



NOVEMBER 2005

PHARMACIST – HOSPITAL AND RETAIL: OCCUPATIONAL SKILL SHORTAGE ASSESSMENT

Current situation: Genuine skill shortage

Short-term outlook: Genuine skill shortage

1 Executive Summary

Table 1: Employer Survey Indicators, 2004

- 1.1 Results from the 2004 Survey of Employers who have Recently Advertised suggest that employers have had considerable difficulty in filling pharmacist vacancies. Slightly more than half (52%) of vacancies included in the survey were filled within eight to ten weeks of advertising. This shortage has resulted due to slow growth in supply relative to growth in demand.

	Fill rate	Average Number of Suitable Applicants
Pharmacists	52%	1.4
All Professionals Surveyed	56%	1.7

Source: Survey of Employers who have Recently Advertised, Department of Labour.

- 1.2 Employment of pharmacists grew strongly (4.4% per annum) between 1996 and 2001. There is indirect evidence that the growth in demand for pharmacists continued in the following years. However, a change to dispensing rules in September 2003 may have had a one-off negative impact on demand. In the future, demand is likely to continue growing as a result of an ageing New Zealand population.
- 1.3 Prior to 2003, a relatively small number (approximately 100) of Bachelor of Pharmacy degrees were achieved each year. A comparison of this level of educational achievement with the number of pharmacists employed yielded a training rate of 3.9%. The number of degrees achieved was considerably higher in 2003 when the first students from the University of Auckland's new pharmacy programme graduated. This meant that the training rate rose to 6.2% in 2003. This recent increase in graduate numbers has been offset to some extent by an increase in emigration, which has been influenced by the proposed tightening of registration requirements in the United Kingdom in mid-2006. Indeed, in 2004 almost as many pharmacists (172) indicated their intention to leave New Zealand as there was new pharmacist graduates (an estimated 174). In prior years, migratory flows also depleted the supply of pharmacists as overseas arrivals averaged only half the number of departing New Zealanders between 2000 and

2002. On balance, the supply of pharmacists is likely to have grown very slowly at most over the past few years.

- 1.4 Shortages are likely to persist in the short term as demand continues to grow, and the supply of pharmacists is depleted through outward migration, especially to the United Kingdom. This situation should improve after mid-2006 when registration requirements are tightened in the United Kingdom and the higher level of new graduates is able to take effect.

2 Introduction

- 2.1 The purpose of this report is to investigate skill shortages in the pharmacy profession in New Zealand. It aims to assess whether there is a shortage, and to provide an insight into the demand and supply factors contributing to this situation. It also offers a short-term outlook for shortages in this occupation group.
- 2.2 The pharmacist profession includes both hospital pharmacists and retail pharmacists (codes 22241 and 22242 respectively in the New Zealand Standard Classification of Occupations). Both share the role of providing drug dispensary services and advice. However, the former tend to have a greater focus on clinical consulting, while the latter often have a greater customer relations role. Although each area requires certain specialist skills, there are few barriers to transition between the different jobs. At the time of the 2001 Census, retail pharmacists comprised the vast majority (87%) of New Zealand pharmacists.
- 2.3 Further background to this occupational report, including a discussion of the methodology; a glossary of terms; and an overview of the Department's *Survey of Employers who have Recently Advertised*, including the survey questionnaire, can be found in the 'Background and technical note' at <http://www.dol.govt.nz/publications/jvm/job-ad-professionals.asp>.

3 Demand for Pharmacists

3.1 Historical Demand

- 3.1.1 The number of pharmacists employed in New Zealand grew strongly (4.4% per annum) between 1996 and 2001. This rate was slightly higher than that measured for all health professionals (excluding nurses) and all professionals (see Table 2). The strong growth in pharmacist employment between 1996 and 2001 follows a period of negative growth in the previous five years.

Table 2: Employment Growth of Pharmacists, 1991-2001

	Annual Growth in Employment		
	1991 - 1996	1996 - 2001	1991 - 2001
All Pharmacists	-3.6%	4.4%	0.3%
All Health Professionals (excluding nurses)	0.6%	3.6%	2.1%
All Professionals	2.7%	4.0%	3.4%
All Occupations	3.1%	1.2%	2.1%

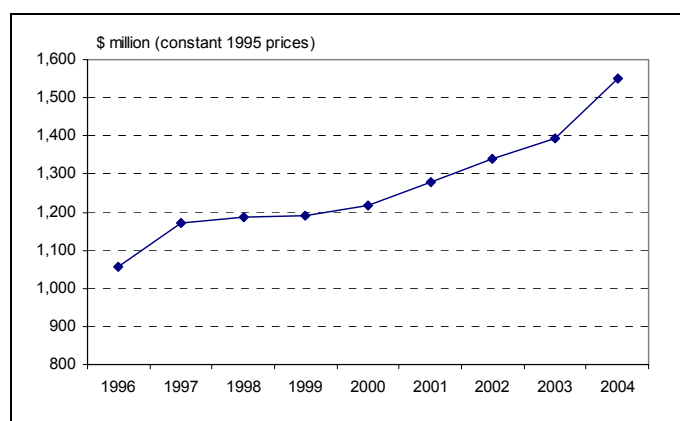
Source: Census of Population and Dwellings, Statistics New Zealand.

