

Snapshot of the Australian Public Hospital Pharmacy Workforce in 2003

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ABSTRACT

Aim: To update the survey of the Australian hospital pharmacy workforce undertaken in 2001.

Method: A questionnaire was sent to 303 Australian hospitals with an identified hospital pharmacy service. Data returned from 128 public hospital pharmacy services were analysed and compared to the earlier study.

Results: Key findings were:

1. 107 (10%) of the 1054 establishment pharmacist full-time equivalent positions were vacant (an improvement from 14%);
2. the vacancy rate for pharmacists had decreased in South Australia (23 to 2%) and increased in Queensland (11 to 17%);
3. 1 in 3 hospital pharmacists worked part-time;
4. 1 in 3 hospital pharmacists had postgraduate qualifications;
5. the number of pre-registrant positions had increased with the greatest growth in New South Wales;
6. less than 40% of pharmacy technicians had any formal qualification; and
7. more than half of the hospital pharmacy services were planning to introduce new services in the next 2 years; mostly related to improving clinical services and medication safety. This would require an additional 100 pharmacist positions.

Conclusion: The percentage of vacant positions had fallen slightly since the earlier survey. While there had been some improvement in the vacant establishment pharmacist full-time equivalent positions, over 100 pharmacist positions remain unfilled. Ongoing retention and recruitment strategies to meet anticipated demand and further reduce the number of vacancies in hospital pharmacy will be required.

J Pharm Pract Res 2004; 34: 104–8.

BACKGROUND

The first study of the Australian hospital pharmacy workforce (public and private hospitals) was undertaken in 2001.¹ Data from this study provided a baseline and were used to estimate the future demand for hospital pharmacists. Key related findings of the 2001 study were:

- 14% of establishment pharmacist full-time equivalent (FTE) positions were vacant;
- 1 in 3 hospital pharmacists worked part-time;
- 1 in 3 hospital pharmacists had postgraduate qualifications;
- 80% of pre-registrant positions were available at principal referral and specialist women's and children's hospitals.

METHOD

Hospital pharmacy services (HPS) were identified in 303 of over 1000 registered hospitals in Australia (239 public

hospitals and 64 private hospitals). Each hospital was classified using the current Hospital Peer Group (HPG) system for public hospitals.²

An electronic questionnaire or a hard copy version was sent to an identified contact person at each of the 303 HPS. Where all pharmacist positions were funded but currently vacant the person 'in charge' of the pharmacy service (usually a registered nurse or pharmacy technician) was requested to complete the questionnaire.

Clarification was sought where the intention of the respondent was unclear. Responses were manually entered into SurveyGold (version 7). All figures were extracted from the database using a combination of SurveyGold and Microsoft Excel 2002.

RESULTS

The data presented are the responses from 128 public HPS across Australia. The response rate from private hospitals was too low for analysis. The percentages reflect the 128 public HPS surveyed and not all public HPS. The HPG system has been updated since the 2001 survey, however, the changes are in nomenclature rather than classification.

Response Rate

The response rate varied by location and type of hospital (Table 1). The response rate was higher than the previous study for all States and HPGs with the exception of small acute hospitals (39% in 2001). When identifying a contact person for each HPS, seven hospitals had establishment FTE positions for at least one pharmacist but no pharmacist was currently employed. Data from six of these HPS are included in the results.

Pharmacists

There were 1054.06 pharmacist FTE positions at the 128 hospitals; overall 10% of the FTE positions were vacant (Tables 2, 3). Of particular note is that six respondents (New South Wales and Queensland—across three HPG categories) indicated that none of their FTE pharmacist positions were filled and that services were being provided by registered nurses or pharmacy technicians working under the supervision of registered nurses.

Across all HPS, 162 pharmacists had resigned—a resignation rate of approximately 14% per annum.

One in three pharmacists were working part-time—consistent across States but the percentage of part-time pharmacists was greater in small hospitals outside metropolitan areas. Part-time pharmacists formed the bulk of the workforce in large regional and remote hospitals. The data suggest that in the public hospital sector 1.2 pharmacists were required to cover every 1.0 establishment FTE position.

