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Quantitative and qualitative research to identify the professional and personal support needs and future careers of NSW rural and metropolitan hospital pharmacy graduates

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Abstract

There is a shortage of pharmacists in Australia and the deficit is most serious in the hospital sector and in rural areas (Health Care Intelligence 2003). Improving the quality use of medicines brings large patient safety and financial governance advantages for the public and for government. In order to focus recruitment and retention resources optimally, part of the strategy to address these problems must include research into the retention of hospital pharmacy graduates in the public hospital system and in rural and remote areas. We know that graduate training influences young pharmacists to stay in the sector in which they completed their graduate year (Kainey 2004). If we are able to identify the factors that influence their satisfaction with the graduate year, we can work to improve their retention. The information that results from such research can be used to develop retention plans and other long-term workforce development strategies.

This research uses quantitative and qualitative methods to describe the professional and personal support needs of NSW hospital pharmacy graduates and to identify factors which influence their retention in public hospitals and in rural areas.

McDonald et al (2002) found that factors for retention could be allocated into three main categories namely professional, family and personal and lastly community aspects. The literature indicates that there are a number of factors in each category and these are described and investigated by the research.

A validated questionnaire was sent to current NSW hospital pharmacy graduates and to those who had completed their graduate year in NSW hospitals back to 2003. Interviews with current and recent graduates and Directors of Pharmacy were carried out to investigate various perspectives on the needs and retention of graduates.

The results confirmed the findings of the literature review regarding the professional and personal support required for pharmacy and allied health graduates. Having a structured training programme, effective supervision with regular feedback and individualised professional and personal support are vital to the satisfaction of these young professionals. Professional factors affected satisfaction and retention very strongly compared to personal and community factors and this reflects the literature on young allied health professionals (Hummell and Koelmeyer 1999).

The results also supported the literature about pay being a strong reason for young pharmacists leaving the hospital sector. This is not reflected in the literature about retention of health care professionals regardless of age.

The results indicated that the positive aspects of their graduate year included effective recruitment and orientation processes, adequate dispensing training and most having the opportunity to apply for a position at their hospital if they wished to.

The research confirmed the negative impact of the lack of a structured training programme, effective supervision and support on participants' satisfaction.

In the personal and family category, having a rural background was a strong factor in retention in a rural area. Contrary to the literature about health care professionals, the lower cost of living or of accommodation were not reported to attract young pharmacists to rural areas.

Hospital pharmacy graduates want careers which are professionally satisfying. To achieve this they prioritise ongoing training and support as part of their position as well as externally provided Continuing Professional Development (CPD).

Models of hospital pharmacy graduate professional and personal support needs and retention are proposed. They are based on McDonald's proposition that retention can be described in the three key categories of professional, personal and family and community (McDonald et al 2002). The model is applied to hospital pharmacy graduates and refined as a result of this research.

Further research could investigate how to develop improved support for hospitals where graduates are employed. Providing a structured training programme, effective supervision and individualised support requires significant skills and time resources. Very busy and over-stretched hospital pharmacy departments have many competing priorities. Providing some support at a state or AHS level may be feasible. Indeed, Directors of Pharmacy in several NSW Area Health Services (AHS) have worked together to provide co-ordinated training and support with good effect.

There was a hint from this research that the type of support that graduates need depends on their 'locus of control'. "Internal locus of control' graduates may be able to take more responsibility and plan some of their training. Those with an 'external locus of control' were more reliant on their department to provide resources and direction. This could be investigated further and may provide some direction for recruitment, particularly for small hospitals.

Chapter 1

1.1 Introduction

There is a shortage of pharmacists in the United Kingdom, the United States of America, Canada and in Australia, particularly in the hospital sector and also in rural and remote areas. Successful training and retention of hospital pharmacy graduates is vital to maintaining the pharmacy service in Australian hospitals. Pharmacy services ensure the safe and effective use of medicines that is vital to the health of Australians. Pharmacists provide essential health services that will become increasingly important in future years as the population ages and as more high technology and biological modifiers become available. As the population continues to demand increasingly high quality healthcare and information about intervention options, this will also increase the demand for pharmacy services (Belcher, Kealey, Jones and Humphreys 2005).

Pharmacy graduates spend one year being supervised immediately after finishing their pharmacy degree. They must pass an exam before becoming registered to work as independent professionals. To ensure the ongoing viability of the hospital pharmacy service, Health Service administrators need to ensure that newly registered pharmacists are competent and wish to remain in the hospital sector.

The Australian Institute of Health and Welfare (1998) reports that the health of Australians in rural and remote areas is worse than that for people in metropolitan areas, based on death rates, differences in health status and access to health services. One key factor is the lower level of health care services in rural areas. Related to this is the shortage of health care professionals in rural areas (New South Wales Health 2002, National Rural Health Policy Forum and National Rural Health Alliance 1999). The differences in environmental factors, the higher rate of road accidents and of occupational injuries are other factors.

To provide adequate patient care in rural areas, it is vital to recruit and retain competent pharmacists. *Health horizons: A Health Framework for Rural, Regional and Remote Australian,*

1999-2003 (National Rural Health Policy Forum and National Rural Health Alliance 1999) outlined the key role that pharmacists play in rural areas in providing medicines and accompanying information as well as a range of services related to medicines and health care. The shortage of pharmacists in most rural areas of Australia and the related difficulty of attracting and keeping pharmacists have been highlighted in this report and in the Victorian Universities Rural Health Consortium report on recruitment and retention of allied health professionals (Belcher S, Kealey J, Jones J, Humphreys J 2005).

This research aims to identify the key factors that influence satisfaction with the professional and personal support future careers of hospital pharmacy graduates in NSW. It also aims to identify the factors that affect retention of these professionals in hospital pharmacy and in rural hospitals. This information will help Area Health Services (AHS) to tailor training programmes and support, to ensure that pharmacy graduates are satisfied with their graduate year and that they will be attracted to a career in hospital pharmacy. This could then provide the opportunity for improvements in the delivery of safe and effective medicines to patients and in the quality of prescribing advice to doctors.

This chapter contains descriptions of pharmacists in the hospital and community sectors and of hospital pharmacy graduates. Some background is provided on the shortage of pharmacists in general and in particular, in the hospital sector and in rural areas.

1.2 Background

This section will describe the key components of the research including pharmacists in both community and hospital sectors and hospital pharmacy graduates.

1.2.1 Definitions and Descriptions

Descriptions of pharmacists including those who work in the hospital and community sectors

1.2.1.1 Pharmacists

The main functions of pharmacy services in hospitals and in community pharmacies are the purchasing and supply of medicines and the provision of information and advice to support the safe, effective and cost-effective use of those medicines.

In 2002, the majority of the 13,833 pharmacists in Australia were community pharmacists (11,126 or 80.4%) (AIHW 2002). The average age for employed pharmacists was 46.7 years. The profile of pharmacists in capital cities differed from other geographic areas, with 77.2% being community pharmacists, 15.3% hospital/clinic pharmacists and 7.5% other pharmacists. In every other geographic area, community pharmacists accounted for over 84% of all pharmacists. Although the overall percentage of pharmacists who were working in hospitals was 14%, the percentage working in rural hospitals was much lower at 5.1%. Hospital pharmacists tend to work in large hospitals, few of which are located in rural areas. This illustrates the shortage of hospital pharmacists in rural areas. There is not data available on the shortage of community pharmacists in rural areas.

1.2.1.1.1 Community pharmacists

This section provides an overview of the role of community pharmacists in Australian health care. Pharmacy graduates have a choice or working in the community or the hospital sector.

The major service of community pharmacies is the supply of medicines through the Pharmaceutical Benefits Scheme (PBS). This service is supplemented by a range of professional services: advising on medicines, prescription monitoring, identifying drug interactions, offering counselling on medication regimes and managing side effects. In addition community pharmacists sell and advise on non-prescription medicines and various health and beauty products (Mahoney 1993).

The general public rates community pharmacists as the third most trusted professionals ref. This trust, the accessible location of community pharmacies and the legal requirement for a pharmacist to be available when the pharmacy is open, makes the community pharmacist an important member of the healthcare team.

Pharmacists combine knowledge of how drugs work (pharmacology) and how they are handled by the body (pharmacokinetics) with competence to respond to symptoms at a primary health care level. They also have a responsibility to make medical and specialist referral as necessary. This makes the community pharmacy a cost-effective 'front line' service for many minor conditions, particularly winter ills, minor pain, dermatitis and gastric problems, baby care, skin care, sports injury and incontinence problems (Mahoney 1993).

When they visit a General Practitioner, patients concentrate on the symptoms and diagnoses. When they visit the pharmacy, consumers focus on their medication and getting better. Thus if the pharmacist reinforces the statements of the doctor as well as providing information on the patient's medicines, the pharmacy will provide an important service (Mahoney 1993).

As the government continues to shift costs from the Pharmaceutical Benefits Scheme (PBS) to the patients by greater emphasis on 'users pay', pharmacists are increasingly required to answer patients' clinical questions about the provision of pharmaceuticals and about the various safety nets that apply (Mahoney 1993).

1.2.1.1.2 Distribution of community pharmacies in rural v city areas

NSW Health prioritises access to health care services by all groups in the community. Nationally 0.9% of the population (154,041 based on the 1996 census) live more than 80 kilometres from a pharmacy (Wilkinson 2002). This is about 50% more than the number living that distance from a General Practitioner (GP), indicating that the mal-distribution of pharmacies is worse than that of GPs (Wilkinson 2002).

This is mirrored by the number of full time pharmacists in the city compared to rural areas. There are 70.9 per 100,000 in the capital cities and the figure declines to 25.6 in remote areas. In most geographic locations there are between 65 and 75 pharmacists per 100 GPs (Wilkinson 2002).

This shows that there is a problem with distribution of community pharmacists in rural areas.

1.2.1.2 Hospital pharmacists

Hospital pharmacies purchase and distribute medicines for their hospitals and to local clinics and GPs. Most of the work of purchasing, receiving, checking and passing invoices and distribution is carried out by assistants. This frees hospital pharmacists to carry out roles that focus on promoting safe and effective use of medicines.

Hospital pharmacists use their specialised training and expertise to provide information and advice to patients and to other healthcare professionals to ensure the safe, effective use of medicines (Society of Hospital Pharmacists of Australia SHPA 2003).

Each year patients are unintentionally harmed by medicines. Up to 80,000 hospital admissions each year in Australia may be due to an adverse event associated with a medication and as many as half of these may be preventable (SHPA 2003).

Hospitals deal with sick patients who are usually on a large range of medicines, many of which are potentially toxic. The use of these potentially toxic medicines must be closely monitored by experts in pharmacology and pharmacokinetics, such as hospital pharmacists. This service is called a clinical pharmacy service.

Australia's Safety and Quality Council recommends that the provision of clinical pharmacy services is a part of each hospital's strategy to reduce medication incidents. This serves both individual patient's interests and also that of the wider community.

This focus on clinical pharmacy services is supported by an economic assessment of 24,866 inpatient episodes in eight Australian public hospitals. It identified that pharmacists initiated 1,399 changes to drug therapy or patient management. Fifteen (1.1%) of these changes were life saving. The remaining changes improved patient care as follows; 25% prevented major permanent injury, a longer stay in hospital or readmission, patient morbidity at discharge or significant financial loss for the hospital, 38% prevented major temporary injury causing a longer stay in hospital or re-admission, the cancellation or delay of treatment and financial loss for the hospital and 30% prevented minor injuries that required minor treatment and minor financial loss to the hospital. This illustrates that clinical pharmacists are able to prevent illness and injury and are also able to prevent financial loss and litigation to the hospital (Dooley et al 2001).

1.2.1.3 Pharmacy Graduates

After their four year university degree, pharmacy graduates must work for 12 months as supervised practitioners and pass a registration exam before they are registered and thus able to work as independent practitioners. This is unlike graduates from medical and allied health degrees who work as independent practitioners when they start their first paid job. Pharmacy graduates sign a one year contract with their hospital and look for a position as a pharmacist towards the end of their graduate year.

During their graduate year they develop the skills, knowledge and attitudes that are required of competent pharmacists and that are necessary to pass the registration exam. Hospital pharmacy departments devote significant resources to teach graduates practical knowledge and skills as well as local policies and procedures. Due to the shortage of pharmacists in the public hospital service and as a result of the resources invested in these young people, Area Health Services (AHSs) are keen to retain hospital pharmacy graduates.

The literature indicates that if young pharmacists are satisfied with the professional and personal support they have received, they are more likely to remain in that sector and in that location (Collyer and Kyme 2003). For this reason it is important for AHS to know how best to support graduate pharmacists. This research aimed to identify what is important to graduate pharmacists in terms of professional and personal support and the extent to which their needs were met during their graduate year. It also aimed to identify factors which influenced the sector and location in which they would choose to work.

1.3 Pharmacy Workforce Factors

This section describes the current shortages of pharmacist and the factors that contribute to the shortfall. Efforts by NSW Health to address the shortfall are described (Health Care International 2003).

There are shortages of both community and hospital pharmacists in United Kingdom, United States, Canada, New Zealand, South Africa and Australia.

In Australia the hospital pharmacy workforce is ageing quickly and significantly. In 1986 the largest age group was 26-30 year olds and in 2003 the largest age group was the 46-50 year olds (Collyer and Kyme 2003). Similarly the average length of hospital pharmacy practice has increased from 1986 where 34% had more than 10 years experience, to 2003 where 61% had more than 10 years' experience (Collyer and Kyme 2003).

The factors that impact on the Australian pharmacist labour force are complex and interrelated. They impact on the demand for pharmacists overall and additionally have some specific impacts on the hospital and community sectors.

A number of factors increase the demand for pharmacists. New management models such as the development of safety, quality and educational infrastructure often employ pharmacists because of their broad health knowledge and their scientific background. The ageing of the population with the associated complexity of multiple concurrent diseases puts increased pressure on dispensing and distribution services. There is also a requirement for increased monitoring of the patients on complex medication regimes. New medicines are usually more effective but also require increased patient monitoring and patient education because of possible side effects or because they are too new for all information to be available. Political changes that impact the supply of pharmacists include the Australian Third Community Pharmacy Agreement, new professional standards, increasing government and public expectations about the safety and quality of medicines use, new government policies, accreditation of hospitals outsourcing, PBS dispensing in hospitals, risk management and quality of care improvements (Health Care Intelligence 2003). These new policies and standards require pharmacists to provide increased services to patients including counselling about how to take their medicines, how to monitor efficacy and how to deal with side effects. Thus increased numbers of well trained and experienced pharmacists are required.

Factors that will decrease the requirement for pharmacists include automation of dispensing and arguably, electronic prescribing.

The increased numbers of students entering pharmacy schools will ease the shortages, although whether this will keep up with the increasing demand for pharmacists remains to be seen.

The requirement for hospital pharmacists is predicted to grow, based on numbers of hospital beds and hospital pharmacist ratios required to service their needs. The Society of Hospital Pharmacists of Australia (SHPA) (O'Leary and Allinson 2004) reports that an additional 259 hospital pharmacists will be needed to fill vacant positions across Australia. They predict that an additional 1207 hospital pharmacists FTE will be required to meet future demand 2001-2010 (estimated range 1200 to 2200). The US Department of Health and Human Services prioritises the cognitive services for pharmacists such as monitoring complex medication and reviewing medication for individual patients. They consider that the priority should be cognitive services (O'Leary and Allinson 2004) and not simply dispensing, for the pharmacy workforce.

1.3.1 Shortages of hospital pharmacists

The current Australian public hospital workforce is estimated at 2,000 pharmacists filling 1,640 full time equivalent positions (O'Leary and Allinson 2004).

In 2003 10% of the 1054 establishment pharmacist full time equivalent positions were vacant. The vacancy rate for pharmacists had decreased in South Australia (23 to 2%) and this closely following a significant increase in salaries for junior hospital pharmacists. Simultaneously the vacancy rate increased in Queensland (11 to 17%). The majority of vacancies are in principal referral hospitals (76%) however at least seven smaller hospitals had all positions vacant (O'Leary and Allinson 2004).

The hospital pharmacy workforce is highly trained and experienced and therefore difficult to replace. One in three hospital pharmacists has a postgraduate qualification (McDonald, Bibby and Carroll 2002) and over 50% of the current hospital pharmacy workforce has more than 10 years hospital experience.

Collyer and Kyme (2003) found that 18% of the total hospital pharmacy workforce (public and private hospitals) were planning to leave the sector in the near or distant future. Of these, 77% were planning to retire. The average age of hospital pharmacists is 41.28 years and a quarter of hospital pharmacists are aged over 50. (Collyer and Kyme 2003, O'Leary and Allinson 2004).

When losses and additional services and taken into account, an additional 400-500 pharmacists are needed in the hospital sector in the next 2-5 years.

Although this workforce information is about hospital pharmacists in Australia overall, it is likely that the current trend of low employment of hospital pharmacists in rural hospitals will continue to get worse.

The number of pharmacists in rural areas has decreased rapidly in recent years and this trend is continuing (Bailey 2000). It is acutely felt in rural public hospitals (O'Leary and Allinson 2004) with between 11.6% and 15.4% of pharmacists working in hospitals, depending on the state but only 5.1% working in rural hospitals (AIHW 2002).

It is important for rural AHSs to support young hospital pharmacists to assure the future viability of rural hospital pharmacy services. In the context of the shortages, it has been proposed that pharmacists in small rural communities could be trained to work in both hospital and community sectors (Society of Hospital Pharmacists of Australia 2003). By working in the community pharmacy in the morning, say and the hospital pharmacy in the afternoon, this would decrease the unmet need for pharmacists. It would also make community and hospital pharmacies more viable and would support consumers across the continuum of care. Not only could this improve patient safety in relation to medicines, but it could also improve the availability of pharmacy services in small rural areas and augment the professional satisfaction for pharmacists in small rural communities.

1.3.1.1 Efforts to address the shortage in NSW

In October 2002 the vacancy rate for hospital pharmacists across NSW was in excess of 20% (communication from NSW Directors of Pharmacy to NSW Health). Some major hospitals had experienced vacancy rates of 50% and higher. Of the 39 hospitals surveyed in October 2002 there were 63.6 vacant positions (Kainey 2002).

The Queensland and Victorian State Health Departments funded additional hospital pharmacy graduate positions with a resulting decrease in the vacancy rate of hospital pharmacists and an increase in the retention of graduates in hospital pharmacy (O'Leary and Allinson 2004).

NSW Health agreed with the NSW Directors of Pharmacy to implement a similar strategy to address pharmacist shortages. With the funding, some AHSs appointed additional graduates. North Coast AHS developed a rotational programme in hospitals that had not previously trained graduates. North Sydney developed four training modules to enable graduates to gain experience in metropolitan and teaching hospitals and developed a fortnightly tutorial programme. Central Coast and Hunter New England appointed dedicated trainers to co-ordinate training across their areas. Sydney South West AHS reviewed their training and developed a fast track recruitment programme to enable graduates to be appointed quickly into available positions.

The results of the programme included significantly increased retention of graduates (68% were retained) as a result of improved training and support. The vacancy rate for pharmacists decreased from 20% to 11%, presumably due to improved working conditions.

Their report in 2007 made two key recommendations; firstly they recommended that funding be retained and increased to support 15 additional pharmacy pre-registration training positions in 2008. This figure was based on the need for additional pharmacists in the hospital system with the skills to implement pharmaceutical review, one of the major patient safety strategies on the NSW Health agenda for 2007. They also noted the aging workforce – the largest age group of hospital pharmacists being 46-50 year olds.

Secondly they recommended funding for clinical supervisors. Area Health Services that have such positions report good outcomes in terms of staff retention. An appropriate ratio of pre-registration trainees to clinical supervision is 5:1 according to the NSW Directors of Pharmacy. For NSW this would mean 14 supervisors across the state. These clinical supervisors would be responsible for coordinating the training of the graduates across the AHS.

1.4 The problems in rural health

The worse health status of people who live in rural areas is described. Reasons why adequate pharmacy services in rural areas are vital are included in this section.

The poorer health of people living in rural and remote areas has been well documented. People in rural and remote regions have higher levels of risk factors, such as physical inactivity, obesity, smoking, harmful alcohol consumption, high blood pressure and poor nutrition. Compared with their city peers they experience more violence, have poorer mental health and a higher rate of suicide. There are higher rates of mortality in the non-indigenous and indigenous populations in rural and remote areas than in the capital cities.

This chapter has outlined the important role of pharmacists in promoting the safe, effective and cost effective use of medicines. They provide a range of services to patients and staff that include purchasing, supply, dispensing, advice and information. These services help patients to manage their medicines and help governments and other providers to improve quality, manage risk and to control costs.

