

Summary of the Medical Workforce in NSW, 2004

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2004 medical labour force survey

(a) Overview

Each year a labour force survey questionnaire is forwarded to medical practitioners renewing their registration in NSW. Information from the survey contributes to constructive discussion of medical workforce planning issues for the NSW Health Department, Australian Government, Health Services, professional colleges and associations, the NSW Medical Board, medical faculties and other interested bodies.

Response rates to the survey have been high during the past decade, with 92.4% in 1995 and 90.0% in 2000. However, the response rate declined to 71.5% in 2002, probably due to changes in the survey collection method. This has now improved again to 80.5% in 2003 and 85.5% in 2004. This was after a sample collection in 2001 of 24.9% (see Appendix A on Timing of the Survey). The continued support of the NSW Medical Board, professional organisations and medical practitioners in the distribution and completion of the survey is appreciated.

(b) Availability of survey information

The *Profile of the Medical Labour Force* has been published to provide detailed information about the medical labour force. The last *Profile of the Medical Labour Force* was published in 2005, documenting 2003 data. In addition to comprehensive data from the most recent survey, longitudinal data is included where data is available from the surveys undertaken from 1993 onwards. Where there are inconsistencies in the data, these are noted (see the notes in Appendix A on longitudinal data).

Additional survey analysis can be obtained by forwarding a written request to the contact address in the front of the publication. Contact should be made to clarify the information required and to determine if a fee may apply. A charging policy is available on request.

Strict procedures are followed to ensure the privacy of individual medical practitioners who respond to the survey. An agreement between NSW Health and the NSW Medical Board prevents access to identifying data. Survey information will not be made available in any format that enables the identification of individual respondents.

Methodology

A detailed description of the methodology used in calculating response rates to the workforce survey and determining workforce estimates by category is described in Appendix A. The workforce size estimates will vary from the workforce estimates quoted in previous profiles for 1999 to 2002 and these are explained in Appendix A. Data for 2001 where reported is calculated as the midpoint between 2000 and 2002, as the small sample size precluded detailed reporting of the data.

Major findings

a) Workforce status

Table 1.1: Workforce status of survey respondents, NSW, 2004

Table 1.1: Work status of respondents, NSW, 2004

Work Status	No.	%	No.	%	No.	%	No.	%	%
	Sex unknown		Female		Male		Total		Female
Working in medicine in NSW									
Only in NSW	1306	68.2%	4,752	80.7%	9,832	76.9%	15,890	77.2%	32.6%
Mainly in NSW	47	2.5%	96	1.6%	365	2.9%	508	2.5%	20.8%
On extended leave	14	0.7%	85	1.4%	29	0.2%	128	0.6%	74.6%
Total working in medicine in NSW	1367	71.4%	4,933	83.8%	10,226	79.9%	16,526	80.3%	32.5%
Other respondents									
Not working in medicine in NSW	286	14.9%	817	13.9%	2069	16.2%	3,172	15.4%	28.3%
Retired	261	13.6%	137	2.3%	497	3.9%	895	4.3%	21.6%
Total	1,914	100.0%	5,887	100.0%	12,792	100.0%	20,593	100.0%	31.5%

There were 26,024 medical practitioners registered with the NSW Medical Board during 2004.

There were 20,593 respondents to the workforce survey out of a survey population of 24,075, resulting in a response rate for renewing registrants of 85.5% (NOTE: based on respondents as a percentage of renewals who were sent survey forms). Appendix A describes this information in more detail, together with a more detailed breakdown of work status categories. Table 1.1 shows 80.3% of respondents were working in medicine in NSW, with 83.8% of female respondents working and 79.9% of male respondents working. Some 15.4% reported that they were not working in medicine in NSW, and 4.3% indicated that they were retired.

