



The New Zealand

# Medical Workforce in 2001

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Ninety four percent of doctors holding an annual practising certificate responded to the Medical Council's 2001 survey. The major findings were:

**The size of the workforce:** The number of doctors in active employment has decreased since 2000 by 1.4 percent to 8491.

**Demographics:** The proportion of women in the workforce, (32.6 percent) is the same as in 2000. The proportion of overseas-trained doctors has also remained the same as in 2000, at 34.4 percent. The proportion of Maori doctors has increased slightly to 2.6 percent, but along with Pacific Island doctors at 1.1 percent, Maori continue to be markedly under-represented compared with the general population.

**Work type:** Since 1999 there have been decreases in the larger work type groups anaesthetics, diagnostic radiology, general practice and primary care; and increases in paediatrics and psychiatry, and internal medicine.

**Geographical distribution:** In territorial authorities, full time equivalent general practitioners ranged from 43 to 192 per 100,000 people. The average, 85 full time equivalent general practitioners per 100,000 people, is a decrease of 2.4 percent since 2000.

## Introduction

This report presents a summary of the most relevant results of the 2001 survey by the Medical Council of New Zealand. It follows the report *Medical Workforce in 2000*, which presented extensive information on changes in the medical workforce and trends in retention. Additional detailed analysis of this survey is provided by the Medical Council to the Ministry of Health and individual information requirements can be discussed with the Analytical Unit of the New Zealand Health Information Service.

## Methods

Workforce data is collected as part of the renewal of annual practising certificates. In 2000 this process was changed from one period in the year to four periods depending on the birth date of the doctor. The four periods of data in this report are November 2000, February 2001, May 2001 and August 2001 and are presented as at 31 March 2001. There are some instances where the transition to the different collection timeframe has meant adjustments were required for consistency of reporting. These instances are noted in the text.

The sampling frame for the workforce survey questionnaire includes doctors with general or probationary registration, a current annual practising certificate (APC) and a New Zealand address at the date of collection.

The questionnaire was posted out a month or more before the end of the period and those not responding were sent two reminder letters. All data is collected within three months of the end of a period and confirmation phone calls made if the information needs clarification.

Data for this report were collected in the categories “Employer”, “Role” and “Work Type” at a main work site; and second and third work sites where appropriate. Role options were general practitioner; primary care; house officer; medical officer specialist scale; specialist/consultant; and other. The same categories are used in this report to identify the role and type of work, and do not indicate level of expertise.

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

Geographical analysis uses territorial authorities and District Health Board localities based on the employment information for the main work site. DHB populations were determined by amalgamating territorial authority population counts from the 2001 Census of Population and Dwellings<sup>1</sup>. Full time equivalents (FTEs) are calculated proportionately, so that 60 hours per week equals 1.5 FTE.

Multiple responses of ethnicity are reported here as a single category, according to a simplified version of Statistics New Zealand's prioritisation standard. Thus a single ethnic category is selected from multiple responses in the following priority order: New Zealand Maori, Pacific Island, Chinese, Indian, Other Ethnic Group, NZ European/Pakeha.

## Results

### Response

During the time covered by the four survey periods surveys were sent to a total of 9,124 practising doctors and 8,717 completed questionnaires were received, a response rate of 96 percent. The survey response rate in 2001 was 0.4 percent higher than in 2000, however only 97 percent or 8491 of the respondents worked for four or more hours per week in New Zealand or in short term overseas postings. The results in this supplement include only these doctors, who are described as "in active employment".

**Table 1: Estimates of annual workforce growth and changes in composition**

|  | 1980        | 1985        | 1990 <sup>2</sup> | 1991        | 1992        | 1993        | 1994        | 1995        | 1996        | 1997        | 1998        | 1999        | 2000        | 2001        |
|--|-------------|-------------|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Growth per year:</b> <sup>1</sup>     |             |             |                   |             |             |             |             |             |             |             |             |             |             |             |
| 1) measured by survey responses          | -           | -           | -                 | 3.6         | 2.3         | 2.2         | 4.5         | 4.9         | 1.4         | 7.7         | 3.2         | 1.5         | 0.0         | -1.4        |
| 2) measured by registration data         | -           | -           | -                 | -           | 2.5         | 2.7         | 2.0         | 6.3         | 5.5         | 4.1         | 1.3         | 2.4         | 2.6         | -2.5        |
| Graduated from:                          |             |             |                   |             |             |             |             |             |             |             |             |             |             |             |
| New Zealand                              | 3266        | 4095        | 4480              | 4621        | 4733        | 4790        | 4886        | 5024        | 5004        | 5449        | 5628        | 5693        | 5645        | 5567        |
| Overseas                                 | 1615        | 1461        | 1859              | 1949        | 1989        | 2082        | 2294        | 2506        | 2630        | 2775        | 2863        | 2923        | 2970        | 2924        |
| <b>Total workforce (survey response)</b> | <b>4881</b> | <b>5556</b> | <b>6339</b>       | <b>6570</b> | <b>6722</b> | <b>6872</b> | <b>7180</b> | <b>7530</b> | <b>7634</b> | <b>8224</b> | <b>8491</b> | <b>8616</b> | <b>8615</b> | <b>8491</b> |
| % overseas trained                       | 33.1        | 26.3        | 29.3              | 29.7        | 29.6        | 30.3        | 31.9        | 33.3        | 34.5        | 33.7        | 33.7        | 33.9        | 34.5        | 34.4        |
| Temporary registrants <sup>3</sup>       | -           | -           | 165               | -           | -           | -           | -           | 129         | -           | 328         | 351         | 370         | 421         | 646         |
| Percent of workforce                     | -           | -           | 2.5               | -           | -           | -           | -           | 1.7         | -           | 3.8         | 4.0         | 4.1         | 4.7         | 7.1         |

1 Some earlier data are not available.

2 Data are five-yearly up to 1990 then annually until 2001

3 Temporary registrants are not asked to complete the workforce survey.

<sup>1</sup> Statistics New Zealand : 2001 Census of Population and Dwellings

### Size of the medical workforce:

The workforce decreased to 8491 active doctors, down 1.4 percent from 2000. This provides one doctor per 450 people, a decrease in doctor availability from 1 per 442 in March 1999, but an increase from 1 doctor per 533 people in 1990 and 1 doctor per 642 people in 1980. General practitioner availability has decreased, from 87 full time equivalents per 100,000 people in 2000 to 85 full time equivalents per 100,000. It is predicted that these reductions in availability of GPs will continue<sup>2</sup>. Recent changes in the roles of the active doctor population are shown in Table 2.

