



Tasmanian Department of Health and Human Services

Agency Health Professional Reference Group

Allied Health Professional Workforce Planning Group

Allied Health Professional Workforce Planning Project

Pharmacy Information

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3 Preface

This Pharmacy Information should be read in conjunction with the main Allied Health Professional Workforce Planning Project Discussion Paper.

4 Overview

Pharmacists are experts in the rational use of medication. Their work is based on the understanding of body systems and how they work in disease and the effects individual medications can have on these systems and processes. Pharmacists are employed in a number of areas, including hospitals and private pharmacies (retail pharmacy).

Entry to the pharmacy profession in Tasmania is a four-year Bachelor of Pharmacy qualification, followed by up to a year's practical experience under the supervision of a pharmacist. The Tasmanian School of Pharmacy within the University of Tasmania Faculty of Health Science provides education in pharmacy and related sciences from undergraduate to doctoral level. There are approximately 50 graduates each year; at least half of which are Tasmanian residents. Education courses for pharmacists are available in all states of Australia.

The 66 pharmacists employed in DHHS comprised 14 per cent of the total pharmacy workforce in Tasmania. They were employed in a mix of full time and part time pharmacy positions (53.29 FTEs) in DHHS. It required 1.2 pharmacists to fill one FTE position and this rate was within the average range of rates for all allied health professions.

Pharmacists were employed in the Community, Population and Rural Health and the Hospitals and Ambulance Service Divisions.

The median age of the DHHS pharmacy workforce was 42 years, which matched the median age of the overall DHHS allied health professional workforce, which was 42 years.

Seventy five per cent of the DHHS pharmacy workforce were female. Proportionally more male pharmacists were employed in private pharmacy services.

Forty four per cent of pharmacy respondents to the DHHS staff survey stated that they had postgraduate qualifications and these included certificate, diploma, graduate diploma, masters, doctorate and fellowship level qualifications in both clinical and managerial aspects of the pharmacy profession.

There were six DHHS pharmacy vacancies that were for at least six months in 2001. These vacancies were spread across the Hospitals and Ambulance Service Division and Community, Population and Rural Health Division and all award levels and regions of the state.

In the years 2000 and 2001, an average of 9 pharmacists left the DHHS per year and an average of 8 DHHS pharmacy positions were advertised per year. At 14 per cent per year, pharmacy had the one of the medium

turnover rates per headcount of all the allied health professions in those two years.

The rates of hospital pharmacists in Tasmania in 1996 was 9.5 hospital pharmacists per 100,000 of the population; slightly lower than the average Australian rates of 9.7 hospital pharmacists per 100,000 of the population (AIHW 2001).

Data from the Pharmaceutical Benefits Scheme, shows that Tasmanians had the highest number of prescriptions and drug costs per capita (AIHW 2000).

There is a growing demand for pharmacists in the public and private retail sectors. Based on current trends, there will be a probable shortfall of 2,000 pharmacists across Australia by 2010. Some of the factors cited as contributing to these shortages in the public sector are longer retail opening hours, a growing preference for part-time employment, the ageing of the pharmacy workforce and the resultant workforce turnover, a lack of incentives to work in regional areas, inadequate graduate numbers and remuneration imbalances between the private and public sectors.

There were a number of workforce planning issues specific to the DHHS pharmacy workforce:

- shortages of pharmacists across Australia. The DHHS has to compete for pharmacists with the local private sector, that can offer more attractive working arrangements, as well as with interstate and international public and private services.
- increased staff workloads as a result of the increasing acuity and shorter hospital stays of hospital patients.
- increasing numbers of females pharmacists leading to an increased need for temporary periods out of the workforce and part-time employment.
- the extension of the Commonwealth Government Pharmaceutical Benefit Scheme into Tasmanian hospitals may significantly increase the clinical and administrative workloads. It is important that pharmacists do not inappropriately undertake the additional administrative duties.
- an established workforce in the higher award levels. Many pharmacists in level two, three and four positions have been in those positions for more than five years. Although this provides stability in services, it does not enable less experienced staff to develop skills and experience and access to higher salaries.
- the flow of DHHS hospital pharmacists into retail pharmacy employment. This is due to more flexible working conditions and higher salaries in the private sector. There is also a growing demand for specialisation within the DHHS pharmacy workforce, which may require post-graduate study and professional development, which may not be offset by increased remuneration.
- the provision of hospital trainee pharmacy positions. This is a major strategy to encourage Australian pharmacists to work in hospitals. The

establishment of more of these positions within the DHHS may assist with the current and predicted increases in DHHS pharmacy vacancies.

5 Description of the pharmacy profession

Pharmacists are experts in the rational use of medication. Their work is based on the understanding of body systems and how they work in disease and the effects individual medications can have on these systems and processes.

Pharmacists can specialise in a number of areas:

- community (retail or private) pharmacists deal directly with patients who are using medication therapy to improve their quality of life
- government pharmacists are involved in regulatory control of pharmaceutical and medical products, either at State or Commonwealth level
- hospital pharmacists operate as part of a health care team and are involved in monitoring medication usage, counselling patients, providing drug information and advice to health professionals and the community, conducting clinical trials and preparing products for patient use
- industrial pharmacists are involved in research and the development, manufacture, testing, analysis and marketing of pharmaceutical and medical products.

Registration is mandatory in Tasmania through the Pharmacy Board of Tasmania.

5.1 Description of related pharmacy occupations

5.1.1 Hospital pharmacy technicians

Hospital pharmacy technicians work as part of the team providing a comprehensive pharmacy service to the patients of the hospital. They work under the supervision of a pharmacist within the framework of set procedures and their work can include the following: dispensing medications from prescriptions and supplying those ordered on medication charts; coordinating the ordering, preparation and supply of aseptic pharmaceutical products including total parenteral nutrition solutions and cytotoxic products; assisting pharmacists working in the ward environment in the management of the patients medications, preparation of pharmacy care plans, providing Consumer Medication Information sheets, preparing patient counselling documents and discharge planning and assisting in the management of the imprest with regular liaison with clinical pharmacists and nursing staff in charge of wards and units to ensure that the levels are appropriate to the needs of the area.