b) Trends in size of medical practitioner workforce by category

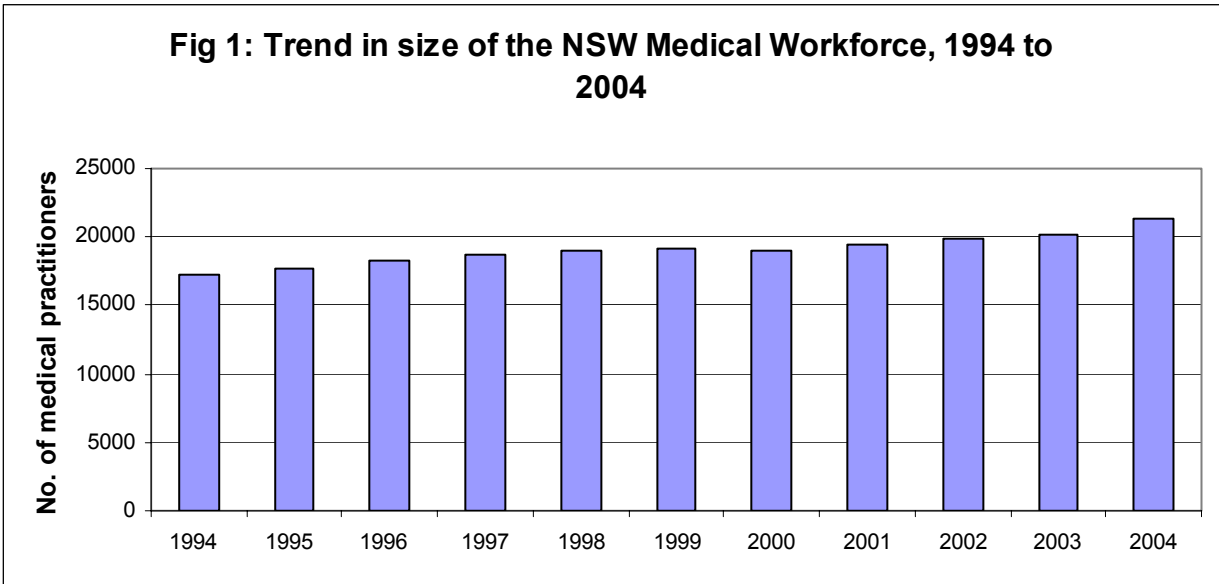
Table 1.2: Estimated size of the medical workforce, NSW, 1994 to 2004

Category	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	growth 1994-2004	% growth 1994-2004
GP	7,704	7,693	8,145	7,982	8,086	8,120	7,654	7,803	8,006	7,912	8,049	345	4.5%
specialist	6,032	6,314	6,314	6,452	6,544	6,567	6,571	6,834	7,146	7,242	7,568	1536	25.5%
specialist in training	1,593	1,656	1,702	1,865	1,871	1,924	1,963	2,094	2,239	2,168	2,263	670	42.0%
non specialist hospital	1,930	2,064	2,182	2,420	2,529	2,601	2,858	2,697	2,555	2,923	3,426	1496	77.5%
Total	17,259	17,728	18,343	18,719	19,030	19,211	19,046	19,428	19,946	20,245	21,306	4047	23.4%

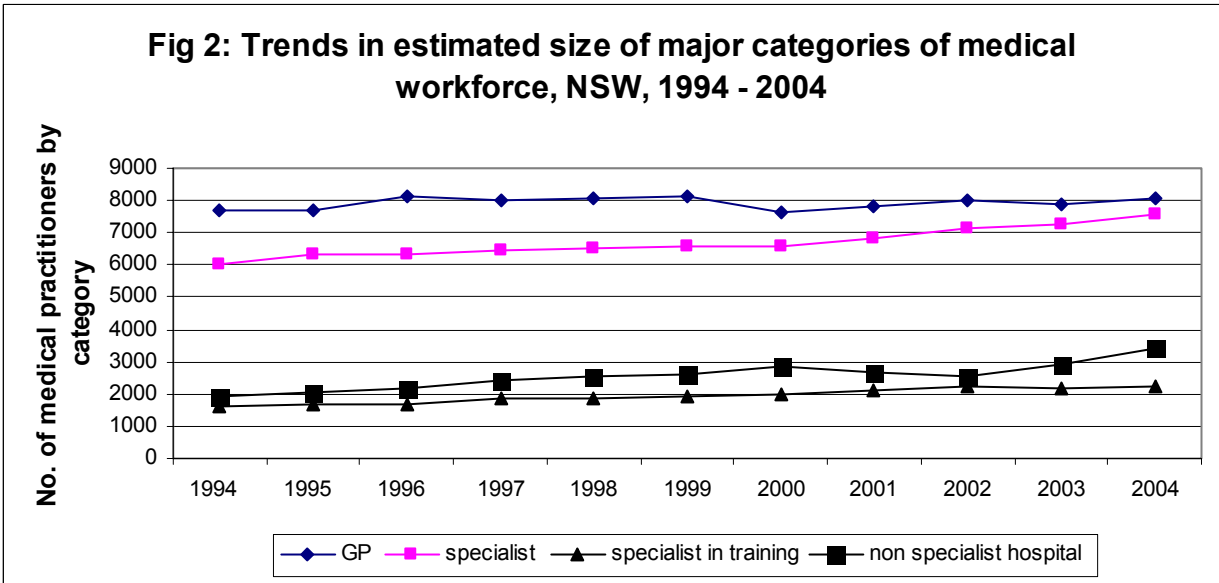
Note: 2001 data based on mid point of 2000 and 2002

Note: The headcount by category represents the main practice area for each practitioner, based on the question on the survey form. It does not allow for multiple counts of practitioners working in more than one category.