Table 2 : Changes in the medical workforce 1990 to 2001

| Workforce Role             | Active doctors <sup>1</sup><br>2001 | Percent change<br>2000 to 2001 | Percent change<br>1990-2001 |
|----------------------------|-------------------------------------|--------------------------------|-----------------------------|
| General practice           | 3,037                               | -4                             | 25                          |
| House officer              | 760                                 | -15                            | 12                          |
| MOSS                       | 289                                 | 4                              | 67                          |
| Primary care other than GP | 171                                 | -10                            | 4                           |
| Registrar                  | 1,242                               | 1                              | 55                          |
| Specialist                 | 2,725                               | 3                              | 40                          |
| Other                      | 233                                 | 13                             | 64                          |
| No Answer                  | 34                                  |                                |                             |
| <b>Total</b>               | <b>8,491</b>                        | <b>-1</b>                      | <b>34</b>                   |

1 headcount

### Work type and postgraduate training

The change in work type since 2000 is shown in Table 3. Doctors working as house officers are not included in the table. As well as increases in the larger groups (psychiatry, internal medicine and paediatrics) there were increases in rehabilitation medicine and the surgical groups cardiothoracic, neurosurgery and otolaryngology. Decreases occurred in the larger groups diagnostic radiology, anaesthetics, general practice and primary care, and also in surgery: urology, surgery: ophthalmology and surgery: other. Twenty percent of doctors in the role general practitioner gave their work type as primary care (up from 15.5 percent in 2000).

Vocational training is identified by respondents who use a broad self-definition of training towards vocational registration. The percentage of all 'active' doctors, excluding house officer rotation, who indicated they are undertaking training towards inclusion on the vocational register has decreased from 29 percent in 2000 to 23 percent.

In 1999 doctors working in a GP role were 50 percent of those training. This percentage reduced in 2000 to 41 percent and in 2001 it has further reduced to 34 percent of all doctors training. The percentage of vocationally registered doctors working in a GP role is now 61. Work types where more than one third of the doctors described themselves as being in vocational training were paediatrics, emergency medicine, rehabilitation medicine and breast medicine.

Graduates from overseas universities are 31 percent of the total doctors working towards vocational registration.

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<sup>2</sup> Medical workforce 2000

**Table 3: Vocational groups at main work site (house officers excluded)<sup>1</sup>**

| Work type at main work site <sup>2</sup> | No. of doctors in main work site | Percent of total doctors | No. of doctors in main work site 2000 | Percent change 2000 to 2001 | Average hours worked (all sites) <sup>3</sup> | No. in vocational training <sup>3</sup> | Trainees as percent of work type <sup>4</sup> | Vocational registration current APC NZ address |
|--|----------------------------------|--------------------------|---------------------------------------|-----------------------------|---|---|---|--|
| Anaesthetics                             | 494                              | 6                        | 512                                   | -4                          | 51  | 114                                     | 23  | 335  |
| Basic Medical Science                    | 48                               | 1                        | 38                                    | 26                          | 48  | 9                                       | 19  | 18   |
| Breast Medicine                          | 7                                | 0                        | 4                                     | 75                          | 38  | 5                                       | 71  | 3  |
| Dermatology                              | 41                               | 1                        | 47                                    | -13                         | 46  | 2                                       | 5   | 37   |
| Diagnostic Radiology                     | 252                              | 3                        | 261                                   | -3                          | 48  | 40                                      | 16  | 203  |
| Emergency Medicine                       | 170                              | 2                        | 169                                   | 1                           | 46  | 89                                      | 52  | 51   |
| General Practice                         | 2,539                            | 33                       | 2,701                                 | -6                          | 43  | 607                                     | 24  | 1486   |
| Intensive Care                           | 16                               | 0                        | 18                                    | -11                         | 53  | 2                                       | 13  | 13   |
| Internal Medicine                        | 825                              | 11                       | 870                                   | -5                          | 51  | 202                                     | 24  | 499  |
| Musculo Skeletal Medicine                | 7                                | 0                        | 13                                    | -46                         | 42  | 2                                       | 29  | 5  |
| Obstetrics and Gynaecology               | 227                              | 3                        | 233                                   | -3                          | 54  | 40                                      | 18  | 180  |
| Occupational Medicine                    | 55                               | 1                        | 56                                    | -2                          | 43  | 10                                      | 18  | 37   |
| Ophthalmology                            | 102                              | 1                        | 103                                   | -1                          | 47  | 16                                      | 16  | 83   |
| Paediatrics                              | 264                              | 3                        | 239                                   | 10                          | 51  | 88                                      | 33  | 145  |
| Pathology                                | 180                              | 2                        | 173                                   | 4                           | 45  | 22                                      | 12  | 142  |
| Primary Care                             | 697                              | 9                        | 695                                   | 0                           | 41  | 157                                     | 23  | 377  |
| Psychiatry                               | 495                              | 6                        | 499                                   | -1                          | 45  | 128                                     | 26  | 282  |
| Public Health Medicine & Management      | 223                              | 3                        | 197                                   | 13                          | 44  | 37                                      | 17  | 141  |
| Radiation Oncology                       | 37                               | 0                        | 35                                    | 6                           | 51  | 8                                       | 22  | 26   |
| Rehabilitation Medicine                  | 15                               | 0                        | 17                                    | -12                         | 46  | 5                                       | 33  | 7  |
| Sexual Health Medicine                   | 19                               | 0                        | 20                                    | -5                          | 28  | 3                                       | 16  | 9  |
| Sports Medicine                          | 12                               | 0                        | 13                                    | -8                          | 47  | 3                                       | 25  | 8  |
| Surgery: Cardiothoracic                  | 25                               | 0                        | 27                                    | -7                          | 65  | 3                                       | 12  | 17   |
| Surgery: General                         | 247                              | 3                        | 244                                   | 1                           | 57  | 63                                      | 26  | 138  |
| Surgery: Neurosurgery                    | 18                               | 0                        | 21                                    | -14                         | 54  | 2                                       | 11  | 13   |
| Surgery: Orthopaedic                     | 217                              | 3                        | 221                                   | -2                          | 57  | 40                                      | 18  | 147  |
| Surgery: Other                           | 31                               | 0                        | 43                                    | -28                         | 53  | 1                                       | 3   | 21   |
| Surgery: Otolaryngology                  | 91                               | 1                        | 79                                    | -15                         | 50  | 13                                      | 14  | 70   |
| Surgery: Paediatric                      | 17                               | 0                        | 15                                    | 13                          | 59  | 0                                       | 0   | 15   |
| Surgery: Plastic                         | 50                               | 1                        | 46                                    | 9                           | 56  | 15                                      | 30  | 32   |
| Surgery: Urology                         | 45                               | 1                        | 40                                    | 13                          | 61  | 7                                       | 16  | 36   |
| Surgery: Vascular                        | 14                               | 0                        | 14                                    | 0                           | 64  | 1                                       | 7   | 12   |
| Not answered                             | 175                              | 2                        | 4                                     | -                           | 46  | 35                                      | 20  | 83   |
| Other                                    | 71                               | 1                        | 54                                    | -                           | 47  | 8                                       | 11  | 42   |
| <b>Total</b>                             | <b>7,726</b>                     | <b>100</b>               | <b>7,721</b>                          | <b>0</b>                    | <b>47</b>                                     | <b>1,777</b>                            | <b>23</b>                                     | <b>4713</b>                                    |