With the ageing population and the increasing complexity of medicines it is important that rural patients receive a full range of pharmaceutical services. Better recruitment and retention of pharmacists in rural areas is vital to address the current and future shortages, to help address the worse health status of rural people and to remedy the poorer provision of health care services in

the area. With the ageing population and the increasing complexity of medicines it is important that pharmacists provide a full range of services to rural people.

The shortage of pharmacists in the NSW public hospitals is clear and the shortage in rural areas is worsening. In order to develop strategies for pharmacist workforce development, it is important for NSW Health and hospital pharmacy departments to identify the factors which influence retention in the hospital sector and to address them effectively.

The next chapter will summarise the factors that influence professional and personal support satisfaction and choices about the future careers of hospital pharmacy graduates. In addition, specific factors for rural pharmacists contained in the literature will be summarised.

Chapter 2: Literature search

This chapter summarises the literature on the research topics of hospital pharmacy graduate needs for professional and personal support, their future careers and factors that affect their retention in hospital pharmacy. Retention in rural areas is of particular interest and the literature on this topic will also be summarised.

2.0 Literature search

A literature review of the support needs, future career plans and retention of pharmacy graduates was undertaken. Due to the very limited volume of evidence about the needs of hospital pharmacy graduates and their retention, literature on hospital pharmacists, doctors and allied health graduates was also sourced and included in the review where appropriate.

Searches were conducted in Medline and Embase using keywords ‘pharmacist/s’, ‘allied health’, ‘doctors’ ‘pre-registration’, ‘graduates’, ‘retention’. The searches were limited to English. Hand searching of key references was done to identify references that were not available on Medline or Embase. A Google search was carried out using ‘pharmacists’ and ‘retention’ as keywords to identify relevant government and non-government organisation reports.

McDonald et al (2002) found that factors for recruitment and retention could be allocated into three main categories namely professional, family and personal and lastly community aspects. The literature indicates that there are a number of factors in each category and these are described. McDonald et al (2002) did not include pay however and this will be included in the professional category. These categories and the associated factors will be used to summarise the findings of the literature review.

Hays et al (1997) and Pope et al (1998) describe how doctors try to achieve a balance between the positive and negative aspects of rural practice. They try to balance three key areas of rural general practice; professional confidence, community commitment and compensation, in order to remain there. The authors suggest that there are often triggers than can upset the balance and lead to GPs leaving rural practice. It is possible that pharmacists also try to balance the positive and negative aspects of rural practice and also experience triggers that bring them to a decision point that may result in them leaving rural hospital pharmacy practice. The literature on triggers for leaving will also be summarised.

2.1 Hospital pharmacy graduate support satisfaction with professional and personal support

The literature on satisfaction of graduates with the support they receive during their graduate year is summarised using headings derived from the literature.

2.1.2 Overall satisfy action of hospital pharmacy graduates with their graduate year

A positive experience during their graduate year is an important factor in young pharmacists' decisions about sector and location of work after registration. 75% of newly qualified pharmacists who have worked as a pharmacist in a hospital undertook their pre-registration training in hospital pharmacy (Kainey 2002).

The main positives reported by pre registrant pharmacy trainees were exposure to a variety of aspects of pharmacy practice, good learning opportunities, pleasant working environment, high quality of the training program and tutor, training with other pre registrants and putting theory into practice. The literature reports that many of these aspects are lacking in rural pharmacy practice. This is due to a combination of geographical isolation and staff shortages. The main negatives of pre registrant training were gaps in the scope of the training, low pay, the need to study and work full time and the high workload (Kainey 2002).

2.1.3 Related literature on allied health graduates

The literature on new graduates in allied health focuses mainly on factors influencing choice of first position (Toulouse and Williams 1984, Atkinson and Steward 1997), job satisfaction (Nordholm and Westbrook 1981, Parker 1991, Hummell and Koelmeyer 1999) job stress; supervision and support; retention; preparation for practice and involvement in continuing education; skills expected in the workplace; and career plans and career attitudes.

2.1.3.1 Transition from student to worker

New graduates have difficulty in adjusting to their first occupational therapy (OT) position (Parker 1991, Cusick et al 2004). Graduates' major sources of apprehension in their first job are making decisions, lack of practical experience, lack of theoretical knowledge (Parker 1991), low self confidence, low confidence about their competence and fear of making decisions and mistakes (Cusick et al 2004). Job satisfaction was impeded primarily by poor recognition from other health professionals, limited resources including equipment and space, and communication difficulties with non-occupational therapy colleagues. Some of these factors are likely to apply to hospital pharmacy graduates although they don't immediately take on independent practitioner's responsibilities that other allied health graduates do take assume in this first position.

New graduates in OT have special needs as novice practitioners (Atkinson and Steward 1997). They are recognised to have different approaches to clinical reasoning (Colins and Affeldt 1996, Parker 1991, Robertson 1996, Rugg 1996) in part because of their relative lack of field experience (Schell 1998). The difference in clinical reasoning between novice and experienced practitioners has also been found in physiotherapy (Embrey and Yates 1996) particularly in relation to self monitoring in decision making. The relative lack of experience of novice clinicians can also result in new graduates being less efficient in casework volume and less confident in novel situations where reflection on practice is critical to success (Mattingly and Fleming 1994).

2.1.3.2 Support and supervision

Lee and Mackenzie (2003) noted that the availability of support and supervision were identified as the most common factors easing the transition of newly graduated occupational therapists (OTs) into employment and the lack of support and supervision was most likely to hinder the transition. Cusick et al (2004) found that the quality of supervision was a priority for retention and for the ability of new graduates to function in clinical roles. Development of enhanced clinical reasoning skills for effective clinical roles, including ability to plan treatment, level of professional confidence, role delineation and role clarity were functions that were addressed by supervision.

Parker's (1991) participants reported that such structured and regular supervision and support would have reduced their initial apprehension in their first occupational therapy position. They would have liked at least fortnightly meetings. (Parker 1991)

In coping with the transition from student to worker, the overwhelming finding of Hummell and Koelmeyer's (1999) study was the extent to which workplace issues had an impact on new graduates in their first sixmonths of employment. The other major finding was the importance that the new graduates placed on support and supervision from senior colleagues in assisting them to make a successful transition from student to graduate. The new graduates also perceived lack of support/supervision as the major difficulty in this transition process and the major aspect that would have assisted their transition. Participants commented that positive comments from other OTs, opportunities to observe other OTs, encouragement to try things but not being expected to be perfect, and a cohesive and supportive department mattered to new graduates. New graduates also felt that lack of strong role models hindered their transition.

In a study of 24 OTs, two thirds received support and supervision from senior OTs (Cusick et al 2004). Enhancing support available to new graduates in rural positions may help retain graduates in rural practice (Lee and Mackenzie 2003).

Hummell and Koelmeyer (1999) reported that 68% of 74 OTs received supervision in their initial job and three quarters of those were satisfied with that supervision. The frequency of supervision varied from daily to monthly. This was mostly provided by OTs. The initial supervision was structured by the workplace and the remaining 30% requested it themselves. 8% chose their supervisor and 92% were allocated a supervisor. Of those who did not receive supervision, 83% said they would have liked it. Face to face contact with a more experienced OT was the preferred means of support for all participants. Participants valued the opportunity to debrief and gain advice, feedback and social contact from another therapist. This allowed participants to obtain realistic perceptions of their performance and enhanced their self-confidence. Lee and Mackenzie (2003), Cusick et al (2004), Toulouse and Williams (1984) and Parker (1991) reported that the provision of support and supervision from a senior OT was of critical importance to the successful transition from student to graduate.

2.1.3.3 Support outside of formal supervision

The effective use of support systems such as discussing issues with work colleagues, has been identified as a useful strategy to counteract stress and burnout (Craik 1988, Mottram and Flin 1988). Rees and Smith (1991) found that occupational therapists used social supports as a strategy to cope with work pressures to a greater extent than other allied health professionals. This study did not focus upon new graduates, although its findings are consistent with Parker's (1991) study, in which recent graduates identified support from work colleagues as a strategy that would have assisted their transition from student to graduate.

Young OTs appreciated regular meetings with other newly graduated OTs and these were reported to assist the transition process and reduce apprehension (Parker 1991, Hummell and Koelmeyer 1999). Other supports include support from family, friends and socialising with co-workers (Hummell and Koelmeyer 1999).

2.1.3.4 Professionalism and professional identity

Professionalism, which participants described as "being accountable, autonomous, responsible and being treated as equal to other professionals" assisted their transition (Hummell and Koelmeyer 1999).

Lack of a strong professional identity, not being valued as an equal by co-workers and lack of recognition of OT services within the workplace hindered the transition (Hummell and Koelmeyer 1999).

2.1.3.5 Knowledge and skills to do the job - Competency

Atkinson et al (1981) defined competence as "possession of the knowledge, skills and attitudes enabling an individual to perform fully in a basic professional role. It includes performance of tasks and relationships with patients and co-workers which meet specific objectives of safety, effectiveness, efficiency and social acceptance in the environments normally encountered".
New therapists have proved they have the required theoretical knowledge and understanding by graduating with a degree, however they have many skills to develop and consolidate. If they are stressed or dissatisfied or apprehensive about their professional skills or their ability to cope with staff relationships, their performance will be affected.

Hummell and Koelmeyer (1999) reported that lack of knowledge and skills hindered the transition. An orientation programme, ongoing CPD, availability of documented assessment or treatment protocols and undergraduate fieldwork helped remedy this lack.

2.1.3.6 Relationships with other professionals

New graduates do not work in isolation and one of their tasks is to establish good working relationships with the medical and nursing teams on their wards, as well as clinical, dispensing and logistics teams within the pharmacy. Stockham (1990) describes the structure of a team as "not primarily a constellation of persons, but a fairly tightly-knit relationship of roles. Newcomers who are able to fulfil a professional role will tend to be more efficient once they have some shared experience, and have been able to adjust their expectations to the idiosyncrasies of the new team…Cohesion which gives security is essential…teams, thus generate a climate of loyalty".

It will take some time for these relationships to be established and to be supportive. In the meantime, new graduates will need opportunities for seeking and receiving practical help in settling into the team, sharing experience and being reassured.

2.1.3.7 Stress

Over three quarters of OTs found their first job stressful (Hummell and Koelmeyer 1999). Health science graduates perceived themselves as ill-equipped to manage the stress that they experienced in the workplace Adamson et al (1996).

It is interesting to note that the greatest source of job dissatisfaction identified in Nordholm and Westbrook's study (1981) was therapist's feelings of inadequacy regarding their skills and confidence. Parker (1991) found that making decisions and the lack of practical experience created the most apprehensions for OTs in the initial stages of their new jobs.

The greatest impediments to job satisfaction for new OTs were poor recognition by other professionals, limited equipment, limited working accommodation and difficulties in communicating and working with non OTs.

Dealing with other health professionals was the most frequently mentioned source of stress for 54 Australian occupational therapists 18 months after graduation (Nordholm and Westbrook 1981).

2.1.3.8 Orientation programme

New graduates valued an orientation programme (Cusick et al 2004, Hummell and Koelmeyer 1999). Over three quarters were provided with an orientation programme at the work place. New graduates felt that an orientation programme that also provided access to policy and procedures manual was important (Hummell and Koelmeyer 1999) to their effective transition from student to worker and that lack of an orientation programme hindered their transition. Induction programmes need to be comprehensive and flexible enough to meet the needs of individual staff members Fleming and Tullis (1996) Parker (1991).

2.1.3.9 Other Positive aspects

Despite the stresses and dissatisfactions encountered, new graduates' job satisfaction was high (Nordholm and Westbrook 1981, Toulouse and Williams 1984, Lee and Mackenzie 2003).

Graduates reported finding the varied caseload enjoyable as well as challenging due to their limited prior clinical experience (Lee and Mackenzie 2003). They also enjoyed the integration with clients (Lee and Mackenzie 2003). Opportunities for varied experience and for new therapy skills development were found to be important for retention (Cusick et al 2004).

New OT graduates valued the challenging aspects of rural practice as opportunities for skill development (Lee and Mackenzie 2003).

The aspects of work considered most important by occupational therapists 18 months after graduation were opportunities to develop skills, chances to do something worthwhile, the friendliness of co-workers and autonomy (Nordholm and Westbrook 1981).

Hummell and Koelmeyer (1999) made a number of recommendations on the basis of their findings notably;

1. All new graduates have access to support/supervision from skilled occupational therapists and other colleagues on a regular basis
2. All stakeholders acknowledge that the first six months of a graduate's initial job are likely to be stressful
3. Educational programmes are provided for occupational therapists and other colleagues on optimal strategies for supervising/supporting new graduates
4. New graduates' groups are established
5. Educational programmes aimed at stress management are provided for new graduates
6. Undergraduate programmes regularly review their curricula in terms of currency and relevance to the knowledge and skills required by new graduates in the workplace
7. New graduates have access to continuing education opportunities within the workplace

2.2 Retention of graduates in hospital pharmacy

Where the literature on pharmacists and pharmacy graduates and their retention in the hospital service is limited, reports on doctors and allied health is included, as these are likely to be similar. Because the rural perspective is of interest in this research, specific evidence about retention in rural settings is included.

2.2.1 Professional support

Many of the factors are common to pharmacists and pharmacy graduates. Similarly most of the factors in this section are generic to pharmacists whether they are considering working in rural or metropolitan areas. It is clear that because of the differences in the environment between rural and metropolitan, some aspects of practice are more difficult to access in rural areas, such as continuing professional education, professional supervision and career advancement.

2.2.1.1 Job related aspects

Recently registered pharmacists seek a variety of professional aspects from their work. They want variety and the opportunity to work in different sectors and in different settings within a sector. They value patient contact and want to contribute to patient outcomes. They want a balance between job satisfaction and workload and want the respect and understanding for the role of pharmacists from other health professionals and members of the public. In order to establish themselves, they prioritise mentoring and support at this early stage in their career. They want to be reassured that they will have rewarding and satisfying work for the duration of their career if they work part time (Kainey 2004). Unfortunately the required level of support and mentoring is often lacking in rural areas due to large distances from senior pharmacists and because many senior pharmacist positions are vacant.

Young pharmacists want flexible and reasonable working hours and they want to live close to work (Kainey 2004).

Key determinants of a decision to stay in a rural area are variety of work, autonomy, independence, the opportunity to practice a full range of skills, the possibility of providing comprehensive and continuing care, a relaxed and friendly work environment and a feeling that the pharmacists are making a difference (Kamien 1996).

Increased workload and stress associated with overtime and the inability to take leave accounted for more than 50% of the 71 resignations by pharmacists employed in Victorian public hospitals in 2001. 17% of these pharmacists took another job in the hospital sector (Kainey 2002). Collyer (2003) notes a high and rising level of work related stress among hospital pharmacists (SHPA 2003). Stress including stress associated with increased workload is also reported as a key factor in American hospital pharmacists leaving positions (Mott 2007 and Gaither et al 2007). Increased workload and a lack of sufficient and adequately trained staff decreased hospital pharmacists' abilities to deliver patient care outcomes. This has lead American hospital pharmacists to leave their positions (Gaither et al 2007).

Organisational identification which includes perceptions of oneness with or belongingness to the organisation decreased intention to leave their job for another position (O'Neill and Gaither 2007). Kanter's theory about organisational structures impacting or employee's commitment, loyalty, identification and job turnover was supported by work by Kahalen and Gaither (2005). In this case, the correlation was mediated through empowerment and the need for achievement.

Other factors were lack of resources, lack of hospital management support for the practice of hospital pharmacy, lack of locum relief (Kamien 2002), lack of job security, lack of flexibility in working hours, disparities between actual conditions of their employments and standards espoused in training and by professional associations and the lack of sufficient and suitably qualified staff (SHPA 2004).

2.2.1.2 Professional satisfaction

Hospital pharmacists want professional satisfaction and it is likely that hospital pharmacy graduates have a similar desire for professional satisfaction. Collyer and Kyme (2004) report that hospital pharmacists get job satisfaction from the following, in decreasing order; utilisation of knowledge and skills (26%), interaction with other health professionals (16%), interaction with patients (12%) (Lee and Mackenzie 2003) and job autonomy. The aspects of hospital pharmacy that they find dissatisfying are inadequate staffing (39%) and bureaucratic constraints (25%).

A high level of job satisfaction and a positive attitude towards their work is found in pharmacists who intend staying in the hospital sector (Kainey 2004, Collyer and Kyme 2003). Gender, age, position, or length of service in the hospital sector are not associated with retention in the hospital sector (Kainey 2004, Collyer and Kyme 2003).

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 managements' support for the practice of hospital pharmacy
- Professional development opportunities
- Access to organised continuing education (Kainey 2002)

Hospital pharmacists in rural areas indicated that the availability of locum and relieving pharmacists was a crucial issue for them (Kainey 2002). These issues were also highlighted by Collyer (Collyer, Kyme 2004) who notes that "there is a high and rising level of work related stress among this occupational group".

Professional satisfaction is of increasing importance with increased time spent in a position, and as the index of rurality of workplace increases.

2.2.1.2.2 Impact of the graduate year

Kainey (2004) studied Victorian pharmacists to identify the influences on career choices of recently registered pharmacists. She found that 85% of pharmacists working in Victorian hospitals completed their graduate year in a hospital. Graduate training influenced 48% to stay in the sector in which they trained. Half of the respondents in her research had worked as a pharmacist in a hospital and of those, 75% were hospital graduates.

2.2.1.2.1 Effective functioning of graduates

Cusick et al (2004) found that the ability of new graduates to function effectively in their clinical roles was thought to be influenced by the new graduate's ability to balance administration with caseload duties, their level of personal confidence and their ability to manage time effectively. The ability of new graduates to engage in appropriate professional team relationships was thought to be related to their effective functioning in clinical roles as well as departmental roles.

2.2.1.3 Career

If pharmacists perceive a lack of opportunity for promotion (Kainey 2004, Collyer and Kyme 2003) and a lack of career paths (Golding 1999, McDonald, Bibby and Carroll 2002) they are less satisfied with rural practice.

Similarly, American hospital pharmacists cited opportunities for promotion and advancement as key reasons for leaving and for staying in positions (Smith et al 1986).

2.2.1.4 Access to continuing professional education, support and supervision

Younger pharmacists are keen to continue learning and in particular to continue to expand their clinical knowledge. They prioritise this in their choice of first position as a registered pharmacist (Kainey 2002).

Many rural health practitioners suffer from the lack of support and supervision and from professional isolation. They report that professional development and organised continuing education are difficult to access in rural areas (McDonald, Bibby and Carroll 2002, Allinson 2004).

2.2.1.5 Pay

Remuneration is the most common reason for pharmacists choosing to leave the hospital sector and for pharmacists having never worked in the hospital sector (Kainey 2004).

Gaither et al (2007) report that pay and benefits were the main reasons for American hospital pharmacists deciding to stay and also deciding to leave their position.

For potential UK NHS workers, pay was not the most prominent perceived downside of NHS work but was the most frequently identified way of improving things. The authors suggested that this may reflect an acknowledgement that NHS work will always be pressured and that increased pay may compensate for it (Arnold et al 2003).

Low pay in the public sector compared to the private sector is found to be a major issue, particularly for pharmacists with fewer years of hospital experience. Low pay is the major reason that new graduates, who had never worked in a hospital, would not work in a hospital (McDonald, Bibby and Carroll 2002). That low pay is a particular retention factor has been proven in South Australia where the public sector offers newly qualified pharmacists a salary comparable to the highest first level grade in other states. South Australia has attracted many new graduates to the hospital sector. Nearly a quarter of the pharmacists have less than two years experience and the vacancy rate has dropped from 23% to 2% in the last two years (Belcher, Kealey, Jones and Humphreys 2005).

Twenty six percent of 20-30 year olds and 21% of pharmacists with less than 10 years experience give low pay as their reason for leaving hospital pharmacy. Pay becomes a less important retention issue, the longer a pharmacist works in the hospital sector (SHPA 2004).

The Rural Incentives Program has found that financial incentives are important aids to recruitment and retention of doctors (Mara 1999).

2.2.1.6 Particular rural-related work aspects

The pharmacy professional is concerned that the comprehensive network of hospital and community pharmacies throughout Australia will be diminished if the workforce problems in rural and remote Australia are not addressed adequately (Low 1998). The problems of attracting pharmacists to rural and remote areas include professional, personal and community related aspects. The professional issues particular to rural and remote areas include the professional isolation, the poor provision of ongoing professional education, the lack of locums, the stigma that is sometimes associated with practice in rural and remote areas, the lack of supervision, support and mentoring, the lack of career structure, the lack of resources, large caseloads and the excessive travel and the lack of remuneration to compensate for the remoteness of the location (Struber 2004). Personal and family issues include a number of gender and cultural issues. Lack of orientation to the community has been identified as something that hinders retention in the rural and remote areas.

