ANTON BREINL CENTRE FOR PUBLIC HEALTH AND TROPICAL MEDICINE
SCHOOL OF PUBLIC HEALTH, TROPICAL MEDICINE AND REHABILITATION SCIENCES
JAMES COOK UNIVERSITY

QUEENSLAND HEALTH, ALLIED HEALTH PRE-ENTRY SCHOLARSHIP REVIEW

FINAL REPORT

Report submitted to:

Julie Hulcombe
Director Allied Health Workforce Advice and Coordination Unit
Queensland Health

Prepared by Ms Sue Devine and Mr Gary Williams
School of Public Health, Tropical Medicine and Rehabilitation Sciences
James Cook University

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Research Team

Professor Rick Speare (Chief Investigator), Director of the Anton Breinl Centre for Public Health and Tropical Medicine, James Cook University

Ms Sue Devine (Co-investigator), Senior Lecturer at the Anton Breinl Centre for Public Health and Tropical Medicine, James Cook University. Sue provided overall coordination of the project.
Mr Gary Williams (Co-investigator), Lecturer at the Anton Breinl Centre for Public Health and Tropical Medicine, James Cook University. Gary provided analytical support for the quantitative data and assisted with overall coordination.
Ms Julie Parison, Lecturer at the Anton Breinl Centre for Public Health and Tropical Medicine, James Cook University. Julie provided analytical support for the qualitative data.

Ms Jennifer Cox, Research Assistant at the Anton Breinl Centre for Public Health and Tropical Medicine, James Cook University. Jennifer assisted with data collection and provided administrative support.

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Abbreviations

AHAOPSS	Allied Health Area of Priority Scholarship Scheme
AHP	Allied Health Professional
AHPEP	Allied Health Professional Enhancement Program
AHRRTS	Allied Health Rural and Remote Training and Support
AHWACU	Allied Health Workforce Advice and Coordination Unit
HP3	Health Practitioner Level 3
HP4	Health Practitioner Level 4
HPCA	Health Professional Council of Australia
JCU	James Cook University
NRHA	National Rural Health Alliance
QHRSS	Queensland Health Rural Scholarship Scheme
RRMA	Rural, Remote and Metropolitan Areas
SARRAH	Services for Australian Rural and Remote Allied Health
SPSS	Statistical Package for the Social Sciences
WHO	World Health Organisation

Executive Summary

Background

In June 2010, the Anton Breinl Centre for Public Health and Tropical Medicine in the School of Public Health, Tropical Medicine and Rehabilitation Sciences at James Cook University (JCU) was engaged by the Allied Health Workforce Advice and Coordination Unit (AHWACU) at Queensland Health to conduct a review of the Queensland Health Allied Health Pre-Entry Scholarship Program.

The overall aim of the Queensland Health Allied Health Pre-entry Scholarship Review was to evaluate the effectiveness of the Area of Priority Scholarship Scheme and the Queensland Health Rural Scholarship Scheme (Allied Health) in enhancing early career recruitment and retention in rural and remote areas and areas of critical need. In particular the study assessed:

1. The association between undergraduate scholarship schemes and enhanced allied health recruitment to rural and remote services and retention of early career allied health professionals in rural and remote areas and the organisation.
2. The structural and organisational features that influence the success of existing undergraduate scholarship schemes in relation to:
    a. Structure e.g. year at entry, duration, support (financial, organisational) during scholarship period
    b. Service (bonding) periods and administration of same-inclusion or absence of a service period, duration, location (rural/remote or with preliminary metro/regional training) support and development during the service period
    c. Components of the scholarship program which support the recipient to gain rural and remote practice skills and positively influence early career retention outcomes
3. The direct and indirect benefits and costs of the undergraduate scholarship schemes.
4. The perceived barriers and impediments that exist for health services accepting scholarship holders.
5. The support issues for new graduates and how support can be enhanced to retain graduates in rural practice.

Methodology

The review was conducted in two stages. Stage One was a literature review and was completed in November 2010 and is available as a separate report. Stage Two was undertaken from December 2010 to February, 2011. A mixed methods study was conducted that consisted of quantitative analysis of existing Queensland Health scholarship data and a qualitative study that used one on one in-depth telephone interviews with past or current scholarship holders and the managers of scholarship holders. The findings of Stage Two are presented in this report.