1 includes registrars, MOSSs and others not on the vocational register who identify themselves as training towards vocational registration.

2 based on vocational groups, except for categories 'basic medical science', 'primary care other than GP' and 'other surgical sub-specialties'

3 totals exclude House Officer Rotation.

4 the vocational training area may be different from the work type at the main work site

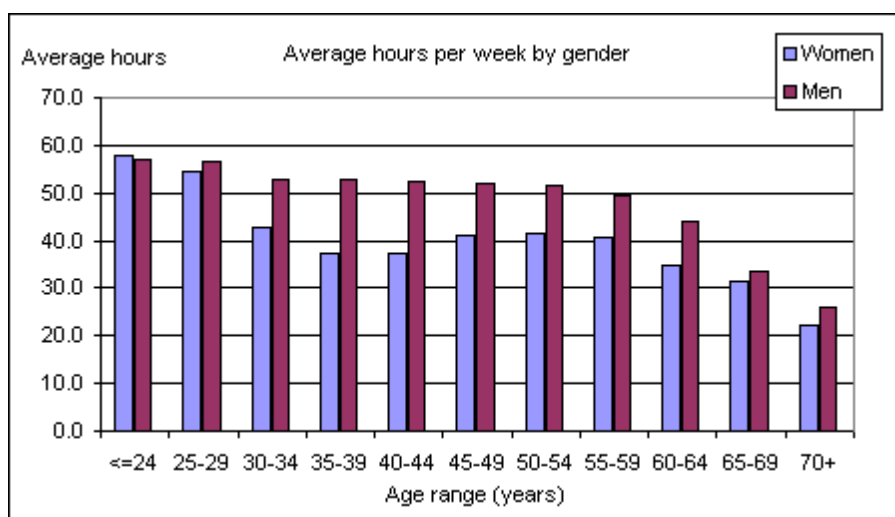
## Hours worked

The mean hours per week worked for all active doctors were 48, for women the mean was 42 and men 50. Mean hours declined with increasing age, from 57 hours per week for ages less than 25, to 39 hours per week for ages 65-90.

Forty percent of women doctors reported working less than 40 hours a week. The work pattern of women doctors differs from men as seen in Figure 1. Doctors under 30 years old work an average of 56 hours per week. The average hours for women decrease to 39 in the 30-44 year range and increase to 41 from 45-60 years. From 30-59 years the average hours worked by men is maintained near 50, dropping from an average of 53 hours at 30, to 49 hours at 59 years. Mean hours decrease for both men and women from 60 years.

The mean on-call time for all doctors was 9.3 hours per week. Not all doctors work on-call but those who do are on-call an average of 27 hours, this is influenced by a few doctors who were on-call for a very high number of hours. The median on-call time was 18 hours. Doctors in the work role specialist recorded 54 percent of the on-call time and GPs 34 percent. A higher percentage of men were on-call (39%), than women (23%). Table 5 shows workforce roles by on-call hours.

**Figure 1: Average hours worked per week by gender**



**Table 4: Average total hours by age and gender**

| Gender | Age range |       |       |       |       |       |       |       |       |       |      | All  |
|--------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
|        | <=24      | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+  |      |
| Women  | 58.0      | 54.5  | 42.8  | 37.2  | 37.4  | 41.0  | 41.7  | 40.6  | 35.0  | 31.6  | 22.3 | 41.7 |
| Men    | 57.0      | 56.6  | 52.9  | 52.9  | 52.6  | 52.0  | 51.4  | 49.4  | 44.1  | 33.5  | 25.9 | 50.4 |
| All    | 57.5      | 55.6  | 48.3  | 46.6  | 47.1  | 48.9  | 49.4  | 48.0  | 43.1  | 33.3  | 25.5 | 47.6 |

