

Summary of the Pharmacy Workforce in NSW, 2004

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2004 PHARMACY LABOURFORCE SURVEY

Introduction

Each year, as part of the annual registration process for pharmacists in NSW, an Annual Workforce Survey is sent to each pharmacist currently registered with the Pharmacy Board of New South Wales. This report provides an overview of information from the 2004 workforce survey.

The response rate to the survey was slightly higher than for 2003, increasing from 81.8% to 85.4%. The continued support of the Pharmacy Board of New South Wales, professional organisations and pharmacists participating in the survey is appreciated.

Availability of survey information

The previous summary of the Annual Survey data was produced in 2004, entitled "Profile of the Pharmacist Workforce in NSW, 2003", and that profile documents all tables from the Annual Survey.

Strict procedures are followed to ensure the privacy of individual pharmacists who respond to the Survey. There is no access to identifying data, as individual names and addresses are not provided by the Board on the data file. Survey information will not be made available in any format that enables the identification of individual respondents.

Category of Pharmacist Registration

Table 1.1: Persons registered as pharmacists in NSW, 2004

Category of registration ¹	No.	Row %	No.	Row %	No.	Row %	No.	Row %
	Unknown sex		Female		Male		Total	
New registrations(only status)	3	2.2%	86	64.2%	45	33.6%	134	100.0%
Restorations	2	2.2%	56	0.0%	35	0.0%	93	0.0%
"True" restorations	0	0.0%	2	0.0%	0	0.0%	2	0.0%
"Technical" restorations	2	2.2%	54	0.0%	35	0.0%	91	0.0%
Renewals ²	20	0.3%	3,655	50.8%	3,523	48.9%	7,198	100.0%
Technical renewals	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Deletions	0	0.0%	2	14.3%	12	85.7%	14	100.0%
New registrations (total) ²	14	4.1%	198	58.6%	126	37.3%	338	100.0%

- Notes:**
- 1 The table includes information on pharmacists who were financial with the Board during 2004
 - 2 Some pharmacists are included in more than one category during the twelve month period. There were 338 new registrations in total, but 204 of those were also renewals within the survey period. These have been counted as renewals in the table above.
 - 3 There were no technical renewals due to the method of extraction of the Board data on financial status

In 2004, there were 7,629 pharmacists financially registered with the Pharmacy Board of NSW, an increase of 575 from the 7,054 pharmacists registered in 2003. This large increase may be due to the method of extraction of Registration Board data used for the 2004 data analysis, which varied from the 2003 process. Of these, 3,909 (51.5%) were female and 3,684 (48.5%) were male. Table 1.1 provides an overview of the number of pharmacists in each category of registration.

Response rate to Workforce Annual Survey

The response rate to the 2004 Pharmacy Workforce Annual Survey was 85.4%, higher than the response rates in 2003 of 81.8%.

Table 1.2: Response Rate to Pharmacist Annual Workforce Survey, 2002 - 2004

	No.	Rate	No.	Rate	No.	Rate
	2002		2003		2004	
Formal response rate						
<i>Survey respondents</i> ¹ who were <i>renewals</i> ²	5,464		5,769		6,203	
Total <i>renewals</i> ²	6,739	81.1%	7,054	81.8%	7,267	85.4%

- Notes:**
1. A "survey respondent" is defined as a renewal who provides information to the question on working status. There were 842 survey forms with no data on workforce status and workforce status could not be determined. 222 pharmacists did not return any survey form.
 2. "Renewal" is defined as a person recorded as renewing their registration although other actions may also have been recorded (technical restoration, new registration, technical renewal).

Determining the response rate to the survey is complicated by the relationship between the survey and the renewal process. While new registrants and restorations do not generally receive the survey, some may if they also receive a renewal notice within the twelve month survey period. Additionally, some persons sent renewal notices do not renew their registration and therefore do not return surveys. All survey responses from financially registered pharmacists are presented in Tables 1.3 and 1.4.

Work Status

There were 6,169 pharmacists who provided data on workforce status, excluding 34 with unknown sex, with 4,506 working renewal survey respondents in 2004, excluding 29 with unknown sex, unadjusted for non response. Working renewals are those respondents who:

- Were financially registered and renewed their registration in 2004
- Returned a workforce survey indicating their work status; and
- Indicated that their work status was one of the following three categories:
 - Working in pharmacy only in NSW
 - Working in pharmacy mainly in NSW, but also in other states
 - Working in pharmacy in NSW, but on extended leave (see Table 1.3)