Results

Quantitative Data

The mean age of all scholarship holders (QHRSS and AHAOPSS) was 28.15 ±7.81 years (QHRSS - 28.52 ± 7.86; AHAOPSS - 26.85 ± 7.61). Eighty point four percent of all scholarship recipients were female (QHRSS - 81.5%; AHAOPPSS - 77.1%). Seventy five point three percent were recipients of a QHRSS (Allied Health) with the remainder receiving an AHAOPSS.

Of the 194 scholarship recipients, (both QHRSS and AHAOPSS) the greatest number of recipients (21.1%) commenced in 2007, with the lowest number commencing in 2003 and 2005 (both years represent 4.6% of total scholarship holder offers). Of the QHRSS scholarships, 2007 was still recorded as the highest commencement year recording 17.8%. A total of 10 health disciplines were recorded as receiving scholarships, either QHRSS or AHAOPSS. Physiotherapy was the largest recipient of both scholarship types (QHRSS; 21.2%, AHAOPSS; 29.2%). In regards to QHRSS, this was followed by Pharmacy, Occupational Therapy, Speech Pathology and Social Work (19.9%, 12.3%, 12.3%, and 11.0% respectively).

The QHRSS recipient cohort was examined in greater detail through tracking all current and previous scholarship holders who were awarded a scholarship in the period 2001-2008 and therefore entered their service period with Queensland Health between 2003 and 2010.
The QHRSS recipient cohort at October 2010 included 146 QHRSS scholarship recipients of whom 41.1% had completed their service period, 28.1% were currently completing the service period, 14.4% were still completing the study period and 2.7% had deferred their service period. A total of 13.7% of QHRSS recipients accounted for broken service period. Of the AHAOPSS recipients 41.7% had completed their service period, 33.3% were currently

completing the service period, 18.8% were still completing the study period and 2.1% had deferred their service period. 4.2% of AHAOPSS recipients were reported as having broken their bond.

Initial service location recorded that 56.8% of QHRSS scholarship recipients served in rural or remote locations (48.3% and 8.5% respectively). Second service location data recorded that 50% of QHRSS scholarship recipients served in rural or remote locations (40.9% and 9.1% respectively). In the AHAOPSS group, 29.2% of recipients served in rural or remote locations (25% and 4.2% respectively). Second service location data recorded that 50% of AHAOPSS scholarship recipients served in rural or remote locations (41.7% and 8.3% respectively).

For the QHRSS recipients data set (2000-2008 intake years), as of October 2010, the median time spent working for Queensland Health overall was 48 months; [IQR: 36-72 months]; (Range: 12-120 months), and median time spent in a rural location was 24 months; [IQR: 9.7-32.7 months]; (Range: 0-96 months). Service data was adjusted to compensate for Queensland Health employees who had recorded scholarship service completion but capture data failed to record rural service time. Scholarship holders who were still completing study periods were not recorded when calculating service time.

Survival probabilities were also calculated for QHRSS holders for both Queensland Health service and rural service. The cumulative survival probability for Queensland Health service of the QHRSS recipient group (intake years 2001-2008***)*** over a maximum 120 month period was found to be 0.408 at the median survival point of 96 months. The most noticeable event occurred at 48 months with the cumulative survival probability dropping from 0.917 at 36 months to 0.708 at 48 months.

The cumulative survival probability for rural service of the QHRSS recipient group over a 96 month period was found to be 0.482 at the median survival point of 42.4 months. The most noticeable event occurred at 24 months with the cumulative survival probability dropping from 0.866 at 11.5 months to 0.724 at 24 months.