(Commonwealth Department of Education, Science and Training 2002)

6 Workforce supply

6.1 Current workforce supply of pharmacists

6.1.1 Pharmacy Registration Board of Tasmania information

As at 12 July 2002, of the 472 pharmacists registered for employment in the public and private sectors in Tasmania:

- 245 (52 per cent) were male
- 227 (48 per cent) were female.

It is evident that more males were employed in the private pharmacy services.

The number of pharmacists registered in Tasmania has increased from 446 in 1997 to 482 in 2001; and the number of pharmacies registered in Tasmania has decreased from 143 in 1997 to 139 in 2001 (Department of Health and Human Services 2002).

6.1.2 Other research data

The Australian pharmacy profession is presently undertaking 'A study of the supply and demand of pharmacists to 2010'.

Research into the Australian hospital pharmacy workforce was undertaken as part of this study. Preliminary baseline information from a larger report (yet to be released) is found in a document entitled 'Snapshot of Hospital Pharmacy Workforce in Australia' (Society of Hospital Pharmacists January 2002).

The major findings reported in the Society of Hospital Pharmacist's Australian snapshot are that, of the respondents to their survey:

- one in three hospital pharmacists worked part time
- one in three hospital pharmacists had postgraduate qualifications
- on average, 14 per cent of hospital pharmacy positions were vacant.

6.1.3 Profile of the current DHHS pharmacy workforce

6.1.3.1 Human Resource Services Information System data

Data on the DHHS pharmacy workforce from the DHHS Human Resource Services Information System (as at 21 March 2002) has been displayed graphically. The information displayed in these graphs represents all pharmacy positions within DHHS regardless of whether they were filled or vacant at the time of this analysis.

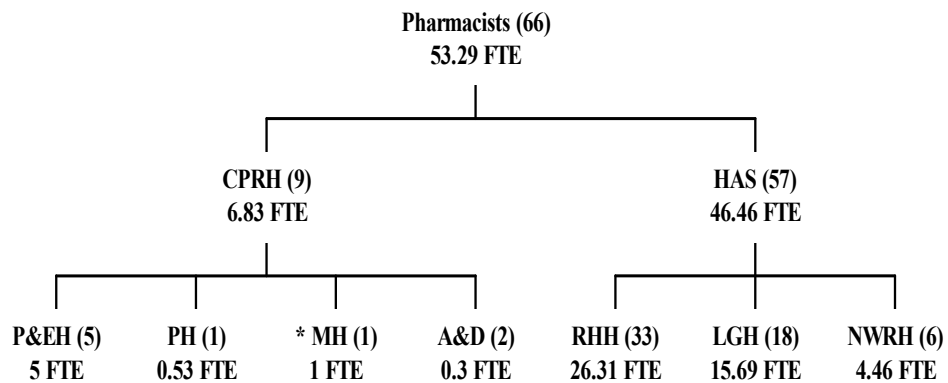
The 66 pharmacists employed in DHHS comprised 14 per cent of the total pharmacy workforce in Tasmania. They were employed in a mix of full time and part time pharmacy positions (53.29 FTEs) in DHHS. It required 1.2 pharmacists to fill one FTE position and this rate was within the average range of rates for all allied health professions.

As displayed in Figure 1, pharmacists were employed in the Community, Population and Rural Health Division and the Hospitals and Ambulance Service Division.

In the CPRH Division, pharmacists were employed in Public and Environmental Health, Primary Health, Mental Health and Alcohol and Drug Services. Pharmacists employed within the CPRH Division have a variety of roles, including state-wide policy and drug regulation roles as well as service delivery roles to clients outside public hospitals. Pharmacists were employed in the three major state hospitals in the Hospitals and Ambulance Service Division.

The pharmacy staff in Mental Health Services, in the CPRH Division have recently been supplied by contract from the Royal Hobart Hospital Pharmacy Service.

Figure 1: Division and service structure of pharmacists employed within DHHS (headcount in brackets)

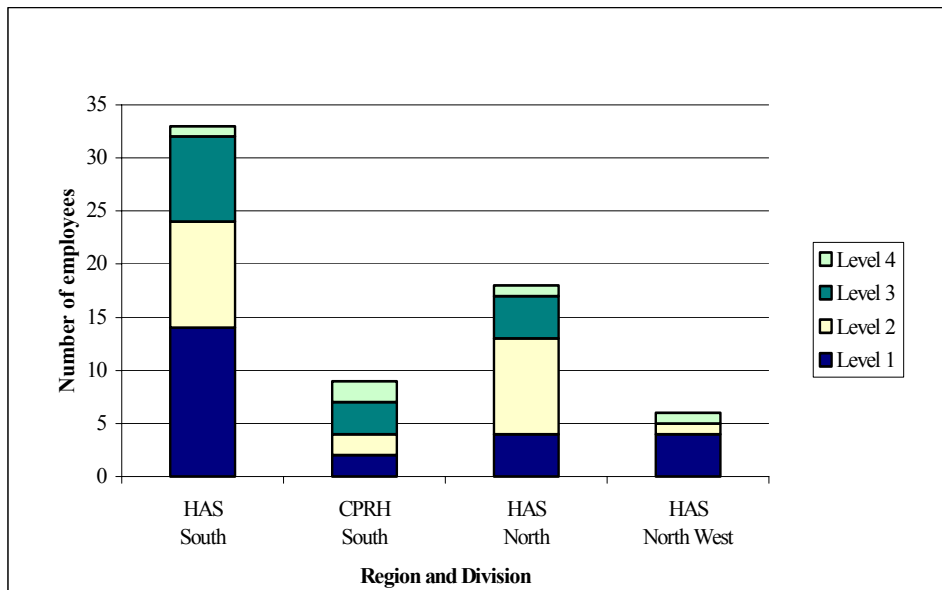


Source: DHHS Human Resource Services Information System 2002 (filled and vacant positions)

* Managed by the Royal Hobart Hospital Pharmacy Services through contract

Figure 2 displays the distribution of the award levels across the 66 pharmacists employed in the two Divisions.