Table 1.3: Work status of Pharmacist Workforce Survey respondents¹, NSW, in 2004

Work Status	No.	%	No.	%	No.	%	%
	Female		Male		Total		Female
Working in pharmacy							
Only in NSW	2,333	72.3%	2,071	70.4%	4,404	71.4%	53.0%
Mainly in other states, but also in NSW	23	0.7%	33	1.1%	56	0.9%	41.1%
Mainly in NSW, but also in other states	20	0.6%	38	1.3%	58	0.9%	34.5%
Only in states other than NSW	129	4.0%	194	6.6%	323	5.2%	39.9%
Working in NSW but currently on leave	35	1.1%	9	0.3%	44	0.7%	79.5%
Working overseas	164	5.1%	129	4.4%	293	4.7%	56.0%
Not Working in/ practicing in pharmacy							
Currently not working	300	9.3%	273	9.3%	573	9.3%	52.4%
Currently working, not in pharmacy	224	6.9%	194	6.6%	418	6.8%	53.6%
Total	3,228	100.0%	2,941	100.0%	6,169	100.0%	52.3%
<i>Non-response to survey question¹</i>	<i>380</i>	<i>10.5%</i>	<i>459</i>	<i>13.5%</i>	<i>839</i>	<i>12.0%</i>	
Working in NSW	2,388		2,118		4,506		
Unknown sex working in NSW					29		

- Notes:**
- There were 7,045 forms from pharmacists renewing their registration, of whom 842 did not reply to the question on work status and a work status could not be derived. 3 pharmacists from this group had no data on sex (see Note 1 to Table 1.2)
 - There were 34 valid respondents whose survey forms could not be matched to the Board data. The 37 pharmacists with no sex recorded, are excluded from the above table, including 29 working pharmacists.

The workforce participation rate was 73.0% in total, 72.0% for males and 74.0% for females.

Pharmacists seeking work

Table 1.4: Seeking Work in Pharmacy in NSW, 2004

Nature of work sought	No.	%	No.	%	No.	%	%
	Female		Male		Total		Female
Not looking for work in pharmacy	460	89.5%	411	89.2%	871	89.3%	52.8%
Looking for work in pharmacy:							
- either full time or part time	12	2.3%	8	1.7%	20	2.1%	60.0%
- full time	5	1.0%	1	0.2%	6	0.6%	83.3%
- part time	37	7.2%	40	8.7%	77	7.9%	48.1%
- not specified	0	0.0%	1	0.2%	1	0.1%	0.0%
Total	514	100.0%	461	100.0%	975	100.0%	52.7%
<i>non response</i>	<i>10</i>	<i>1.9%</i>	<i>6</i>	<i>1.3%</i>	<i>16</i>	<i>1.6%</i>	

Note: Table includes only those survey respondents in Table 1.3 who indicated that they were not currently working or currently working but not in pharmacy (n=992) and excludes one unknown sex not looking for work.

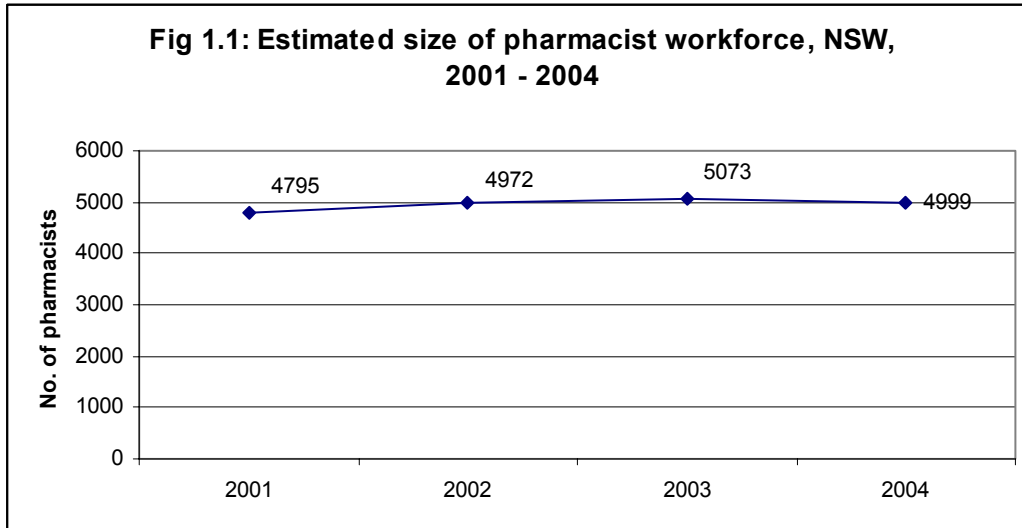
Only 10.7% of those not currently working or working but not in pharmacy indicated that they were seeking work in pharmacy.