Qualitative Data

The key findings from the review are summarised below:

Scholarship Holder Perspectives

- Positive support for rural scholarships
- Key motivators for applying for a scholarship are financial and job security upon graduation, although the general appeal of and preference for rural practice is an underlying motivator.
- Not all scholarship holders receive support during their undergraduate degree to undertake a rural placement.
- Doing undergraduate placements in an area where they practice in the future is useful for familiarity of the community and position and for establishing networks.
- Ambivalence exists regarding whether students should be allocated a predetermined practice location at time of scholarship application.
- Regardless of receiving a scholarship, most scholarship recipients reported they would have gone into rural and remote practice.
- Health professionals leave rural practice for personal and family relationship reasons more than because of dissatisfaction with rural practice.
- Districts play a key role in having well defined strategic processes that orient and support new graduates.
- Flexibility in working hours enhances opportunities to maintain long distance relationships.
- New graduates are presented with additional challenges if working as a sole practitioner and need additional support when first commencing practice.
- Professional and clinical support and supervision, supportive work environment and culture, mentoring and professional development are important for retention.
- Support for safe and comfortable accommodation is important and for social integration into communities.
- Rural Health Connections needs a process for ongoing engagement with scholarship holders following graduation and placement in rural practice.

Manager Perspectives

- Positive support for rural scholarships generally.
- Districts play a key role in having well defined strategic processes that orient and support new graduates particularly in relation to supervision, mentoring and professional development.
- New graduates bring enthusiasm, passion, motivation, energy, up to date knowledge, skills and best practice and well developed technical skills
- New graduates need extra support to assist in the undergraduate to practice transition.
- Having new graduates places additional work load pressures on existing senior staff in the early phases of new graduate tenure.
- Regional work placements **before** rural practice could improve work readiness for the rural role.
- Concern exists regarding potential de-skilling as a result of rural practice.
- Regional placements **during** rural practice could assist in skills development and network development.
- From a small number of managers there was concern that some rural position accountabilities were inconsistent with HP Level 3.
- Scholarships are a positive recruitment strategy but future oversupply of some disciplines need consideration and more targeted scholarships may be needed for disciplines were recruitment gaps continue.

  Managers did not see physiotherapy and pharmacy as an issue for recruitment but suggested that some areas, such as mental health, needed to be targeted to address workforce shortages.
- Districts need opportunities to be involved in scholarship holder recruitment processes to ensure that the scholarship holder is suitable for their needs.

Recommendations

The following recommendations are made as a result of the review findings:

1. Interviewees (both scholarship holders and managers) see the Queensland Health Rural Scholarship Scheme (Allied Health) as a valuable program that should continue but suggested the need for some refinement and modification that takes into account current workforce trends.
2. The scholarship should target specific discipline workforce shortages in rural and remote areas particularly in relation to mental health.
3. Scholarship holders, where possible, should practice in locations that are similar to their undergraduate placements.
4. Scholarship recipients should be allocated to rural and remote locations that are suitable and appropriate for new graduates in regards to their roles and responsibilities.
5. Queensland Health needs to look for opportunities to influence universities to support students to undertake a rural placement within their undergraduate training, preferably in a location similar to graduate placement, if known.
6. The potential for new graduates to spend time in a larger regional centre **before** being placed into rural practice needs further exploration.
7. The potential for new graduates to spend time in a larger regional centre **during** their rural practice needs further exploration.
8. There needs to be greater standardisation across Queensland Health regarding strategic processes to support new graduates with an emphasis on orientation, supervision, mentoring and professional development.
9. Queensland Health needs to scope the District capacity to provide adequate support to new graduates.
10. New graduates, including scholarship holders, require enhanced support in the early stages of their rural practice. Opportunities for involvement of both Districts and Rural Health Connections in relation to this require further discussion and negotiation.
11. Queensland Health needs to provide accommodation support for new graduates.
12. Opportunities for greater District involvement in the recruitment of scholarship holders require further exploration.

Conclusions

The results of this review demonstrate positive support for the rural scholarship program both from the perspective of the scholarship holder and the managers of the scholarship holders. Despite this there are aspects of the scholarships in their current form that have been identified by participants that require consideration in light of current workforce supply and demand and changing professional structures within Queensland Health. The issue of supply and demand has been highlighted and managers identified a possible future over supply in some disciplines. This is further reflected in the data with 42.3% of scholarship uptake accounted for by physiotherapy and pharmacy. Targeting future scholarships may provide an opportunity to tailor recruitment specifically to the needs of both Queensland Health and communities. Concerns exist regarding requirements for rural placement at an undergraduate level and the absence of rural placements for some scholarship holders. Undergraduate rural placements combined with other interventions such as regional work placements before rural practice could play a significant role in addressing concerns of work readiness expressed by managers. While many scholarship holders feel well supported as a new graduate entering rural practice, others have identified gaps that exist in relation to their experiences and the support they receive. Opportunities exist for more standardised approaches across all Districts that will strengthen the support structures that are in place. Support structures may also extend beyond the workplace and address personal support needs of new graduates in areas such as accommodation, working hours and social networking.