2.2.1.7 Professionally related triggers to leave

Overall the major professional reasons for leaving were career advancement, job opportunities, lack of support and supervision and poor working conditions. Those more likely to be influenced by career opportunities were the younger and more mobile practitioners (Belcher, Kealey, Jones and Humphreys 2005).

The factors that allied health professionals like least about rural practice are not highly represented as triggers to leave rural practice (Belcher, Kealey, Jones and Humphreys 2005). This indicates that although there are a number of things that practitioners do not like about their jobs they do not make them leave rural practice. The balance between these two issues is not well understood.

2.2.2 Personal and family

2.2.2.1 Lifestyle and family

Lifestyle and proximity to family are the key determinants within this personal and family category that influence young pharmacists in relation to the location of their practice (Simpson and Wilkinson 2002).

Simpson and Wilkinson (2002) found that overwhelmingly (45% of students) the Charles Sturt University students cite lifestyle as the major reason for their choice of practice location. Approximately 22% indicated multiple reasons, most commonly lifestyle and family. Only 6% reported opportunity as the sole reason for their choice.

2.2.2.2 Personal characteristics

Occupational therapists working in rural location have identified professional independence and self-confidence as essential for health professionals entering rural practice. This is challenging for new graduates who may commonly lack confidence as they begin their careers in a rural area. Professional isolation and limited support are common experiences in rural settings, which may complicate the transition for new graduates into rural employment (Lee and Mackenzie 2003).

Personal characteristics of self confidence, enthusiasm, motivation and resourcefulness assisted their transition (Hummell and Koelmeyer 1999) and lack of self confidence hindered their transition.

Proximity to family and friends is a strong influence on location of practice for health care professionals. However for OT graduates and this could be extrapolated to pharmacy graduates approaching their first position, the influence work place factors is very strong and means that other factors play a much smaller role (Hummell and Koelmeyer 1999).

2.2.2.3 Rural lifestyle

Key personal and family factors that affect satisfaction and retention are lifestyle choice, having a rural background and being exposed to a rural lifestyle during undergraduate training (Harris 1992, Kamien 1987). The influence of rural background and rural exposure are generally accepted. The rural lifestyle is a strong attractant to rural practice. Younger, recent medical graduates focus particularly on lifestyle issues (Mara 1999). A rural lifestyle that included family and friends, social networks and a sense of belonging were found to be an attraction to rural practice (Hegney, McCarthy, Rogers-Clark and Gorman, 2002). Amongst those who were attracted to the rural lifestyle, there were not marked differences between those who had spent some childhood years in a rural area or who had undertaken a rural placement during their undergraduate training and those who had not. This implies that rural lifestyle appeals to a broad demographic of practitioners (Belcher, Kealey, Jones and Humphreys 2005).

There is an association between either growing up in or having worked in a rural area previously and a decision to work in a rural area (Hegney, McCarthy, Rogers-Clark and Gorman 2002, Rabinowitz 1993). Whilst prior rural experience does not appear to influence the major recruitment factors of lifestyle attraction or career opportunities, being a current or past rural person is an important influence on the decision to take up rural practice. The group that are most likely to consider their rural origin as an important influence in taking up rural practice are younger practitioners. This concurs with the findings of Lee and MacKenzie (Lee and MacKenzie 2001) who concluded that family origin and social networks were important factors in attracting new graduates to rural practice.

Personal and family factors that affect retention of health care professionals in rural practice include rural lifestyle, rural upbringing or origin, proximity of family origin, family reasons and influence of spouse/partner (Solomon, Salvatori and Berry 2001).

Practitioners report their appreciation of a clean environment, a more relaxed and outdoor lifestyle and security for their family (Kamien 1998). Individuals report that they are more likely to stay if the following conditions are met; their spouse and family are happy, if they were prepared for small town living and if they were well matched to and well integrated into the community (Emerson 1998 Hays et al 1997, Hoyal 1995, Humphreys 2001).

Proximity to family and friends causes practitioners to stay in rural areas and dislocation from family and friends causes them to leave rural areas.

Career and life stages have a significant influence over what practitioners like most in rural practice (Belcher, Kealey, Jones and Humphreys 2005). Some wish to bring up children in a rural environment and some prefer to move from a rural to a metropolitan area for their children to attend secondary school.

Health care professionals are concerned about the lack of quality schooling in many rural areas.

There is an overlap between personal, professional and community related factors that affect retention in rural areas and there are different weightings of importance for difference individuals (Harding et al 2006).

2.2.2.4 'Personal and family related' triggers to leave

Personal factors featured highly as triggers for health professionals leaving a rural position. Key triggers included family issues, health and wellbeing, spouse/partner issues and lifestyle (NSW Health 2002).

Older practitioners report health and well being as trigger factors more often than younger practitioners.

The younger more mobile practitioners without children, with no gender differences, generally intend to stay in rural areas for a few years. Those intending to stay longer than five years are usually older, with a predominance of males.

One of the most prominent reasons for GPs leaving a rural area is that their children reach secondary school age and they wish to send them to a city school.

2.2.3 Community aspects

The general sense of connectedness to a community and their ability to assist rural people to solve problems affects the overall satisfaction with rural practice for pharmacists, and other allied health workers (Lee and Mackenzie 2002, Allan et al 2007). The appreciation by the community and the high standing they believe they have, are factors that increase retention for doctors (McDonald, Bibby and Carroll 2002).

Sometimes the rural aspects deter potential recruits because they perceive that rural areas may not be able to provide adequate medical, educational, sporting and cultural support for their families, or support and suitable employment for their partners (McDonald, Bibby and Carroll 2002).

Practitioners report that community resources including schools, hospitals and medical technology, housing, services, social, leisure, recreational and cultural facilities affect their retention in a rural area. (Kamien 1997, Solomon, Salvatori and Berry 2001).

Female GPs report that availability of non-medical education, health and human services, and access to health care for their own needs are key factors for them (Strasser, Kamien, Hays and Carson 1997).

Chapter 3 Methods

The aim of the research was to identify professional and personal support satisfaction factors and the influences on location and sector of future careers of NSW hospital pharmacy graduates.

A descriptive study using a combination of quantitative and qualitative methods was chosen. Very little is known about these factors for hospital pharmacy graduates and so a quantitative approach was required to collect information from a cross section of graduates across NSW and across a number of years. Support needs and plans about future careers vary considerably between individuals and are a complex synthesis of many personal, professional and community factors. For this reason a qualitative method was also chosen to enable interview data to be included.

Current as well as recent past graduates were recruited to ensure adequate numbers and also to capture opinions of pharmacists as they looked back on their graduate year. Their attitudes about

what they learnt are likely to change as they move forward in their career – some aspects become relevant that were not of interest at the time and vice versa.

The questionnaire was sent to Directors of Pharmacy in 23 hospitals in NSW. The Directors were asked to offer it to current and recent past graduates in their hospital. One hundred and thirty two questionnaires were mailed to Directors of Pharmacy.

Development of a questionnaire

Eight interviews with current and recent past hospital pharmacy graduates were carried out to identify the key factors. The draft questionnaire was based on these interviews as well as the literature review. Questions about the factors which would influence future location of work were taken with permission from a questionnaire developed by Schofield et al (2007).

The questionnaire was validated by asking 12 current and future hospital pharmacy graduates and university students on clinical placement to complete the questionnaire. They were also asked to identify questions that needed to be clarified, included and deleted.

The questionnaire focuses firstly on the demographics and factors that influence the choice of pharmacy sector and location of future positions. Aspects about the graduate year then follow and participants are asked to rate the importance and the extent to which they agree with statements. Topics in this section include the recruitment process, orientation, the attitude of the department to the graduate year, training, personal support, retention and general aspects about the pharmacy department.

Human Research Ethics Committee (HREC) approval

The research was multi centre and so the National Electronic Application Form (NEAF) was completed. Greater Western Area Health Service HREC was chosen as the lead reviewer because of their interest in rural health. The HREC sent final approval at the end of November 2007.

The second part of the new multicentre ethics approval included completion of the electronic “Site Specific Application” (SSA) for each HREC where the research would be carried out. Seventeen SSAs were completed and posted to the HRECs. Sixteen were approved. Unfortunately the application to the HREC for one section of SESIAHS was not approved in time for those questionnaires to be included in the analysis.

Sending out questionnaires

As SSA approvals were received, questionnaires were sent to Directors of Pharmacy in NSW hospitals where current or recent graduates worked. Envelopes containing the questionnaire, a participant information sheet and a consent form for an interview were handed to potential participants.

3.2 Interviews

Semi-structured interviews were carried out with nine current and seven recent graduates and with 12 Directors of Pharmacy who completed consent forms. Of the current graduates, three were male and six were female. Six were based in metropolitan hospitals and three were in rural hospitals. Of the recent graduates, five were male and two were female. Two were based in metropolitan hospitals and five were in rural hospitals. Of the twelve Directors of Pharmacy, three were male and eight were based in rural hospitals.

A list of questions was used to direct the interviews. The researcher made notes during interviews and typed them immediately or recorded them and then typed them later. The researcher asked

graduates and Directors for graduate experiences of their first day (graduates only) as well as the personal support and training that was provided. Factors that would make them more and less likely to choose positions in the various sectors of pharmacy as well as rural and metropolitan locations were also discussed.

3.3 Analysis

3.3.1 Questionnaires

Fifty one responses were received in response to 105 questionnaires handed out by Directors of Pharmacy. The data were entered into a Microsoft Excel spreadsheet.

Demographic data were summarised. Ranges are presented for continuous data.

Data was organised so that questions that related to each of the categories ('professional', 'personal and family' and 'community aspects') and factors (such as receiving supervision, scope of training, rural background etc) from the literature are grouped together for analysis.

The numbers of each type of response are added together and presented in tables. To enable comparison of 'importance' ratings and 'reality' (what actually happened in their experience) tables are constructed. To enable easier analysis, categories are collapsed. It was not considered appropriate to undertake more sophisticated analysis due to the small number of questionnaires returned.

3.3.2 Interviews

Data from interviews with current and previous graduates and Directors of Pharmacy were transcribed and thematically analysed.

Themes from the questionnaires and interviews were identified and considered together in the analysis.

Chapter 4 Results

As of June 26th 2008, 51 questionnaires were received in response to 132 posted. The researcher asked the Directors of Pharmacy to remind potential participants to complete the questionnaire and consent form. This was repeated once.

Using the constructed models for satisfaction with the professional and personal support received during the graduate year, retention in hospital pharmacy and retention in rural areas, headings were identified for all the key factors. Data from the questionnaires and interviews were synthesised and discussed.

4.1 Demographics

Respondents were predominantly female (36 out of 51) and had never married (37 out of 51) and did not have any children (45 had no children out of 51). The average age was 25 years and the range of ages was 20 to 39. There was a predominance of respondents who did their graduate year recently (12 in 2006, 17 in 2007 and 11 in 2008). Most had worked in community pharmacy before their graduate year (35 out of 51) and only a small number had worked in hospital pharmacy (9 of 51). Thirty nine responded that their University placement in hospital had sparked their

interest in hospital pharmacy and only eight responded that holiday work in hospital pharmacy had inspired this interest.

Figure 4.1 Results of responses to questions about demographic data about respondents to the questionnaire

Demographic	Results
Marital status	37 never married 13 married or de facto 1 did not answer the question
Number of children	45 had no children 3 had 2 children 3 did not answer the question
Male or female	14 male 36 female 1 did not answer
Age at last birthday	Mean age 25 years Range 20 to 39
How far they live from their mother	1 – mother was deceased 24 lived less than 50k 3 lived 51-100k 4 lived 101-200k 5 lived 201-500k 13 lived more than 501k 1 did not answer
How far they live from their father	5 – father was deceased 19 lived less than 50k 3 lived 51-100 3 lived 101-200k 4 lived 201-500k 16 lived more than 501k 1 did not answer
When they did their graduate year in hospital	1 in 2003 2 in 2004 5 in 2005 12 in 2006 17 in 2007 11 in 2008 2 did not answer
Pharmacy Qualifications	32 have a Bachelor of Pharmacy 7 have Bachelor (Hons) of Pharmacy 8 have a Masters of Pharmacy Universities 30 went to Sydney University 7 to Charles Sturt in Wagga Wagga 4 to Newcastle 4 to Brisbane 1 to Griffith University 5 to other universities in Australia and overseas
Other Qualifications	14 have a variety of other science related degrees
Pharmacy work they did before their graduate year	35 worked in community pharmacy 3 worked in hospital pharmacy 6 worked in more than one of hospital, community and industrial pharmacy 1 worked in industry 6 did not answer
What sparked their interest in hospital pharmacy	39 answered their university placement 8 answered their holiday work in hospital pharmacy

4.2 Metropolitan or rural background

Figure 4.2 Results of responses to questions about the extent of the rural background

Extent of rural background	Results
Self reported background	30 from capital city (>100,000) 11 from regional city (25,000-100,000) 4 from smaller town (10,000-25,000) 6 from small rural community (<10,000)
Completed secondary school in Australia	43 yes 8 no
Number of years of schooling outside a capital city or major urban area	30 had 0 years outside of capital city or major urban 1 had 1 year 1 had 4 years 3 had 5 years 16 had 6 or 7 years

Questions about background revealed that 30 respondents were from capital cities and 21 from regional and rural areas. The number of years in secondary school outside major urban areas reflected the self reported background answers. Thirty had not done any secondary school outside major urban areas and 21 had at least one year outside major urban areas. Ten were from communities of less than 25,000 people. Eight had completed secondary school outside of Australia.

4.3 Choices about location

4.3.1 Size of towns and cities

Figure 4.3 Results of responses to questions about the size of towns and cities where respondents would be willing to live

	Never	Within 1 year	Within 5 years	In more than 5 years	Unsure
Capital city	4	31	7	5	2
Major urban centre >100,000	2	23	14	8	3
Regional city 25,000-100,000	1	18	15	9	8
Smaller town 10,000-25,000	6	13	10	9	11
Small rural community <10,000	11	10	8	6	14
overseas	6	11	16	4	12

Choices about future location showed strong preferences for working in capital cities and major urban centres within the next year. Preferences for location within five years showed that respondents were more willing to consider working in increasingly rural areas as their career progressed. Twenty seven expressed interest in working overseas within the next five years. Although the numbers of respondents expressing a willingness to work in small rural communities (18 in the next five years) and smaller towns (23 in the next five years) were smaller than those willing to work in capital cities, there was significant interest in living in the small rural towns.

4.3.2 Cities and areas in Australia

Figure 4.4 Results of responses to questions about the cities and areas of Australia in which respondents would be willing to live

NSW	Happy to live	Currently live
Sydney	34	23
Hunter	29	4
Illawarra	20	1
South Eastern	19	0
Richmond Tweed	16	2
Mid North Coast	27	1
Northern	22	1
North Western	8	0
Far West	7	1
Central West	14	1
Murray	9	1
Murrumbidgee	7	1

QUEENSLAND	Happy to live	Currently live
Brisbane	23	1
Gold Coast	22	4
Moreton	7	
Wide-Bay Burnett	3	
Darling Downs	4	
South West	3	
Central West	4	
Fitzroy	3	
Mackay	9	
Northern	9	
North Weest	4	
Far North	10	

VICTORIA	Happy to live
Melbourne	29
Barwon	3
Western District	5
Central Highlands	7
Wimmera	3
Loddon	2
Mallee	3
Goulburn	6
Ovens-Murray	6
Gippsland	5
East Gippsland	6

SOUTH AUSTRALIA	Happy to live
Adelaide	27
Outer Adelaide	4
South East	3
Murray Lands	3
Northern	3
Eyre	3
Yorke and Lower	4
North	3

WESTERN AUSTRALIA	Happy to live	Currently live
Perth	17	1
South West	6	
Midlands	4	
South Eastern	6	
Central	5	
PIlbarra	6	
Kimberley	9	
Lower and Upper Great Southern	3	

TASMANIA	Happy to live	Currently live
Hobart	14	
Southern	5	
Northern	6	1
Mersey-Lyell	4	

TERRITORIES	Happy to live	Currently live
Act	15	1
Darwin	13	0

The interest in living in capital cities and major urban centres is also reflected in the responses to this series of questions about where respondents would be happy to live in the future. Interest in living in the territories is also strong with 15 willing to live in ACT and 13 willing to live in Darwin. Strong tourist destinations in NSW including South Eastern, Mid North Coast, Richmond Tweed and South Eastern scored well. A similar picture for other states is also seen with Far North Queensland, the Kimberley and the Pilbarra being rated well as places that respondents would be happy to live. It is possible that respondents were not familiar with all districts in Australia and this may have resulted in low responses. It is also possible that names such as Richmond- Tweed were not familiar to respondents and names of towns in those districts such as Byron Bay and Tweed Heads may have elicited stronger responses.

The research included graduates in NSW hospitals. Those who currently live in other states are recent past graduates who have moved out of NSW.

4.3.5 Satisfaction with current address, influence of future post graduate training and living near the coast

Most respondents are satisfied with their current location (42 out of 50). For 19 of 51 respondents, further study will influence their future location and for 44 of the 51 who responded, a desire to be near the coast will influence their choice of future location.

Figure 4.5 Results of responses to questions about the extent of satisfaction with graduates' current address

Question	Responses
How satisfied are you with where you are currently living?	25 very satisfied 17 somewhat satisfied 8 somewhat dissatisfied 0 very dissatisfied 1 did not answer
Are your preferences for future practice influenced by your desire to undertake post graduate studies?	19 yes 31 no 1 did not answer
How important is it for you to be living close to the coast?	9 very important 16 important 19 somewhat important 7 unimportant

4.3.5.1 Interviews with Graduates

The key factor that interviewees said would make them more likely to work in metropolitan areas was the training opportunity and the better experience of pharmacy practice, especially clinical pharmacy. Other factors were personal and included the lifestyle, the social life, social support and the fact that there were more people from their own ethnic background.

When asked what would attract them to work in a rural hospital, the most common response was that it would have to be paid better than a similar graded position in a metropolitan hospital. They would also need to have good access to continuing education if they were to consider working in a rural area. Some believed they may have better career opportunities in a rural area. Some saw the opportunities to learn different systems, to do some travel and be better paid if they did rural locums as possible attractants to working in rural hospitals. One said they liked smaller hospitals and that would be a motivator to work in a rural area. The high workload discouraged one graduate from working in a rural area and one mentioned that rural hospitals were particularly disadvantaged and for that reason they did not want to work there. Some mentioned the lifestyle and that would like a rural environment to bring up children. Some hated cities and liked smaller towns and some loved living near the beach.

When asked about the factors that would influence decisions about their future career, the important ones were job satisfaction, the desire and need to keep learning, opportunities for post graduate study, the importance of the manager's style and the culture of the pharmacy department. Negative comments included a desire to avoid getting bored, to avoid managers who focused on time and money, and to avoid departments with lots of politics, overworking or too high stress. One acknowledged that bigger hospitals were good for getting a broad and in depth experience and smaller hospitals had friendlier and more relaxed working environments. Some wanted to move to a variety of hospitals to get broad experience and to avoid getting too involved in working environments with difficult social dynamics.

4.3.4 Influence of professional, personal and family and community factors on future location

The next section of the questionnaire asked respondents to rate a list of factors with -2, -1, 0, 1 or 2 depending on the extent to which each would influence their choice about where they would work. Professional and personal factors scored highly as factors that would be considered when deciding where they would work.

Figure 4.6 Results of questions about the factors which influence choices about where respondents would work

	-2 (unimportant)	-1 (to some extent)	0 – (neutral)	1 (to some extent)	2 (to a large extent)
Living close to family	2	1	7	17	24
Living close to friends	1	2	8	26	14
Rural lifestyle/culture	7	5	16	23	4
Cost of living	2	2	2	35	10
Cost of accommodation	1	2	5	30	13
Lack of public transport	11	7	17	13	8
Career opportunities	2	1	3	14	13
Remuneration	3	1	4	21	28
Workload	4	1	6	31	8
Type of work	2	1	4	19	25
Environment for raising children	3	2	9	14	21
Access to your children (custodial arrangements)	12	1	20	4	11
Desire to help rural people	0	0	17	20	10
Challenge	1	0	8	24	17
Familiarity with rural area	2	8	20	15	3
My current position	3	4	13	15	15
My previous positions	5	4	19	19	4
other	0	0	0	0	0

4.3.4.1 Professional factors

Professional factors including remuneration scoring highest (28 scored 2 and 21 scored it 1), then type of work, (25 rated it 2 and 19 rated it 1), career opportunities (13 scored it 2 and 14 scored it 1), challenge (17 scored it 2 and 24 scored it 1). Less respondents gave 'workload' a high score (8 scored it 2 and 31 scored it 1). High or low workload was not specified and so it is not possible to interpret this fully.