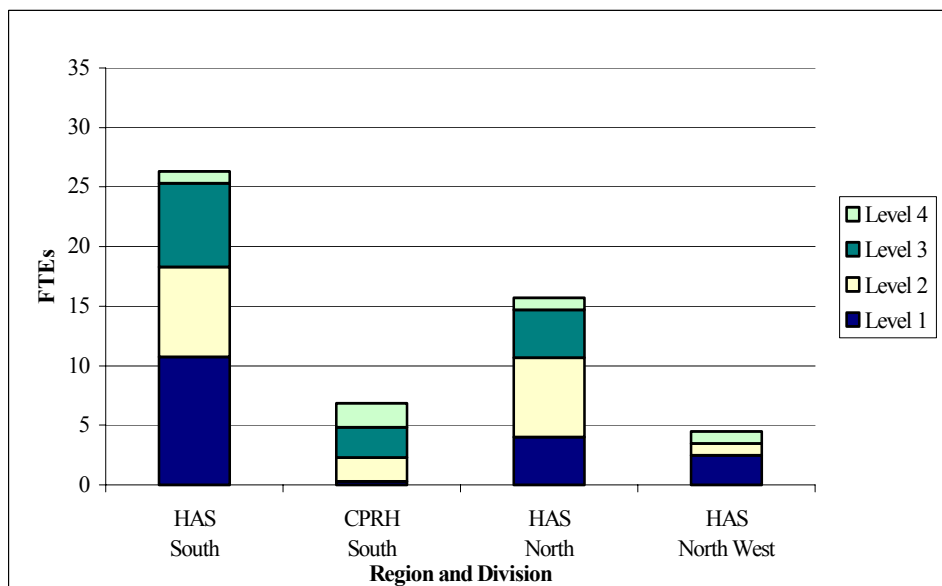
Figure 2: Pharmacy headcount per award classification across DHHS



Source: DHHS Human Resource Services Information System 21 March 2002

Figure 3 displays the distribution of award levels across the 53.29 pharmacy FTEs in the two Divisions. Figure 2 and Figure 3 differ due to the numbers of pharmacists employed in part time capacities.

Figure 3: Pharmacy FTEs per award classification across DHHS



Source: DHHS Human Resource Services Information System 21 March 2002 (filled and vacant positions)

Table 1 shows the numbers of DHHS pharmacists at the various award levels.

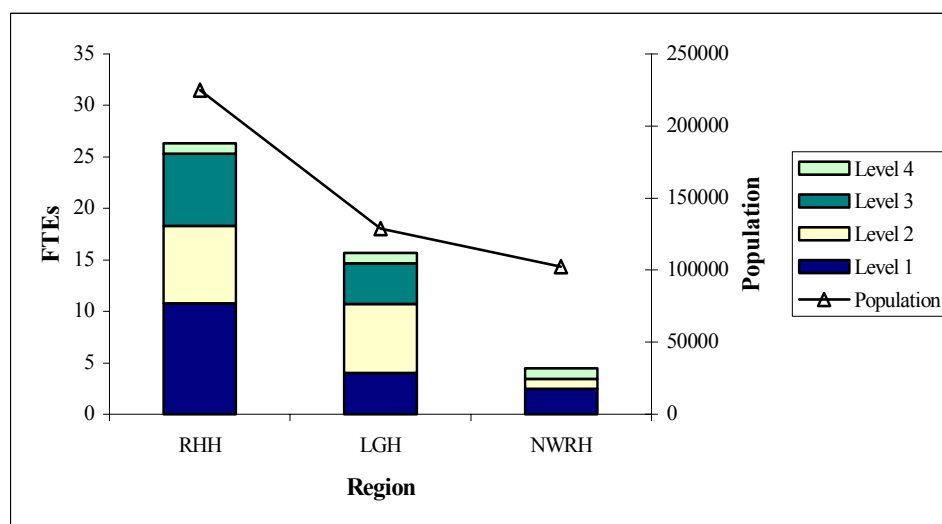
Table 1: Breakdown of the numbers of DHHS pharmacy FTE positions at specific award levels

Award levels	PF1	PF2	PF3	PF4	State total
FTE pharmacy positions	17.51	17.25	13.53	5.00	53.29
	FTEs	FTEs	FTEs	FTEs	FTEs

Source: DHHS Human Resource Services Information System 21 March 2002 (filled and vacant positions)

Figure 4 provides a breakdown of the distribution of award levels across pharmacy positions in the Hospitals and Ambulance Service Division, together with the populations of the three regions of Tasmania.

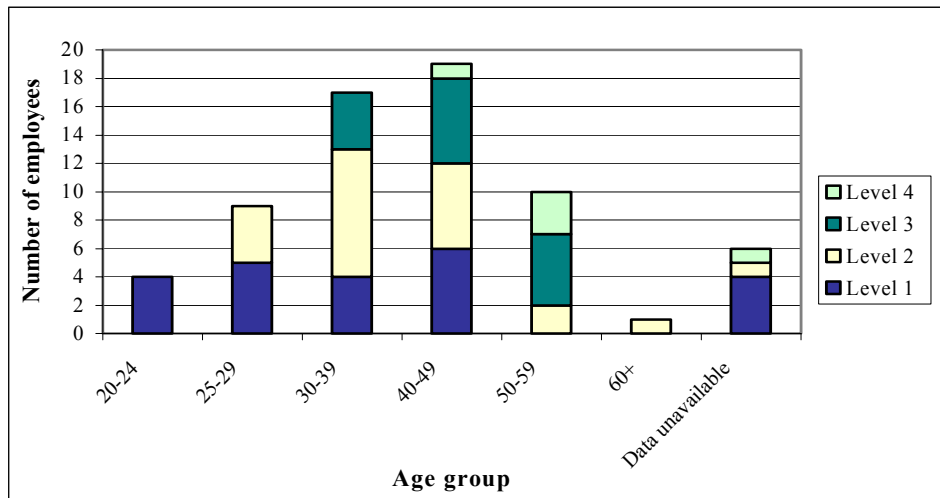
Figure 4: Pharmacy FTEs per award classification in the HAS Division compared to regional populations in 2001



Source: DHHS Human Resource Information System 2002 (filled and vacant positions) and ABS 2001 census

Figure 5 displays the age group distribution of the pharmacy workforce and further categorises these groups by award levels.