1. INTRODUCTION

1.1 Background to the Review

In June 2010, the Anton Breinl Centre for Public Health and Tropical Medicine in the School of Public Health, Tropical Medicine and Rehabilitation Sciences at James Cook University (JCU) was engaged by the Allied Health Workforce Advice and Coordination Unit (AHWACU) at Queensland Health to conduct a review of the Queensland Health Allied Health Pre-Entry Scholarship Program. AHWACU plays a key role in the development, implementation and evaluation of strategies to ensure that there is an appropriately skilled allied health workforce designed to meet the current and future health service needs of Queensland. They currently provide a portion of the total resourcing to the Queensland Health Rural Scholarship Scheme (QHRSS) (Allied Health) and have been the sole funders of Area of Priority Scholarship Scheme (AOPSS).

The QHRSS aims to:

- ***Establish for Australian students, premier career pathways to rural health practice in multiple disciplines from tertiary to postgraduate education/training and service placement.***
- ***Increase supply of health professionals exceptionally fit to practice in rural and remote Queensland.***
- ***Provide preparation, training and support of such high standard and value to the scholarship holder that bonds become inconsequential to them.***
- ***Commit to match personal, family and career needs and aspirations with organisational and community requirements through indicative planning.***
- ***Assist to fill vacant positions in rural health facilities.***

(Queensland Health, 2011)

The QHRSS (Allied Health) is available to undergraduate allied health students studying fulltime at a Queensland University. In Australia, there is a lack of clarity and consistency as to what disciplines comprise the allied health workforce (Australian Health Workforce Advisory Committee 2006). The Health Professions Council of Australia (HPCA) define allied health professionals (AHPSs) as “tertiary qualified providers of mainstream health care and members of the following professions: audiology, dietetics, occupational therapy, optometry, orthoptics, orthotics and prosthetics, pharmacy, physiotherapy, podiatry, psychology, radiography, social work and speech pathology. AHPs are not medical doctors or nurses” (Lowe and O’Kane, 2004). Services for Australian Rural and Remote Allied Health

(SARRAH) have a similar definition describing AHPs as “tertiary trained health practitioners (who are not doctors or nurses) from one of several individual professions who have, for the purpose of presenting a collaborative position, come together to work towards a common goal. Professions represented in any allied health practitioner group vary depending on the goal of their collaborative effort. Professions may include, but are not limited to audiology, nutrition and dietetics, occupational therapy, orthoptics, orthotics, pharmacy, physiotherapy, podiatry, psychology, radiography, social work, and speech pathology”.
In relation to the QHRSS (Allied Health) and AOPSS, AHPs include the following disciplines:

- Physiotherapists
- Occupational therapists
- Speech pathologists
- Dietitians/nutritionists
- Podiatrists
- Psychologists
- Pharmacists
- Medical imaging/radiographers
- Social workers
- Prosthetics/Orthotics.

The AOPSS scholarships commenced in 2006 and are funded solely through the AHWACU allocation. Resourcing for the AOPPS was derived from the response to the 2005 Forster Report. To address Forster Report recommendations, recurrent funds were allocated within the Action Plan “Building a Better Service for Queensland” in October 2005 to provide additional support and supervision to new graduates, scholarships for students and to facilitate other workforce initiatives resulting from this resourcing (Forster, 2005). The QHRSS (Allied Health) has been available in its current form for most Allied Health disciplines since 1997. AHWACU currently provide additional funding to the QHRSS (Allied Health) to augment the resources provided through the organisation-wide QHRSS (the broader program is available to disciplines other than allied health including medical, dental, nursing and other disciplines).

Successful scholarship holders are provided with financial assistance to support them during their full-time undergraduate university studies in their chosen discipline. Upon graduation the scholarship holders are contracted to be employed by Health Service Districts in rural health care facilities throughout Queensland, thus providing rural communities with essential health services.