The medical workforce is estimated to have grown from 17,259 to 21,306 between 1994 and 2004 (see Table 1.2 and Fig. 1), a growth of 4,047 persons, 23.4%, or 2.3% per annum on average. There was estimated continuous growth between 1994 and 1999, with a minor decline between 1999 and 2000 of 0.9%, followed by an estimated growth of 11.9% or 3.0% average between 2000 and 2004.



There was variation in the growth in the size of the workforce by category (see Fig 2), with the largest growth for non-specialist hospital practitioners (77.5% over the decade), followed by specialists in training (42.0%), specialists (25.5%) and general practitioners (4.5%). There was continuous growth for three of the four categories apart from general practitioners between 1994 and 2000 (except for specialists between 1995 and 1996 where there was no change) and this growth continues for specialists until 2004 and for specialists in training until 2002. However estimated general practitioner numbers reached their highest point in 1999, but showed a reduction between 1999 to 2000 to return to virtually the same levels as in 1994. There was growth in general practitioner numbers between 2000 and 2002 another reduction between 2002 and 2003, and a slight growth between 2003 and 2004 (1.7%). Over the total period however, GP numbers are almost the same as for 1998.



c) Total of employment settings for the medical workforce

Data on employment setting has been estimated from Question 8 of the survey form, "How many hours over the last four weeks did you work in each of the following settings?," with responses allowed for three settings. This data does not distinguish number of jobs or positions, as medical practitioners may work in two different organisations (eg two public hospitals) but would have to report total hours for both as one count. Therefore the data only distinguishes where medical practitioners work in different settings. The hours worked allows for the calculation of FTE as well as frequency counts.

In Table 1.3, 15,693 respondents reported working in 25,962 settings in total, with 41.9% of settings reported in the public sector and 58.1% in the private sector. Just over half or 55.5% of respondents indicated that they worked in one or more settings in the public sector, while 67.0% reported working in one or more settings in the private sector. The most common setting reported was private rooms/surgery (34.0% of all reported settings), followed by public hospitals (28.7% of all settings) and private hospitals (10.8%).

In Table 1.4 there were 17,884.9 FTE medical practitioners reporting by setting, based on an average 40 hours per week. Some 43.9% of FTE practitioner settings were in the public sector, and 56.1% in the private sector. The highest FTE by setting was reported for private rooms/surgery (42.4% of all reported FTE by setting) followed by public hospitals (36.0%) and private hospitals (6.3%).

For the 15,693 respondents who reported hours worked by setting the equivalent FTE was 17,884.9, resulting in an FTE ratio of 1.1397. Therefore on average medical practitioners work 14% more than a forty-hour week average across all categories.

Table 1.3: Total employment settings, medical practitioners working in NSW, 2004

Employment setting	No.	%	No.	%	No.	%	No.	%	Per cent female
	Sex unknown		Female		Male		Total		
Public sector									
Ambulatory centre, day surgery, community health centre, outpatient clinic	126	6.1%	459	6.6%	837	4.9%	1422	5.5%	35.4%
Aboriginal health service	13	0.6%	57	0.8%	89	0.5%	159	0.6%	39.0%
Hospital, including psychiatric hospital	698	33.9%	2126	30.8%	4622	27.2%	7446	28.7%	31.5%
Other residential health facility	36	1.7%	78	1.1%	178	1.0%	292	1.1%	30.5%
Tertiary education institution	61	3.0%	190	2.8%	424	2.5%	675	2.6%	30.9%
Defence forces	16	0.8%	35	0.5%	129	0.8%	180	0.7%	21.3%
Government department/agency	30	1.5%	110	1.6%	150	0.9%	290	1.1%	42.3%
Other	35	1.7%	137	2.0%	242	1.4%	414	1.6%	36.1%
Total public sector	1015	49.2%	3192	46.2%	6671	39.3%	10878	41.9%	32.4%
Private sector									
Private rooms/surgery	600	29.1%	2321	33.6%	5912	34.8%	8833	34.0%	28.2%
Ambulatory centre, day surgery, community health centre, outpatient clinic	53	2.6%	186	2.7%	563	3.3%	802	3.1%	24.8%
24 hour/other medical centre	49	2.4%	124	1.8%	295	1.7%	468	1.8%	29.6%
Aboriginal health service	16	0.8%	49	0.7%	99	0.6%	164	0.6%	0.0%
Hospital, including psychiatric hospital	180	8.7%	473	6.8%	2140	12.6%	2793	10.8%	18.1%
Other residential health facility	42	2.0%	197	2.9%	428	2.5%	667	2.6%	31.5%
Tertiary education institution	21	1.0%	67	1.0%	148	0.9%	236	0.9%	31.2%
Other	85	4.1%	300	4.3%	736	4.3%	1121	4.3%	29.0%
Total private sector	1046	50.8%	3717	53.8%	10321	60.7%	15084	58.1%	26.5%
Total	2061	100.0%	6909	100.0%	16992	100.0%	25962	100.0%	28.9%
<i>Non-response:</i>	71		295		467		833		
	No.	% of total	No.	% of total	No.	% of total	No.	% of total	
Total no. of respondents	1296	100.0%	4638	100.0%	9759	100.0%	15693	100.0%	32.2%
Total respondents public sector	811	62.6%	2592	55.9%	5314	54.5%	8717	55.5%	32.8%
Total respondents private sector	728	56.2%	2755	59.4%	7028	72.0%	10511	67.0%	28.2%