Figure 5: DHHS pharmacy workforce per age group and award classification

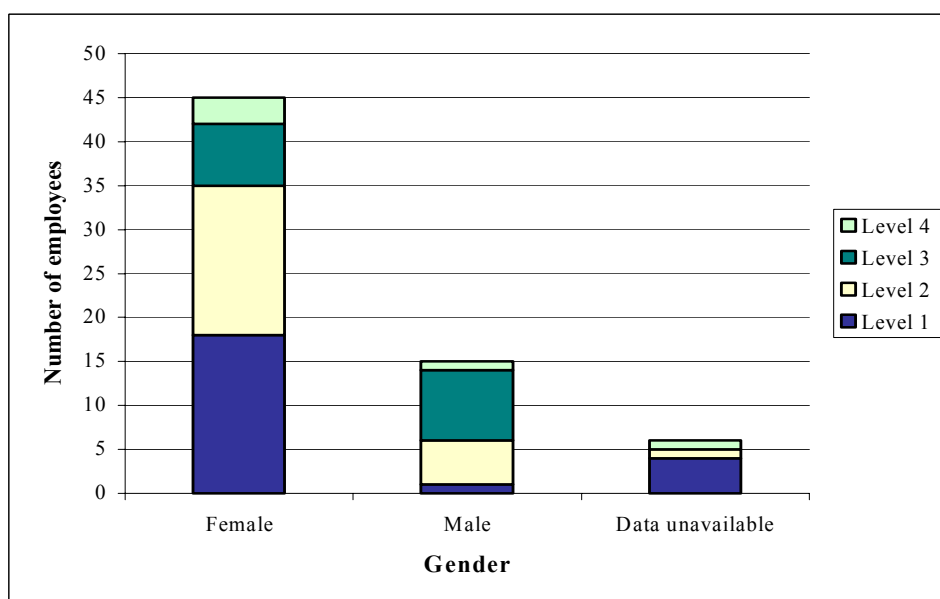


Source: DHHS Human Resource Services Information System 21 March 2002 (filled and vacant positions)

The average age of the DHHS pharmacy workforce was 38.9 years, which was slightly younger the average age of the overall DHHS allied health professional workforce, which was 40.3 years. The median age of the DHHS pharmacy workforce was 42 years, which matched the median age of the overall DHHS allied health professional workforce, which was 42 years.

Figure 6 displays the gender and award analysis of the DHHS pharmacy workforce. There were 45 females (75 per cent) and 15 males (25 per cent).

Figure 6: Pharmacy workforce per gender and award classification



Source: DHHS Human Resource Information System 21 March 2002 (filled and vacant positions)

The gender ratio of the Australian pharmacy workforce is changing as displayed in Table 2. The numbers of females are increasing in all areas of the pharmacy workforce. The high rate of female employees in the DHHS pharmacist workforce may have implications in terms of movements in and out of the workforce and the need for more part time positions.

Table 2: Female percentages of various pharmacy workforces

Area of the workforce	Per cent female in 1991	Per cent female in 1996	Per cent female in 2002
Australian pharmacy workforce	43	47	Not known
Australian hospital pharmacy workforce	64	68	Not known
Australian retail pharmacy workforce	38	41	Not known
DHHS pharmacy workforce	Not known	Not known	75
DHHS hospital pharmacy workforce	Not known	Not known	75

Source: AIHW 2000 and DHHS Human Resource Services Information System 21 March 2002

6.1.3.2 DHHS staff survey data

There were 66 pharmacists employed by the DHHS (as at 21 March 2002) and 39 completed a survey form; resulting in a 59 per cent response rate. Due to the low response rate, only responses to some of the questions that were supported by responses to other consultations were used to describe the supply of pharmacists later in this report.

6.1.3.3 Changes in DHHS pharmacist numbers

The DHHS Human Resources Service identified six pharmacy positions that were vacant for a minimum of six months in the period from 1 July 2001 to 1 January 2002. The vacant positions are outlined in Table 3, FTEs are indicated in brackets.

Table 3: Pharmacy positions vacant for at least six months from 1 July 2001 to 1 January 2002

Region	Level 1	Level 2	Level 4
RHH	1 position (1.0 FTE)		
LGH		1 position (0.89 FTE)	1 position (1.0 FTE)
NWRH	2 positions (1.0, 0.01 FTEs)		
Alcohol & Drug Services	1 position (0.1 FTE)		

Source: DHHS Human Resource Information System 2002

The LGH pharmacy service has been without a permanent pharmacy manager for over two years. Although there have been major problems in the past with staffing the LGH pharmacy service, the situation is not currently critical due to staffing by part time staff.

6.1.4 Types of work and client groups

Pharmacy respondents to the DHHS staff survey defined their work as one of these roles: clinician, clinical manager, manager, teacher/educator,

project officer, statistician/educator, information system administrator, regulator.

Data was not collected through this project to further breakdown the client casemix of the DHHS pharmacy workforce.

Table 4 shows the types of work that are undertaken by pharmacists and the percentages of the Australian workforce.

Table 4: Employment areas of registered Australian pharmacists

Employment area	Per cent
Registrants employed in retail pharmacies	84.0
Registrants employed in hospital/clinical pharmacies	14.0
Registrants employed as industrial pharmacists	1.7
Registrants employed as administrators	1.3
Registrants employed as teachers/educators	0.7
Registrants employed in other roles	1.9

Source: AIHW 2000

The report commissioned by the Society of Hospital Pharmacists (2002) provides an analysis of the activity streams of Australian hospital pharmacists who responded to a workforce survey. Data from the survey indicated on average:

- 41 per cent of hospital pharmacists' time was spent providing clinical services to individual patients, drug information services and training and education (clinical services)
- 39 per cent of a hospital pharmacists' time was spent on the acquisition, manufacture and dispensing of drugs (distribution services)
- 16 per cent of a hospital pharmacists' time was spent managing the drug and personnel resources of the service and hospital wide activities, such as, institutional drug policy management, quality activities and clinical trial management (management and policy and procedure services).