One in three pharmacists had postgraduate qualifications (Tables 2, 3)—consistent across HPGs but there were differences between States with a higher

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Table 1. Questionnaires received by State and Hospital Peer Group

State	ACT	NSW	NT	Qld	SA	Tas.	Vic.	WA	Total
No. of HPS	2	85	5	44	14	3	66	20	239
No. of replies received	2 (100%)	41 (48%)	2 (40%)	22 (50%)	11 (79%)	2 (67%)	36 (55%)	12 (60%)	128 (54%)

HPG	Principal referral	Specialist women's and children's	Large - major city	Large - regional and remote	Medium - group 1	Medium - group 2	Small acute	Sub-acute and non-acute	Psychiatric
No. of HPS	57	8	24	21	31	41	20	25	12
No. of replies received	38 (67%)	8 (100%)	13 (54%)	12 (57%)	17 (55%)	17 (41%)	6 (30%)	13 (52%)	4 (33%)

HPS = hospital pharmacy services; HPG = Hospital Peer Group

Table 2. Profile of hospital pharmacist workforce by State

State	Pharmacist establishment FTE	No. FTE vacant	No. filling these positions	No. working part-time	No. with postgraduate qualifications	No. with < 2 years hospital experience	No. with 2-5 years hospital experience	No. with 5-10 years hospital experience	No. with > 10 years hospital experience
ACT	29.50	4.30 (15%)	32	11 (34%)	4 (13%)	9 (28%)	3 (9.4%)	4 (13%)	16 (50%)
NSW	331.32	45.37* (14%)	353	133 (38%)	82 (23%)	42 (12%)	59 (17%)	75 (21%)	176 (50%)
NT	11.00	4.00 (36%)	7	-	3 (43%)	3 (43%)	-	-	4 (57%)
Qld	146.47	25.45* (17%)	150	51 (34%)	43 (29%)	21 (14%)	7 (4.7%)	21 (14%)	98 (65%)
SA	98.10	1.80 (1.8%)	110	34 (31%)	30 (27%)	25 (23%)	15 (14%)	18 (16%)	51 (47%)
Tas.	33.31	5.50 (17%)	37	11 (30%)	10 (27%)	8 (22%)	3 (8.1%)	7 (19%)	19 (51%)
Vic.	315.41	20.36 (6.5%)	387	133 (34%)	143 (37%)	59 (15%)	56 (14%)	61 (16%)	199 (51%)
WA	88.95	0.55 (0.6%)	100	25 (25%)	41 (41%)	16 (16%)	17 (17%)	19 (19%)	48 (48%)
Total	1054.06	107.33 (10%)	1176	398 (34%)	356 (30%)	183 (16%)	160 (14%)	205 (17%)	611 (52%)

FTE = full-time equivalent; * includes hospital pharmacy services with all pharmacist FTE vacant

proportion in the Northern Territory, Victoria and Western Australia.

Over 50% of pharmacists in public HPS had more than 10 years hospital pharmacy experience (Tables 2, 3).

Pre-Registrants

Funding for pre-registrant positions varied across the States. The distribution of the 133.50 pre-registrant positions by HPG is presented in Table 4. The bulk of the positions (76%) were available at principal referral and specialist women's and children's hospitals and 58 (43%) of all pre-registrant positions were available in Victoria.

Pharmacy Technicians

Pharmacy technicians are an essential part of the hospital pharmacy workforce (Table 4). There were 545.93 pharmacy technician FTE and 210 technicians had some type of formal qualification as either a pharmacist or pharmacy technician. The bulk of pharmacy technicians were employed in principal referral hospitals.

Other Support Staff

The number of support staff such as stores or

administrative staff complete the picture (Table 4). A total of 243.75 FTE of support staff were employed during 2003. The ratio of all support staff FTE (pharmacy technicians and other support staff) to pharmacist FTE was 1:1.31 in 2003 (1:1.35 in 2001).