Notes

- 1 Data has been estimated from Question 8 of the survey form, "How many hours over the last 4 weeks did you work in each of the following settings?". Responses have been added for up to three settings, and therefore are multiple responses. The responses do not equate to jobs or positions, as a respondent may work in more than one location in a setting, but will only show total hours in that
- 2 Percentages by setting relate to total settings reported, not respondents
- 3 Respondents may report both public and private settings

Table 1.4: Total employment settings, FTE medical practitioners working in NSW, 2004

Employment setting	No.	%	No.	%	No.	%	No.	%	Per cent female
	Unknown sex		Female		Male		Total		
Public sector									
Ambulatory centre, day surgery, community health centre, outpatient clinic	49.4	3.2%	173.3	3.8%	290.5	2.5%	513.2	2.9%	37.4%
Aboriginal health service	3.0	0.2%	17.5	0.4%	30.5	0.3%	50.9	0.3%	36.4%
Hospital, including psychiatric hospital	677.2	44.3%	1951.8	42.8%	3805.3	32.3%	6,434.4	36.0%	33.9%
Other residential health facility	10.3	0.7%	14.9	0.3%	36.0	0.3%	61.2	0.3%	29.3%
Tertiary education institution	31.0	2.0%	96.4	2.1%	199.8	1.7%	327.2	1.8%	32.5%
Defence forces	6.2	0.4%	15.1	0.3%	46.2	0.4%	67.5	0.4%	24.7%
Government department/agency	20.7	1.4%	65.2	1.4%	93.2	0.8%	179.1	1.0%	41.2%
Other	19.1	1.2%	68.5	1.5%	132.4	1.1%	220.0	1.2%	34.1%
Total public sector	816.8	53.4%	2402.7	52.6%	4633.9	39.3%	7,853.3	43.9%	34.1%
Private sector									
Private rooms/surgery	523.7	34.2%	1678.0	36.8%	5372.8	45.6%	7,574.5	42.4%	23.8%
Ambulatory centre, day surgery, community health centre, outpatient clinic	12.9	0.8%	51.8	1.1%	186.3	1.6%	250.9	1.4%	21.8%
24 hour/other medical centre	30.3	2.0%	57.4	1.3%	158.6	1.3%	246.2	1.4%	26.6%
Aboriginal health service	2.3	0.1%	6.7	0.1%	15.0	0.1%	24.0	0.1%	0.0%
Hospital, including psychiatric hospital	80.5	5.3%	173.9	3.8%	879.6	7.5%	1,134.0	6.3%	16.5%
Other residential health facility	6.9	0.5%	25.6	0.6%	62.1	0.5%	94.6	0.5%	29.1%
Tertiary education institution	2.2	0.1%	10.9	0.2%	32.1	0.3%	45.2	0.3%	25.4%
Other	54.4	3.6%	158.4	3.5%	449.4	3.8%	662.2	3.7%	26.1%
Total private sector	713.1	46.6%	2162.7	47.4%	7155.8	60.7%	10,031.6	56.1%	23.2%
Total	1529.8	100.0%	4565.4	100.0%	11789.7	100.0%	17,884.9	100.0%	27.9%
<i>Non-response:</i>	71		295		467		833		
		% of total	No.	% of total	No.	% of total	No.	% of total	
Total no. of respondents	1296	100.0%	4638	100.0%	9759	100.0%	15693	100.0%	32.2%
Total respondents public sector	811	62.6%	2592	55.9%	5314	54.5%	8717	55.5%	32.8%
Total respondents private sector	728	56.2%	2755	59.4%	7028	72.0%	10511	67.0%	28.2%
FTE ratio all respondents	1.1804		0.9843		1.2081		1.1397		
FTE ratio respondents public sector	1.0071		0.9270		0.8720		0.9009		
FTE ratio respondents private sector	0.9795		0.7850		1.0182		0.9544		

Notes

- 1 Data has been estimated from Question 8 of the survey form, "How many hours over the last 4 weeks did you work in each of the following settings?". Responses have been added for up to three settings, and therefore are multiple responses. The responses do not equate to jobs or positions, as a respondent may work in more than one location in a setting, but will only show total hours in that setting.
- 2 Percentages by setting relate to total settings reported, not respondents
- 3 Respondents may report both public and private settings
- 4 FTE calculated by dividing hours worked by 40 hours per week