**Table 5: Proportion of doctors by on-call hours grouped, in each work role**

| On-call hours grouped | General practice | Primary care other than GP | House Officer | Registrar | Medical officer special scale | Specialist | Other |
|-----------------------|------------------|----------------------------|---------------|-----------|-------------------------------|------------|-------|
| No on-call hours      | 68               | 86                         | 93            | 79        | 77                            | 46         | 87    |
| 1 – 4                 | 5                | 2                          | 1             | 2         | 1                             | 2          | 2     |
| 5 – 9                 | 5                | 2                          | 2             | 4         | 4                             | 5          | 1     |
| 10 – 19               | 9                | 4                          | 2             | 7         | 6                             | 16         | 3     |
| 20 – 49               | 8                | 3                          | 2             | 7         | 10                            | 24         | 3     |
| 50 and more hours     | 5                | 4                          | 0             | 1         | 1                             | 7          | 4     |
| <b>Total</b>          | 100              | 100                        | 100           | 100       | 100                           | 100        | 100   |

## Geographical Distribution

The number of full time equivalent GPs ranged from 65 per 100,000 population for the Counties-Manukau DHB locality to 102 per 100,000 for Auckland (*Table 6*). Territorial authorities with FTEs for general practice below 50 per 100,000 population were Western Bay of Plenty, South Taranaki, Tasman, Grey, Southland and Gore Districts. Territorial authorities with more than 110 GP FTEs per 100,000 were Nelson City and Thames Coromandel, Kapiti Coast, South Wairarapa, Queenstown Lakes and Clutha districts (*Table 7*). The people living in cities of New Zealand have greater access to GPs than the rest of the country, with an average 89 full time equivalent general practitioners per 100,000 population compared to an average 79 in non-city areas.

Of the fifteen city-based territorial authorities, only one had a majority of doctors who qualified overseas (Napier). In contrast 50 percent or more of the doctors in 25 of the 58 non-city district authorities completed their primary medical training overseas.

**Table 6 : GP workforce by DHB locality of main work site**

| DHB locality                   | Number of GPs | FTEs for GPs at all work sites <sup>4</sup> | DHB locality population | FTEs for GPs per 100 000 population |
|--------------------------------|---------------|---|-------------------------|-------------------------------------|
| Northland                      | 113           | 129   | 144,354                 | 89                                  |
| Waitemata                      | 292           | 289   | 431,112                 | 67                                  |
| Auckland                       | 392           | 389   | 380,154                 | 102                                 |
| Counties-Manukau               | 239           | 245   | 376,332                 | 65                                  |
| Waikato <sup>1</sup>           | 258           | 280   | 328,164                 | 85                                  |
| Bay of Plenty                  | 130           | 138   | 179,439                 | 77                                  |
| Lakes                          | 78            | 84  | 103,329                 | 82                                  |
| Tairāwhiti                     | 31            | 37  | 44,115                  | 84                                  |
| Hawkes Bay                     | 108           | 115   | 146,574                 | 78                                  |
| Taranaki                       | 67            | 69  | 102,786                 | 67                                  |
| Midcentral                     | 95            | 116   | 147,684                 | 78                                  |
| Wanganui                       | 44            | 49  | 59,052                  | 83                                  |
| Wairarapa                      | 33            | 37  | 38,577                  | 95                                  |
| Hutt                           | 94            | 98  | 131,790                 | 74                                  |
| Capital and Coast <sup>2</sup> | 248           | 250   | 257,025                 | 97                                  |
| Nelson-Marlborough             | 98            | 98  | 130,923                 | 75                                  |
| West Coast                     | 17            | 21  | 34,446                  | 60                                  |
| Canterbury                     | 394           | 389   | 413,007                 | 94                                  |
| Otago                          | 156           | 167   | 171,312                 | 97                                  |
| South Canterbury               | 56            | 69  | 79,971                  | 87                                  |
| Southland <sup>3</sup>         | 94            | 95  | 119,526                 | 80                                  |
| <b>Total</b>                   | <b>3037</b>   | <b>3163</b>                                 | <b>3,819,672</b>        | <b>83</b>                           |