- 3.1.2 Retail sales data suggests that demand for pharmacists may have continued to grow after 2001. Retail sales for chemists increased by 6.6% per annum between 2001 and 2004 after having increased by 3.9% per annum between 1996 and 2001 (see Figure 1).

3.1.3 Conversely, changes to dispensing rules for pharmaceuticals implemented by the Ministry of Health in September 2003 may have had a one-off negative impact on the demand for pharmacists. Under the new rules, the distribution of many prescribed pharmaceuticals changed from a one monthly to a three monthly cycle, decreasing the required number of patient visits to the pharmacy for some people.

While this may not have affected the total value of sales (retail sales were 11% higher in 2004 than in 2003), it may have had a negative impact on the demand for the services of pharmacists.

Figure 1: Retail Sales: Chemists, 1996-2004



Source: Statistics New Zealand, Retail Trade Survey.

3.2 **Future Demand**

3.2.1 The longer term demand for pharmaceuticals will be heavily influenced by changing demographic factors, and in particular an ageing population. Statistics New Zealand Population Projections for 2004 indicate that the number of people in New Zealand aged 65 and over is expected to be 1.33 million by 2051, 2.7 times the 2004 total. Many people seeking medication and requiring hospitalisation are elderly, and this, coupled with an increasing range of drug treatments being made available, should increase the demand for both hospital and retail pharmacists in the long term. In addition, direct to consumer advertising of prescription drugs may increase public demand for pharmaceuticals¹.

3.3 **Summary**

3.3.1 Employment of pharmacists grew strongly (4.4% per annum) between 1996 and 2001. There is indirect evidence that the growth in demand for pharmacists continued in the following years. In the future, demand is likely to continue growing as a result of an ageing New Zealand population.

4 **Supply of Pharmacists**

4.1 **Tertiary Education**

4.1.1 An average of about 100 students achieved a Bachelor of Pharmacy degree each year between 1999 and 2002. This level has recently increased with the first students graduating at the end of 2003 from Auckland University's new pharmacy programme (introduced in 2000). This new programme is expected to nearly

¹ Colmar Brunton Social Research Agency, 'Prescription Medicine Information: New Zealand Consumer Views', Prepared for Christchurch School of Medicine, 2003.

double the total number of graduates in 2005, compared with the period 1999 to 2002.

- 4.1.2 A comparison of the number of graduates with the number of employed pharmacists yields a training rate of 6.2% in 2003. The training rate is a rudimentary measure of the rate at which the supply of pharmacists can potentially grow through tertiary training. This training rate is slightly higher than the rate for all professional occupations surveyed (5.5%) and considerably higher than the rate (3.9%) measured in New South Wales, Australia². Prior to the introduction of the Auckland University programme, training rates were somewhat lower at 3.9% in 2001.

Table 3: Educational Achievements for Pharmacists, 1999-2004

	1999	2000	2001	2002	2003	2004
BPharm Degrees	111	101	93	122	166	174*

* Estimate. Source: Ministry of Education, University of Auckland, University of Otago.

4.2 **Migration**

- 4.2.1 Data from the Pharmaceutical Society of New Zealand shows a high number of pharmacists leaving New Zealand, as measured by the number applying for certificates of identity prior to departure. The growth was particularly notable in 2004, with 172 pharmacists indicating an intention to emigrate compared to 106 in the previous year.
- 4.2.2 One explanation for the increase in departures is that a larger than usual number of New Zealand pharmacists are emigrating to the United Kingdom in order to avoid a proposed tightening in mid-2006 of the criteria for practising in the United Kingdom. The percentage of all departing pharmacists who headed to the United Kingdom, as opposed to other destinations, rose from 60% in 2003 to 68% in 2004. This trend may drop off from 2006, when the new criteria come into effect.
- 4.2.3 The effect of departures is to some extent mitigated by the arrival of overseas trained pharmacists, although overseas arrivals averaged only half the number of departing New Zealanders between 2000 and 2002. Registration and certification requirements for overseas trained pharmacists wishing to practice in New Zealand were changed to some extent under the Health Practitioners Competence Assurance Act 2003. It is not clear if this will have any impact on immigration of pharmacists to New Zealand.