Estimating Workforce Size

Table 1.5: Estimating the Size of the Pharmacist Workforce, 2002-2004

	<u>2002</u>	<u>2003</u>	<u>2004</u>
Size of Workforce (excludes any new registrations) ¹	4,125	4,200	4,370
Adjustment for varying non response rate by year	196	186	0
Adjustment for non response based on Census data	418	439	374
Estimated working renewals	4,739	4,825	4,744
Adjusted respondents	5,950	6,211	6,371
(excludes any new registrations) ²			
Estimated % respondents working	79.6%	77.7%	74.5%
Estimated new registrations working ³	221	244	254
Estimated restorations working ⁴	12	4	1
Total Estimated Workforce	4,972	5,073	4,999
Total number of new registrations	284	345	338
Estimated % new registrations working	77.8%	70.7%	75.1%
No. of renewals(excluding new registrations)	6,583	6,871	7,063
Estimated working renewals as % of renewals excluding new registrations	72.0%	70.2%	67.2%
Notes:	<p>1 The unadjusted size of the workforce is based on renewals, technical restorations and technical renewals who answered the work status question as working in NSW. This is the workforce size excluding any new registrations unadjusted for non response.</p> <p>2 The respondent numbers have been adjusted to allow for changing non response rates and are set to 84.9% (2004 response rate). A further adjustment has been made based on using the workforce size from the 2001 Census to set the 2001 workforce size.</p> <p>3 Based on flow matrix analyses showing work status in two consecutive years</p> <p>4 Based on flow matrix analyses showing work status in two consecutive years</p>		

NOTE: These figures vary from estimates of workforce size documented in previous pharmacist workforce profiles due to a new method of calculating workforce size. The method is described in detail in the Appendix, Section on Estimating Workforce Size. The estimate for 2004 may be modified in the 2005 profile after analysis of flow matrix data.



Using the new method of estimating workforce size, the workforce has been set to 4,795 pharmacists working in New South Wales in 2001, based on data from the ABS Census. The pharmacist workforce is estimated to grow between 2001 to 2003 by 5.8%, but reduces between 2003 and 2004 by 1.5%. This is due to a reported decrease in participation rate in the workforce from renewals who responded to the survey.

Estimating Full-Time Equivalent Workforce (FTE)

The numbers of hours worked by pharmacists on average per week for all jobs together can be converted to full-time equivalents (FTEs) which becomes a measure of the productive workforce. The total hours worked by pharmacists for those pharmacists reporting hours (n= 4,453) are divided by 35 to calculate the FTE workforce. Thirty five hours is used as the measure of full time work based on labourforce definitions developed by the Australian Bureau of Statistics.

A ratio of FTEs to the total headcount workforce is then calculated, to determine the relative productivity of the workforce, and is calculated as 1.076 based on the 2004 data. This indicates that pharmacists are 7.6% more productive on average than the workforce equivalent (based on 35 hours per week). The FTE ratio of 1.076 applied to the estimated workforce size of 4,999 headcount results in an estimated FTE workforce of 5,378.9 FTE pharmacists, after adjusting for non response (based on full time being defined as 35 hours worked per week or more).

Table 1.6: Workforce dynamics for pharmacists, 2004

Professional Pharmacists	Estimated workforce size, 2004	New registrations entering the workforce	Re-entry	Wastage	FTE ratio (based on 35 hours)
Workforce headcount	4,999	254	140	275	1.076
Percentage of workforce		5.1%	2.8%	5.0%	

SOURCE: flow matrix change rates from pharmacist labourforce profile data, 2002 to 2004

NOTE: The actual participation rate of 2004 new registrations can only be calculated by category when the 2004 work status is known.

The above table indicates that the net growth in the workforce should be 3.3%, based on the addition of new registrations and re-entrants entering the workforce, and the subtraction of wastage. This is not consistent with the estimated net change rate of -1.5% based on the new method of calculating workforce size. This change rate is influenced by the decrease in participation rates estimated to have changed from 79.6% to 74.5% between 2002 and 2004 (see Table 1.5). Therefore these workforce dynamics are preliminary estimates, to be re-evaluated when the 2004/05 flow matrices data are available.

Methodology

Timing of the 2004 Survey

Information from the 2004 Annual Workforce Survey relates to the 2004 registration renewal period. Renewal notices and surveys were forwarded in October 2004 to pharmacists registered with the Pharmacy Registration Board of New South Wales at that time. The renewal fee was due by the end of December in order for the pharmacist to be retained on the register, as non-financial pharmacists had their status altered by Board consent in mid January. Survey respondents completed the survey with information about their usual working situation at that time. Information regarding the registration status of pharmacists was provided by the Board which related to the period for 2004.