The report also noted that greater than 85 per cent of pharmacy support staff (technicians) perform distribution activities. Generally in the hospitals surveyed, the ratio of support staff to pharmacists was 1.0 support staff to 1.3 pharmacists. This ratio altered to 1.0 support staff to 0.53 pharmacists when the activity was limited to pharmacists performing distribution activities only.

6.1.5 The education of DHHS pharmacists

6.1.5.1 Tasmanian School of Pharmacy

The Tasmanian School of Pharmacy within the University of Tasmania Faculty of Health Science provides education in pharmacy and related sciences from undergraduate to doctoral level, conducts research programs and acts as a centre of drug expertise for the Tasmanian community.

There are ten academic staff and three administrative and technical support staff.

The school has developed a strong clinical emphasis in its teaching and research programs, supported by honorary clinical teachers in hospital and community pharmacies throughout the state (Tasmanian School of Pharmacy 2002).

Five years of study and practical experience are required to become a registered pharmacist. At present in Tasmania this comprises four years for the Bachelor of Pharmacy degree and a period of up to one year's work as a trainee. The final year has to be undertaken under the supervision of another pharmacist. After this time graduates are eligible to sit the Pharmacy Board of Tasmania examinations for registration as a pharmacist. A pharmacist registered in Tasmania has reciprocity throughout Australian jurisdictions, New Zealand and Great Britain.

The Bachelor of Pharmacy course is divided into three general sections: an introductory and basic science year, a year studying drugs and pharmaceutical sciences, followed by two years of applied and clinical studies. During the third and fourth years, students gain experience in retail pharmacies and hospitals. The four-year bachelor degree replaced a three-year course with a graduate diploma year in 1998; the first four-year bachelor degree students graduated in 2001.

There are approximately 50 graduates each year, at least half of which are Tasmanian residents. There are a number of places in the course for international students and since recent changes in legislation, these students are now able to undertake their registration year in Tasmania. The ratio of male to female graduates is approximately 40 per cent to 60 per cent.

The School of Pharmacy also offers several research-based advanced degrees to suitable applicants who are graduates in pharmacy or a related biomedical course:

- Master of Pharmacy (MPharm)
- Master of Medical Science (MMedSci)
- Doctor of Philosophy (PhD).

Fellowship level qualifications, consisting of a combination of clinical and management course-based work have been offered through the Society of Hospital Pharmacists, but these qualifications are being phased out.

6.1.5.2 Pharmacy schools in other states of Australia

All states of Australia have schools of pharmacy and they also offer postgraduate qualifications, some of which maybe undertaken by distance education.

6.1.5.3 Postgraduate qualifications of pharmacists

The Society of Hospital Pharmacists report (2002) stated that 32 per cent of pharmacists in the Australian hospitals that they surveyed, had postgraduate qualifications.

Forty four per cent of pharmacy respondents to the DHHS staff survey stated that they had postgraduate qualifications and these included

certificate, diploma, graduate diploma, masters and doctorate level qualifications in both clinical and managerial aspects of the pharmacy profession.

6.1.5.4 DHHS pharmacists born outside Australia

Some pharmacy respondents to the DHHS staff survey indicated that they were born overseas: in UK/Ireland, Zimbabwe, Trinidad and Kenya. However, this information could not be used to indicate where these pharmacists were educated.

6.2 Projecting the workforce supply of pharmacists

Workforce supply is a balance between outgoing staff (retirees, those temporarily withdrawing from the workforce, emigrants or those who die or take up employment with other employers) and incoming staff (new graduates, immigrants, staff coming from other employment and staff increasing their hours of employment).

6.2.1 Outgoing staff

In the two years 2000 and 2001, there was an average of 9 permanent, temporary and casual pharmacists who left the DHHS per year.

Applying this to the 21 March 2002 headcount, approximately 14 per cent of the DHHS pharmacy workforce left per year. This was one of the medium rates of allied health professions leaving the DHHS workforce.

In order to ascertain the possible future numbers of outgoing pharmacists, staff were asked a number of questions in the DHHS staff survey. Staff were asked:

- if the hours they worked were the hours they wanted to work
- if they anticipated a change in their work hours in the next three years and the reasons for this change
- if they were considering leaving the DHHS in the next six to twelve months, and if so, what were the reasons
- what were their levels of satisfaction for a number of professional practice parameters in the DHHS.

There were no clear patterns in the pharmacy responses.

Some of the staff who were not working the hours they wanted to work, stated that they were doing a varying number of unpaid hours (up to 13 unpaid hours per week); some wanted to upgrade from part-time to full-time and some wanted to reduce their number of hours to part-time. However, interestingly, almost all pharmacy respondents stated that they expected their hours of employment to stay the same in the next three years.

Nine of the 39 pharmacy respondents (23 per cent) indicated that they were considering leaving in the next six to twelve months and the reasons stated were mixed: 'family considerations', 'retirement', 'other employment' and 'travel'.

Information on staff responses on levels of satisfaction with the various professional practice parameters are listed in Table 5.

Table 5 : Staff satisfaction with professional practice parameters in DHHS

Criteria measured	Per cent of respondents who were satisfied or very satisfied
Opportunity to use your abilities	67%
Sufficient work to maintain competence	72%
Hours of work	49%
Amount of work	51%
Overall satisfaction	51%

Source: DHHS staff survey

There was a low rate of overall satisfaction with practice compared with the response rates of other allied health professions. A further breakdown of responses to this question is displayed in Table 6.

Table 6: Breakdown of responses to 'overall satisfaction with your practice' question on the DHHS staff survey

Taking everything into consideration, how satisfied are you with your practice	Per cent of respondents who were satisfied or very satisfied
Very dissatisfied	0%
Dissatisfied	15 %
Neither dissatisfied or satisfied	33 %
Satisfied	49 %
Very satisfied	3 %
Data unavailable	0 %
TOTAL	100 %

Source: DHHS staff survey

In the section in the DHHS staff survey following questions about satisfaction with practice, staff were asked to specify other issues of importance. The pharmacy comments to this section were around issues such as the need for more time for CPD activities, low staff to workload ratios and the lack of recognition of postgraduate qualifications.