Future Demand

Respondents were asked to list any new or revised services that were being planned for introduction in the next 2 years and if any change was required to the pharmacist FTE. Over half of the respondents listed one or more initiatives; most required additional pharmacist FTE and in total, respondents estimated that an additional 100 pharmacist FTE (10%) would be required for all of these initiatives to be implemented. The most common anticipated changes were:

- 31 HPS listed the expansion of their clinical pharmacy services; 12 were expansion of services to the emergency department and seven were to meet the guidelines to achieve the continuum of quality use of medicines between hospital and community;³
- 12 HPS planned to introduce the Pharmaceutical Benefits Scheme;

Table 3. Profile of hospital pharmacist workforce by Hospital Peer Group

HPG	Pharmacist establishment FTE	No. FTE vacant	No. filling these positions	No. working part-time	No. with postgraduate qualifications	No. with < 2 years hospital experience	No. with 2-5 years hospital experience	No. with 5-10 years hospital experience	No. with > 10 years hospital experience
Principal referral	742.80	72.18 (9.7%)	824	261 (32%)	243 (29%)	129 (16%)	109 (13%)	152 (18%)	420 (51%)
Specialist women's and children's	90.93	10.73 (11.8%)	100	31 (31%)	33 (33%)	19 (19%)	14 (14%)	18 (18%)	49 (49%)
Large - major city	77.30	4.20 (5.4%)	91	35 (38%)	35 (38%)	11 (12%)	19 (21%)	16 (18%)	46 (51%)
Large - regional and remote	38.77	10.40 (27%)	39	19 (49%)	7 (18%)	8 (21%)	4 (10%)	7 (18%)	20 (51%)
Medium - group 1	41.19	6.02* (15%)	45	18 (40%)	15 (33%)	7 (16%)	7 (16%)	6 (13%)	24 (53%)
Medium - group 2	18.92	0.50* (2.6%)	23	9 (39%)	7 (30%)	-	3 (13%)	1 (4.3%)	17 (74%)
Small acute	6.00	2.00 (33%)	4	-	2 (50%)	1 (25%)	1 (25%)	-	2 (50%)
Sub-acute and non-acute	21.65	0.40* (1.9%)	32	20 (63%)	8 (25%)	5 (16%)	1 (3.1%)	2 (6.3%)	23 (72%)
Psychiatric	16.50	0.90 (5.5%)	18	5 (28%)	6 (33%)	3 (17%)	2 (11%)	3 (17%)	10 (56%)
Total	1054.06	107.33 (10%)	1176	398 (34%)	356 (30%)	183 (16%)	160 (14%)	205 (17%)	611 (52%)

FTE = full-time equivalent; HPG = Hospital Peer Group; * includes hospital pharmacy services with all pharmacist FTE vacant

Table 4. Profile of other hospital pharmacy staff

HPG	Pre-registrant establishment FTE n (average/hospital)	Pharmacy technician establishment FTE n (average/hospital)	No. of pharmacy technicians with formal qualifications	No. of other support staff establishment FTE n (average/hospital)
Principal referral	91 (2.39)	374.35 (9.85)	127	184.08 (4.84)
Specialist women's and children's	11 (1.38)	41.50 (5.19)	23	23.33 (2.92)
Large - major city	11 (0.85)	44.60 (3.43)	14	5.30 (0.41)
Large - regional and remote	10 (0.83)	28.20 (2.35)	16	12.80 (1.07)
Medium - group 1	6.5 (0.38)	26.80 (1.58)	14	13.27 (0.78)
Medium - group 2	2 (0.12)	10.54 (0.62)	5	3.42 (0.20)
Small acute	-	3.00 (0.50)	2	0.10 (0.02)
Sub-acute and non-acute	-	10.44 (0.80)	8	0.45 (0.03)
Psychiatric	2 (0.50)	6.50 (1.63)	1	1.00 (0.25)
Total	133.50	545.93	210	243.75

HPG = Hospital Peer Group; FTE = full-time equivalent

- 8 HPS planned to employ a medication safety pharmacist; and
- 7 HPS planned to introduce services to pre-admission clinics.

DISCUSSION

This survey provides robust data on the Australian public hospital pharmacy workforce. Although the previous survey presented data from public and private hospitals, comparisons between the two are valid as the number of private HPS included in the earlier study was comparatively low and the profile of pharmacists employed in private HPS correlated well with those in the public sector.

Some aspects of the public hospital pharmacy workforce have changed little over the past 2 years. The

proportion of pharmacists working part-time and those with postgraduate qualifications continue to hover around one-third of the total workforce and over 1.2 pharmacists are still required to fill each 1.0 pharmacist FTE position.