1 Includes all TLA Ruapehu

2 Includes all TLA Kapiti

3 Includes all TLA Queenstown-Lakes

4 The calculation of GP FTE includes all hours recorded in GP role at site1, site2 and site3

**Table 7: Medical workforce by territorial authority of main work site <sup>1</sup>**

| <b>SITE1 TLA</b>           | <b>No. of GPs</b> | <b>FTEs GPs <sup>2</sup></b> | <b>FTEs per 100 000</b> | <b>Ave hours GPs</b> | <b>No. of all doctors</b> | <b>No. of doctors per 100 000</b> | <b>O'seas doctors % of all</b> | <b>Territorial authority pop'n</b> |
|----------------------------|-------------------|------------------------------|-------------------------|----------------------|---------------------------|-----------------------------------|--------------------------------|------------------------------------|
| North Shore City           | 139               | 136                          | 73                      | 39                   | 417                       | 225                               | 25                             | 185,262                            |
| Waitakere City             | 101               | 101                          | 60                      | 40                   | 147                       | 87                                | 37                             | 168,465                            |
| Auckland City              | 392               | 396                          | 104                     | 40                   | 1,706                     | 449                               | 31                             | 380,154                            |
| Manukau City               | 179               | 185                          | 65                      | 41                   | 579                       | 204                               | 39                             | 284,001                            |
| Hamilton City              | 95                | 99                           | 85                      | 42                   | 198                       | 170                               | 47                             | 116,223                            |
| Napier City                | 47                | 53                           | 97                      | 46                   | 72                        | 131                               | 55                             | 55,137                             |
| Palmerston North City      | 57                | 69                           | 94                      | 48                   | 236                       | 323                               | 30                             | 73,125                             |
| Porirua City               | 37                | 37                           | 78                      | 40                   | 73                        | 154                               | 43                             | 47,292                             |
| Upper Hutt City            | 31                | 32                           | 88                      | 41                   | 34                        | 93                                | 39                             | 36,684                             |
| Lower Hutt City            | 63                | 67                           | 70                      | 42                   | 187                       | 197                               | 27                             | 95,106                             |
| Wellington City            | 169               | 170                          | 102                     | 40                   | 687                       | 411                               | 19                             | 167,190                            |
| Nelson City                | 48                | 50                           | 115                     | 42                   | 118                       | 271                               | 31                             | 43,560                             |
| Christchurch City          | 341               | 342                          | 105                     | 40                   | 1,037                     | 320                               | 29                             | 324,297                            |
| Dunedin City               | 113               | 119                          | 101                     | 42                   | 478                       | 405                               | 17                             | 118,038                            |
| Invercargill City          | 48                | 50                           | 99                      | 42                   | 134                       | 267                               | 42                             | 50,118                             |
| Far North District         | 42                | 57                           | 98                      | 54                   | 49                        | 84                                | 50                             | 58,065                             |
| Whangarei District         | 59                | 64                           | 94                      | 44                   | 165                       | 241                               | 36                             | 68,478                             |
| Kaipara District           | 12                | 13                           | 76                      | 45                   | 13                        | 73                                | 67                             | 17,811                             |
| Rodney District            | 52                | 60                           | 77                      | 46                   | 62                        | 80                                | 33                             | 77,385                             |
| Papakura District          | 27                | 31                           | 76                      | 45                   | 35                        | 87                                | 22                             | 40,380                             |
| Franklin District          | 33                | 36                           | 68                      | 43                   | 37                        | 71                                | 48                             | 51,951                             |
| Thames Coromandel District | 29                | 33                           | 116                     | 45                   | 41                        | 146                               | 52                             | 28,008                             |
| Hauraki District           | 14                | 17                           | 102                     | 48                   | 14                        | 84                                | 43                             | 16,662                             |
| Waikato District           | 34                | 40                           | 100                     | 47                   | 332                       | 833                               | 53                             | 39,870                             |
| Matamata-Piako District    | 21                | 26                           | 89                      | 50                   | 22                        | 75                                | 52                             | 29,403                             |
| Waipa District             | 35                | 36                           | 89                      | 41                   | 37                        | 91                                | 51                             | 40,509                             |
| Otorohanga District        | 4                 | 6                            | 61                      | 57                   | 4                         | 43                                | 25                             | 9,402                              |
| South Waikato District     | 12                | 12                           | 52                      | 40                   | 16                        | 69                                | 58                             | 23,268                             |
| Waitomo District           | 6                 | 7                            | 70                      | 45                   | 8                         | 83                                | 50                             | 9,618                              |
| Taupo District             | 22                | 25                           | 73                      | 46                   | 32                        | 93                                | 36                             | 34,557                             |
| Western BOP District       | 15                | 19                           | 49                      | 50                   | 113                       | 294                               | 27                             | 38,478                             |
| Tauranga District          | 85                | 88                           | 95                      | 41                   | 127                       | 138                               | 36                             | 91,836                             |
| Rotorua District           | 56                | 61                           | 88                      | 43                   | 148                       | 215                               | 21                             | 68,772                             |
| Whakatane District         | 23                | 25                           | 76                      | 44                   | 52                        | 158                               | 48                             | 32,955                             |
| Kawerau District           | 5                 | 5                            | 79                      | 44                   | 5                         | 72                                | 100                            | 6,951                              |
| Opotiki District           | *                 | 4                            | 47                      | 86                   | *                         | 33                                | 50                             | 9,219                              |
| Gisborne District          | 31                | 38                           | 85                      | 48                   | 72                        | 163                               | 35                             | 44,115                             |
| New Plymouth District      | 48                | 52                           | 79                      | 44                   | 148                       | 222                               | 40                             | 66,573                             |
| Stratford District         | 7                 | 9                            | 103                     | 53                   | 8                         | 89                                | 43                             | 8,991                              |
| South Taranaki District    | 12                | 12                           | 46                      | 42                   | 16                        | 59                                | 75                             | 27,222                             |
| Ruapehu District           | 8                 | 11                           | 72                      | 55                   | 14                        | 92                                | 50                             | 15,201                             |
| Wairoa District            | *                 | 5                            | 50                      | 61                   | 4                         | 44                                | 33                             | 9,129                              |
| Hastings District          | 52                | 56                           | 82                      | 43                   | 154                       | 224                               | 35                             | 68,757                             |
| Cent. HB District          | 6                 | 7                            | 53                      | 45                   | 6                         | 47                                | 67                             | 12,837                             |
| Wanganui District          | 35                | 40                           | 91                      | 45                   | 95                        | 217                               | 43                             | 43,683                             |
| Rangitikei District        | 9                 | 12                           | 75                      | 51                   | 9                         | 59                                | 44                             | 15,369                             |
| Manawatu District          | 14                | 18                           | 66                      | 52                   | 23                        | 84                                | 21                             | 27,393                             |
| Tararua District           | 10                | 11                           | 61                      | 43                   | 11                        | 63                                | 70                             | 17,586                             |
| Horowhenua District        | 14                | 21                           | 70                      | 59                   | 21                        | 71                                | 64                             | 29,580                             |
| Kapiti Coast District      | 42                | 47                           | 111                     | 45                   | 48                        | 113                               | 40                             | 42,543                             |
| Masterton District         | 15                | 17                           | 75                      | 46                   | 39                        | 170                               | 40                             | 22,926                             |
| Carterton District         | 4                 | 4                            | 52                      | 36                   | 4                         | 58                                | 50                             | 6,897                              |
| South Wairarapa District   | 14                | 17                           | 192                     | 48                   | 14                        | 160                               | 71                             | 8,754                              |
| Tasman District            | 21                | 20                           | 46                      | 39                   | 23                        | 51                                | 62                             | 44,880                             |