Other information that was relevant to outgoing DHHS staff was that there were eleven pharmacists aged 50 years and over in the DHHS workforce of 66 pharmacists.

6.2.2 Incoming staff

6.2.2.1 National incoming staff

Nationally there is a growing number of pharmacists immigrating from other countries. Harris, Gavel and Conn (2002) presented AIHW data from 2000 that showed that there was an increase of 67 per cent from the year 1993/1994 to 1998/1999 of the number of permanent residents of Australia who were pharmacists. In 1993/1994 there were 72 permanent residents who were pharmacists and in 1998/1999, there were 120.

There will be approximately 665 new graduate pharmacists across Australia in 2002. These will come from New South Wales (~185),

Victoria (~140), Queensland (~120), South Australia (~70), Western Australia (~100) and Tasmania (~50).

6.2.2.2 DHHS incoming staff

In the two years 2000 and 2001, there were 16 full time, temporary and casual pharmacy positions advertised. It is not known if these advertisements were successful. The positions were:

- 6 x PF1 level positions (38 per cent)
- 6 x PF2 level positions (38 per cent)
- 3 x PF3 level positions (19 per cent)
- 1 x PF4 level position (6 per cent).

Annually it is expected that there will be approximately 30 Tasmanian potential new graduate employees (excludes students from interstate and overseas) from the Tasmanian School of Pharmacy.

7 Workforce demand

7.1 Current demand for pharmacists

7.1.1 Current national demand for pharmacists

Unpublished research by the Commonwealth Department of Employment and Workplace Relations found that in late 2001, in:

- New South Wales, there were shortages for both hospital and retail pharmacists that had been growing for a number of years due to the increasing underlying demand for pharmaceuticals and related health services. Fifty per cent of hospital vacancies and 61 per cent of retail vacancies were filled within six weeks. Wastage from the profession in this state was estimated at 2.1 per cent, but the rate was thought to be higher for hospital pharmacists due to relatively low wages, the preponderance of females who often leave for family reasons and the stressful nature of the work. The shortages were predicted to continue.
- Victoria, the labour market for both experienced and new graduate pharmacists in hospital and retail areas was in shortage and had been for some time. It appeared that the number of new graduates was insufficient to meet demand, as there were a number of graduates from overseas who would return there, and there are a number of new graduates who would elect to work overseas. The shortages were also due to the extended hours in retail pharmacies where a growing number were open for 24 hours. Where there was interest from overseas pharmacists for positions advertised in Australia, overseas pharmacists were frequently not considered suitable due to their level of expertise, English and computer skills. Vacancies in rural areas were particularly difficult to fill.
- Queensland, the labour market for hospital and retail pharmacists remained in shortage. Demand in the retail pharmacy sector exceeded supply, especially in regional areas, due to the trend to longer shop

opening hours and the replacement of an ageing pharmacy workforce by younger pharmacists.

- South Australia, there were continuing shortages in all areas of services, especially in public hospital and regional areas. Some of the factors cited as contributing to these shortages were longer retail opening hours, a growing preference for part-time employment, the ageing of the pharmacy workforce and the resultant workforce turnover, a lack of incentives to work in regional areas and remuneration imbalances between the private and public sectors. In addition the Bachelor of Pharmacy through the University of South Australia was extended from three to four years in 2001 and there were no graduates for one year.
- Western Australia, there were continuing shortages for hospital and retail pharmacists. Even though there was a substantial rise in the number of students completing undergraduate pharmacy courses in 1999 and 2000, this has not counteracted the number of pharmacists seeking part-time employment or retiring. If the significant increase in pharmacy student commencements in 2001 is maintained, the labour market could move into balance in the long term.
- Tasmania, the labour market was in a state of shortage. The reasons given were increased demand due to longer retail opening hours, the movement of Tasmanian qualified pharmacists interstate and overseas, increased part-time employment and a wider variety of employment options open to pharmacists such as medication reviews in nursing homes. The increase of the Bachelor of Pharmacy through the University of Tasmania from a three to four-year course, resulted in three graduates in 2001. The shortages were predicted to continue and worsen in hospitals and rural areas as there are insufficient pharmacy graduates being produced to fill demands despite recent increases in student intakes.

7.1.2 Patterns of usage

7.1.2.1 Profession to population ratios

The rates of pharmacists employed per 100,000 of the Tasmanian population (includes those employed in public and private sectors) increased from 77.1 in 1992 to an estimated 79.1 in 1998. This matches a national trend to increasing pharmacy numbers (AIHW 2000).

The rates of hospital pharmacists in Tasmania in 1996 was 9.5 hospital pharmacists per 100,000 of the population; slightly lower than the average Australian rates of 9.7 hospital pharmacists per 100,000 of the population (AIHW 2001).

7.1.2.2 Staff workload assessments

The DHHS staff survey asked pharmacists if they considered their current workload was about right, too much or too little. Of the 39 pharmacy respondents:

- 22 (56 per cent) stated that their workload was about right
- 15 (38 per cent) stated that their workload was too much
- 1 (3 per cent) stated that their workload was too little.

7.1.3 Population needs

There are a number of Australian measures of the demand for pharmacy services and the medication usage by the Australian community, e.g. data from the Pharmaceutical Benefits Scheme, the Community Drug Use Database and the National Health Survey. Data from the Pharmaceutical Benefits Scheme, shows that Tasmanians had the highest number of prescriptions and drug costs per capita (AIHW 2000).

7.2 Projecting the future demand for pharmacists

7.2.1 National demands for pharmacists

The Commonwealth Department of Employment and Workplace Relations (2002) stated that job prospects for pharmacists were very good.

"Employment growth for pharmacists to 2007-08 is expected to be moderate. Employment in this medium size occupation (10,100 in February 2002) fell over the past ten years, and over the past five years. There are national skill shortages for hospital and retail pharmacists.

Pharmacists have a high proportion of full-time jobs (87 per cent) and earnings are high - in the ninth decile. Unemployment for pharmacists is low.