1.2 Aim of the Queensland Health Allied Health Pre-entry Scholarship Review

The overall aim of the Queensland Health Allied Health Pre-entry Scholarship Review was to evaluate the effectiveness of the AOPSS and the QHRSS (Allied Health) in enhancing early career recruitment and retention in rural and remote areas and areas of critical need.

In particular the study assessed:

1. The association between undergraduate scholarship schemes and enhanced allied health recruitment to rural and remote services and retention of early career allied health professionals in rural and remote areas and the organisation.
2. The structural and organisational features that influence the success of existing undergraduate scholarship schemes in relation to:
    a. Structure e.g. year at entry, duration, support (financial, organisational) during scholarship period
    b. Service (bonding) periods and administration of same-inclusion or absence of a service period, duration, location (rural/remote or with preliminary metro/regional training) support and development during the service period
    c. Components of the scholarship program which support the recipient to gain rural and remote practice skills and positively influence early career retention outcomes
3. The direct and indirect benefits and costs of the undergraduate scholarship schemes.
4. The perceived barriers and impediments that exist for health services accepting scholarship holders.
5. The support issues for new graduates and how support can be enhanced to retain graduates in rural practice.

1.3 Process of the review

Upon signing of the service agreement a steering committee comprising Queensland Health and JCU staff was formed and Terms of Reference established (Appendix One). The review was divided into two parts. Firstly a literature review was conducted followed by a mixed methods study to evaluate the scholarship programs.

1.4 The literature review

The literature review addressed the following:

1. The association between undergraduate scholarship schemes and enhanced recruitment of rural and remote AHPs and the retention of early career AHPs
2. The features that influence the success of existing undergraduate scholarship schemes in relation to:

    - Structure e.g. year at entry, duration, support (financial, organisational) during scholarship period
    - Service (bonding) periods and administration of same
    - Components of the scholarship program which support the recipient to gain rural and remote practice skills and positively influence early career retention outcomes
3. Other models to enhance allied health rural and remote recruitment and early career retention outcomes
4. Evidence (and of what strength) to support these models
5. Current and projected rural and remote allied health workforce trends - i.e. how many new graduates currently enter rural and remote practice, are these numbers increasing, decreasing?

The literature review was completed in November 2010 and submitted to the AHWACU. It is suggested that this review be read in conjunction with this report however a summary is provided below.

The literature review identified that the bulk of recruitment and retention incentives implemented by the Australian Government have focused on doctors and to a lesser extent, nurses, with very few interventions targeting AHPs (Auditor-General, 2009). There was limited data in the literature regarding allied health workforce trends in Australia and in rural and remote practice, and what was available was not current. It was also identified that there is a lack of data for allied health graduate rates, as well as a lack of studies that follow allied health graduates across their career path to determine where they take up employment (geography, discipline and organisation) and what has influenced their decision.

While the literature on the rural and remote health workforce has focused heavily on the medical profession and to a lesser extent, nurses, there is data to show that recruitment and retention of AHPs is also of significant concern. Although in general the data collected on the

allied health workforce is of poor quality (Health Professional Council of Australia [HPCA], 2005), there is a national shortage of AHPs with a mal-distribution between metropolitan centres and rural and remote communities such that access to the range of core clinical allied health services reduces significantly with increasing remoteness (Allen, 2005). In 2005, it was estimated that the average number of AHPs in major metropolitan areas was 2.66 per 10,000 population compared to 0.60 per 10,000 population in very remote areas, and 1.81 per 10,000 population in inner regional areas such as Bathurst (SARRAH, 2005). The National Rural Health Alliance [NRHA] (2004) expressed the problem in terms of "just 24% of allied health professionals service the 32% of Australia's population living in rural and remote regions of Australia" (p.7). More recent data suggests that the ratio of AHPs to population may be significantly less than this, at least in some regions of Australia (Smith, Cooper, Brown, Hemmings & Greaves, 2008).