4.3.4.1.1 Interviews with graduates

There was a wide variety of answers to questions about what would make graduates stay in rural hospital pharmacy and what would attract city hospital pharmacy graduates to move to a rural area. Graduates already working in a rural area needed to be assured of good ongoing training opportunities.

Some said they didn't like cities or large hospitals and this made them interested in rural pharmacy. They noted the team work and the friendlier and more supportive work environments they expected or experienced in rural hospitals and these were attractive to graduates.

Some noted the opportunity to see more of Australia and to earn better remuneration at the same time by doing rural locums jobs. Another noted the opportunity to learn a variety of hospital pharmacy systems by working in rural areas.

Without being specifically asked about pay, three graduates noted that they would need to be paid more to be attracted to consider working in a rural area.

One mentioned the higher workload in rural hospital pharmacies and this would have made rural hospital pharmacy significantly less attractive to them. Another mentioned that rural hospital pharmacy is financially disadvantaged and this would make her less likely to work there.

4.3.4.1.2 Interviews with Directors of Pharmacy

Several noted that smaller departments often had an advantage in being more socially supportive for new staff. The attraction of "being a big fish in a small pond" was also seen as being attractive to some new pharmacists. The possible ease of getting a Grade 2 Pharmacist position sooner in a rural area was mentioned by a rural Director of Pharmacy.

Several directors noted that young pharmacists are sometimes concerned that they may be asked to take more responsibility than they're ready to take and this may make them less enthusiastic for a rural hospital pharmacy position.

4.3.4.2 Working in Metropolitan Hospital Pharmacy

4.3.4.2.1 Interviews with graduates

A mix of professional, personal and community factors were mentioned by graduates. The most frequently mentioned factors were access to ongoing training opportunities especially in clinical pharmacy and the opportunity to undertake post graduate study. Bigger and more numerous pharmacy departments in metropolitan areas made it easier to obtain promotions without having to move house.

4.3.4.2.2 Interviews with Directors of Pharmacy

The advantages of better access to training in metropolitan areas were noted by most Directors of Pharmacy.

4.3.4.2 Personal and family factors

'Proximity to family' scored high with 24 rating this factor with a '2' and 17 rating it with a '1'. 'Proximity to friends was strong influence (14 rated '2' and 26 rated '1'), but not as influential as proximity to family. The family factor of wanting a good 'environment for raising children' scored well with 21 rating it a '1' and 14 rating it a '2'.

The desirability of living in a rural area scored moderately, with 'rural lifestyle/culture' scoring 4 x '2's and 23 x '1's. 'Desire to help people in rural/remote areas' scored 10 x '2's and 20 x '1's. The rural lifestyle factor could be a positive or negative influence on their decision about where they would live.

Cost factors rated moderately with 'cost of accommodation' being rated a '2' by 13 and a '1' by 13 respondents. 'Cost of living' scored similarly with 10 scoring it a '2' and 35 scoring it a '1'.

4.3.4.2.1 Interviews with graduates

Some graduates said they had a rural background or that they liked a rural lifestyle and this had attracted them to do their graduate year in a rural area.

Some wanted to live close to a beach and this lead them to live in a coastal rural area. One noted that rural placements were a good way of giving graduates with a metropolitan background, an opportunity to experience a rural lifestyle

Personal factors included proximity to family and friends and the associated social support advantages of this. One noted that for graduates from ethnic minorities, the city was attractive because there were more people from their own ethnic group.

City lifestyle and the social life that was possible in metropolitan areas were also strong attractants.

Interviews with Directors of Pharmacy

Directors identified rural background as a strong determinant of graduates remaining in a rural area. If graduates had a metropolitan background they were very likely to return to the location of their family after finishing their graduate year.

If young pharmacists moved to a rural area that was new to them, they may need assistance with transport and accommodation initially. Hospitals and hospital pharmacy departments should be willing to help with this.

One noted that young pharmacists need support outside of work as well as the friendship of other young people if they were to feel comfortable in a rural area that was new to them.

One wondered if a sense of adventure that may lead some newly registered pharmacists to work in a rural area.

Integration with local rural communities was noted as a strong determinant of staying. The corollary of that is that if graduates don't intend to stay, they are less likely to make the effort to become integrated and it then becomes self fulfilling.

Many mentioned the attractions of the city lifestyle for young pharmacists.

4.4 Choices about Pharmacy Sector

It is clear that the majority of respondents were very interested in working in hospital pharmacy in the future (40 out of 50 respondents). Community pharmacy also holds significant interest with 15 of 51 responding that they were 'very interested' in that sector. Working in academia and the Pharmaceutical Industry were also attractive to respondents, although less so than the other hospital and community sectors.

Figure 4.7 Results of questions about interest in working in four pharmacy sectors

Sector	Completely disinterested	Slightly disinterested	Neutral	Slightly interested	Very interested
Hospital	0	1	0	9	40
Community	6	5	4	21	15
Academia	7	7	15	15	7
Pharmaceutical industry	6	4	13	22	6

4.4.1 Moving to community pharmacy

4.4.1.1 Interviews with graduates

Most graduates did not express strong interest in community pharmacy. Some mentioned that they had worked in community pharmacy during or before their degree and had not found it enjoyable or professionally rewarding. Better pay was the resounding and main attraction of community pharmacy. Some also mentioned the opportunity to own their own business as a reason for moving to community pharmacy. Other reasons mentioned included the opportunity to do more patient counselling and to develop their knowledge of S2 and S3 products. The increased flexibility of work hours which they may require if they had children was attractive to one graduate. Family pressure to open their own pharmacy was noted by the same graduate.

4.4.1.2 Interviews with Directors of Pharmacy

Again better pay was seen as the strongest and possibly the only reason why graduates might be attracted to community pharmacy. Many Directors were very frustrated and disappointed with the poor level of pay for junior hospital pharmacists. Because graduates had chosen to do their graduate year in hospital pharmacy, the poor pay was more likely to be something that made it difficult for them to remain in hospital pharmacy, rather than the better pay in community being something that attracted them to that sector de novo.

They could easily understand the desire of newly registered pharmacists to earn better money in order to pay off HECS debts and to financially establish themselves, after spending many years at university.

Other factors which Directors indicated would have attracted hospital pharmacy graduates to work in community pharmacy included a position being available in community pharmacy if a position was not available to them in hospital pharmacy.

If individuals were entrepreneurial, then the opportunity of owning their own community pharmacy may attract them.

4.4.2 Moving to Academic Pharmacy

4.4.2.1 Interviews with graduates

There was considerable interest in academia from interviewees including four who would like to do some teaching and two who were interested in research. One was interested in a joint academic/hospital position. Two noted that they didn't know how to get a position in academia and would like to know.

4.4.2.2 Interviews with Directors of Pharmacy

Directors noted that some pharmacists were naturally interested in academia but didn't see academia as a strong competitor for staff.

4.4.3 Moving to work in the Pharmaceutical Industry

4.4.3.1 Interviews with graduates

Most were not interested in working for the Pharmaceutical Industry. Some noted that the better pay, the opportunity to travel and the opportunity to do 'something different' would be the attractions if they were to consider working in this sector. Reasons for not working in the pharmaceutical industry included only being required to be knowledgeable about a small range of drugs and that they would have to live in Sydney or Brisbane.

4.5 Importance and satisfaction with aspects of their hospital pharmacy graduate year - Likert Scales

The next section of the questionnaire focuses on the categories that were identified by graduates in the scoping interviews as being important to their satisfaction. These categories included the recruitment process, orientation, general approach to their graduate year by their pharmacy department, training in general, clinical pharmacy training, support with PHARMACEUTICAL SOCIETY OF AUSTRALIA assignments and meetings, dispensing practice, personal support, retention and general aspects about the Pharmacy Department.

For each category, participants were asked to provide two ratings. Firstly they were asked to rate the importance of each factor (ie their expectation of what would happen). Possible ratings were 'totally unimportant', 'fairly unimportant', 'neutral', 'somewhat important' and 'very important'. Secondly they were asked to rate the extent to which they agreed with the statement in relation to their graduate year experience (ie reality of what happened). Possible responses for the importance questions were 'strongly disagree', 'slightly disagree', 'neutral', 'slightly agree' and 'strongly agree'.

Results are summarised in tables by adding the number of responses for each type of response for each question. Brief discussion of the results of each group of factors follows the table of responses. The discussion identifies which factors are most important within a category by picking out factors for which more than 40 respondents rated it as 'very important' or 'strongly agree'. Similarly where less than 30 respondents rated it as 'very important' or 'strongly agree', this is pointed out to indicate factors which were significantly less important or less well met. This arbitrary scoring also allows comparison of the importance and the extent to which expectations are met across categories.

The last question in each category is about expectations being met. The 'importance' answers to this question provide an indication of how important this category it to respondents. The 'agreement' answer to this question provides an indication of the overall satisfaction of respondents with this category of factors. This also allows comparison of categories for 'importance' and 'met expectations'.

It was hoped that there would have been enough completed questionnaires to identify the extent to which each factor influenced the final question about whether their expectations were met. However the number of returned questionnaires was deemed to small by the statistician.

To identify the extent to which participants agreed that their experience matched the importance that they placed on aspects within each topic, 'importance' was tabled against 'agreement' for each factor in each category. Ratings were collapsed as follows to make it easier to interpret the data.

Importance;
1= "Very Important" and "Somewhat Important"
2="Neutral', "Fairly Unimportant" and "Totally Unimportant"

Agreement
1="Strongly Agree" and "Slightly Agree"
2="Neutral", "Slightly Disagree" and "Strongly Disagree"

Tables with this data are included after the discussion of the raw data.

4.5.1 The recruitment Process

Most respondents indicated that it was only somewhat important to them that the recruitment process met or exceeded their expectations, so it is clear that this topic was not of great importance to them.

There were no factors that 40 or more of the respondents rated as very important. The factors that were rated as very important by 30 or less respondents included the recruitment process progressing efficiently, being informed at each stage of the process and having the recruitment process meet or exceed their expectations.

The factors where a large number of respondents strongly agreed with the statements included the 'opportunity to ask questions in the interview' and 'the interviewer asking fair and relevant questions'.

Factors where their expectations were strongly met included the 'fairness and relevance of questions asked during the interview' (44 said it was important and said they agreed it had happened) and 'being given an opportunity to ask questions during the interview' (46 said it was important and they agreed it had happened). Factors where expectations were not met well, included 'receiving documentation promptly about an offer of employment' (23 said it was important and agreed it had happened and 23 said it was important and disagreed that it had happened).

4.5.1.1 Interviews with Graduates

There was very little mention in the interviews about the recruitment process although there were two specific questions about this. One graduate mentioned that she received an offer letter one month before she was due to start and she did not think this was acceptable as it did not give her much time to prepare. This same graduate complained that there was no flexibility on the start date and although she explained to the hospital that it was inconvenient, the pharmacy department was not able to change the start date.

4.5.1.2 Interviews with Directors of Pharmacy

Similarly Directors of Pharmacy didn't provide many notable comments about recruitment. Some commented on the difficulties in dealing with hospital recruitment practices. One Director wished to offer a combined hospital and community graduate year and although they had done it before, the hospital found the concept very difficult. This same Director also commented that the recruitment of a graduate who met the needs of the hospital and the community pharmacy was difficult. In spite of

these difficulties, the Director remained convinced that a combined graduate year was helpful to newly graduated pharmacists particularly in passing the registration exam and in preparing them for professional practice in a rural area.

4.5.2 Orientation

Respondents indicated that it was important for them that their orientation met or exceeded their expectations (18 said it was very important and 24 said it was somewhat important). Overall expectations about orientation were met as indicated by similar numbers in the extent to which participants agreed and in the importance that respondents assigned to orientation.

The factor that was rated as very important by 40 or more respondents was 'being shown around the Pharmacy Department by someone who communicated in a knowledgeable and friendly manner'. Factors that were rated as very important by 30 or less respondents included 'attending an orientation programme run by the hospital', that 'during their first month they were given tasks that stretched them', that their 'orientation to the Pharmacy Department met or exceeded their expectations'.

Factors within orientation where expectations were met included 'being introduced to pharmacy staff on their first day', 'being shown around the pharmacy by someone who communicated in a knowledgeable and friendly manner', 'being shown around all relevant areas of the hospital' and 'being given tasks that the respondents were confident they could achieve within the first month'

Factors within orientation where expectations were not met included, 'being given clear instructions about what was expected of them' both 'within the first week' and 'within the first month', and 'being given an opportunity to familiarise themselves with relevant procedures'.

4.5.2.1 Interviews with graduates

Most interviewees said that they had an orientation to the pharmacy and the hospital. Some were shown around by the graduate from the previous year.
When issues around settling into their positions were discussed, most responded that there were no problems. Some wanted more information about the department and their graduate year before they started. Some received information about their graduate training programme and graduates reported feeling reassured that their graduate year would be successful. Having the department's expectations of the graduates outlined to them was appreciated by graduates. Not having this done resulted in graduates not knowing what was expected of them and feeling unsure about whether their graduate year would be satisfactory to them and to their managers.

For some it was difficult to make the transition from student to worker. Factors which made this transition either easier or more difficult were mainly social in nature. One said she.. '*felt confronted and overwhelmed. Work days were long and I was very tired for the first four months and it's a contrast to my life as a student*".

Another said: "*I didn't know if I could be myself and what was expected of me in terms of professionalism. I didn't know whether I had to be serious all the time or whether I could joke. I felt young and little in the department and often thought "What am I doing here*?""

Another said.."*I decided to work hard and to get to know people before I relaxed. It worked well, it's an individual thing, when I felt more comfortable, I made a decision to relax and be more open".*

Several graduates mentioned that having other graduates at the hospital made the transition easier. If they knew the graduates from university, that made their first few weeks even easier and more enjoyable. If departments socialised together after work and if the staff morale was high, this also helped graduates feel comfortable early on.

Some graduates had done a student placement at their graduate hospital and this made settling in much easier.

Graduates who had studied overseas noted that systems were very different to those with which they were familiar. They needed to familiarise themselves with Australian systems as part of their orientation.

4.5.2.2 Interviews with Directors of Pharmacy

Directors prioritised orientation, and this was systematic in some hospitals, particularly in the teaching hospitals. One large hospital had a two day orientation programme where graduates spent time in all sections of the department and had specific graduate focused introductions to each part of the pharmacy. As to the needs of graduates for an orientation, one Director summarised their needs as; *"They need a good orientation to all areas, taken around with a pharmacist on clinical round. They should have one person to orient them and take them to lunch and tea, so they're not left on their own. They need to know they will get good peer support from pharmacists and you have to let them know what is expected, give them a plan, tell them how long they will be in each area"*

Some noted that their previous graduate showed the new graduate around and that this worked well. One commented that this helped the new graduate through the 'feeling strange' stage.

Directors of Pharmacy noted paying attention to the social aspects during the first few months of the graduates' time with them. One said *"the country networking kicks in, someone asks them around for tea, you link them in with sports where staff have contacts, and we ask them if they play a musical instrument"*

Most said that they didn't organise social events specifically for the graduates but they ensured graduates were invited to departmental social outings and local continuing education events. Several noted the need to tailor the social support to the graduates' individual needs, rather than to provide generic support to all. The informal nature of the support was typified by a comment; *"You keep an ear to the ground and if they're unhappy we do something"*

Several rural Directors of Pharmacy noted that rural Pharmacy Departments are often small and so they would like to see their hospitals doing more to support new professionals in all disciplines. This would help new professionals to develop local multi professional networks. These networks would provide social support as well as facilitating good inter professional working in the hospital.

4.5.3 General approach to the graduate year by the Pharmacy Department

Respondents indicated that the general approach of the pharmacy department to their graduate year was very important for them with 35 indicating it was very important and 13 indicating that it was somewhat important that their expectations were met or exceeded.

Factors that were rated as very important by 40 or more respondents included getting the balance between training and working in the pharmacy right, being allocated a supervisor who was responsible for their training and developments and that they received constructive feedback from their supervisor.

'Participating in a performance planning process' was the only factors that was rated as very important by 30 or less respondents. This indicates that factors in this category are prioritised by graduates.

To identify the extent to which participants agreed that their experience matched the importance that they placed on aspects within each topic, importance was tabled against agreement. Ratings were collapsed as follows

Importance;
1= "Very Important" and "Somewhat Important"
2="Neutral', "Fairly Unimportant" and "Totally Unimportant"

Agreement
1="Strongly Agree" and "Slightly Agree"
2="Neutral", "Slightly Disagree" and "Strongly Disagree"

Figure 4.13 General approach to the graduate year by the Pharmacy Department - Comparisons of scores of 'expectations' with 'reality'

The balance between receiving training and being part of the pharmacy service was effective			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	31 62	16 32	47 94
2	1 2	2 4	3 6
Total	32 64	18 36	50 100
Frequency Missing = 1			

You participated in a performance planning process			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	17 35	22 46	39 81
2	0 0	9 19	9 19
Total	17 35	31 65	48 100
Frequency Missing = 3			

You had regular meetings with your supervisor			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	32 65	14 29	46 94
2	0 0	3 6	3 6
Total	32 65	17 35	49 100
Frequency Missing = 2			

You received constructive feedback from your supervisor			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	34 71	14 29	48 100
Total	34 71	14 29	48 100
Frequency Missing = 3			

The department's general approach to your graduate year is/has met or exceeded your expectations			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	32 64	16 32	48 96
2	1 2	1 2	2 4
Total	33 66	17 34	50 100
Frequency Missing = 1			

The reality of graduates' experience of the Pharmacy Department's approach to their graduate year was less than their expectations. Thirty two said that it was important and that their expectations were met or exceeded. Twelve said that it was important and they strongly agreed that their expectations were met or exceeded. Twenty one said that they slightly agreed that their expectations were met or exceeded.

The lowest level of agreement with importance was for participating in a performance planning process where 17 said it was important and agreed that their expectations had been met. Twenty two said it was important but disagreed that their expectations had been met.

For the other factors namely; being allocated a supervisor, having regular meetings with their supervisor and receiving constructive feedback from their supervisor reality did not meet their expectations.

4.5.3.1 Interviews with Graduates

Graduates were not specifically asked about the attitude of the pharmacy department towards their graduate year and it was not possible for the researcher to develop hunches about this as a result of the interviews. Two graduates mentioned that the pharmacy department was not expecting them on the day they arrived and one mentioned that she wasn't told what time to arrive and on arrival, she wasn't able to get into the pharmacy because the department had a team meeting that day. This appeared to have adversely affected those graduates' first impressions of the department but it did not seem to have created lasting disappointments.

Some expressed disappointment with the professional support they received and this supports the data from questionnaires.

Attitudes of graduates to dealing with problems varied significantly. Many graduates reported being very unhappy with the training they received. One said; *"There wasn't much on the job training, it was pretty lacking really. Had to fend for yourself really. I didn't have a clue what I was meant to do on the wards. I also went to a few seminars including the (introductory) clinical pharmacy seminar run by the SHPA and a one day course, paid for by the hospital…….I did that for a while (attended after work grand rounds and the junior doctor lunchtime training) but I soon realised that…they weren't that relevant"*

Several graduates emphasised that it was up to them to get the best out of the training and support that was offered. One commented on how he dealt with a problem by identifying how he could have remedied the situation if he had wished to; *"I was angry for a while at x (location). I had an extemp assignment. I'd made a few creams earlier but got a bad mark for that part of the assignment because x (location) didn't do extemp. I was angry because it shouldn't have been like that. Then I realised I should have had the initiative to get out into the community at weekends but instead I just had a fantastic time in my four wheel drive at weekends"*

4.5.3.2 Interviews with Directors of Pharmacy

Directors were all very pleased to have graduates in their department. There was a range of reasons for their attitude. Firstly most seemed to enjoy the professional responsibility of training and supporting them and secondly because they knew it was a good way to address recruitment and retention problems in their hospital and broadly in the wider community. One emphasised the training responsibility; *"I think the pharmacists need to take grads seriously – if they have agreed to be a preceptor they can't just make them work all the time"*

One Director acknowledged that it took some time before graduates knew the systems well; *"They're a bit slow, and this causes problems. It takes around 3 to 4 months for them to be functional"*

Partly related to the transition from student to worker, one commented that he had to counsel graduates about their customer service attitude sometimes; *"I had to tell them that the buck stops here, you can't keep staff and patients waiting without good reason. And some were being too familiar with the older nurses. I said "it's better that I tell you, than someone else tells you""*

Several Directors commented that there was significant variation between graduates in the support they needed. One Director commented that graduates who typically made their decisions and took responsibility for this, rather than blaming other people or external circumstances for their problems, seemed to cope well in rural hospitals where there was less structure. Another Director responded to this suggestion and asserted that; *"They do need direction and structure because they don't know what they don't know. You have to teach them stuff that they won't learn from textbooks."*

Many Directors commented that graduates need to be supported according to their individual needs and the inter-individual differences are great. Additionally their needs change during the year and departments have to respond effectively to this by changing their expectations and the level and type of support provided.