Changes have occurred in the profile of the number and percentage of pharmacist positions filled. Overall there had been an improvement in the national average vacancy rate for pharmacists (14 to 10%). This is driven by some improvement in Victoria (10 to 6%) and Western Australia (6 to < 1%) but particularly by the significant improvement in vacancies in South Australia (23 to 2%). In 2 years, South Australia had found an additional 20 pharmacists. It appears that many of them were new graduates as they have a relatively high number of pharmacists with less than 2 years hospital experience.

Of interest is that South Australia and Victoria had the lowest resignation rate for pharmacists (10% and 11% respectively) and the highest ratio of pre-registrant to

pharmacist positions (1:5.4 and 1:7.5 respectively).

The number of vacancies had risen in Queensland—fewer establishment FTE were recorded for Queensland

Table 5. Recruitment and retention strategies used by States

State and vacancy rates	Recruitment strategies		Retention strategies	
	Ongoing strategies	New/revised strategies since 2001	Ongoing strategies	New/revised strategies since 2001
ACT 20 to 15%		Salary increases for junior grades Pre-registrant positions funded by vacant pharmacist positions Accelerated pay within hospital pharmacy award Overseas pharmacists sponsored for permanent positions (up to 4 years)		Salary increases for junior grades
NSW 17 to 14%	Overseas pharmacists sponsored for permanent positions (up to 4 years) and 'backpacker' pharmacists for short-term positions Pharmacy course change: most students exposed to 12 weeks of hospital practice Increase in number of new graduates	Pre-registrant positions funded by vacant pharmacist positions Some increase in government funded hospital pre-registrant positions *Salary increases for junior grades Advertising through NSW Health website to overseas, interstate pharmacists	Flexible working hours, large number of part-time staff	Structured mentor program for new pharmacists in some hospitals Increased number of support staff at some sites *New allied health advisor for NSW Department of Health, pharmacy reference group being established
NT 38 to 36%	*Feeder program at Charles Darwin University to encourage local students to do pharmacy	*SHPA job register	Accelerated pay within hospital pharmacy award	Statewide retention bonus up to \$10,000, extended to 2007 *SHPA clinical pharmacy seminar in Darwin and funding for pharmacists to attend
Qld 11 to 17%	Limited government funded hospital pre-registrant positions *Increase in number of new graduates	Accelerated pay within hospital pharmacy award		Funding for rural pharmacists to attend SHPA clinical pharmacy seminar Program to support continuing education for rural pharmacists E-mail group for rural pharmacists Accelerated pay within hospital pharmacy award
SA 23 to 2%	Restructured award with salary increases for all grades Increase in number of new graduates (35 to 120)		Salary increases combined with improved career structure	
Tas. 52 to 17%	Accelerated pay within hospital pharmacy award offered in rural hospitals Overseas pharmacists sponsored for permanent positions (up to 4 years)	Increase in hospital pre-registrant positions Advertising through Tasmania Health web site to overseas, interstate pharmacists		Award currently under negotiation
Vic. 10 to 6%	Increase in number of new graduates from second pharmacy course Attracting pharmacists from the UK Substantial funding for hospital pre-registrant positions	Creation of government liaison officer position for hospital pharmacy Increase in government funded hospital pre-registrant positions (71 to 80) SHPA job register Accelerated pay within hospital pharmacy award	Accelerated pay within hospital pharmacy award	Expansion of technicians' role, e.g. clinical support activities
WA 6 to < 1%	Limited government funded hospital pre-registrant positions Increase in number of new graduates	Attracting overseas pharmacists on short-term contracts Accelerated pay within hospital pharmacy award	Accelerated pay within hospital pharmacy award	

SHPA = The Society of Hospital Pharmacists of Australia; * implemented, impact not yet evident

(170.44 in 2001 and 146.47 in 2003) and the vacancy rate had risen from 11 to 17%. This may be due to differences in the hospitals surveyed but as 50% of all Queensland hospitals provided data we believe a real shift had occurred. Most vacancies were at principal referral hospitals (16.3 of 25.45 FTE) but the greatest impact was on small hospitals. Fifty per cent of establishment FTE were vacant in four HPS surveyed and three sites had all establishment FTE vacant. The number of pharmacists with 2 to 5 years of hospital experience in Queensland was seven (5%). This is much lower than the national average and points to issues with recruitment of newly qualified pharmacists. In addition, Queensland had a relatively high resignation rate (17%). This is not a problem if pharmacists take up other jobs within the sector but it appears there is considerable leakage from the public hospital sector.