Key trends in average age and average hours worked by category, 2000 to 2004

Table 1.5: Trends in average age and average hours worked by sex and category, 2000 to 2004

Average age	2000			2004			Difference			% difference
	Female	Male	Total	Female	Male	Total	Female	Male	Total	
Non specialist hospital	31.7	31.7	31.7	33.3	34.7	34.0	1.6	3.0	2.3	7.3%
General practitioner	43.8	51.1	48.7	45.7	52.4	50.0	1.9	1.3	1.3	2.7%
Specialist in training	32.0	32.2	32.1	33.1	33.2	33.2	1.1	1.0	1.1	3.4%
Specialist	45.0	51.2	50.1	45.9	51.8	50.6	0.9	0.6	0.5	1.1%
Total	40.4	47.7	45.5	42.0	49.0	46.7	1.6	1.3	1.2	2.7%
(Note: total includes unknown category)										
Average hours worked	2000			2004			Difference			% difference
	Female	Male	Total	Female	Male	Total	Female	Male	Total	
Non specialist hospital	47.1	50.2	48.6	45.9	49.2	47.6	-1.2	-1.0	-1.0	-2.1%
General practitioner	34.6	48.7	44.1	34.5	47.0	42.9	-0.1	-1.7	-1.2	-2.7%
Specialist in training	48.7	54.1	52.1	46.0	53.1	50.0	-2.7	-1.0	-2.1	-4.0%
Specialist	42.0	50.3	49.1	41.4	49.2	47.7	-0.6	-1.1	-1.4	-2.9%
Total	40.3	49.9	47.1	39.7	48.7	46.0	-0.6	-1.2	-1.1	-2.3%
(Note: total includes unknown category)										

The data in Table 1.5 indicate:

- there was a growth in the average age of the workforce, from 45.5 years to 46.7 years, or 2.7% between 2000 and 2004
- the major change in age was in the ageing of the non specialist hospital workforce, from 31.7 to 34.0 years on average
- there was a decrease in the average hours worked for all categories of the medical workforce in total of 2.3% or on average 1.1 hours per week, from 47.1 hours to 46.0 hours on average
- there was also a decrease in the average hours worked for each of the categories, with the decrease greatest for specialists in training (decrease of 2.1 hrs, 4.0%), and for specialists, (decrease of 1.4 hours, 2.9%).
- There were decreases for males and females by category in the average hours worked, but the level of change varied by category, with female specialists in training showing the greatest decrease of 2.7 hours on average
- Specialists in training worked the highest level of average hours both in 2000 and in 2003, with a decrease from 52.1 hours to 50.0 hours on average
- Female general practitioners worked least hours on average per week (34.6 hours in 2000, 34.5 hours in 2004)

A comparison of the same data for changes between 2003 and 2004 has also been provided in the following table.

Table 1.6: Trends in average age and average hours worked by sex and category, 2003 to 2004

Average age	2003			2004			Difference			% difference
	Female	Male	Total	Female	Male	Total	Female	Male	Total	
Non specialist hospital	33.0	34.7	33.9	33.3	34.7	34.0	0.3	0.0	0.1	0.3%
General practitioner	45.2	52.1	49.6	45.7	52.4	50.0	0.5	0.3	0.4	0.8%
Specialist in training	32.7	33.0	32.9	33.1	33.2	33.2	0.4	0.2	0.3	0.9%
Specialist	45.4	51.6	50.4	45.9	51.8	50.6	0.5	0.2	0.2	0.4%
Total	41.4	48.7	46.3	42.0	49.0	46.7	0.6	0.3	0.4	0.9%
(Note: total includes unknown category)										
Average hours worked	2003			2004			Difference			% difference
	Female	Male	Total	Female	Male	Total	Female	Male	Total	
Non specialist hospital	44.7	48.1	46.8	45.9	49.2	47.6	1.2	1.1	0.8	1.7%
General practitioner	33.9	47.5	42.6	34.5	47.0	42.9	0.6	-0.5	0.3	0.7%
Specialist in training	47.2	52.2	50.1	46.0	53.1	50.0	-1.2	0.9	-0.1	-0.2%
Specialist	40.6	49.2	47.5	41.4	49.2	47.7	0.8	0.0	0.2	0.4%
Total	39.2	48.6	45.6	39.7	48.7	46.0	0.5	0.1	0.4	0.9%
(Note: total includes unknown category)										

Table 1.6 shows short-term trends between 2003 and 2004, which are consistent with trends in the ageing of the workforce in the previous table, but show a changing pattern with increases in average hours worked for most categories of medical practitioners in the short term. Major findings are as follows:

- there was a growth in the average age of the workforce, from 46.3 years to 46.7 years, or 0.9% between 2003 and 2004
- the major change in age was in the ageing of the general practitioner workforce, from 49.6 years to 50.0 years on average
- there was an increase in the average hours worked for all categories of the medical workforce in total of 0.9% or on average 0.4 hours per week, from 45.6 hours to 46.0 hours on average
- there was also an increase in the average hours worked for each of the categories apart from specialists in training, with the increase greatest for non specialist hospital staff (increase of 0.8 hrs, 1.7%). This increase was the greatest for both female and male non specialist hospital staff compared to the other categories
- Specialists in training worked the highest level of average hours both in 2003 and in 2004, with a minor decrease from 50.1 hours to 50.0 hours on average
- Female general practitioners worked least hours on average per week, although this average increased between the two years (33.9 hours in 2000, 34.5 hours in 2004); unlike male GPs who showed a minor decrease in average hours worked.