Pharmacists are employed mainly in retail (other personal and household goods retailing), hospitals and nursing homes, other chemical product manufacturing (industrial pharmacists), other wholesaling and scientific research. The mix of industries employing pharmacists is highly favourable for employment growth prospects.

The vacancy level for pharmacists is moderate. Vacancies arising from job changing (pharmacists changing employers) are expected to provide 77 per cent of vacancies, compared with 13 per cent from job openings (pharmacists leaving the occupation) and 10 per cent from new jobs (employment growth for pharmacists)".

Representatives of the Tasmanian branch of the Pharmaceutical Society of Australia stated that there is a growing demand for pharmacists in the private retail and public sectors. Based on current trends, there will be a probable shortfall of 2,000 pharmacists across Australia by 2010. These shortages could translate into longer working hours and increased pressure to perform an increasing number of tasks.

The Society for Hospital Pharmacists has defined the drivers of demand for Australian hospital pharmacists and these will be described in detail in a report to be released later in 2002. The report will describe how and when these drivers may impact and the level of the impact so that the future demand for Australian hospital pharmacists can be established. The Society has grouped the drivers into three categories: the external environment, the environment within a hospital, and changes to practice or delivery of hospital pharmacy services.

The external environment factors arise from general issues in the community; changes in the policies of government and non-government organisations and changes to the health system. In general, individual hospitals and pharmacy managers have little ability to influence these factors. They include:

- the ageing of the Australian population
- hospital accreditation requirements
- new medical technologies
- the number of admitted patients
- the number of trainee pharmacists
- safe dispensing loads etc.

The Society predicted that the decisions within a hospital that will drive pharmacy services in the future include those about funding, risk management strategies and service delivery models. Pharmacy managers have limited abilities to influence these decisions. The factors that hospitals will need to make decisions on and which are predicted to be the drivers of pharmacy services in this category include:

- electronic prescribing with decision support
- automated drug distribution
- outsourcing
- patient complexity
- PBS dispensing within the hospital etc.

The third category of drivers for hospital pharmacy services predicted by the Australian Society for Hospital Pharmacists was changes within a pharmacy service. This category included factors such as changes to the:

- practice or delivery of hospital pharmacy services
- pharmacy support services.

The Society of Hospital Pharmacists reported that, in general, the Australian demand for hospital pharmacists until 2010 will far outstrip the supply and that there will be ongoing serious shortages.

7.2.2 Perceived drivers of pharmacy services in DHHS

The majority of pharmacy respondents to the DHHS staff survey perceived that the factors likely to increase the future size of the pharmacy workforce were:

- ageing of the population
- changing patterns of health and illness
- patient expectations/knowledge
- requirements for safer procedural practice
- advances in technology
- multi-disciplinary team provision
- more defensive practice
- increasing specialisation
- the need for improved geographical distribution of the profession
- cost containment
- growth in consumer demand.

8 Workforce planning issues for the DHHS pharmacy workforce

8.1 Shortages of pharmacists

The AIHW report on the national pharmacy labour force in 2000, stated that the principal pharmacy workforce issues include the perceived shortages of pharmacists and the adequacy of current training to address these issues.

The report also stated that there continues to be national shortages in hospital and retail pharmacists and shortages in all states except New South Wales (in 2001, also shortages in New South Wales). The report stated that the high rates of retirement from ageing of the pharmacy workforce and the growth in female participation in the workforce, resulting in higher proportions of pharmacists working part-time, appear to have been largely responsible for the shortages. The shortages are magnified in rural areas; 30 per cent of Australians live in rural areas, however the proportion of young graduate community and hospital and clinical pharmacists practicing in rural areas was 16.4 per cent.

The shortages are being addressed to some extent by the increase in students numbers in pharmacy schools. The Tasmanian School of Pharmacy will increase its graduates from 23 in 1997 to approximately 60 in 2006 to assist with the Tasmanian shortages.

The Society of Hospital Pharmacists report (2002) stated that there was an overall Australian vacancy rate of 14 per cent for hospital pharmacists.

8.2 Staff workloads in DHHS

Although the project did not collect specific information on the workloads of pharmacy staff, the workloads of hospital based pharmacists have increased with the increasing acuity and shorter hospital stays of hospital

patients. This is demonstrated by the increasing requests for and interventions made by pharmacists and the number of patient counselling documents prepared on discharge.

8.3 Career structure in DHHS

The respondents to the DHHS staff survey recorded the number of years that they had been in their present award level position. Although only 59 per cent of pharmacists employed within DHHS responded to the survey, data from this DHHS staff sample shows, in Table 7, that many staff in level two, three and four positions have been in those positions for more than five years. This provides stability in services, but does not enable less experienced staff to develop skills and experience and access higher salaries.

Table 7: Numbers of pharmacy survey respondents and the years that they have been at their current position level

Position level	Number of staff and numbers of years at that position level							
	1 year	2 years	3 years	4 years	5 years	6 to 10 years	11 to 15 years	16 to 20 years
Level one	1	4	1	0	0	1	1	0
Level two	3	2	3	2	0	4	1	0
Level three	1	1	4	1	0	2	0	0
Level four	0	2	1	0	0	1	0	1

Source: DHHS staff survey October 2002

8.4 Gender mix of the pharmacy workforce

There were more females than males employed as pharmacists by the DHHS (males tend to be employed more in the private sector). This fact has implications for the numbers of staff requesting part-time employment.

The Society of Hospital Pharmacists of Australia report (January 2002), stated that in the hospital sector across Australia, one in three pharmacists works part-time. The report also states that 1.2 pharmacists are required to cover every 1.0 FTE position. This ratio was also shown within the DHHS pharmacy workforce.

8.5 Pharmaceutical Benefit Scheme

The Society of Hospital Pharmacists stated that the extension of the Commonwealth Government Pharmaceutical Benefit Scheme into Tasmanian hospitals in the near future will have a number of implications for DHHS hospital pharmacy services; principally significantly increased clinical and administrative workloads. It will be important to ensure that pharmacists do not inappropriately undertake the additional administrative duties.

8.6 Employment opportunities in the private sector

Although the number of approved retail pharmacies in Tasmania has declined from 158 in 1989 to 140 in 1999, the number of prescriptions has increased, showing that there are increasing work opportunities in retail pharmacy (AIHW 2000).