4.3 **Summary**

- 4.3.1 Prior to 2003, a relatively small number (approximately 100) of Bachelor of Pharmacy degrees were achieved each year. A comparison of this level of

² In this report, comparisons are made between New Zealand and New South Wales, Australia to contextualise the findings. No national level estimates of training rates are available for Australia, so state-level data have been used. New South Wales is Australia's most populous state with the largest economy and its economy most closely resembles the structure of the New Zealand economy. It was thus deemed to provide the most suitable jurisdiction for labour market comparisons. It can be noted that the training rate in New South Wales is likely to have increased recently as new pharmacy schools in all Australian states have the first of their graduates coming into the workforce.

educational achievement with the number of pharmacists employed yielded a training rate of 3.9%. This rate was lower than that found for most professional occupations surveyed by the Department of Labour (the average being 5.5% in 2003). The number of degrees achieved was considerably higher in 2003 when the first students from the University of Auckland's new pharmacy programme graduated. This meant that the training rate rose to 6.2% in 2003. This recent increase in graduate numbers has been offset to some extent by an increase in emigration, which has been influenced by proposed tightening of registration requirements in the United Kingdom in mid-2006. Indeed, in 2004 almost as many pharmacists (172) indicated their intention to leave New Zealand as there was new pharmacist graduates (an estimated 174). In prior years, migratory flows also depleted the supply of pharmacists as overseas arrivals averaged only half the number of departing New Zealanders between 2000 and 2002. On balance, the supply of pharmacists is likely to have grown very slowly at most over the past few years.

5 Employer Recruiting Experiences – the Survey of Employers who have Recently Advertised

5.1.1 The 2004 Survey of Employers who have Recently Advertised (SERA) shows that employers have had considerable difficulty filling pharmacist vacancies. Only 52% of vacancies included in the survey were filled within eight to ten weeks³. The fill rate for pharmacists is slightly lower than the fill rate (56%) measured for all professionals included in the survey. There were on average 1.4 suitable applicants for each advertised position, compared with 1.7 for all professionals (see Table 4).

Table 4: SERA Results for Pharmacists and All Professionals Surveyed, July 2004

	Number of Employers	Number of Vacancies	Number of Vacancies Filled	Fill Rate	Number of Suitable Applicants	Average Number of Suitable Applicants per Vacancy
Pharmacists	15	27	14	52%	38	1.4
All Professionals Surveyed	207	296	167	56%	503	1.7

Source: Survey of Employers who have Recently Advertised, Department of Labour.

5.1.2 The Department of Labour believes that the SERA results point to a genuine skill shortage existing for pharmacists (see Box 1 for definition). The shortage has resulted from slow growth in supply relative to growth in demand.

5.1.3 The difficulty encountered by employers in filling pharmacist vacancies may be more pronounced in the relatively small hospital sector compared with the retail sector. A number of employers interviewed in SERA indicated that the more attractive remuneration in the retail sector makes recruiting pharmacists for hospital work more challenging. This is supported by income data from the 2001 Census (see Table 5), which shows that retail pharmacists earned on average

³ Occupations with fill rates lower than about 80% are typically regarded as being in shortage.

26% more than hospital pharmacists (median total personal income was 11% greater). Other comments from the SERA suggest that hospital pharmacist work, in general, is often seen as less desirable than retail pharmacist work. This seems to be particularly true for smaller hospitals away from the main urban centres. Pharmacists prefer to practise in urban centres to develop their careers⁴. A study by the Department of Employment and Workplace Relations of pharmacist skill shortages in New South Wales observed a similar situation, where remuneration differences and other factors made hospital pharmacist vacancies harder to fill than retail pharmacist vacancies.

Box 1: Skill Shortage Definitions

Genuine skill shortage

Occurs when employers have difficulties filling their job vacancies because there are not enough individuals with the required skills in the potential labour market to fill the positions on offer.

Recruitment and retention difficulty

Occurs when there is a considerable supply of individuals with the required skills in the potential labour market but they are unwilling to take up employment at current levels of remuneration and conditions of employment. Retention problems are often a major contributor to this condition.

Table 5: Annual Income of Pharmacists, 2001

	Median	Mean
Hospital Pharmacists	\$47,013	\$47,124
Retail Pharmacists	\$52,061	\$59,163

Source: Census of Population and Dwellings 2001, Statistics New Zealand.

6 Outlook

- 6.1 A shortage of pharmacists has arisen in New Zealand due to slow growth in supply relative to growth in demand. Supply has grown only slowly, as training levels have historically been low, and the outward migration of New Zealand trained pharmacists has exceeded the inward migration of foreign trained pharmacists. Training levels have recently increased substantially with the first output of new pharmacy graduates from Auckland University. However, this increase has been mitigated by an increase in the number of New Zealand trained pharmacists leaving the country. This rise in migration was probably influenced by the proposed tightening in mid-2006 of the criteria for practising in the United Kingdom. Shortages are therefore likely to persist in the short-term as this drain on supply will continue to mid-2006, while demand for pharmacists will continue to grow. Shortages may ease after mid-2006 when fewer pharmacists depart to the United Kingdom, and the higher level of new graduates is able to take effect.

For queries regarding this report please contact info@dol.govt.nz.

⁴ Wayne Hsueh, Tim Wilkinson, Janne Bills, 'What Evidence-based Undergraduate Interventions Promote Rural Health?', Journal of the New Zealand Medical Association, 22-October-2004, Vol 117 No 1204.

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