Very few Directors of Pharmacy mentioned what they expected from graduates but one noted that; *"they (graduates should know more than older pharmacists and so we should pick their brain – a two way thing. And they (graduates) should learn how to handle things from the older pharmacists for example I go into the dispensary and ask them how they would handle x"*

Some Directors commented about their expectations of the extent to which graduates were expected to carry out routine work. Some commented that they shouldn't be regarded as part of the establishment, and also acknowledged that in some hospitals, graduates were part of the establishment and were expected to carry out significant amounts of work.

4.5.4 Training in General

The majority of respondents indicated that it was very important (30 of 51) or somewhat important (17 of 51) that their expectations of their training were either met or exceeded. The reality of their experience was that only 10 of 51 said that they strongly agreed that their training met or exceeded their expectations and 23 said that they slightly agreed. This indicates a significant level of disappointment in the quality of the training they received.

The factors that were rated as very important by 40 or more out of a possible 51 respondents included the opportunity to observe most aspects of a pharmacy service, having access to a good selection of pharmacy and medical texts, having access to relevant CPD, learning about the ethical and legal issues relevant to working in a hospital pharmacy, accessing enough training about patient counselling, accessing enough training about making professional judgements and that their structured training programme met their needs.

The factors that were rated as very important by 30 or less out of 51 respondents included 'their learning styles were identified', 'their learning styles were used for at least some of their training' and 'they had adequate compounding experience'.

To identify the extent to which participants agreed that their experience matched the importance that they placed on aspects within each topic, importance was tabled against agreement. Ratings were collapsed as follows.

Importance
1= "Very Important" and "Somewhat Important"
2="Neutral', "Fairly Unimportant" and "Totally Unimportant"

Agreement
1="Strongly Agree" and "Slightly Agree"
2="Neutral", "Slightly Disagree" and "Strongly Disagree"

Figure 4.15 Training in general – comparisons of 'expectations' and 'reality'

You were given a structured training programme			
Table of important24 by agree24			
important24	**agree24**		**Total**
	1	**2**	
1	26 50.98	23 45.1	49 96.08
2	0 0	2 3.92	2 3.92
Total	26 50.98	25 49.02	51 100

You had regular two way feedback with your supervisor about your training			
Table of important27 by agree27			
important27	**agree27**		**Total**
	1	**2**	
1	32 62.75	19 37.25	51 100
Total	32 62.75	19 37.25	51 100

The department put noticeable effort into your training			
Table of important28 by agree28			
important28	**agree28**		**Total**
	1	**2**	
1	35 70	13 26	48 96
2	1 2	1 2	2 4
Total	36 72	14 28	50 100
Frequency Missing = 1			

You could at least observe most usual aspects of a pharmacy service			
Table of important29 by agree29			
important29	**agree29**		**Total**
	1	**2**	
1	47 92.16	3 5.88	50 98.04
2	0 0	1 1.96	1 1.96
Total	47 92.16	4 7.84	51 100

You gained experience in most functions of a pharmacy service			
Table of important30 by agree30			
important30	**agree30**		**Total**
	1	**2**	
1	46 92	4 100	50
Total	46 92	4 8	50 100
Frequency Missing = 1			

You accessed enough training about S2s and S3s			
Table of important37 by agree37			
important37	**agree37**		**Total**
	1	**2**	
1	22 43.14	28 54.9	50 98.04
2	0 0	1 1.96	1 1.96
Total	22 43.14	29 56.86	51 100

Your structured training programme met your training needs			
Table of important41 by agree41			
important41	**agree41**		**Total**
	1	**2**	
1	32 62.75	19 37.25	51 100
Total	32 62.75	19 37.25	51 100

Your training programme included time with other health care professionals such as a physiotherapist, a dietician and a nurse			
Table of important42 by agree42			
important42	**agree42**		**Total**
	1	**2**	
1	33 64.71	13 25.49	46 90.2
2	2 3.92	3 5.88	5 9.8
Total	35 68.63	16 31.37	51 100

You had adequate compounding experience			
Table of important44 by agree44			
important44	**agree44**		**Total**
	1	**2**	
1	27 52.94	18 35.29	45 88.24
2	4 7.84	2 3.92	6 11.76
Total	31 60.78	20 39.22	51 100

Your training exceeded your expectations			
Table of important45 by agree45			
important45	**agree45**		**Total**
	1	**2**	
1	30 58.82	17 33.33	47 92.16
2	3 5.88	1 1.96	4 7.84
Total	33 64.71	18 35.29	51 100

The factors where their expectations were met included at least being able to observe most aspects of a pharmacy service, gaining experience in most functions of a pharmacy service, learning how to deal with a heavy workload, learning how to deal with competing priorities, having access to a fast internet connection at work, having access to a good selection of relevant pharmacy and medical texts, having access to relevant CPD, learning about the ethical and legal issues relevant to working in a hospital pharmacy, accessing enough training about patient counselling, accessing enough training about making professional judgements, being given tasks that stretched them and having experience of dealing with a range of professionals.

Factors about training in general where participants felt that their experience didn't meet their expectations included being given a structure training programme, the extent to which a structured training programme met their needs, having their learning styles identified, using their learning styles for at least some of their training, having regular two way feedback with their supervisors

about their training and believing that the department put noticeable effort into their training. Additional factors where experience didn't meet expectations included accessing enough training about S2s and S3s, including time with other health care professionals such as a physiotherapist, a dietician and a nurse, having their structured training programme meet their training needs and gaining enough experience of compounding.

4.5.4.1 Interviews with graduates

Some had a structured training programme which involved becoming very familiar with dispensing and distribution before starting clinical pharmacy training. These graduates appeared to be happy to start with dispensing and distribution and to progress later to clinical pharmacy. Others started doing clinical pharmacy early in their graduate year and other training including dispensing and distributing, was fitted in according to the pharmacy department's needs and the graduate's needs. Some graduates reporting being told about the structured training programme on their first day and of getting a sense that they were welcome, had been planned for and that there would be ongoing supervision to ensure the programme was implemented. They found this reassuring that their graduate would probably be successful. Many of those who wanted to have a structured training programme didn't have one and this was a source of disappointment for them. Several were pleased not to have a structured programme as this gave them the opportunity to schedule their own learning. One graduate commented that he benefited from the experience of working in four different pharmacy departments and the lack of a structured programme suited him well because he could develop and implement his own training programme based on the PGTC programme. He selected the PGTC topic for that week and tried to find patients with that condition. He ensured that he read about those medicines. He commented that *"while I was unpacking medicines from the wholesaler, I practised counselling an imaginary patient with medicines in the PGTC topic and this helped me to focus on the counselling points for various medicines and helped me to get my language to the right level of say a farmer who had travelled a long way to make his monthly trip into town"*

One rural graduate described the advantages and disadvantages of having less structured training;*"We've been made to be very independent because of the lack of senior pharmacists. One of the positives about the type of grad year that I've had is that although I'm not sure if I'm more confident, I'm sure I'm more comfortable with working out a problem for myself. It is frustrating when you want a quick two minute answer and you have to spend half an hour working it out for yourself when you could have got a quick answer. Also you sometimes miss out of finding out the big picture, which you would get from a senior pharmacist teaching you about something".*

Several graduates commented that the attitude of the graduate had a large influence on the benefit they obtained from the training that was available.

The benefit of having a mentor was a common theme. One said..*"I would have liked to have had one person specially looking after me as I had many mentors but it was difficult to tell who to take questions to and I often got mixed message and was not sure who was higher in the hierarchy and so who to listen to"*

Another said; *"Good that I had a couple of people designated who you can ask questions and who won't get cranky – knowing that someone won't get cranky at you for asking questions"*

Training topics mentioned by graduates commonly included dispensing, distribution including S4Ds and S8s and clinical pharmacy. Some mentioned purchasing, production and drug information and one mentioned team building, working with other professionals and the development of protocols and procedures. One mentioned that she was asked to develop a procedure for ordering

extemporaneous products from a local hospital and although she thought it would be very easy, she was surprised how difficult it was to train staff to use the new procedure and to identify and remedy problems with the procedure as it was trialled.

Graduates who rotated between various hospitals noted large variety in the quality and quantity of training they received in each pharmacy. This was not always seen as a problem and some noted they enjoyed experiencing how pharmacy is practised differently by individual pharmacists.

When asked about the topics where they would have liked some or more training, respondents listed registration exam preparation, S2 and S3 products and counselling associated with them (most commonly raised), how to develop a structure for checking their own and others' work, an allocated place on the junior doctor lunch time training, a place on the SHPA clinical pharmacy training weekend, more experienced clinical pharmacists to provide training and more feedback. Some also mentioned that they would have liked a pharmacist to consistently push them to learn throughout the graduate year, by asking them questions.

Several mentioned that due to recent staff changes, their training programme had suffered significantly, either because it had not been signed off or because crucial trainers were no longer available. For one this resulted in him remaining in the dispensary and not doing clinical training, for longer than he expected. He addressed this; *"The delay did bother me initially but I spoke to my manager and she arranged some ward work quickly and I'm no longer bothered by this"*

For another it meant that he was in the dispensary all the time and his training programme "*fell by the wayside, but this was inevitable. But one pharmacist kept teaching me and kept the programme going so I still got a bit of training"*

4.5.4.2 Interviews with Directors of Pharmacy

Several Directors commented that graduates needed one support person and that person had to be available to answer questions and to ask questions of the graduate about their developing knowledge and skills as well as how they were coping personally with their graduate year.

There was a mix of comments about whether training was structured or whether graduates learned from a variety of tasks and responsibilities provided according to the needs of the department. Larger hospitals and those with more than one graduate tended to have structured programmes. One Director described their plans for the current and the following year; *"We did 'Pharmacy 101 Basics' this year – delivered by techs – about rotating stock, crossing boxes, where to put stuff. In future we'll do a much more formal orientation, using a competency type of system where they have to tick things off when they know them. Also in future I will personally check that they've done everything and I'll spot check the important things. We all must have a formalised programme for their time in addition to the Pharmaceutical Society of Australia one. We will include community type competencies. They should do about six case presentations each year…I think the pharmacists need to take grads seriously – if they have agreed to be a preceptor… can't just make them work all the time.*

Some described the way their department's approach to the graduates changed during the year as the graduate's experience and skills increased over the year. *"We should also progress the trust we put in them from checking everything carefully at the beginning. Later they have their own ward, and they only bring back problems. …….They should know more (clinical) than the older pharmacists and so we should pick their brains so it's a two way thing. And they should learn how*

to handle things, from the older pharmacists for example, I go into dispensary and ask them how they would handle x"

There was some discussion about how to ensure they learnt to counsel patients about S2 and S3 (non prescription and available only in community pharmacies) products, both for their own professional responsibilities and to ensure they can pass the registration exam. One Director arranges a combined hospital and community position for their graduates and this usually works well. North Coast Area Health Service are finalising a formal agreement between their organisation and interested community pharmacies to enable hospital graduates to get regular community experience and vice versa. One Director will include community pharmacy related competencies in their new competency based training programme.

Most Directors emphasised the need for graduates to attend all the available continuing education which included grand rounds, pharmacy in-services and local pharmacy training events. Some emphasised the need to give graduates study time to complete the Pharmaceutical Society of Australia compulsory Registration Training assignments as well as to attend meetings and examinations.

Several Directors described the advantage of having two graduates in their department, whereby they could help each other, provide social support and discuss ideas.

One Director described how three recent graduates had been completely different. Two were very confident and needed direction about what to learn. One of those was counselled to avoid providing advice before they were ready to do so. The third lacked confidence and needed guidance about how to communicate more precisely and confidently. This led to the Director's personal conviction that graduates needed to be treated as individuals with their own needs identified and reviewed on an ongoing basis.

4.5.5 Clinical Pharmacy Training

Four out of eight factors were rated as very important by 40 or more respondents. They were 'receiving training from an experienced and competent clinical pharmacist', 'having regular times to practise delivering a clinical pharmacy service', receiving regular feedback about their developing clinical pharmacy skills' and 'seeing patients with a wide range of medical conditions'.

No factors were rated as very important by 30 or less respondents.

Figure 4.17 Clinical Pharmacy Training – Comparisons of 'expectations' and 'reality'

You received training from an experienced and competent clinical pharmacist			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	41	10	51
	80	20	100
Total	41	10	51
	80	20	100

You received regular feedback about your developing clinical pharmacy knowledge and skills			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	34 67	16 31	50 98
2	0 0	1 2	1 2
Total	34 67	17 33	51 100

You presented cases to other pharmacists and received feedback from them			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	25 50	22 44	47 94
2	1 2	2 4	3 6
Total	26 52	24 48	50 100
Frequency Missing = 1			

You attended training sessions where other pharmacists presented cases			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	27 55	20 41	47 96
2	0 0	2 4	2 4
Total	27 55	22 45	49 100
Frequency Missing = 2			

You had training about how IV and other medicines are administered			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	24 49	24 49	48 98
2	0 0	1 2	1 2
Total	24 49	25 51	49 100
Frequency Missing = 2			

The training has met or exceeded your expectations			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	30	18	48
	60	36	96
2	0	2	2
	0	4	4
Total	30	20	50
	60	40	100
Frequency Missing = 1			

Respondents reported that their experience of clinical pharmacy training did not meet their expectations. Thirty respondents indicated that it was important that their expectations were met, and that they were met in their experience. Eighteen responded that it was important that their expectations were met but they were not met in their experience. This indicates a significant level is disappointment with their clinical pharmacy training.

For all factors, reality did not meet expectations. The discrepancy between expectations and reality was smaller for receiving training from an experience and competent clinical pharmacy, having regular times to practise delivering a clinical pharmacy service and seeing patients with a wide range of medical conditions.

The gap between expectations and reality was most striking for receiving regular feedback about their developing clinical pharmacy knowledge and skills with 34 rating it as important and agreeing that their expectations had been met. Sixteen indicated that although they rated receiving regular feedback as important, they did not agree that this had happened. The gap was also very significant for presenting cases to other pharmacists and receiving feedback from them, attending training sessions where other pharmacists presented cases and receiving training about intravenous medication administration.

4.5.5.1 Interviews with graduates

Interviews with graduates confirmed that this topic was very important for them and possibly the most highly valued aspects of their hospital pharmacy graduate year.

Some mentioned the various specialist clinical topics that they covered such as cardiology, renal, geriatrics and emergency department.

Some mentioned they had learnt a lot of clinical pharmacy skills from experienced clinical pharmacists. Others complained that their department did not have experienced clinical pharmacists from whom they could learn from and this had been a great disappointment to them. It had inhibited their development of clinical pharmacy skills and experience. When graduates were given the opportunity to see patients with a wide variety of conditions, they found this enjoyable and learnt a lot from it.

Some mentioned they would have liked training in specialist fields such as renal or oncology which weren't available in their hospital. Some graduates organised time at other hospitals to access this

training. Other unmet needs included attending the Society of Hospital Pharmacists of Australia "Introductory Clinical Pharmacy Course".

4.5.5.2 Interviews with Directors of Pharmacy

One Director described how they have a designated clinical trainer for their graduates. The trainer; *"is a great resource for them, she gives her time freely. They are let loose on the wards. They do discharge co-ordination, identify which meds are required and which prescriptions they need, ensure they get done, do warfarin counselling. Some days they are supervised, depending on staffing. They have one session per week with (academic trainer). They also have time with clinical pharmacists. Before they go on the wards, they use the (metropolitan hospital training packages) including how to do creatinine clearance, restricted antibiotics, learn how to approach doctors. (Trainer) shows them how to do clinical work, does one with them, they do it and use the telephone to get support from her if required. For example antifungals. (Trainer) gives them a talk, then they go and find patients".*

A Director from a smaller rural hospital noted that due to small bed numbers in the hospital, they usually do not have patients with the full range of medical conditions that graduates need to study. For this reason, the preceptor watches for patients with any conditions other than the most common and then sends the graduate to see these patients.

The Director from another smaller hospital described an exchange programme they have arranged with a nearby larger teaching hospital. The graduate from the smaller hospital attends clinical tutorials for half a day each week at the teaching hospital. To ensure the smaller hospital can continue to function, the larger hospital sends a member to staff to cover the graduate's work for that afternoon.

4.5.6 Support with Pharmaceutical Society of Australia (PSA) assignments

Results indicate that although this is important, it is not as important to graduates some other categories are.

Figure 4.19 Support with Pharmaceutical Society of Australia assignments – Comparisons of 'expectations' and 'reality'

You received appropriate help with your assignments			
Table of important54 by agree54			
important54	**agree54**		**Total**
	1	**2**	
1	25 52.08	15 31.25	40 83.33
2	4 8.33	4 8.33	8 16.67
Total	29 60.42	19 39.58	48 100
Frequency Missing = 3			

There was a gap between expectations and reality. Twenty five respondents regarded this assistance with assignments as being very important and agreeing that they received it. Fifteen

reported that it was important and they disagreed that they had receive appropriate help. Interestingly 4 regarded it as not important but agreed they received help.

4.5.6.1 Interviews with graduates

Graduates were not asked about support to help them complete their assignments during the interviews. Few mentioned their assignments. One mentioned that he had developed a plan to ensure he would complete his assignments and be awarded CPD points, and that he was meeting these objectives.

4.5.6.2 Interviews with Directors of Pharmacy

There was variation between Directors as to whether graduates were allowed to work on their assignments during work time. One Director commented that graduates need good internet access including out of hours, to enable them to do their assignments. Out of hours access was a problem for some graduates living in hospital accommodation.

4.5.7 Dispensing practice

Respondents varied in the importance of dispensing practice with between 33 and 42 reporting that it was important for them to get practice at dispensing. The factor which rated the highest importance was experiencing a variety of types of dispensing.

Figure 4.21 Dispensing practice – comparisons of 'expectations' and 'reality'

You received regular feedback about your dispensing skills			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	31 62	15 30	46 92
2	1 2	3 6	4 8
Total	32 64	18 36	50 100
Frequency Missing = 1			

Your dispensing training met or exceeded your expectations			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	43 88	4 8	47 96
2	0 0	2 4	2 4
Total	43 88	6 12	49 100
Frequency Missing = 2			

Reality was a little less well rated that expectations but the gap was not particularly large with 43 saying it was important that their expectations were met or exceeded and agreeing that this had happened.

The notable factor where expectations were not met in reality was in receiving regular feedback about their dispensing skills

4.5.7.1 Interviews with graduates

Most graduates mentioned they had received training and subsequent experience in dispensing. Other than a few who complained about doing too much routine work and this could have meant that they felt they did too much dispensing, there were no other comments about dispensing.

4.5.7.2 Interviews with Directors of Pharmacy

Similarly, Directors rarely mentioned dispensing, except when they specified that dispensing training was included at the beginning of the structured training programme.

4.5.8 Personal support

The spread of results in this section is very different to that of other sections. The questions about how important it was to have their expectations for personal support met had 19 responses of 'very important' and 18 responses of 'somewhat important'. The extent to which they agreed that their expectations were met had responses of 'strongly agree' from 10 and 'slightly agree' from 19.

The majority of statements about personal support (help with finding accommodation, arranging transport, meeting others with similar sporting interests, from similar ethnic groups and with similar religious interests) received high ratings of 'neutral'. However there were some responses of 'very important' and this indicated that this was important for some graduates. The levels of agreement with these statements indicate that not all those graduates' needs were met.

It is important to note here, that the importance ratings and the agreement ratings are particularly low for this category, compared to other categories. Statements that received the strongest importance ratings included 'you felt personally supported by the department', 'the personal support you experienced met or exceeded your expectations', 'your pharmacy department arranged social gatherings' and 'you met up with members of the Pharmacy Department socially'.