| SITE1 TLA                 | No. of GPs   | FTEs GPs <sup>2</sup> | FTEs per 100 000 | Ave hours GPs | No. of all doctors | No. of doctors per 100 000 | O'seas doctors % of all | Territorial authority pop'n |
|---------------------------|--------------|-----------------------|------------------|---------------|--------------------|----------------------------|-------------------------|-----------------------------|
| Marlborough District      | 29           | 31                    | 74               | 43            | 54                 | 127                        | 38                      | 42,483                      |
| Kaikoura District         | *            | 4                     | 89               | 52            | 4                  | 91                         | 67                      | 4,401                       |
| Buller District           | 7            | 10                    | 96               | 57            | 9                  | 86                         | 86                      | 10,440                      |
| Grey District             | 6            | 6                     | 45               | 41            | 18                 | 132                        | 33                      | 13,635                      |
| Westland District         | 4            | 5                     | 52               | 54            | 8                  | 77                         | 50                      | 10,371                      |
| Hurunui District          | 7            | 10                    | 92               | 57            | 10                 | 92                         | 71                      | 10,821                      |
| Waimakariri District      | 17           | 18                    | 50               | 43            | 18                 | 49                         | 12                      | 36,645                      |
| Banks Peninsula District  | 9            | 9                     | 103              | 41            | 9                  | 101                        | 33                      | 8,874                       |
| Selwyn District           | 17           | 19                    | 70               | 46            | 17                 | 61                         | 29                      | 27,969                      |
| Ashburton District        | 17           | 22                    | 86               | 51            | 28                 | 110                        | 47                      | 25,344                      |
| Timaru District           | 32           | 41                    | 96               | 51            | 72                 | 170                        | 28                      | 42,315                      |
| Mackenzie District        | *            | 4                     | 69               | 48            | *                  | 58                         | 67                      | 5,184                       |
| Waimate District          | 4            | 6                     | 78               | 56            | 6                  | 84                         | 25                      | 7,128                       |
| Waitaki District          | 17           | 20                    | 96               | 47            | 22                 | 105                        | 41                      | 20,934                      |
| Cent. Otago District      | 11           | 13                    | 86               | 47            | 15                 | 100                        | 45                      | 14,952                      |
| Queenstown-Lakes District | 26           | 31                    | 123              | 48            | 28                 | 111                        | 23                      | 25,152                      |
| Clutha District           | 15           | 19                    | 111              | 51            | 18                 | 104                        | 53                      | 17,388                      |
| Southland District        | 15           | 15                    | 46               | 39            | 16                 | 50                         | 60                      | 31,884                      |
| Gore District             | 5            | 5                     | 43               | 42            | 6                  | 48                         | 40                      | 12,372                      |
| Short-term <sup>3</sup>   |              |                       |                  |               | *                  |                            |                         |                             |
| <b>Total</b>              | <b>3,037</b> | <b>3,255</b>          | <b>85</b>        | <b>43</b>     | <b>8,491</b>       | <b>222</b>                 | <b>35</b>               | <b>3,818,958</b>            |

\* To prevent identification of individuals, categories that contain between 1 and 3 doctors are marked with an asterisk

1 Results have not been adjusted for non-response.

2 The calculation of FTE GP includes all work hours recorded for doctors whose main work role is GP.

3 Short term positions at various locations, includes any doctors working overseas for New Zealand.

### Work environment

Eighty nine percent of medical hours were worked at the main work site, 9 percent at the next main site, and 1 percent at the third site, with 39 percent of doctors working at multiple work sites.

Sixty-four percent of specialist hours, were worked for public hospitals and 29 percent for the combined private sector (private hospitals, commercial companies, group and sole private practices). There has not been any change in the proportion of time worked for the combined private sector, since 2000, but a slight increase in public hospital percentage from 62 percent in 2000.

Sixty-five percent of all GP hours were worked in group private practices, and 26 percent in sole practices. The employer for five percent of GP hours was not specified.

### Distribution by gender and ethnicity:

The overall proportion of women remained unchanged from 2000 at 32.6 percent. Because of the increasing numbers of women training as doctors (49% of the 2000 graduates in active employment), the mean age of women in the workforce (39 years) is significantly younger than that of men (45 years).

There is a higher proportion of women in house officer roles (48%) than other roles. The proportion of women in general practice, registrar, primary care, and medical officer special scale roles is in the range 36 to 42 percent. Only 19 percent of specialists are women.

Women are 44 percent of the doctors working towards vocational registration and 53 percent of those working towards registration in general practice.



The vocational areas in which women are training are general practice (40% of all women); internal medicine 10 percent; anaesthetics 7 percent; and psychological medicine or psychiatry 7 percent. The areas in which men are training are 34 percent general practice; 12 percent internal medicine; 9 percent anaesthetics; and 8 percent emergency medicine.

In the workforce roles of general practice and primary care, women work fewer hours than men. Women average 0.8 full time equivalents as GPs and 0.7 full time equivalents in primary care compared with 1.2 and 1.0 FTE respectively for men.

The proportion of doctors who identified as Maori is 2.6 percent, up from 2.3 percent in 2000. Pacific people are 1.1 percent of all doctors, unchanged from 2000. A more comprehensive reporting frame is required, to provide more information about the "Other ethnic group". This is currently the second largest group reported. In 2001 Maori were 6.1 percent and Pacific people 2 percent of all house officers.

