	499	49.1	27.3	24.2	22.8	21.6	20.6	19.6					
2006	337	43.6	30.9	27.3	26.4	25.5	24.0						
2007	416	66.6	42.3	35.6	34.1	34.4							
2008	466	55.8	28.3	22.5	20.8								
2009	499	59.1	25.1	21.2									
2010	564	64.7	27.1										
2011	529	65.6											
Average percentage of IMGs retained		49.8	25.7	22.2	21.5	20.8	18.5	17.3	16.0	15.6	15.1	13.6	13.1
Standard deviation		11.9	6.9	5.8	5.8	6.6	3.3	1.8	1.3	2.1	2.3	1.9	

Table 38: Retention rate for IMGs 6–10 years post-qualification, 2000-2011

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	190	51.1	41.6	36.8	33.7	30.0	31.1	28.9	25.3	23.7	22.6	24.7	22.1
2001	187	46.5	39.0	35.3	34.8	32.1	31.6	28.9	26.7	27.3	27.3	25.7	
2002	217	51.2	42.4	39.2	35.5	33.2	33.6	30.9	30.9	27.6	27.6		
2003	216	39.8	28.2	23.1	24.1	22.7	21.3	20.8	21.3	21.8			
2004	165	47.9	32.7	27.9	24.2	25.5	26.1	21.8	23.0				
2005	183	57.9	38.3	35.5	35.5	34.4	31.7	27.3					
2006	241	58.9	35.7	32.8	30.7	29.5	28.2						
2007	256	62.1	48.8	44.9	41.4	39.8							
2008	222	65.3	44.6	35.6	35.1								
2009	205	65.9	46.3	38.5									
2010	184	63.0	39.1										
2011	229	63.8											
Average percentage of IMGs retained		56.1	39.7	35.0	32.8	30.9	29.1	26.4	25.4	25.1	25.9	25.2	22.1
Standard deviation		8.6	6.0	6.0	5.6	5.3	4.2	4.1	3.7	2.9	2.8	0.7	

Table 39: Retention rate for IMGs 11–15 years post-qualification, 2000-2011

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	124	62.1	57.3	51.6	48.4	44.4	40.3	42.7	37.1	36.3	35.5	33.9	30.6
2001	135	65.2	57.8	51.9	49.6	46.7	48.1	46.7	45.2	43.7	41.5	42.2	
2002	160	60.6	55.6	47.5	44.4	43.1	41.9	40.6	41.9	41.3	38.1		
2003	154	67.5	55.8	53.9	53.9	53.2	49.4	49.4	47.4	47.4			
2004	139	62.6	48.9	41.0	41.0	38.1	38.1	38.8	36.0				
2005	156	62.2	44.9	39.7	35.3	38.5	35.9	33.3					
2006	126	61.1	42.9	38.9	38.1	38.1	38.9						
2007	159	68.6	47.2	42.1	39.6	37.7							
2008	156	64.1	50.6	40.4	37.8								
2009	152	63.8	43.4	42.1									
2010	141	62.4	45.4										
2011	146	61.0											
Average percentage of IMGs retained		63.4	50.0	44.9	43.1	42.5	41.8	41.9	41.5	42.2	38.4	38.0	30.6
Standard deviation		2.5	5.7	5.7	6.3	5.5	5.1	5.7	5.0	4.7	3.0	5.9	

Table 40: Retention rate for IMGs 16–20 years post-qualification, 2000-2011

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	86	59.3	59.3	57.0	50.0	53.5	44.2	43.0	41.9	39.5	36.0	39.5	32.6
2001	84	60.7	51.2	48.8	52.4	46.4	45.2	50.0	48.8	41.7	41.7	40.5	
2002	90	63.3	60.0	54.4	51.1	48.9	48.9	48.9	48.9	47.8	44.4		
2003	103	55.3	51.5	49.5	44.7	39.8	39.8	36.9	36.9	31.1			
2004	102	62.7	60.8	54.9	52.0	52.0	51.0	48.0	47.1				
2005	97	71.1	62.9	54.6	53.6	52.6	52.6	49.5					
2006	82	56.1	41.5	39.0	39.0	39.0	34.1						
2007	76	61.8	59.2	50.0	50.0	48.7							
2008	69	55.1	44.9	43.5	39.1								
2009	87	70.1	54.0	50.6									
2010	93	65.6	46.2										
2011	107	58.9											
Average percentage of IMGs retained		61.7	53.8	50.2	48.0	47.6	45.1	46.1	44.7	40.0	40.7	40.0	32.6
Standard deviation		5.3	7.3	5.6	5.6	5.6	6.5	5.1	5.2	6.9	4.3	0.7	

Table 41: Retention rate for IMGs 21 or more years post-qualification, 2000-2011

First year registered	Number registered	Percentage retained, by post-registration year ²											
		1	2	3	4	5	6	7	8	9	10	11	12
2000	164	46.3	42.1	37.2	30.5	28.0	28.0	25.6	25.6	23.8	22.6	22.6	20.7
2001	165	40.6	36.4	33.9	26.7	24.8	21.8	23.0	20.6	18.2	17.6	15.8	
2002	196	48.5	37.8	30.1	28.6	22.4	20.4	20.9	19.4	20.9	19.9		
2003	202	43.1	39.1	32.2	32.7	32.2	33.7	30.7	30.7	27.7			
2004	185	50.3	39.5	36.2	34.1	33.0	30.3	27.6	25.9				
2005	196	48.0	37.2	35.2	31.6	30.1	31.1	28.1					
2006	181	42.5	35.9	34.3	30.9	25.4	25.4						
2007	198	47.0	42.4	34.8	34.3	33.3							
2008	183	45.4	35.5	29.5	29.0								
2009	220	46.8	34.5	30.9									
2010	212	48.6	32.5										
2011	243	53.5											
Average percentage of IMGs retained		46.7	37.5	33.4	30.9	28.7	27.2	26.0	24.4	22.7	20.0	19.2	20.7
Standard deviation		3.5	3.0	2.6	2.6	4.1	4.9	3.6	4.6	4.1	2.5	4.8	