Figure 4.23 Personal support – Comparisons of 'expectations' and 'reality'

You received support to find accommodation if you needed it			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	10 20	9 18	19 39
2	1 2	29 59	30 61
Total	11 22	38 78	49 100
Frequency Missing = 2			

You received support to arrange transport if you needed it			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	11	10	21
	22	20	43
2	4	24	28
	8	49	57
Total	15	34	49
	31	69	100
Frequency Missing = 2			

You had help to meet others with similar sporting interests if you needed it			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	8	11	19
	17	23	40
2	1	28	29
	2	58	60
Total	9	39	48
	19	81	100
Frequency Missing = 3			

Your pharmacy dept arranged social gatherings			
Table of important66 by agree66			
important66	**agree66**		**Total**
	1	**2**	
1	23	7	30
	46.94	14.29	61.22
2	8	11	19
	16.33	22.45	38.78
Total	31	18	49
	63.27	36.73	100
Frequency Missing = 2			

You met up with members of the pharmacy dept socially			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	29	5	34
	59	10	69
2	8	7	15
	16	14	31
Total	37	12	49
	76	24	100
Frequency Missing = 2			

You felt personally supported by the department			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	40	6	46
	80	12	92
2	0	4	4
	0	8	8
Total	40	10	50
	80	20	100
Frequency Missing = 1			

You were able to meet and share experiences with other graduates			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	32	11	43
	65	22	88
2	4	2	6
	8	4	12
Total	36	13	49
	73	27	100
Frequency Missing = 2			

The personal support you have experienced, has met or exceeded your expectations			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	28	9	37
	57	18	76
2	1	11	12
	2	22	24
Total	29	20	49
	59	41	100
Frequency Missing = 2			

Support in finding accommodation, arranging transport, meeting others with similar sporting or religious interests or from similar ethnic groups and in establishing some local friends was not rated as important and did not happen for most respondents. It is notable that for 11 to 21 participants this was support was important and for 5 to 11 respondents, the support was received.

Meeting pharmacy staff socially, sharing experiences with other graduates were important to graduates. Feeling personally supported by the pharmacy department was important and was experienced by respondents.

There is variation in the responses to the summary question about whether the personal support they received, has met or exceeded their expectations. Twenty eight said that it was important and

they received it, 9 said it was important but that they disagreed that they received it and 11 said that it wasn't important and they didn't receive it.

It is clear that the overall satisfaction of respondents with the personal support they received is medium.

4.5.8.2 Interviews with Graduates

Many did not need accommodation either because they already lived locally or because they had arranged their own accommodation. When graduates needed help with accommodation, this was a major concern for them. Graduates often stayed in hospital accommodation. Although some commented that the quality of that accommodation was not satisfactory, all graduates who had lived in hospital accommodation indicated that living this living arrangement had helped them to develop an effective social and professional network.

In terms of support systems, many responded that they would have liked some help to develop more support for themselves, from others in the hospital, others of the same age and junior doctors. Better links with junior doctors was viewed by several as very important as it would have helped them to deliver their clinical pharmacy services better.

4.5.8.2 Interviews with Directors of Pharmacy

Directors of Pharmacy at rural hospitals were very aware of the need to provide personal support with accommodation and transport, particularly if the graduate was living away from their support network. Directors commented about the significant social value of graduates living in hospital accommodation. Many described the social support advantages for graduates in getting to know other hospital staff in the hospital accommodation. Having less formal relationships with the junior doctors overcame some professional barriers and facilitated graduates developing their clinical pharmacy knowledge and skills.

Practicalities around hospital accommodation varied widely between hospitals. Availability varied, although most rural hospitals had some accommodation. Whether graduates could stay in hospital accommodation for the whole year or only a short time at the beginning varied, with most only able to offer short term accommodation at the start of the year. Hospitals usually charged a small weekly rate. Some Directors described the standard of accommodation as unacceptable.

Given their many other competing priorities, Directors reported that departments did not always have the time to identify when support was needed and what sort of support was required. Directors had various attitudes to providing personal support at the beginning of the graduates' year. One rural Director commented; *"Country networking kicks in, staff ask them around for tea, link them in with sports where staff have contacts, and I ask them if they play a musical instrument"*

Most Directors did not take a formal or structured approach to personal support at the beginning of the graduate year, but tried to be sensitive to how individual graduates were coping and to intervene appropriately if they sensed it would help. This comment typified the sensitive approach; *"We don't formally do anything else – we ensure they are invited to pharmacy things, and I remind others to include the grads, keep an ear to the ground, if they're unhappy we do something. I also suggest that they join local clubs and sporting things"*

Directors were aware that organising pharmacy social events helped graduates get to know pharmacy staff and to settle in quicker. Many expressed a desire to have social events more frequently; *"We have a social event about every month and this helps new people integrate"*

Due to busy working lives for all pharmacy staff, this did not happen as frequently as they would have liked. Many Directors felt they were letting their teams down in this way. One Director said; *"This support is very important especially in rural areas – very important indeed, I can't emphasise that enough. It also needs to be done at the hospital level because rural pharmacy departments can be quite small and so don't usually have many young pharmacists, just all us older ones!. If it's done at hospital level, you can get the young pharmacists mixing with the young physios and doctors etc. For example last year we had a dynamic group of young physios, pharmacy grads and doctors - they decided to go dancing together every week – this was excellent because it gave them a peer group and made their work on the wards much easier – much easier for young pharmacists to work with the doctors effectively – it broke down professional barriers".*

4.5.9 Retention

For 33 respondents it was important that there was a position that they could have applied for. Slightly less, 27 respondents, found they were able to apply for a position at the hospital in which they had completed their graduate year.

Figure 4.25 Retention – Comparisons of 'expectations' with 'reality'

There was a position in your hospital, which you could have applied for when you were nearly finished your graduate year			
Table of important72 by agree72			
important72	**agree72**		**Total**
	1	**2**	
1	35 74.47	7 14.89	42 89.36
2	3 6.38	2 4.26	5 10.64
Total	38 80.85	9 19.15	47 100
Frequency Missing = 4			

The expectations of most were met with a position being available that they could have applied for when they finished their graduate year.

4.5.9.1 Remaining in hospital pharmacy

4.5.9.1.1 Interviews with Graduates

When asked about the factors which would influence their future career, graduates found it difficult to identify these. The factors they did note included the difficulty of leaving friends and family, the importance of job satisfaction, the need for interesting and challenging work and ongoing pharmacy training opportunities including being able to access post graduate study. The quality of leadership and the morale of departments featured with graduates saying that they didn't like departments *"with a lot of politics".* Although they wanted to have adequate challenge in their positions, they did not want to be overworked or to experience high stress.

Retention was a focus of the interviews because it is very individually influenced by unique mixes of personal and professional factors and it is easier to elicit information about retention in an interview than by using a questionnaire. When asked what would make them more likely to remain in hospital pharmacy most replies were very professionally focused and included broad topics of

training, professional satisfaction, the opportunities to do research and to progress their career. Comments related to training included the opportunity to access clinical pharmacy training, having a mentor and the ongoing CPD opportunities. One commented that hospital pharmacy was a *"good place to start (their career)".*

The nature of the work was also a strong focus with many commenting that it was interesting and challenging work and this provided them with professional satisfaction. Other professionally related comments included the opportunity to do something for the community, access to a library, the broad range of drugs that are used in hospitals, the teamwork that is part of pharmacy departments, an opportunity to move to other hospitals to get wider experience and the opportunity to be involved in further developing the pharmacy department. One added that he enjoyed the freedom and the flexibility of hospital pharmacy, the opportunity to move around other hospitals to get experience and another said he liked the opportunity to meet *"other smart people in the hospital".*

One commented that after all the training they have done during their graduate year it would be a waste to leave hospital pharmacy and be unable to use their extensive clinical knowledge and skills.

Changes that would have attracted graduates more strongly to stay in hospital pharmacy included being offered a permanent position (as opposed to a short term contract for the graduate year) and the opportunity to work with more people of their own age. One would have liked to have been assured of a position for her partner nearby.

4.5.9.1.2 Interview with Directors of Pharmacy

Some comments by Directors were similar and some were different to those made by graduates. Some stated that if graduates had chosen to do their graduate year in hospital pharmacy, they were already committed to hospital pharmacy to some extent. All Directors acknowledged the need to continue to make hospital pharmacy an attractive career choice for graduates.

Having a position that graduates could apply for was seen as crucial. Some larger departments had made great efforts to arrange their staffing so that they had positions available for graduates to apply for towards the end of their graduate year. Some Directors were disappointed that they sometimes, or only rarely, had positions that graduates could apply for. This was often related to the size of the pharmacy department with smaller departments rarely having vacant full time pharmacist positions.

Professional aspects of the job were the focus of most comments from Directors. Enabling young pharmacists to spend most of their time providing clinical pharmacy services and only a minority of their time doing the more routine tasks of dispensing and distribution was emphasised by most Directors. One Director also identified the opportunity for young pharmacists to know they are "making a difference" in hospital pharmacy as being a strong attractant.

Ensuring that the Pharmacy Department had a professional focus was discussed by several Directors. One said; *"From the pharmacy's point of view, you have to make the job of pharmacy interesting and rewarding for young pharmacists – by doing the value added things and not having them do too much of the grind work. Some of ours once said they thought they'd be doing TDM all day – the better we can make the pharmacy, the more interesting it is, and this differentiates it from community. We give them projects, I've arranged paid conference leave so they can get some learning. You also need to involve them with the life of the hospital – not have the pharmacy in the*

basement, you have to do the value added stuff for the sake of the whole department. If they're all doing interesting work and getting a lot out of it, then you've got a better chance of keeping them."

Related to clinical pharmacy and the graduate's future career are ongoing training, having a mentor, support and a structure so that they can see where their career can go.

Professionalism itself was seen as attractive to young pharmacists by one Director; *"They found the work more stimulating as students, the chance to do clinical work as well as service delivery. It's the professionalism that makes a difference for them. If it's a good place, the team is good, grads are given responsibility.. (ie) they get pulled up if they make a mistake. So in summary it's the team and the professionalism……They get confident and competent at advising in different areas – compared to community pharmacy...where the GP will say "yes, but 'drop dead'"… in hospital, pharmacists are more respected and accepted by prescribers and the whole health team"*

Another Director explained; *"Need to have a strong pharmacy culture to make it a strong profession – we're always struggling with staffing. We need to make hospital pharmacy more valued both within the professional and within the pharmacy teams in hospitals and by the users of our services – then it will be more attractive to young pharmacists."*

A comparison of the work conditions in hospital pharmacy and community pharmacy was articulated by one Director; *"Hospital pharmacy is easy in that it has set hours, not too long hours 8-4.30 whereas community is harder work. You're on your feet all day (in community pharmacy), but (our graduates) goes for a surf before and after work. I often used to do 12 hour days (in community pharmacy)"*

Training was discussed by Directors but not to the extent that graduates emphasised the importance of continuing to learn. One Director said; *"If the training is excellent and can learn to guide doctors and nurses etc, then that's a huge gift you can give them (ie graduates)"*

Another Director described some of the professional attractions of hospital pharmacy compared to community pharmacy as; *"It's a great environment for learning, you're closer to doctors and nurses, you feel you're making a difference and applying your learning"*

The work environment was important and included how the pharmacy team worked together and the level of personal support that the graduate felt.

One Director emphasised that compared to community pharmacy and other commercial positions, hospital pharmacy offered significant benefits in terms of security, flexibility, leave allowances, sick leave and superannuation. It also offers peer support and enables pharmacists to discuss issues with a range of pharmacy, medical and nursing colleagues.

Directors believed that personal factors are also very influential for young pharmacists. Having personal networks and a partner locally made it easier for graduates to remain in that hospital. As one Director emphasised; *"The social side is very important and hospitals have to think about this for all the disciplines – how they retain the young professionals in all disciplines. You have to make it interesting, fulfilling for a masters grad with a sixty thousand dollar debt, to stay."*

Another Director commented that graduates need to be supported as individuals, rather than just being the recipient of a range of standard approaches to support them. *"Ensure that early in their stay they feel comfortable."*

4.5.9.2 Less likely to remain in hospital pharmacy

4.5.9.2.1 Interviews with graduates

When asked what factors would make them less likely to remain in hospital pharmacy, responses included the poor pay and conditions. Some stated that if they stopped learning or became stagnant, they would leave. Chronic understaffing was noted to force pharmacists to; *"Do a lot of administrative work and not much clinical, this would get you down after a while"*

Training opportunities are a high priority for young pharmacists and if ongoing training became restricted, this would limit their interest in staying in hospital. Some mentioned that if they stopped learning or "*got stagnant"* they would leave. Some graduates mentioned poor hospital funding especially in rural areas as causing problems for pharmacists including high workload and high stress. Some mentioned that they either worked in departments with dysfunctional social dynamics or knew of other departments with these problems. They didn't want to work in such departments.

Other opportunities such as research or owning their own business were mentioned by some graduates as being reasons they may leave hospital pharmacy.

4.5.9.2.2 Interviews with Directors of Pharmacy

That poor pay for junior hospital pharmacists made it more difficult for some graduates to choose to stay in hospital pharmacy came through very strongly from Directors. The need to increase the pay for these young pharmacists with large HECS debts, some of whom have Masters Degrees and are in their thirties, was emphasised. *"Pay is not glorious, accelerated pay development in first few years, depending on performance would be good"*

Aspects that make it less likely that graduates would remain in hospital pharmacy included a lack of perceived career prospects, *"No opportunity to expand their practice, or to develop a career pathway, or not given responsibility, or credit for work they've done or could do"* and poor interpersonal dynamics in the department. *"if there is a dysfunctional head of department, low morale, staffing problems, or anything else that lead to cliques, this adversely affects retention"*

One Director recalled triggers that had prompted recent graduates to leave. One graduate was spoken to very rudely by a doctor on a ward round and the graduate left because she felt she hadn't been supported or trained to deal with this level of aggression. Another graduate left because she wanted to buy a house. She received a job offer in community pharmacy where she would receive twice the salary she would have been paid in hospital pharmacy. In the past some graduates have left hospital pharmacy because they wanted to own a business.

Another Director identified a high workload as being a trigger for young pharmacists leaving hospital positions. Poor leadership, the difficulty of getting new pharmacists onto the payroll and the attraction of living in a bigger city were also identified as triggers to leave hospital pharmacy.

Some Directors noted that graduates sometimes leave hospital pharmacy for personal reasons. Returning to their family, partner or friends and moving to a location where they and their partner can get a position were recalled as triggers for graduates' leaving in the past. Some wished to move from a rural location to the city for the facilities and services of a large city.

4.5.10 General aspects about the Pharmacy Department

The factor which received the highest importance rating in this section was that the staff was helpful when graduates had a problem, with 45 saying this was very important. The experience of respondents was that 33 strongly agreed and 14 slightly agreed.

Figure 4.27 General aspects of the department – Comparisons of 'importance' and 'expectations'

The department was well managed			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	36	14	50
	72	28	100
Total	36	14	50
	72	28	100
Frequency Missing = 1			

The morale in the department was good			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	27	21	48
	56	44	100
Total	27	21	48
	56	44	100
Frequency Missing = 3			

Staff were helpful when you had a problem or a question			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	47	3	50
	94	6	100
Total	47	3	50
	94	6	100
Frequency Missing = 1			

If you had a problem with a member of staff, you knew what to do			
Table of important by agree			
important	**agree**		**Total**
	1	**2**	
1	34	16	50
	68	32	100
Total	34	16	50
	68	32	100
Frequency Missing = 1			

In general graduates' perceptions about the quality of management and the level of morale in their departments did not match their expectations.

The highest concordance between expectations and reality was the level of helpfulness of staff when the graduate had a problem or a question.

4.5.10.1 Interviews with graduates

Graduates made it clear that they did not wish to work in departments that had dysfunctional social dynamics or where the manager's priorities did not match their own. One complained about a manager who focused on time and money more than she thought appropriate.

4.5.10.2 Interviews with Directors of Pharmacy

Directors agreed that departments where the social dynamics or the manager was dysfunctional were not attractive to graduates. Newly registered pharmacists would choose not to work in such departments.

4.5.11 Highest and lowest scoring importance statements

Factors that more than 40 respondents rated as 'very important' are listed below. The number of respondents who 'strongly agreed' that their expectations were met is included in the table.

Figure 4.28 'Importance' and 'strongly agree' ratings for all factors that were rated as 'very important' by 40 or more respondents

Statement	Number of respondents rating it as 'very important'	Number of respondents who rated it 'strongly agree'
Orientation		
You were shown around the Pharmacy Department by someone who communicated in a knowledgeable and friendly manner	44	40
The balance between receiving training and working in the pharmacy, was effective for you	40	20
General approach to the graduate year by the Pharmacy Department		
You were allocated a supervisor who was responsible for your training and development	45	24
You received constructive feedback from your supervisor	42	16
Training in general		
You gained experience in most functions of pharmacy service	44	25
You had access to a good selection of pharmacy and medical texts	44	39
You had access to relevant CPD	42	28
You learned about the ethical and legal issues relevant to working in a hospital pharmacy	40	22
You accessed enough training about patient counselling	44	21
You accessed enough training about making professional judgements	47	21
Your structured training programme met your training needs	40	7
Clinical training		
You received training from an experienced and competent clinical pharmacist	48	26

You had regular times to practise delivering a clinical pharmacy service	44	23
You received regular feedback about your developing clinical pharmacy knowledge and skills	46	9
You saw patients with a wide range of medical conditions	46	26
Dispensing training		
You experienced a variety of types of dispensing including inpatient, outpatient, S100, Special Access Scheme (SAS)	42	33
General aspects about the Pharmacy Department		
Staff were helpful when you had a problem or a question	45	33

The factors in this list are predominantly in the categories of general training and clinical pharmacy training providing further evidence that the scope and quality of training is of key importance to graduates.

Figure 4.29 'Importance' and 'strongly agree' ratings for all factors that were rated as 'strongly agree' by 40 or more respondents

Statement	Number of respondents rating it as 'strongly agree'	Number of respondents who rated it 'very important'
You were shown around the Pharmacy Department by someone who communicated in a knowledgeable and friendly manner	40	44

This indicates that graduates found them highly satisfied with only a small number of aspects.

Figure 4.30 'Importance' and 'strongly agree' ratings for all factors that were rated as 'strongly disagree' or 'slightly disagree' by a total of 10 or more respondents

Statement	Total number of respondents rating it as 'strongly disagree' + 'slightly disagree', where the total is 10 or more	Number of respondents who rated it 'very important'
Recruitment		
You received documentation promptly about an offer of employment	18	30
Orientation		
You were given clear instructions about what was expected of you in your first month	10	37
The general approach of your pharmacy department to your graduate year		
The balance between receiving training and working in the Pharmacy, was effective for you	11	40
You participated in a performance planning process	20	25
You had regular meetings with your supervisor	13	35
The department's general approach to your graduate year met or exceeded your expectations	10	35
Training in general		
Your learning styles were identified	14	25
You accessed enough training about S2s and S3s	20	39

Your structured training programme met your training needs	11	40
Your training programme included time with other health care professionals such as a physiotherapist, a dietician and a nurse	10	30
You had adequate compounding experience	11	28
Your training exceeded your expectations	10	30
Clinical pharmacy training		
You had training about how IV and other medicines are administered	12	39
Dispensing training		
You received regular feedback about your dispensing skills	11	33
Personal support		
You had help to meet others with similar sporting interests	10	11
You had help to meet others with similar religious interests in you needed it	10	8
The hospital or an associated organisation arranged regular social gatherings for staff and students	10	8
General aspects about the department		
The morale in the department was good	10	38

This table provides information about factors where satisfaction was low. The categories of 'training in general' and 'general approach of your department to your graduate year' have the most factors in this table. This indicates that low levels of satisfaction are greatest in those categories

Chapter 5 Discussion

The research aimed to identify the key factors for satisfaction with the support received by hospital pharmacy graduates in NSW as well as the key factors that influenced their future career plans.

The findings are compared with the literature on pharmacists and allied health graduates in this section. Similarities and differences are discussed using the proposed models presented in this chapter. Broadly there is agreement with the literature, with the research finding an even stronger emphasis on professional factors and less emphasis being placed by graduates on personal factors.

The number of responses is low and so statistics are limited to comparing their satisfaction with their experience with ratings of importance of various factors. Future research will involve larger numbers and will therefore enable firmer conclusions to be drawn.

Implications for future recruitment and retention plans will be described in the next chapter.

5.1 Graduate satisfaction with professional and personal support

5.1.1 Satisfaction with training and tutor

This topic is composed of the following factors; having a structured training programme, receiving supervision, receiving training in the full scope of topics that compromise hospital pharmacy, receiving help with Pharmaceutical Society of Australia assignments and having access to ongoing Continuing Professional Development.

For each factor the results of this research will be compared to the literature.

5.1.1.1 Having a structured training programme

The need for a structured training programme is strongly supported by the data from the completed questionnaires and the interviews. The literature on graduate pharmacists includes an emphasis on training (Kainey 2002) but the concept of structured training programmes is not discussed. The allied health graduate literature describes the need for support but not for training per se. This is possibly because allied health graduates are registered professionals who take on clinical responsibility and therefore ongoing training of this group is not described as such, even though it is likely that these young professionals still believe they have a lot to learn. Hospital pharmacy graduates reported that they found the description and existence of a structure for the training they would experience, reassuring that their graduate year would be successful.