In a climate of allied health workforce shortage, SARRAH (2010) has noted that demand for AHPs is likely to increase with the ageing of the population. This is particularly the case in remote regions of Australia where social isolation, cultural diversity, socioeconomic status, employment status, environmental factors and distance from health services impact negatively on health outcomes. The ageing of the population combined with epidemiological changes in the pattern of disease and disability (e.g., increased chronic disease, increased disability associated with depression) are also likely to force shifts in the nature of health service delivery including greater emphasis on employing multidisciplinary health teams (Battye, Hines, Ingham & Roufeil, 2006).

The total number of graduating and employed AHPs in Australia seems to be increasing in all of the AHPs under investigation in this study although this is based on limited and poor quality data. The published literature also does not unpack the data sufficiently to understand what this apparent increase translates to in the workforce. For example, it is unclear if the apparent increase equates to true full-time equivalent positions. This may be a particularly relevant issue given the feminisation of many of the allied health professions and the lifestyle choices preferred by many young professionals today.

The breakdown of the workforce data by geographical location is also non-existent or at best weak. It fails to drill down to understand outreach delivery of services, and to distinguish adequately between where an AHP lives and where they provide services (which may be multiple places). In summary, the evidence suggests that despite training more AHPs the shortage of these health professionals appears to continue, particularly in rural regions, and

particularly for some professions (i.e., podiatry, speech pathology, medical imaging professionals, and in some states psychologists and physiotherapists).

A considerable body of literature has accumulated that investigates the factors associated with recruitment and retention of health professionals. The WHO (2010) has recently reviewed this literature and described the factors associated with recruitment and retention to remote and rural practice as falling in to five categories.

- Personal origins and values
- Working and living conditions
- Career related
- Financial aspects
- Bonding and mandatory service.

Australian research has identified very similar recruitment and retention factors. These can be categorised in terms of the nature of the work, personal needs, and the context of the work including managerial factors. While not the major focus of the literature review, a broad synthesis of the Australian literature indicates that the main factors associated with recruitment and retention are:

i. Factors associated with the context of the work:
- Not enough time for networking and professional development
- Poor staffing levels
- Workloads in general
- Lack of leave relief via locum or agency staff
- Funding issues around fractional appointments
- Inappropriate and/or ineffective management and supervisory structures for AHPs (e.g., not having another AHP as immediate supervisor), a problem magnified in smaller communities
- Poor access to education and training
- Limited opportunity for career advancement; flat career structures
- Inadequate attention by employing agencies to the occupational health and safety of AHPs engaged in outreach services
- Distance to be travelled for outreach workers and clients
- Lack of communication amongst agencies
- Poor management support

- Inadequate electronic information management and communication systems to support integrated practice
- Rapidly changing health service delivery structures
- Unevenly distributed and limited resources
- Lack of resource sharing
- Personal safety fears; violence, commonly in the form of verbal abuse or threatening behaviour, towards staff by patients or patients' relatives

ii. Factors associated with the work itself (many of the factors listed above could also be placed in this categ***o***ry):

- Lack of opportunity to use special skills
- ***Professional isolation (especially for sole therapists)***
- Lack of access to professional mentoring and debriefing sessions
- Pressure of waiting lists on overstretched services in every allied health discipline

iii. Personal factors:

- Rural background
- Lack of educational and employment opportunities for family members
- Economic security
- Lack of financial incentives
- Negative perceptions of rural/remote living and professional practice (may be at least partially overcome by rural student placements)
- Social isolation
- Characteristics of the particular location or community.

Given the multiplicity of factors associated with recruitment and retention to rural and remote practice, a range of strategies at personal level, service level and the system level have been adopted, sometimes singularly or in combination.

The World Health Organisation (WHO, 2010) has identified four broad categories of recruitment and retention interventions.

(i) Education interventions
(ii) Regulatory interventions
(iii) Financial incentives
(iv) Professional and personal support

There is a paucity of robustly designed studies to assess the impact of recruitment and retention interventions on the rural and remote allied health workforce. What evidence is available offers only weak support for the strategies examined because of issues with the research design such as small sample size, failure to control for extraneous variables, difficulty establishing a baseline against which to assess results, significant drop out rates in longitudinal studies, and inability to identify causal relationships between interventions and workforce outcomes.