Also, retail pharmacy work is changing from the preparation and issue of pharmaceuticals to the provision of counselling and drug information and monitoring medication use through Domiciliary Medication Reviews and Home Medication Reviews. This makes retail employment more attractive to those pharmacists interested in clinical pharmacy. Employment options, in terms of hours and times of employment can also be more flexible in the private sector.

However, the benefits of employment in the public sector are the ability to work closely with the prescribers of drugs, to access clinical data and be involved with all facets of patient care, to apply more fully clinical knowledge obtained in undergraduate pharmacy education and to access professional support.

8.7 Remuneration

Consultations with the pharmacy professional organisations indicated that there is a flow of DHHS hospital pharmacists to retail pharmacy employment and to positions interstate and overseas.

Anecdotal information was that salaries in Tasmanian retail pharmacies are approximately double the salaries paid by the DHHS.

There are growing demands for increased specialisation within the DHHS pharmacy workforce and this entails further postgraduate study and CPD. However, the public sector industrial award structure is such that there is no financial acknowledgment of postgraduate qualifications and this combined with the financial lure to the private sector, a stable DHHS career structure and increasing workloads, makes retention of the DHHS pharmacy workforce a challenge.

8.8 Staff satisfaction with DHHS employment

Information on staff satisfaction with DHHS employment was sought through focus groups. Five pharmacists (three from the south and two from the north of the state) attended the focus groups and a summary of feedback is shown in Table 8. The comments expressed also reflected the information obtained through other consultations.

Table 8: Summary of information obtained from pharmacists at the focus groups

Positive attributes of employment in DHHS	Aspirations	Negative attributes of employment in DHHS	Constraints
<ul style="list-style-type: none"> • Being part of a professional community • Variety of work and roles • Flexibility, good hours 	<ul style="list-style-type: none"> • Full staffing • Financial recognition of qualifications and additional training 	<ul style="list-style-type: none"> • Lack of CPD support to attend conferences etc 	<ul style="list-style-type: none"> • Lack of pharmacists generally • Competition with private pharmacies and interstate for staff • Budget

Regional variations

There was some individual dissatisfaction with wage structure.

Source: DHHS focus groups December 2001

8.9 Hospital trainee pharmacy positions

There are a number of permanent positions in DHHS hospital pharmacy services for trainee pharmacists. There are two trainee positions at the Royal Hobart Hospital, two at the Launceston General Hospital and the manager at the North West Regional Hospital is currently negotiating one position.

O'Leary et al (2002) reported that the provision of hospital trainee pharmacy positions is a major strategy to encourage Australian pharmacists to work in hospitals.

This was verified by local representatives of the Society of Hospital Pharmacists who stated that these positions assist with staff recruitment and succession planning, as generally, the trainee will apply for a vacant position in the service at the end of their pre-registration year.

The establishment of more of these positions may assist with the current and predicted increases in hospital pharmacy vacancies within DHHS.

8.10 Professional development to retain and strengthen a quality workforce

8.10.1.1 Pharmacy Registration Board requirements

With the enactment of the Pharmacists Registration Act 2001, the Pharmacy Board of Tasmania intends to introduce competency assessments

for pharmacists seeking re-registration. Assessments will include documentation of participation in continuing professional development activities, and a personal audit of basic competency standards.

8.10.1.2 Professional association requirements

The Society of Hospital Pharmacists has a voluntary CPD program for members. Accumulation of the necessary 30 hours of CPD allows the member to use the title 'Certified Hospital Pharmacist'. The CPD program may consist of attendance at lectures, conferences and activities presented by employers, presentations given by the pharmacist, publications, tertiary courses and self-study.

8.10.1.3 DHHS staff survey

The DHHS staff survey asked pharmacists questions about CPD.

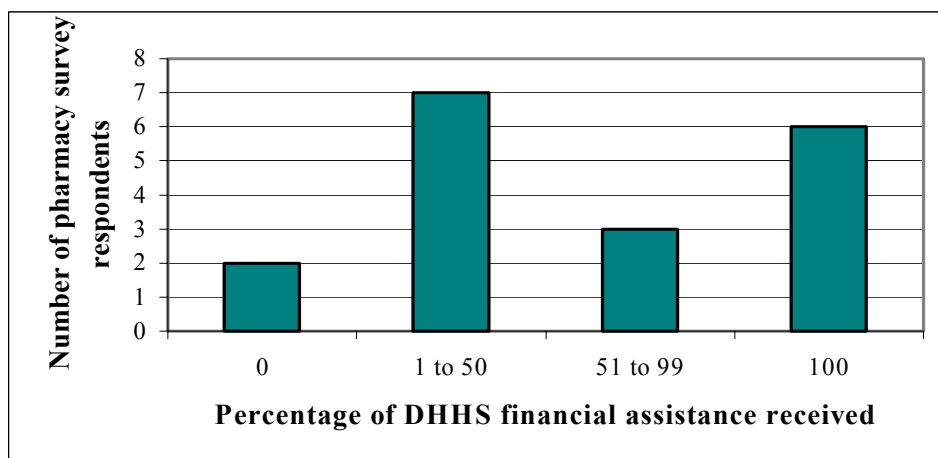
There were no patterns to the responses in the area of CPD. Some staff said they were offered regular CPD through their employment, some staff from the same services said that they were not offered regular CPD, and this did not seem to depend on the full time or part time nature of the staff member's employment or the place of employment.

The only comment that could be made was that staff appeared to have different understandings of CPD and their expectations differ across the pharmacy workforce.

The pharmacy staff were also asked if they had applied to attend a conference in the last two years and 20 staff said that they had applied. Of the 20 pharmacists who applied, 18 (90 per cent) received funding.

Figure 7 shows the distribution of the percentage of financial assistance the 18 successful pharmacy survey respondents received from DHHS to attend conferences in the last two years.

Figure 7: The distribution of the percentage of financial assistance successful pharmacy respondents received from DHHS to attend conferences in the last two years



Source: DHHS staff survey October 2001

9 Annotated bibliography

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