The ratio of pre-registrant positions to pharmacist FTE is higher in this study (1:10.2 in 2001 and 1:7.8 in 2003). The greatest change had occurred in New South Wales where the number of pre-registrant positions had almost doubled from 17 to 30. These had been funded by using vacant pharmacist positions rather than creating more designated pre-registrant positions.

Table 5 summarises ongoing and newly introduced recruitment and retention strategies used across Australia. It appears that four key recruitment strategies were in use:

- pharmacy students and pre-registrants have considerable exposure to the hospital practice setting prior to their registration;
- accelerated pay within the hospital pharmacy award if the award does not offer conditions comparable to the community setting;
- a Web-based system for advertising vacant pharmacist positions; and
- the employment of casual full-time overseas pharmacists and the sponsorship of overseas pharmacists for permanent positions.

The reciprocal registration agreement for pharmacists between the UK and Australia is pivotal to the hospital pharmacy workforce in Australia, particularly in New South Wales, Queensland and Western Australia. While changes in the UK may reduce the number of pharmacists leaving Australia it appears certain that if the current registration arrangements are discontinued by Australian authorities there will be a considerable and immediate impact on the number of vacancies in Australian hospitals.

Considerable resources are required to continually recruit staff. Retention strategies are essential to maintain adequate staffing levels and can assist with recruitment. For example, offering accelerated pay within the award is used as a recruitment strategy in most States; however, anecdotal evidence suggests that the benefit is limited to newly qualified pharmacists in the first few years of their career. In the absence of other retention strategies many pharmacists leave hospital practice when the grade they can achieve under the hospital pharmacy award falls behind community-based salaries. This may explain why pharmacists with 2 to 5 years hospital experience is the least represented in the current workforce.

The award system in South Australia removes the need for accelerated pay within the award as it offers newly qualified staff at the lowest grade a salary comparable to the highest first level grade in other States. Starting from a higher base level ensures that the hospital pharmacist's

salary keeps pace with their experience and level of expertise throughout their career. Pharmacy managers within South Australia believe that this strategy is improving the retention of younger pharmacists in the public hospital setting.

Research in Victoria suggests that remuneration is an important but not the major factor in the retention of pharmacists in public hospitals.⁴ The most important factors in the retention of, and job satisfaction for, Victorian hospital pharmacists in both metropolitan and rural areas were:

- availability of sufficient and suitably qualified staff;
- hospital management's support for the practice of hospital pharmacy;
- professional development opportunities; and
- access to organised continuing education.

Hospital pharmacists in rural areas indicated that the availability of locum and relieving pharmacists was a crucial issue for them.

The newly introduced national certificates of competency will provide opportunities for pharmacy technicians to gain qualifications and extend their role and free pharmacists to concentrate on patient-related clinical services.⁵ A considerable number of pharmacy technicians do not have formal qualifications and the recently introduced courses that meet the national competencies are yet to impact on the pharmacy technician workforce. It appears that enormous effort will be required to ensure that a suitably qualified pharmacy technician workforce is available to meet current and future demand.

The American Society of Health-System Pharmacists has published guidelines on the recruitment, selection and retention of pharmacy personnel.⁶ They note that staff turnover is costly and has a negative impact on staff morale and discuss 19 factors that may influence staff retention. The guidelines recommend that each HPS needs to identify and assess all retention strategies available at their site and devise a retention plan, with short-term and long-term goals to address the needs of employees as well as the organisation. Proactive and ongoing retention and recruitment strategies will be required indefinitely to fill vacancies across Australia and meet the identified future demand for hospital pharmacists in the public sector.

Acknowledgments

Acknowledgments are due to Sue Kirsas and Naomi Burgess for assistance with the design of the study. Thanks to Margaret Duguid, Christine Maclean, Chris Doecke, Di Aldous, Greg Weeks, Jennifer Benzie, Bhavini Patel and Grace Alberto for their help in developing Table 5.

Competing interests: None declared

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Submitted: March 2004
Accepted: April 2004