Only a minority of respondents reported being given a structured programme and these were mainly in the larger metropolitan hospitals. Even fewer had their needs met from the structured programme. Those who had a structured training programme generally started with an orientation programme during which they were shown all sections of the department. They then learnt basic dispensing and distribution functions before they progressed to learning clinical pharmacy skills.

Graduates who didn't have a structured training programme wished they had been given one. Some graduates in smaller rural hospitals commented that although they could see the benefits of a structured training programme they were happy without such a programme. They developed and implemented their own structure to meet their own needs. One rural graduate commented that he was more confident than his metropolitan colleagues in working out a solution to a problem on his own because he had experience of doing that, due to the lack of senior pharmacists to provide training for him.

Directors of Pharmacy who provided structured training programmes described the progression by graduates from the more routine tasks of dispensing and distribution to the more sophisticated elements of clinical pharmacy training. Some Directors of Pharmacy acknowledged that they were not able to provide a structured training programme and fitted training into the department's schedule. Some arranged clinical pharmacy training early in the graduate's year.

Graduates reported that the ratio of time spent training to that spent providing services was important to them. Unfortunately most indicated that the balance had not been right for them. There was variation in the way that Directors addressed this issue. In some cases graduates were employed in a pharmacist position and they were therefore required to provide services for a significant part of their time. In other cases graduates were given time to do their Pharmaceutical Society of Australia assignments and they were allocated regular time for weekly seminars and workshops.

Respondents reported that a performance planning process was important although most indicated this had not been provided. Responses to questions about learning styles were not as strongly positive as were responses to other questions and this may indicate that graduates were either not aware of the benefits of identifying and working with their learning styles or they did not feel they were relevant.

Graduates who rotated to various hospitals as part of their programme were positive about the experience even though they reported that the quality of training varied between sites. They learnt how different pharmacists practised and heard the logic behind those differences.

In summary, both graduates and Directors favoured a structured training programme for hospital pharmacy graduates. This is not covered in the literature and so this is a new finding.

5.1.1.2 Receiving supervision

Respondents indicated that having a dedicated supervisor and receiving regular feedback from their supervisor were very important. This matches the literature on graduate OTs where supervision is reported to assist their transition from student to work and lack of supervision has hindering their development (Lee and Mackenzie 2003, Parker 1991 and Hummell and Koelmeyer 1999). Most hospital pharmacy graduates were allocated a supervisor although less said they received regular feedback from them. Two graduates reported that staff changes had meant that their training suffered significantly and this probably underlines the vulnerability of many pharmacy departments in not being able to rectify the impact of staff changes quickly.

Many rural graduates complained about the lack of senior pharmacists who could provide training and supervision to them during their graduate year. Several mentioned they would have liked to have someone regularly and frequently asking them questions to ensure they kept learning.

Directors of Pharmacy also noted that adapting support to the individual also includes changing the nature and style of support with time as the graduate increases their knowledge and skills during the year. They said that departments have to adapt to the changing needs of their graduates by giving them more responsibility as the year progressed. Advisory and responsive support would replace directing and training as the year progressed.

In summary receiving supervision and having an allocated support person is viewed as vital by graduates and is acknowledged as being important by Directors of Pharmacy. Respondents indicate that this has not always happened and this lack has caused dissatisfaction for those graduates.

5.1.1.3 Receiving training in the full scope of topics that comprise hospital pharmacy

Respondents gave high importance ratings to factors about the scope of training. They wanted the opportunity to observe most aspects of a pharmacy service. This is supported by the literature on hospital pharmacy graduates (Kainey 2002).

Graduates mentioned in the interviews that they received training in dispensing and distributing medicines within the health system including S4Ds and S8s. Some received training in purchasing, production and drug information. One graduate mentioned that they received training in team building, working with other professionals and the development of procedures and protocols.

The importance of dispensing training was not rated particularly highly but there was good agreement that reality had nearly matched expectations. The aspect where respondents noted the largest difference between expectations and reality was the level of feedback about their dispensing skills. This links with their need for supervision. One possible explanation for the medium level of interest in dispensing practice may be that all departments handled this well but that graduates were more interested in other aspects of hospital pharmacy services.

Graduates whose graduate year included rotations to various rural hospitals noted that although the quality and extent of training varied, they learnt a lot as a result of seeing how different pharmacists approached many aspects of hospital practice.

Among the topics for training, clinical pharmacy received the highest 'importance' rating by graduates. They wanted to receive training from an experienced clinical pharmacist and most did receive this. They wanted regular feedback about their developing skills and most reported that they didn't receive this to the extent that they wanted.

A model that appears to help graduates to develop their clinical pharmacy knowledge and skills is the structured Hunter New England programme. It contains clinical pharmacy training modules on numerous therapeutic topics. Graduates participate in a tutorial on a therapeutic topic and watch the clinical trainer carry out a clinical pharmacy review with a patient who had the condition under study. Graduates complete a clinical pharmacy review with the trainer and then move to a ward and carry out reviews on patients with that condition. Feedback and support was provided to the graduates by the clinical trainer.

In a smaller hospitals, where there were not always patients with a full range of conditions, senior pharmacists watched for patients with complex or rare conditions and ensured that graduates saw these patients. If all conditions were not covered, then other training methods were used to ensure that graduates saw a full range of conditions.

Topics where graduates were satisfied with their training included gaining experience in most functions of a pharmacy service, learning how to deal with a heavy workload, learning how to deal with competing priorities, having access to a fast internet connection at work, having access to a good selection of relevant pharmacy and medical texts, having access to relevant CPD, learning about the ethical and legal issues relevant to working in a hospital pharmacy, patient counselling, making professional judgements, being given tasks that stretched them and having experience of dealing with a range of professionals.

The gap between expectations and reality was most striking for receiving regular feedback about their clinical pharmacy skills and for presenting cases, seeing clinical pharmacists present cases and for receiving training about intravenous medication. In the interviews some mentioned that they would have liked training in specialist areas that weren't available in smaller hospitals. Sometimes graduates arranged to obtain this training elsewhere.

Other aspects of pharmacy services where participants felt that their experience did not meet their expectations included preparation for the registration examinations, compounding, a structure for checking their own and others' work, inter professional working such as spending time with other health care professionals such as physiotherapists, dieticians and nurses and S2 and S3 category medicines. S2 and S3 are legal categories of medicines which are available over the counter in a community pharmacy. To receive these medicines, patients must receive at least minimal intervention by a pharmacist. Pharmacy graduates have to pass examinations of their knowledge and skills in counselling patients about these products in Objective Structured Clinical

Examinations (OSCEs) before they can become registered. Directors of Pharmacy noted that typically hospital pharmacy graduates struggle with this examination because they do not receive much experience of counselling patients about S2 and S3 medicines while they are working in the hospital. To obtain this experience some graduates get a Saturday job or by spend some unpaid time in a community pharmacy. One Director mentioned that their graduate programme would include community pharmacy competencies related to patient counselling about S2 and S3 medicines in future.

Other training that graduates would have liked included attending the junior doctor lunchtime training sessions at their hospital and attending the Society of Hospital Pharmacists of Australia (SHPA) Introductory Clinical Pharmacy Training Course.

In summary, receiving training in the full scope of hospital pharmacy activities is rated as very important by graduates and this supports the brief literature (Kainey 2002) on this topic. Graduates were generally pleased with the scope of topics covered in their training. They gave dispensing training a medium rating and gave clinical pharmacy the highest rating of all topics. In relation to clinical pharmacy there were significant gaps between their expectations and what happened. Rural hospitals often did not have enough experienced clinical pharmacists to provide training to graduates and this was a concern for rural graduates. Graduates prioritised feedback about their developing clinical pharmacy skills and indicated that they did not receive it to the extent that they needed. They also wanted to have more case presentations in their training as well as more training about intravenous administration of medications. The other omissions that concerned graduates were training on S2 and S3 medicines and preparation for the registration exam. To enable hospital pharmacy graduates to have an improved pass rate for this exam, more training must be accessed by graduates. This can be achieved either through exchanges or by working in community pharmacy outside hospital pharmacy work hours.

5.1.1.4 Receiving help with PSA assignments

Although graduates indicated that this was important and that there was a gap between expectations and reality, this was rarely mentioned in the interviews. It is likely that this gap did not cause considerable concern for most graduates.

5.1.1.5 Having access to ongoing CPD

Most graduates agreed that it was important for them to have access to ongoing CPD. Even in the smaller hospitals, graduates mentioned attending hospital Grand Rounds, junior doctor training and other CPD provided locally for registered pharmacists in addition to the PGTC training. Some attended the SHPA Clinical Pharmacy training course at the hospital's expense. Some complained that although they were able to attend this training, they didn't feel that their training was well supported.

5.1.1.6 Training with other graduates

The opportunity to train with other hospital pharmacy graduates is supported by the literature (Kainey 2002) and by this research. Graduates appreciated the professional and the personal support afforded by other graduates. This was particularly the case at the beginning of the year when graduates were settling in their new pharmacy department. If they already knew the other graduates, this made the transition from student to worker easier.

5.1.1.7 The attitude of the graduate

Many graduates reported that they were disappointed with the attitude of the department towards their graduate year and complained about the lack of training that was provided to them.

Several graduates reported that the attitude of the graduate was the strongest influence on the graduate's satisfaction. They said it was up to the graduate to get the best out of the training and support that was offered. One reported how he changed his attitude by identifying how he could remedy a situation.

There was limited discussion by Directors about internal loci of control being a positive attribute of successful graduates and an external locus of control meaning that graduates were unwilling to take much responsibility for their own training.

5.1.1.8 Other topics

The identification and use of graduates' learning styles, was not rated as very important by respondents. This conclusion is based on these topics not being raised during the interviews and also on the fact that less than 40 respondents provided the rating 'very important' to factors about learning styles. By contrast, more than 40 respondents rated factors in categories such as 'training in general' and 'clinical training' as 'very important'. Additionally topics related to the content of training and the professional and personal support that graduates received, featured often in graduate interviews and learning styles were not mentioned by graduates.

In summary, training and professional support provided to graduates is very important to them. Their experience of this was less than their expectations for many factors and importantly for supervision and feedback and clinical pharmacy in general.

5.1.2 Personal support

Although the literature on pharmacy graduates does not mention personal support, the OT literature does cover this briefly (Craik 1988, Mottram and Flin 1988, Rees and Smith 1991 and Parker 1991). For pharmacy graduates, not only are they making a transition from student to worker, but they are working and studying to complete the requirements of their registration. In addition some will have moved away from family and friends and this puts additional stress on them.

Factors which are included in personal support include assistance to find accommodation, offers to help with travel, help to develop support networks as well as the less tangible aspects of the perceived attitude of the pharmacy department to having a graduate.

It was important to graduates that they felt personally supported and this happened for most graduates.

Most graduates reported that they did not need support with finding accommodation, arranging transport or developing support networks, however some did. There was variation in the extent to which graduates received the help they needed.

Accommodation assistance for graduates in rural hospitals was sometimes a problem, either because none was available or because the standard of accommodation was not satisfactory.

Most Directors did not take a structured approach to providing personal support but tried to provide the support as needs became obvious. They usually monitored graduates to determine how they were coping and if further support were required, they made suggestions or took some action to provide the support that they thought was required. Rural departments and communities are usually friendly and ensure graduates have the support they need.

Developing social relationships with junior doctors was helpful to graduates, for both social and professional support. It helped the graduates to develop their skills and experience in negotiating with junior doctors about patient medication issues. Often these relationships developed as a result of graduates living in hospital accommodation with junior doctors.

Rural hospitals organise social events to facilitate young professionals in all disciplines meeting each other. Many Directors felt they were letting their graduates down by not organising enough pharmacy department social events. However graduates appeared satisfied with the level of pharmacy department social functions.

In summary, graduates indicated that personal support is important to them, to help them settle into their new employment, to help them develop support networks and to help them develop professional relationships within their hospital environment. Most graduates did not need help with finding accommodation or organising transport, finding friends or others with similar sporting or religious interests or ethnic backgrounds. However, some graduates did report they needed support and some of these did not receive the support they needed.

Unfortunately it was not possible to identify whether the graduates who needed support were in rural hospitals. Given that the literature and this research support the assumption that many graduates in rural hospitals were from that rural location, this would imply that they may not need this type of support. It is therefore possible that some graduates in metropolitan areas needed this level of personal support.

It appears that support is not usually arranged systematically and is offered if graduates appear to need it. This research indicates that although most graduates do not need support with accommodation, transport and develop local support networks, the number of graduates who need it is significant and more work could be done by hospital pharmacy departments to identify and provide the required support. If this were carried out systematically and explicitly, there may be benefits for graduates and pharmacy departments. This research indicates that support must be responsive to graduates needs and there must be a recognition that their needs change with time. The personal support needs of graduates who rotate between hospitals is likely to be more complex and varied and possibly more important as graduates will need to develop new support networks every 3 to 4 months.

5.1.3 The working environment

The literature notes that young professionals value working in a friendly, helpful department and one that they believe is well managed (Kamien 2003, Kainey 2002 and Collyer 2003). They do not want to be overworked and they want to do work that is appropriate to their position and that is rewarding (Kainey 2002). In rural hospitals, the shortage of adequately trained pharmacy staff is often a problem for pharmacists who wish to deliver clinical pharmacy services and are forced to spend most of their time dispensing and doing other routine tasks (personal communication).

Data from the questionnaire indicates that graduates found pharmacy staff helpful when they had a problem. Perhaps paradoxically, nearly half of graduates indicated that they didn't think morale

was good in their pharmacy department. Interview data shows that graduates find dysfunctional social dynamics in their pharmacy department a strong deterrent to working there. This shows that pharmacy departments have to focus on the social dynamics of their department as well as the professional outputs.

Many graduates report being unsatisfied with the overall approach of the pharmacy department to their graduate year. Some of the tension relates to graduates not being allocated enough time or resources for their learning and in some cases, having to do too much routine pharmacy work. Directors reported a variety of approaches towards the balance of time allocated to training and to providing services. Sometimes this depended on whether the graduate was in a pharmacist position and was therefore expected to fulfil service provision or whether the graduate position was regarded as a training one.

In summary, working environments and conditions are important to graduates and newly registered pharmacists. Directors of Pharmacy attempt to ensure that working environments and conditions are optimal, however they have a range of other competing priorities.

5.1.4 Getting there – recruitment and orientation

The literature indicates that early experiences of recruitment and orientation affect employees' attitude towards their workplace (Kahalen and Gaither 2007). This research investigated these topics to identify if this were the case with pharmacy graduates.

Data from the questionnaire indicates that recruitment and orientation experiences were not optimal, but they were not of particularly high importance to graduates.

Aspects where expectations were met included fairness of questions asked during interviews and having an opportunity to ask questions. Areas where expectations were not met included aspects of documentation about the results of the recruitment process – areas where Directors of Pharmacy often have very little control due to the strict requirements of the public sector recruitment processes.

In summary, although expectations were not always met around recruitment and orientation, this did not seem to cause graduates to be dissatisfied with these aspects of their graduate year.

5.2 Retention of graduates in hospital pharmacy

Retention of graduates in hospital pharmacy is vital to maintaining the hospital pharmacy service and therefore vital to patient safety in public hospitals. Vacancy rates for pharmacists are high in Australia, particularly in rural areas.

Recent support from NSW Health in funding additional graduate positions has significantly decreased vacancy rates in NSW. Some AHS used part of their funding to augment their training infrastructure and others used the funding solely to support graduate positions. It is clear from this research that the quality of the graduate year, in particular the training and support provided to graduates, has a strong influence on the satisfaction of graduates.

The model which has been developed as part of this research includes professional, personal and community factors. Professional factors are very influential for young pharmacists and include pay, satisfaction with their graduate year, availability of a position, availability of ongoing training, having their career needs met, assurance that they will experience professional satisfaction and assurance that they will receive ongoing mentoring and support.

Aspects from the literature which are not in this model include patient contact per se (although the opportunity to practise clinical pharmacy is included), flexible hours, autonomy, hospital funding, stress, workload, interaction with other health care professionals and organisational identification. They are not included in the model because this research has not provided evidence to support their influence on hospital pharmacy graduate retention. This is possibly because these factors do not influence hospital pharmacy graduates or because they do, but the research method did not facilitate their expression.

In the personal category, factors include proximity to family and friends, lifestyle choice and living in an area which is good for bringing up children. Topics from the literature which are not featured in the model, are considerations of partners including their preferred location and whether a position is available for them. Access to schooling was not included in the questionnaire and it wasn't mentioned in the interviews. Very few pharmacy graduates had children and this probably explains why this is not important to them.

In the community category factors include services and access to the beach.

The literature indicates that in addition to factors that influence retention, there are triggers which result in employees leaving their positions. In this model, triggers include career advancement, lack of support, training and supervision as well as poor work conditions and job stress.

Results of the research will be discussed under these headings and in comparison to the literature.

5.2.1 Professional factors

5.2.1.1 Pay

The literature indicates that pay is not a strong retention factor for health care professionals. However both graduates and Directors have indicated that the poor pay that first year hospital pharmacy graduates receive in comparison to their community pharmacy colleagues is a source of dissatisfaction. Many graduates have large Higher Education Contribution Scheme (HECS) debts. Some are in their late twenties and thirties and are understandably keen to pay off their debt and to start saving.

Although most hospital pharmacy graduates indicated that they wished to remain in hospital pharmacy, if they were to leave, the key reason would be to work in community pharmacy where they would receive more pay.

5.2.1.2 Satisfaction with their graduate year

Graduates' experience of hospital pharmacy is based on their graduate year and therefore influences their future choice of sector. The literature indicates that satisfaction with their graduate year influences their future career in terms of choice of sector and location (Kainey 2004).

The majority of graduates wish to remain in hospital pharmacy and so dissatisfaction with their graduate year could result in them leaving. Although many graduates were not satisfied with the training, supervision and support they received, most wished to remain in hospital pharmacy.

5.2.1.3 Availability of a position

Most graduates wanted a position in their hospital and most of those graduates reported that a position was available for which they could apply.
Some Directors were disappointed that they were not able to offer positions for which their graduates could apply.

5.2.1.4 Availability of ongoing training

The literature indicates that ongoing training is important for young professionals because they wish to continue learning throughout their professional life (Kainey 2002). Data from the questionnaire and particularly from the interviews indicate that this is very important for pharmacy graduates. Some interviewees mentioned that if they stopped learning or if learning opportunities were no longer available, they would quickly leave that position. This is consistent with descriptions of Generation Y, who are typically more likely to be loyal to an employer if they can access career enhancing support.

Access to 'on the job' training is required by young pharmacists. Most respondents prioritised clinical pharmacy training that is facilitated by an experienced clinical pharmacist. They also require access to externally provided training and again the focus is typically on clinical pharmacy.

5.2.1.5 Career needs being met

The literature indicates that young professionals wish to develop their career and they perceive that training is crucial to this development (Kainey 2002).

Graduates did not mention career needs often in their interview but did mention training very frequently. It is possible that they perceive that receiving ongoing training is closely linked to their professional satisfaction and hence their career, that receiving training and achieving career advancement were almost the same thing.

5.2.1.6 Professional satisfaction

The literature indicates that professional satisfaction is composed of many factors and that it is a strong influence on retention of professionals (Lum et al 1998). Factors that comprise professional satisfaction for pharmacy graduates appear to include challenge, interesting work, respect from other professionals, variety and the opportunity to take part in training and to use their knowledge and skills (Kainey 2002). This topic has not been studied for this group of professionals and these are assumptions from the existing literature on health care workers.

Training related factors with which graduates were satisfied included gaining experience in most functions of a pharmacy service, learning how to deal with a heavy workload, learning how to deal with competing priorities, having access to a fast internet connection at work, having access to a good selection of relevant pharmacy and medical texts, having access to relevant CPD, learning about the ethical and legal issues relevant to working in a hospital pharmacy, patient counselling, making professional judgements, being given tasks that stretched them and having experience of dealing with a range of professionals.

It is clear that remuneration for this group is of higher importance than other traditionally dominant 'professional satisfaction'.

The primacy of ongoing training mitigates against assuming that graduates are predominantly financially drive. The enthusiasm for ongoing training emphasises that graduates are very professionally oriented.

5.2.1.7 Mentoring and support

Mentoring and support for young professionals is highly valued and it's contribution to career development and professional satisfaction is well documented (Kainey 2004, Lee and Mackenzie 2003, Cusick et al 2004).