Workforce Survey coverage

Information from the Annual Workforce Survey does not cover all registered pharmacists in NSW. Only those registrants renewing their registration are forwarded a survey form. This normally excludes:

- **New registrants:** New registrants include new local graduates, interstate graduates and overseas trained pharmacists registering for the first time with the NSW Board who have had their qualifications recognised in NSW. These persons will normally not receive the Workforce survey, but some new registrants do receive the survey form if they also renew in the same financial year. If new registrants return a survey form, they are reclassified for the purposes of this profile as renewals (see Table 1.1).
- **Restorations:** Restorations are persons who have been restored to the register after a period in which they were not financial. These persons will not normally receive the annual survey. Some pharmacists are restorations simply due to late payment and may have returned a survey form.
- **Technical restorations:** Some pharmacists 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. These pharmacists have usually completed a survey form, and therefore if they have provided survey data they have been included in the data analysis for this profile. Prior to the 2000 profile the definition of respondents was those pharmacists **renewing** their registration who completed or part completed a survey form.
- **Technical renewals:** There are a group of pharmacists who either pay their registration fee early 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 pharmacists 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**. This process has occurred for the first time in analysing the 2004 survey data. There were no pharmacists who were technical renewals in 2004 due to the method of extraction of Board data on financial status.

Care should be taken when interpreting this data as some individual pharmacists may be included in more than one of the categories during the twelve month period.

The definition of response has been applied to those respondents who completed the question on workforce status. In addition, a number of pharmacists 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.

Figures have not been adjusted for non-response

Data in this publication have not been adjusted for unknown information (both survey non-response and registration data such as year of birth). When interpreting the tables, consideration should be given to the impact of unknown data:

- The absence of data due to non-response results in an under-representation of the size of the workforce in individual tables.
- The workforce characteristics of non-respondents may differ from the characteristics of survey respondents (for example, respondents may be more likely than non-respondents to be in the workforce). Weighting the survey data according to non-response alone may result in an over-estimation or under-estimation in some categories.
- The workforce characteristics of pharmacists who are not part of the survey target group (that is, new registrants and restorations) may differ from the characteristics of the survey population.

Calculating total unknown data for the survey

In determining the total unknown data for a particular question, consideration should be given to:

- **Unknown data for the question or questions comprising the table**, as indicated at the foot of each table. This may also include information that is unknown due to registration data (eg, year of birth) being unavailable from the Board.
- **Non-response to any filtering questions**. Data on second job will be affected by the lack of the explicit question “Do you have a 2nd job?” The number of persons with second jobs has been estimated from the highest response to any one question.
- **Non-response to the survey**. Survey response rates are presented in Table 1.1.

It should be noted that limitations in the survey data prevent a distinction between non-response and alternatives such as “no”, “other” or “zero”. Information regarding this is noted at the foot of the relevant tables.

Conventions used in this publication

Throughout this publication, 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.

0 is used for zero.

Bold is used to indicate a total or subtotal.

— denotes not applicable.

n/a denotes data is not available.

Estimating Workforce Size

Previous profiles have used a standard approach to estimating workforce size which was first documented in the 1999 Profile of the Medical Workforce in NSW (NSW Health Department, 2004) estimated the size of the medical workforce in New South Wales, This approach involved:

- Assume the proportion of survey respondents working in NSW represents the proportion of all renewals working in NSW
- Assume 90% of new registrants are working in NSW
- Assume 80% of other registrants are working in NSW (excluding deletions)

However recent analysis of data reported in the 2001 ABS Census has indicated that the workforce estimates calculated in the previous profiles are too high and should be adjusted. The 2001 Census

reported that there were 4,795 working pharmacists in 2001¹. Using the previous method of estimating workforce size, the estimate was 5,215 working pharmacists, and the Census figure is 92.0% of this estimate. As a result, the new estimates have been developed to minimise the adjustment for non response and to improve the estimate of new registrations and restorations working.

The method is based on the following approach:

- Use the 2001 numbers of working pharmacists based on the Census data as a baseline year.
- Develop flow matrices of workforce dynamics for 2002/03 and 2003/04 and use the input/output calculation to determine workforce size between 2002 and 2004. This involves calculations of entry (inter-state and overseas migration and local new graduate entry patterns), re-entry (based on restorations and renewals re-entering the workforce), and wastage (including overseas entrants leaving the following year).
- Adjust the 2002 and 2003 working respondent numbers to account for lower response rates in those years, and then further adjust the estimated workforce size for the difference between the Census data and the previous workforce size estimate (4795/5215).

¹ NSW Health Department, unpublished ABS data