Methodology

d) Timing of the Survey

Information from the 2004 Annual Medical Labour Force Survey relates to the 2004 registration renewal period. Up until 2001 renewal notices and surveys were forwarded in August to all medical practitioners registered with the New South Wales Medical Board (referred to as the Medical Board below) at that time, and the renewal fee was due by 31 October in the same year in order for the medical practitioner to be retained on the register. Survey respondents completed the survey with information about their usual working situation at that time.

In 2001 the Board changed its process of registration so that renewal notices and survey forms are now sent out on a monthly basis. Therefore survey forms are received by the Medical Board throughout the year and the survey forms are scanned and a file of survey returns compiled in the following year.

e) Utilisation of Board Information

The data on medical practitioners' sex, year of birth and major qualifications are provided by the Board to eliminate the need to collect this information annually on the survey form.

f) Survey coverage

Information from the medical labour force survey does not cover all registered medical practitioners in NSW. Previously only those registrants renewing their registration were forwarded a survey, and only renewals were included in the definition of the survey population. However in 2001 and 2003 some new registrants and restorations also received and returned forms, and therefore new decision making rules were applied regarding calculation of survey population and sample size. These categories are defined as follows:

- **New registrants:** New registrants include new local graduates, interstate graduates and overseas trained medical practitioners registering for the first time with the NSW Medical Board. It includes medical practitioners in the categories of conditional, full and non-practising registration in NSW.
- **Restorations:** Restorations are persons who have been restored to the Register after a period in which they were not financial.
- **Technical restorations:** Technical restorations are medical practitioners who are restorations simply due to late payment, as they are removed from the Register and then reinstated on receipt of the payment of the renewal fee. If this group has provided survey data they have been included in the data analysis for this profile and classified as technical restorations.
- **Technical renewals:** There are a group of medical practitioners who either pay their registration fee early (say in December for January renewals in the year of the survey), or who pay in advance and earn a credit as they will not be able to make their payment at the usual time. If these medical practitioners were sent a survey form in the year of renewal and are still financial in that year they have now been included in the survey population, and their returned survey forms included as respondents. This group has now been defined as technical renewals, even though no transaction may have been recorded for the year of the survey. The inclusion of these medical practitioners for 2003 increased the population count and the number of respondents in that year.

For compatibility with other profiles prepared for health workforce groups registered in NSW, the definition of response is those respondents who completed the question on workforce status. In addition, it has been identified that a number of respondents have not completed the question on workforce status, but have completed the majority of the remainder of the survey form including the provision of a New South Wales postcode for work location, as well as other

data such as hours worked. It was therefore decided for data completeness, to include both of those categories in the definition of respondents, as a workforce status could be derived and it was known that they were working in New South Wales.

Table A1.1: Persons Registered as Medical Practitioners in NSW, 2004

Category of registration	No.	No. Row %	No. Row %	No.	Total %
	Sex unknown ³	Female	Male	Total	
New registrants ⁴	28	773 41.2%	1102 58.8%	1,903	100.0%
Total Restorations:	0	34 28.1%	87 71.9%	121	100.0%
"True" restorations	0	13 28.3%	33 71.7%	46	100.0%
"Technical" restorations ⁴	0	21 28.0%	54 72.0%	75	100.0%
Renewals ⁴	96	7,389 30.8%	16,515 68.8%	24,000	100.0%
Technical renewals ⁴	0	0 0.0%	0 0.0%	0	100.0%
Deletions	145	607 32.2%	1,132 60.1%	1,884	100.0%

Notes:

- 1 The table includes information on medical practitioners who were financial with the Board during 2004.
- 2 Some medical practitioners may be included in more than one category during the twelve month period.
- 3 There were 269 new registrations, renewals and deletions with no sex reported
- 4 New registrations with a survey form, technical restorations (restorations with a survey form), renewals and technical renewals with a survey form are classified as respondents

There were 26,024 medical practitioners registered with the Medical Board in 2004 in the categories of full, conditional and non practising registration, excluding 1,884 medical practitioners who let their registration lapse within that time period (deletions). Females were 31.6% of total registrants and males 68.4%.