**Table 8 : Vocational training area by gender <sup>1</sup>**

| Vocational training area <sup>2</sup>         | 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 |
|---|------------|------------|--------------|--------------------------------------|---|---|
| Anaesthetics                                  | 38         | 85         | 123          | 31                                   | 7   | 9   |
| Breast medicine                               | 5          | 0          | 5            | 100                                  | 0   | 0   |
| Dermatology                                   | 1          | 3          | 4            | 25                                   | 0   | 0   |
| Diagnostic radiology                          | 17         | 25         | 42           | 40                                   | 2   | 3   |
| Emergency medicine                            | 30         | 76         | 106          | 28                                   | 6   | 8   |
| General practice                              | 374        | 337        | 711          | 53                                   | 40  | 34  |
| Intensive care medicine                       | 1          | 2          | 3            | 33                                   | 0   | 0   |
| Internal medicine                             | 63         | 116        | 179          | 35                                   | 10  | 12  |
| Musculo-skeletal medicine                     | 0          | 4          | 4            | 0                                    | 0   | 0   |
| Obstetrics & gynaecology                      | 29         | 10         | 39           | 74                                   | 2   | 1   |
| Occupational medicine                         | 3          | 14         | 17           | 18                                   | 1   | 1   |
| Ophthalmology                                 | 4          | 13         | 17           | 24                                   | 1   | 1   |
| Paediatrics                                   | 49         | 39         | 88           | 56                                   | 5   | 4   |
| Pathology                                     | 14         | 11         | 25           | 56                                   | 1   | 1   |
| Psychological medicine or psychiatry          | 62         | 64         | 126          | 49                                   | 7   | 6   |
| Public health medicine                        | 28         | 6          | 34           | 82                                   | 2   | 1   |
| Radiation oncology                            | 4          | 4          | 8            | 50                                   | 0   | 0   |
| Rehabilitation medicine                       | 0          | 3          | 3            | 0                                    | 0   | 0   |
| Sexual health medicine                        | 6          | 0          | 6            | 100                                  | 0   | 0   |
| Sports medicine                               | 2          | 2          | 4            | 50                                   | 0   | 0   |
| Surgery: cardiothoracic                       | 0          | 3          | 3            | 0                                    | 0   | 0   |
| Surgery: general                              | 15         | 59         | 74           | 20                                   | 4   | 6   |
| Surgery: neurosurgery                         | 1          | 2          | 3            | 33                                   | 0   | 0   |
| Surgery: orthopaedic                          | 3          | 32         | 35           | 9                                    | 2   | 3   |
| Surgery: otolaryngology head and neck surgery | 1          | 12         | 13           | 8                                    | 1   | 1   |
| Surgery: paediatric                           | 0          | 1          | 1            | 0                                    | 0   | 0   |
| Surgery: plastic & reconstructive             | 2          | 13         | 15           | 13                                   | 1   | 1   |
| Surgery: urology                              | 1          | 7          | 8            | 13                                   | 0   | 1   |
| Surgery: vascular                             | 1          | 0          | 1            | 100                                  | 0   | 0   |
| Not answered                                  | 6          | 2          | 8            | 75                                   | 0   | 0   |
| Other   | 25         | 47         | 72           | 35                                   | 4   | 5   |
| <b>Grand Total</b>                            | <b>785</b> | <b>992</b> | <b>1,777</b> | <b>44</b>                            | <b>100</b>  | <b>100</b>                                    |

1 Results have not been adjusted for non-response

2 Does not include doctors with worktype HOR in main work site.

### Overseas trained doctors:

The proportion of doctors who obtained their primary medical qualification in another country has remained at 34 percent, the same as 1999 and 2000. (Table 9). There has been an increase from 29 percent in 1990.

**Table 9 : Demographics of doctors working in the main occupational groups**

| role at main work site            | Av age    | Percent women |           |           |           | Percent overseas trained |           |           |           |
|-----------------------------------|-----------|---------------|-----------|-----------|-----------|--------------------------|-----------|-----------|-----------|
|                                   | 2001      | 1980          | 1990      | 1999      | 2001      | 1980                     | 1990      | 1999      | 2001      |
| House Officer                     | 29        | 32            | 44        | 47        | 48        | 27                       | 21        | 21        | 21        |
| Registrar                         | 33        | 23            | 29        | 35        | 38        | 42                       | 22        | 36        | 35        |
| Medical officer special scale     | 46        | 38            | 32        | 41        | 42        | 52                       | 50        | 59        | 54        |
| Primary care other than GP        | 44        | 49            | 42        | 38        | 39        | 42                       | 39        | 33        | 31        |
| Other                             | 46        | 46            | 25        | 35        | 36        | 43                       | 32        | 27        | 24        |
| <b>Specialists and GPs (role)</b> |           |               |           |           |           |                          |           |           |           |
| Anaesthetics                      | 47        | 19            | 16        | 19        | 20        | 41                       | 39        | 41        | 46        |
| Basic Medical Science             | 53        | 12            | 16        | 21        | 29        | 31                       | 42        | 29        | 35        |
| Breast Medicine                   | 42        | -             | -         | -         | 75        | -                        | -         | -         | 0         |
| Dermatology                       | 47        | 3             | 17        | 23        | 24        | 30                       | 20        | 23        | 24        |
| Diagnostic Radiology              | 47        | 8             | 14        | 25        | 24        | 24                       | 27        | 35        | 37        |
| Emergency Medicine                | 43        | -             | 0         | 29        | 18        | -                        | 50        | 48        | 55        |
| General Practice                  | 45        | 13            | 24        | 36        | 38        | 35                       | 30        | 34        | 35        |
| Intensive Care                    | 50        | -             | -         | -         | 8         | -                        | -         | -         | 33        |
| Internal Medicine                 | 49        | 4             | 7         | 13        | 14        | 24                       | 34        | 31        | 31        |
| Musculo Skeletal Medicine         | 53        | -             | -         | -         | 0         | -                        | -         | -         | 40        |
| Obstetrics and Gynaecology        | 49        | 10            | 17        | 29        | 29        | 24                       | 28        | 42        | 46        |
| Occupational Medicine             | 51        | -             | 5         | 18        | 16        | -                        | 41        | 29        | 38        |
| Ophthalmology                     | 50        | 6             | 11        | 11        | 10        | 18                       | 16        | 17        | 21        |
| Paediatrics                       | 47        | 21            | 23        | 26        | 28        | 38                       | 39        | 34        | 32        |
| Pathology                         | 49        | 15            | 22        | 24        | 26        | 21                       | 26        | 38        | 38        |
| Primary Care                      | 47        | 0             | -         | 17        | 31        | 0                        | -         | 50        | 35        |
| Psychiatry                        | 49        | 19            | 28        | 31        | 34        | 41                       | 50        | 57        | 56        |
| Public Health Medicine & Mgmt     | 48        | 12            | 23        | 24        | 27        | 44                       | 36        | 27        | 26        |
| Radiation Oncology                | 47        | -             | 5         | 16        | 19        | -                        | 55        | 64        | 65        |
| Rehabilitation Medicine           | 50        | -             | -         | 0         | 0         | -                        | -         | 40        | 40        |
| Sexual Health Medicine            | 43        | 17            | -         | 33        | 57        | 33                       | 50        | 50        | 43        |
| Sports Medicine                   | 44        | -             | -         | -         | 14        | -                        | -         | -         | 0         |
| Surgery: Cardiothoracic           | 46        | -             | -         | 8         | 6         | -                        | -         | 15        | 44        |
| Surgery: General                  | 50        | -             | -         | 2         | 3         | -                        | -         | 29        | 31        |
| Surgery: Neurosurgery             | 50        | -             | -         | 8         | 8         | -                        | -         | 50        | 46        |
| Surgery: Orthopaedic              | 48        | -             | -         | 3         | 3         | -                        | -         | 14        | 12        |
| Surgery: Other                    | 46        | -             | -         | 7         | 7         | -                        | -         | 22        | 24        |
| Surgery: Otolaryngology           | 49        | 0             | 2         | 5         | 4         | 31                       | 24        | 27        | 27        |
| Surgery: Paediatric               | 46        | -             | -         | 27        | 21        | -                        | -         | 45        | 43        |
| Surgery: Plastic                  | 50        | -             | -         | 3         | 3         | -                        | -         | 15        | 22        |
| Surgery: Urology                  | 49        | -             | -         | 2         | 3         | -                        | -         | 15        | 17        |
| Surgery: Vascular                 | 49        | -             | -         | -         | 0         | -                        | -         | -         | 17        |
| Surgery: <sup>1</sup>             | -         | 0             | 1         | -         | -         | 20                       | 23        | 21        | -         |
| <b>Specialists and GPs</b>        | 47        |               |           |           | 29        |                          |           |           | 36        |
| <b>All the above groups</b>       | <b>43</b> | <b>16</b>     | <b>24</b> | <b>32</b> | <b>33</b> | <b>34</b>                | <b>29</b> | <b>34</b> | <b>34</b> |