Graduates indicated that professional support from senior, experienced pharmacists was valued by them, although not all graduates received this support in their graduate year.

5.2.1.8 Professional factors that have a negative impact on retention in hospital pharmacy

Graduates wish to avoid working in departments where the stress levels are high or where workload is too high. Collyer (2003) notes this concern by young pharmacists. They wish to avoid departments where there are dysfunctional social relations. Some identify that there is a lack of resources and a low level of hospital support for pharmacy departments, such as in rural hospitals and this makes them less likely to work in such environments. The lack of resources in rural health being a negative influence on retention is supported by the literature about rural doctors (Hays et al 1997 and Pope et al 1998).

5.2.2 Personal category

This research supports the literature about the strong influence that the desire to live close to family and friends exerts on young professionals when they decide where to live and work (Solomon, Salvatori and Berry 2001).

This research does not however support the literature about the importance of partners being satisfied with the location and being able to find a position. This may be explained by the young age of graduates in this research.

Choice of rural or metropolitan lifestyle was a personal choice for current and recent graduates. Typically those with a rural background, wanted a rural lifestyle and those who had lived in metropolitan area, wanted to remain there. Some interviewees from cities wanted a different lifestyle and of these, some wished to live close to the coast and some prioritised living in a smaller town.

Of the other possible influential personal factors, the most striking was that graduates wanted to live in a place that was good for raising children. This is interesting when only a very small minority of respondents had children.

In summary, living close to family and friends is a strong motivator for participants in this research. Some wished to live near the coast and many believed that living in a place that was good for bringing up children was important for them.

5.2.3 Community factors

Services and are noted in the literature as influential for professionals when choosing locations to live and work (Kamien 1997, Solomon, Salvatori and Berry 2001). This research supports services

affecting retention in rural areas with the addition of 'proximity to the coast' as a factor that is important to pharmacy graduates.

There was a strong preference for living in a capital city in the next five years. Sydney was the most popular capital city. Major urban centres of Hunter and Illawarra were the next highest preference. Mid North Coast stood out among the remaining rural areas as being strongly favoured.

Interviewees indicated that they valued the training and career opportunities of metropolitan hospitals as well as the city lifestyle. Factors mentioned by interviewees were dominated by professional factors with lifestyle and personal factors featuring less strongly. It is likely that hospital pharmacy graduates are very motivated about their professional life after spending considerable time and money to become registered pharmacists.

Interviewees with a rural background indicated a willingness to return to their rural area to work and this is strongly supported by the literature.

In summary, the community related factors are of less importance to pharmacy graduates than professional factors. However access to services and a desire to live in cities at this early stage of their career is evident.

5.2.4 Triggers to leave

Professional factors featured strongly as triggers to leave for interviewees. They included poor access to training, getting bored and feeling that they were no longer learning at the pace that was acceptable to them. Work conditions were also influential with graduates being unwilling to work in poorly managed departments.

In summary, triggers to leave included a combination of professional factors focused around ongoing learning and development and work conditions. This supports the literature for young health practitioners (Belcher et al 2005).

5.3 Retention in rural areas

Data from this research will be discussed in the following sections headed professional, personal and community factors and will be compared with the literature. The extent to which data from completed questionnaires can be used is diminished because it was not possible to identify respondents who had done their graduate year in a rural hospital. It was possible to obtain some data from interviewees about their willingness to work in rural areas.

5.3.1 Professional factors

The literature indicates that young pharmacists prioritise training, mentoring, support and the opportunity to practise the full range of hospital pharmacy activities (Kainey 2002). Data from this research supports this. Interviewees were concerned about the possibility of poor access to Continuing Professional Development (CPD), ongoing training and good clinical pharmacy experience in rural hospitals. Data from the questionnaire indicated that graduates were satisfied with the availability of CPD during their graduate year so it is possible that the same training is available to them after they become registered.

Directors of Pharmacy in rural hospitals were aware of graduates' concerns about access to CPD, ongoing training and broad clinical pharmacy experience.

Factors that would make graduates less likely to remain in a rural area included lack of adequate in house and externally provided training, lack of the opportunity to practise the full range of hospital pharmacy activities and a desire to undertake post graduate study. Poor conditions such as high stress, overworking and lack of resources would also make it less likely that graduates would remain in a rural area.

In summary, professional factors did not appear to strongly influence young pharmacists to work in rural areas. On the other hand, lack of various professional aspects including training and the opportunity to practise the full range of hospital pharmacy services would have a negative influence on newly registered pharmacists.

5.3.2 Personal factors

The literature reports a strong association between having a rural background and favouring working in a rural area (Harris 1992 and Kamien 1987). Interview data supports this although it was not particularly strong.

This research shows that proximity to family and friends and living in a place that was good for bringing up children influences graduates' choice of location.

A rural lifestyle and living near the coast were favoured by some respondents. If graduates had a rural background, the preference for rural lifestyle was stronger. This was supported by interview data with interviewees mentioning various reasons for living in a rural area including a strong dislike for cities, liking smaller hospitals, wanting a 'sea change' and wanting to live close to the beach.

In summary, personal factors impact on choice of location to live. Interestingly proximity to family and friends was found to be stronger for hospital pharmacy graduates than rural background.

5.3.3 Community factors

The literature indicates that lack of services such as transport, sport and cultural facilities are common reasons that professionals give for not living in rural areas (Kamien 1997, Solomon et al 2001). It also indicates that the lower cost of living in rural areas is sometimes and attractant. Data from completed questionnaires indicates that the lower cost of living, availability of housing and lack of public transport are considerations but are not strong influences for respondents.

The literature supports rural areas being attractive places to bring up children because they are seen as less expensive, safer, cleaner and friendlier (McDonald et al 2002). Although respondents didn't rate rural areas as better places to bring up children, they indicated that they would live in a place that was good for bringing up children.

5.4 Models

The literature contains models of retention for various groups of staff in various locations. The literature does not contain any models of pharmacist, graduate or hospital pharmacy graduate retention in metropolitan or rural areas. The data from this research has enabled the proposal of several models namely, graduate satisfaction with professional and personal support, retention of hospital pharmacy graduates in hospital pharmacy and retention of hospital pharmacy graduates in rural areas of Australia.

The proposed models are outlined below using the major categories that McDonald (2002) proposed, of professional, personal and community.

5.4.1 Model of graduate satisfaction with professional and personal support

1. Satisfaction with training and tutor
- Having a structured programme
- Receiving supervision
- Receiving training in the full scope of topics that comprise hospital pharmacy
- Receiving help with the Pharmaceutical Society of Australia assignments
- Having access to ongoing CPD
- Training with other hospital pharmacy graduates
- The attitude of the graduate

2. Personal support

3. The working environment

4. Getting there - recruitment and orientation

Although personal support was not a particularly strong influence on graduates' satisfaction, it remains in the model because this factor needs to be heeded by Directors of Pharmacy.

5.4.2 Retention of hospital pharmacy graduates in hospital pharmacy

1. Professional
   - Pay
   - Satisfaction with their graduate year
   - Availability of a position
   - Availability of ongoing training
   - Career needs being met
   - Professional satisfaction
   - Mentoring and support

Negative factors (that is, if these were present, the impact on retention was negative)

   - Stress
   - Workload
   - Poor morale in department
   - Poor pay
   - Lack of resources, hospital support for pharmacy practice

2. Personal
   - Proximity of family and friends
   - lifestyle

3. Community
   - Services

4. Triggers to leave
    - Lack of training
    - Career advancement
    - Lack of support and supervision
    - Poor work conditions
    - Job stress

5.4.3 Retention hospital pharmacy graduates in rural areas

1. Professional factors
    - Satisfaction with grad year
    - Access to in house training
    - Access to mentoring and support
    - Access to local CPD
    - Career needs met
    - Professional satisfaction (variety, autonomy, independence, confident that they're making a difference, able to practice a full range of skills, able to provide comprehensive and continuing care to patients
    - Working conditions including pay

    Negative
    - Lack of in house training
    - Lack of local CPD
    - Post graduate intentions
    - Lack of scope of practice
    - Poor conditions (too high workload)
    - Stress
    - Lack of resources

2. Personal
    - Family
    - Friends
    - Rural background
    - Rural lifestyle
    - Good place to bring up children
    - Personal characteristics

3. Community
    - Access to services

Limitations of this research

The two key limitations are that the response to the questionnaire was low and that a question about the location of their graduate year was omitted in error.

The researcher will continue to send out questionnaires to 2008 graduates to increase the numbers. The SSA for SESIAHS will also be pursued because hospitals in that area have current and recent graduates.

The researcher inadvertently deleted the question about location of graduate year in error, thinking that the ethics committee had not approved her explanation of retaining this question. This made it impossible to formally compare responses from rural graduates with those from their metropolitan colleagues to identify differences. Where it was possible to identify whether interviewees were working in a rural or metropolitan hospital, it was clear that rural graduates had access to less training and support resources than metropolitan graduates.

Further questioning of graduates and Directors in the interviews may have revealed further data about what actions could be taken to improve the graduate support provided by hospitals. It could also have revealed more information about the graduates' overall satisfaction with their graduate year and the impact this level of satisfaction would have on their choices about future career. To have done longer interviews may have required doing them face to face or doing a second interview. Ethics approval of this amendment may still be possible for future interviews.

Chapter 6 Conclusions

Conclusions will be outlined under the three key headings of graduate satisfaction with professional and personal support, retention in hospital pharmacy and retention in rural areas. Findings that confirm the literature are noted as are new findings.

The new findings from this research on the support needs and retention of NSW hospital pharmacy graduates are many and varied due to the very limited nature of the existing literature, even when the world literature is considered.

6.1 Conclusions about satisfaction of graduates with the professional and personal support

6.1.1 Professional support

Training is very important for graduates but unfortunately many graduates were not satisfied with the training and support they received. The importance of being given a structured training programme is a new finding for hospital pharmacy graduates. Most graduates did not receive a structured training programme or a performance planning process. Lack of these aspects in their graduate training has caused significant disappointment for graduates. Graduates also felt that the balance between training and working was not right for them.

The literature strongly supports new graduates having a dedicated supervisor to provide support and clinical and professional supervision. Although most graduates were allocated a supervisor, most were not satisfied with the level of supervision and feedback they received. The research findings emphasise the importance of tailoring support to the individual's needs and recognising that their needs change with time.

Receiving training and experience in the full range of hospital pharmacy activities is prioritised by graduates and most received this. They rate training in clinical pharmacy skills the highest of all the topics and wish to receive training about the full range of conditions that they may see in hospitals including renal and oncology. The level of satisfaction with clinical training is not high, particularly in rural hospitals.

Topics where graduates were satisfied with their training included gaining experience in most functions of a pharmacy service, learning how to deal with a heavy workload, learning how to deal with competing priorities, having access to a fast internet connection at work, having access to a good selection of relevant pharmacy and medical texts, having access to relevant CPD, learning about the ethical and legal issues relevant to working in a hospital pharmacy, patient counselling, making professional judgements, being given tasks that stretched them and having experience of dealing with a range of professionals.

The gap between expectations and reality was most striking for receiving regular feedback about their clinical pharmacy skills and for presenting cases, seeing clinical pharmacists present cases and for receiving training about intravenous medication. In the interviews some mentioned that they would have liked training in specialist areas that weren't available in smaller hospitals. Sometimes graduates arranged to obtain this training elsewhere.

Other training topics where graduates were particularly unhappy with the training included S2 and S3 medicines and other preparation for the registration exam.

Access to CPD for all graduates including those in rural areas, appeared to be satisfactory.

Training with other graduates is also important for graduates as it reduces anxiety and helps with the transition from student to worker.

The graduate's attitude was highlighted as being vital to them getting the most out of their graduate year.

6.1.2 Personal support

Some graduates need help with accommodation, transport and developing local support networks when they move to a new area. Most graduates did feel personally supported by their department although some did not and this is a concern. The value of developing social relationships with junior doctors and medical students through shared hospital accommodation is also a new finding. Participants commented that these relationships helped the graduates to develop negotiation skills when dealing with junior doctors about patient's medication. Graduates appreciated pharmacy department social events as a way of getting to know staff, particularly at the beginning of the year. Although graduates did not prioritise this, Directors expressed a need for rural hospitals to organise social events to help graduates in all professionals to develop support networks.

Personal support is usually offered on an 'as required' basis by pharmacy departments. The benefit of systematically and explicitly offering support would be that support could be more comprehensive and reliable for both the graduate and the department.

6.1.3 The working environment

Graduates and young pharmacists appreciate working in a department which is helpful and friendly and one that is well managed.

Graduates' experiences of recruitment and orientation did not quite meet expectations but this did not appear to have been a significant source of dissatisfaction.

6.2 Retention of graduates in hospital pharmacy

Poor pay for junior hospital pharmacists makes it difficult for some hospital pharmacy graduates to remain in hospital pharmacy. Although most respondents were keen to have a career in hospital pharmacy, the pressure of HECS debts and a desire to start saving meant that some graduates looked to community pharmacy for better pay. This is a new finding because the literature on health care professionals indicates that pay is not nearly as influential on retention as other professional factors.

Consistent with the literature about 'Generation Y', graduates prioritise training and support that will help them to develop a professionally satisfying and successful career. If they do not feel they are receiving this, they will strongly consider leaving.

There was a strong preference expressed for living in capital cities and graduates indicated that access to services, proximity to family and friend as well as an active social life, were the key attractants. Graduates were willing to consider living in smaller cities and towns as their years of practice increased. Metropolitan hospitals were seen as offering better training, supervision, support and career opportunities.

Some graduates expressed a desire to live in rural areas because they were from a rural area, because they disliked cities or large hospitals or because they wished to live near the coast in a rural area.

Triggers to leave a position were predominantly professionally related, with poor access to training, getting bored or feeling that they were no longer learning being given as reasons.

6.3 Retention in rural areas

Personal factors predominated as reasons for remaining in rural areas with proximity to family and friends, having a rural background and living near the coast being the main reasons given to explain this preference.

Professionally related factors were more likely to discourage graduates from remaining in a rural area. Consistent with the literature, is the concern that access to 'on the job' training and externally provided training will be difficult in rural areas.

Some graduates preferred smaller hospitals because they are friendlier. Others believed that rural hospitals were underfunded and overworked and this would make them less likely to work there.

The vast majority of hospital pharmacy graduates wish to remain in hospital pharmacy and enjoy the training and professional development aspects of their work. This is in spite of many graduates being unsatisfied with the training and support they have received. The majority of reasons for remaining or leaving are professionally focused with training, experience and professional improvement being the main motivations.

Pay is invariably a low priority factor for health care professionals' retention according to the literature. However in the case of hospital pharmacy graduates, it is the key trigger for them to leave for work in community pharmacy. Community pharmacy does not usually hold great attraction for pharmacy graduates who have chosen to do their graduate year in a hospital. However, twenty and thirty year old professionals who have spent four years at university and who have large HECS debts are keen to start saving and the lure of doubling their salary is occasionally enough to tip the balance of professional satisfaction and remuneration.

Retention of hospital pharmacy graduates in rural NSW hospitals is similar to that for those in metropolitan hospitals, with the addition of dealing with concerns about access to ongoing training and CPD. Reasons for leaving and staying are a mix of personal, community and professional factors with rural background strongly influencing them to stay.

6.4 Recommendations for Directors of Pharmacy Departments

For busy NSW Hospital Pharmacy Departments that are already stretched with ever increasing expectations and ongoing short staffing, the unmet needs of graduates provides a challenge.

Providing a comprehensive structured training programme, effective supervision and individualised professional and personal support demands significant resources in terms of skills and time. The importance is not underestimated by Directors, however their competing priorities makes provision of support to the level required by graduates very difficult in the current funding climate.

Professional and personal support that is tailored to individuals is vital to ensure that graduates settle into their new positions and start learning about providing hospital pharmacy services. They are making the transition from student to worker and require reassurance and support. They need a dedicated supervisor who is available to provide guidance, training, answer questions and to ensure that the graduate is making satisfactory progress. This support is best provided by a pharmacist with training skills who is able to respond to the graduate's needs.

Ensuring that graduates learn to be competent and professionally motivated hospital pharmacists is vital to the ongoing development of hospital pharmacy services. Development of a framework with training materials and ongoing support for Directors, may help departments with limited infrastructure. Examples of existing manuals and training programmes include those developed by Hunter New England AHS and the Canberra Hospital.

Graduates have a variety of expectations of their graduate year and sometimes their beliefs about the year are not very helpful to them. It may be helpful for graduates and also for Pharmacy Departments if something is written about the graduate year to help both groups have more similar expectations.

Staffing of hospital pharmacy departments may need to be reviewed if effective support of graduates is a priority in NSW.

This research supports commonly held beliefs by hospital pharmacists that remuneration for junior pharmacists must be improved in NSW if retention is to increase. Currently it is based on the number of years worked. One option is to base it on levels of responsibility, complexity of the tasks and competence, like the UK hospital pay system. This is currently being investigated.

6.5 Future research on this topic

Future research about Australian hospital pharmacy graduates could focus on options for improving the support that hospital pharmacy departments can provide. Due to the high level of vacancies it is likely that future support for graduates may involve state-wide or AHS wide co-operation similar to the collaborative working that already occurs in Hunter New England, in Illawarra and possibly in others areas of NSW. Clinical pharmacy is a high priority for graduates and some of this could be provided to all graduates using tele- or video-conferencing facilities.

Future research could also focus on evaluating the locus of control for individual graduates and identifying the effect this has on their training and graduate year outcomes.

There is research to indicate that 'organisational commitment' is a stronger retention factor than 'professional satisfaction'. It would be interesting to investigate this further, particularly in the context of most pharmacy graduates being part of the 'Generation Y' which is typically less loyal to organisations.

More detailed research about the extent to which various aspects of the graduate year experience and overall satisfaction with it, affect choices about future career type, sector and location.

Appendix 1

Questionnaire that was handed to current and recent past hospital pharmacy graduates (this is included on the ircst website as a separate attachment)

Appendix 2

List of questions that was used to guide interviews with current and recent past graduates and Directors of Pharmacy

The main topics which will be covered for graduates will include;

- Tell me about your first day as a graduate
- Did you have any difficulty arranging accommodation for your grad year
- Did you receive any help with this from your hospital
- How did you settle into the graduate position
- What training did you receive
- How effective is training you have received
- What other training did you hope to receive
- If you not from this area, did you receive any assistance to develop a support network
- Tell me about that
- Tell me about any other support of a personal or professional nature that you would like to receive to help you settle into this position and to make the most of your graduate year.
- What would make you more likely to stay in hospital pharmacy? Professional, personal (including remuneration) and community factors
- What would make you less likely to stay in hospital pharmacy? Professional, personal (including remuneration) and community factors?
- What might be the sort of triggers that might make you leave hospital pharmacy
- What might make you more likely to apply for a position in community pharmacy
- What might make you more likely to apply for a position in academia
- What might make you more likely to apply for a position in industry
- What might make you more likely to apply for a position in rural hospital pharmacy, if you did your graduate year in metropolitan hospital pharmacy?
- What might make you more likely to apply for a position in metropolitan hospital pharmacy if you did your graduate year in rural hospital pharmacy

The topics for Directors of Pharmacy will include;

- How many graduates do you have and how did you recruit them
- Do you have pharmacy students for their placements? If yes, how many per year approximately. How well does that work?

- Is the hospital in a position to assist with accommodation
- Did you receive any help with this from your hospital
- How did this year's graduate/s settle into their position
- What support do you think pharmacy departments and hospitals can do to help graduates settle into their new positions?
- Does your department assist graduates to develop a network of people with similar interests eg sporting, ethnic, religious, hobbies
- What training have they received so far
- How has that been going
- What other training do you hope to deliver
- How is the graduate responding to the training
- How does the graduate fit into the pharmacy team?
- How does the graduate respond to requests to help deliver services
- Tell me about any other support of a personal or professional nature that you think the graduate/s need to help them settle into this position and to make the most of their graduate year.
- Is there any other information from your experience of hospital pharmacy graduates that you think may be useful to the research?
- What would make them more likely to stay in hospital pharmacy? Professional, personal and community factors
- What would make them less likely to stay in hospital pharmacy? Professional, personal (including remuneration) and community factors?
- What might be the sort of triggers that might make them leave hospital pharmacy
- What might make them more likely to apply for a position in community pharmacy
- What might make them more likely to apply for a position in academia
- What might make them more likely to apply for a position in industry
- What might make them more likely to apply for a position in rural hospital pharmacy, if they did their graduate year in metropolitan hospital pharmacy?
- What might make them more likely to apply for a position in metropolitan hospital pharmacy if they did their graduate year in rural hospital pharmacy

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