The labour force characteristics of new registrants and restorations may vary from other registrants who are part of the survey target group, and only some of these categories of registrants are sent a survey form. Any extrapolation of their demographic characteristics or work patterns from the survey data should be made with care.

g) Sample size, response rate, participation rate and estimates of total workforce size

Table A1.2 shows the trends in categories of registration, survey respondents, response rate, participation rate and estimates of total medical practitioner workforce size in NSW between 1994 and 2004. Table A1.2 reports two estimates of workforce size based on:

- a) Extrapolation from response rate assuming unknown respondents participate in the workforce at the same rate as known respondents, and assuming that 90% of new registrations without a survey form and 80% of true restorations are in the workforce. This results in an estimated workforce size of 21,070.
- Revised workforce estimates involving a detailed weighting of the data file using the variables of category of registration (new, renewal, restoration), category of medical practitioner and workforce status. This results in an estimated workforce size of 21,306.

Table A1.2: Trends in sample size, response rate, participation rate and estimates of workforce size 1994-2004

Year of survey	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Categories of registration												
New registrants	1,679	1,242	1,256	1,360	846	938	687	974	894	978	1,358	1,903
Renewals	18,584	19,745	20,307	20,823	21,820	22,676	23,350	22,908	23,409	24,011	23,163	24,075
Restorations/other	617	540	539	587	178	240	370	261	133	137	187	46
Temporary registrants								592				
Registrants	20,880	21,527	22,102	22,770	22,844	23,854	24,407	24,735	24,436	25,126	24,708	26,024
Workforce estimate based on response rate	16738	17259	17728	18343	18480	19030	19211	18,915	19,295	19,968	19,867	21070
response rate	89.0%	93.1%	92.3%	92.0%	88.9%	88.4%	85.3%	90.0%	24.9%	71.5%	80.5%	85.5%
GP	7483	7003	6804	8047	8320	8185	8306	8072	8078	8083	8110	8441
specialists	5917	5483	5584	6238	6359	6623	6718	6913	7042	7170	7299	8245
specialists in training	1548	1448	1465	1682	1830	1894	1968	1892	2058	2224	2268	2342
non specialists hospital	1412	1754	1826	2156	2558	2560	2661	2433	2408	2383	2526	2618
Additive Total	16361	15689	15678	18123	19067	19262	19652	19311	19586	19861	20203	21646
Additive total as % of workforce estimate	97.7%	90.9%	88.4%	98.8%	103.2%	101.2%	102.3%	102.1%	101.5%	100.7%	101.7%	102.7%
Method of adjustment	increase to 100%	increase to 100%	increase to 100%	increase to 100%	use category allocation	reduce to 100%	reduce to 100%	use category allocation	use weighted mid point	use category allocation	use category allocation	use category allocation
Revised workforce estimates												
GP	7656	7704	7693	8145	7982	8086	8120	7654	7803	8006	7912	8049
specialists	6054	6032	6314	6314	6452	6544	6567	6571	6834	7146	7242	7568
specialists in training	1584	1593	1656	1702	1865	1871	1924	1963	2094	2239	2168	2263
non specialists hospital	1444	1930	2064	2182	2420	2529	2601	2858	2697	2555	2923	3426
Revised Total	16738	17259	17728	18343	18719	19030	19211	19046	19428	19946	20245	21306
Variation from previous total workforce estimate based on response rate	0	0	0	0	239	0	0	131	133	-22	378	236

Note: method of estimating new registrations changes for 2003 and 2004

Table A1.2 shows that the response rate was 85.5%, higher than 2003.

e) Calculating category population estimates

A survey form change in 2000 resulted in medical practitioners having to nominate their primary practice area. The form for 2000 onwards requests nomination of the ONE area in which medical practitioners primarily practise, either GP/primary care practitioners, non-specialist hospital, specialists, or specialist in training. Previous survey forms allowed for the collection of multiple responses to this question and therefore the data from 2000 onwards for medical category is not directly comparable with previous years without adjustment. The workforce estimates by category from 1992 to 2002 reported in recent profiles have been recalculated to identify the estimated size of medical workforce categories over the period, and therefore the additive total of the size of the medical workforce.

The data on numbers identifying their primary practice area were calculated as a proportion of the total workforce and applied to the estimated workforce total by response rate. The additive total was then compared to the estimated workforce total. These two estimates varied over the

time period, and ranged from an under response to an over response, from as low as 88.4% in 1995 to 103.2% in 1997. Adjustments were therefore made as follows:

- Between 1992 and 1996 there was an under response, and therefore the category estimates were increased to the estimated workforce number based on response rate
- For 1997, 2000, 2002, 2003 and 2004 the category allocation method was used, where the allocation to primary category was made in the priority order of specialist, specialist in training, general practitioner, non specialist hospital practitioner
- There was no data available to calculate 1998 responses other than the original response by category, and as the over response was only 101.2%, it was decided to weight the response by category down to 100%
- 1999 data was particularly difficult to adjust, and the category allocation method resulted in major discontinuities in the time series data by category. As a result it was decided to weight the response by category down to 100%, the same method as for 1998.
- The calculation of 2000, 2002, 2003 and 2004 category estimates involved a detailed weighting of the data file using the variables of category of registration (new, renewal, restoration), medical practitioner category, and workforce status.
- The midpoint method was applied to the 2001 data, as the survey response was only 24.9% for 2001, due to a change in the method of mailing out renewal notices and therefore survey forms in that year.