1 all surgical subspecialties except otolaryngology were combined in 1980 and 1990 data

Although the proportion of overseas-trained doctors has not changed, the number of countries in which training was completed has increased from 61 in 1999 to 70 in 2001. Of the 2491 overseas-trained doctors, doctors who graduated in England are 25.7 percent, South Africa 19.5 percent, India 8.6 percent, Scotland 8.4 percent, Australia 7.3 percent, Sri Lanka 6.3 percent, Iraq 3.4 percent, China 1.7 percent, Bangladesh 1.6 percent and Germany 1.5 percent. Sixty other countries with less than 45 doctors from each country make up the remaining 16 percent. There is only one doctor from each of 22 countries.

At 31 March 2001 646 short stay overseas-trained doctors held temporary registration, an increase of 53 percent since 2000. Short-term registrations may be compensating for the decline in some work roles.

### Retention

Table 9 and Figure 2 compare the retention rates at each year after graduation for successive classes of graduates. The retention rate for postgraduate year one was 96 percent (this excludes overseas sponsored students). The 2001 survey shows an increased retention of postgraduate year two, up 5 percent to at 77 percent but a similar retention of postgraduate year threes at 58 percent and a large decrease in postgraduate year fours down 10 to 58 percent.

Certificates of Good Standing were provided to 662 doctors, an increase of 47 percent from 450 in 2000. Further increases are likely while better pay and conditions in Australia and high medical student debt continue.

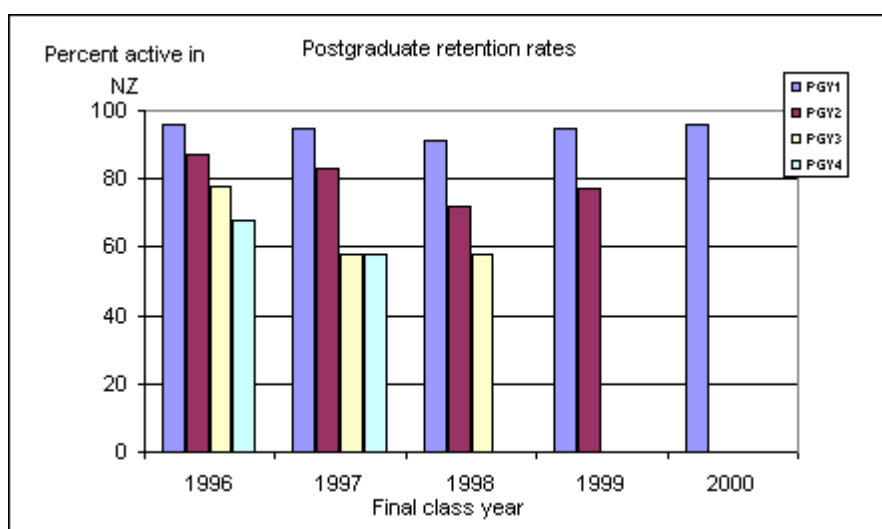
**Table 10: Percent of recent New Zealand graduates retained in local workforce<sup>1</sup>**

| Final class year <sup>2</sup> | By postgraduate year 1 | By postgraduate year 2 | By postgraduate year 3 | By postgraduate year 4 |
|-------------------------------|------------------------|------------------------|------------------------|------------------------|
| 1996                          | 96                     | 87                     | 78                     | 68                     |
| 1997                          | 95                     | 83                     | 58                     | 58                     |
| 1998                          | 91                     | 72                     | 58                     |                        |
| 1999                          | 95                     | 77                     |                        |                        |
| 2000                          | 96                     |                        |                        |                        |

1 Source: Medical Council registration data. Retention measured by APC in 2000/01.

2 Final class year is used as Auckland and Otago identify graduate year differently.

**Figure 2: Postgraduate retention rates**



## Discussion

The survey results have not been adjusted for non-response. The sample frame decreased this year from 9358 in 2000 to 9124 but the proportion of survey respondents increased relative to the previous year, (93 to 96%), indicating that collection of survey information in quarters throughout the year may have improved the number of returns.

The data on hours still needs to be treated with caution as some doctors may have included on-call hours into work hours. There are still some returns with hours worked in excess of 100 hours per week.

The workforce by territorial authority of main work site also provides some difficulties. The information is gathered from the APC application and a change of employment noted but no information is collected as to the date of the change.

## Acknowledgements

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The Medical Council particularly thanks all the practitioners who took time to complete the workforce survey.