Table B indicates that the final workforce estimates only vary by a small number from the original workforce estimates for 1997, 2000, 2001, 2002, 2003 and 2004. **The revised workforce estimates are now the preferred workforce estimates and category estimates for the time series 1994 to 2004.**

f) Definition of NSW workforce

In 2004, 80.3 % of the 20,593 respondents to the survey or 16,526 medical practitioners indicated that they were working only or mainly in NSW, or currently working, but on leave for three months or longer. These survey respondents are the unadjusted workforce and are referred to throughout the publication as medical practitioners working in NSW.

Notes to assist in interpreting data in this publication

g) Changes to the survey form in 2000

There were changes made to the questions on the 2000 survey form, which have resulted in the need to apply different definitions to the data. One of the major changes was the collection of data on hours worked by location, rather than frequency responses on the number of jobs. Therefore the question on "three main locations where medical practitioners worked over the last four weeks and percentage of hours worked in each locality" (Q. 9 on the survey form) was used to determine the number of respondents working at one, two or three locations. In some cases, the same postcode was recorded for more than location.

The major constraint with this type of question is the high non-response, which results when respondents are asked to record hours worked. The non-response rate in to the question on estimated number of locations was twenty percent in 2000, 11.3% in 2002 and 11.7% in 2003.

In addition, the question on work settings was changed to ask "how many hours per week over the last four weeks were worked in each of the following settings?" (Q.8 on the survey form). The non-response rate to this question was 6.8% in 2000, 5.0% in 2002 and 4.6% in 2003.

The changes to the survey questions have resulted in constraints in the ability to compare data over time. Other changes to the survey form questions are documented below.

h) Other constraints on time series data

Care should be taken when analysing longitudinal data as not all data items are directly comparable across all years. A number of particular issues need to be considered:

- The annual labour force survey has been revised on a number of occasions between 1993 and 2004, with a major revision in 1994 and again to key questions in 2000. New questions have been added while others have been dropped; new categories have inevitably affected the number of medical practitioners responding to other categories.
- Information on primary care practitioners (section 4), specialists (section 5), specialists in training (section 6) and non-specialist hospital salaried medical practitioners (section 7) will be affected by changes in the way in which this information has been elicited from respondents.
- The extension of undergraduate medical training from five to six years resulted in a shortfall of one graduating class in 1992 (affecting 1992/93).
- In 1993, the survey-reporting period was 15 months rather than the usual 12 months in order to bring the period in line with the NSW Medical Board's financial year. This artificially increased the number of new registrants reported in 1993 and reduced the proportion of recent medical graduates in that year's data. This occurred again in 1997, but data from 1996 to 1999 are not adjusted in order to allow comparability of data across this time period.
- Registration categories and the manner in which the Medical Board provided the data were changed in 1993, 2001 and 2003. This may affect in particular the classification of registrants as either renewals or restorations or new registrants.

As a result, data from 1994, 1995 and 1996 can be readily compared. Data from 1996 to 1999 can also be compared, apart from minor changes in 1998 to the categories of work status (not working categories only), remunerated hours worked per week (on call hours worked absorbed into direct patient care hours), and number of specialties coded (from 47 to 49 categories). Data from 2000 to 2004 can also be compared; apart from the method of estimating workforce size and participation rate as there were changes in the renewal process which resulted in some new registrants and restorations returning survey forms from 2002 onwards, and the method of counting new registrations which was changed in 2003 due to changes in the structure of the Board data file.

When comparing data from prior to 1994 consideration should be given to the effect of the extent of the discontinuities.

i) Figures have not been adjusted for non-response by question

Data in this paper have not been adjusted for non-response to specific questions. However, a comparison of non response rates which are shown at the base of each table indicate that there were relatively similar non response levels to the main tables over the years of reporting profile data.

j) Data reported in the tables

Data has only been weighted to population estimates for a limited number of questions due to the constraints on error rates with small cell sizes.

k) Conventions used in this publication

Throughout this paper, figures within the tables may not add to the total shown where it has been necessary to round numbers. Percentages printed as 0.0 may denote less than 0.05%.

Italics are used to report unknown data.

Bold is used to indicate a total or subtotal.

Vertical lines in tables note significant discontinuities.

0 is used for zero .

— denotes not applicable.

n/a denotes data is not available.