A major focus of the literature review was the impact of financial incentives (particularly in the form of scholarships) on recruitment to rural practice. Like other incentives, there was a paucity of robustly designed efficacy studies to test the impact of financial incentives on workforce outcomes. The bulk of the literature that does exist has focused on the medical profession and the generalisability of these findings to AHPs is questionable.

There appeared to be no well controlled studies of the impact of undergraduate scholarships on recruitment to rural practice for AHPs resulting in a paucity of evidence to assess the efficacy of financially-based scholarships on recruitment to rural practice. It appeared that financial and in-kind incentives of sufficient amount are likely to have some impact but how much incentive is required to achieve an effect on the workforce is unclear and for scholarship-type incentives, some degree of drop-out appears unavoidable, regardless of whether or not there is a buy-out clause. Moreover, it seemed that financial incentives need to be part of a broader package of incentives to maximize the chance of a positive impact. As Humphreys and colleagues (2009) warn, the evidence for financial incentives is not strong enough to warrant it being the most important or initial strategy of choice. From their review, Humphreys and colleagues (2009) reported that the strongest evidence exists for strategies involving some form of obligation.

Another focus of the literature review was the impact of conditional scholarships on recruitment to rural areas. Conditional scholarships are classified in the literature as a type of compulsory service program along with bonding, mandated or obligatory service and coercive programs (Frehywot, Mullan, Payne & Ross, 2010). These compulsory service interventions have a long history and have been particularly popular across the world since the 1970s, including in Australia (Frehywot et al, 2010; Wilkinson, 2003).

Essentially, compulsory service programs require the health professional to work in a rural or remote area for a specified number of years, either with or without additional incentives.

Incentives include:

- Education (completion of rural placement required to receive qualification, rural service is required as a prerequisite into specialist training, rural placement is required after graduation)
- Employment (rural practice is required to obtain license to practice or as a pre-requisite to career advancement)
- Living provisions (housing, lower car loans, children's scholarships as incentives to stay after the period of compulsory service) (Frehywot et al, 2010).

Many of the programs that use incentives also include the potential for the recipient to "buy out" some or all of the period of compulsory service.

Despite identifying factors that can improve the likelihood of success of compulsory service programs, the literature review concluded that these types of programs are not a permanent solution to rural workforce issues but if well planned and supported by additional incentives can improve the mal-distribution of health professionals (Frehywot et al, 2010). This conclusion supports that of an earlier review of incentives by Wilson, Couper, De Vries, Reid, Fish and Marais (2009) who also concluded that coercive strategies show promise but their long-term impact remains unclear.

Although the literature review highlighted the lack of robust evidence to determine the efficacy of undergraduate and graduate scholarships and other incentive schemes, some conclusions were made.

The 'rural pipeline' was one of the strongest lines of evidence found in the literature, referring to recruiting students from rural backgrounds, delivering regional training, exposing students during this training to rural curriculum and placements, and then building regional postgraduate training pathways. Although evidence was strongest for medical professions (e.g., Dunbabin & Levitt, 2003; Henry, et al., 2009; Hsueh, et al., 2004; Stagg, et al, 2009), it was beginning to emerge for AHPs as well (e.g., Playford et al, 2006).

In relation to financial incentives, specifically scholarships, the evidence was limited and rarely specific to AHPs. It appeared that financial and in-kind incentives of sufficient amount were likely to have some impact but how much incentive is required to achieve a positive impact on the workforce remains unclear and drop-outs appear unavoidable. There was also limited evidence for strategies involving some form of obligation. Some authors also noted that the high turnover associated with many compulsory service programs needed to be

seen as the reality of rural practice rather than as a weakness of the program (Frehywot et al, 2010).

It would seem that the most effective approach to address the maldistribution of AHPs was bundled packages of incentives targeted to a particular audience (i.e., location and type of AHP), also taking into consideration the needs of the population. The literature review concluded by stating that until the evidence base becomes more expansive and reliable, the most effective combination is likely to be a mix of financial and non-financial incentives.

1.5 Review of the Queensland Health Rural Scholarship Scheme

The second part of the review was undertaken from December 2010 to February, 2011. A mixed methods study was conducted that consisted of quantitative analysis of existing Queensland Health scholarship data and a qualitative study that used one on one in-depth telephone interviews with past or current scholarship holders and employers/managers/strategic leaders of scholarship holders. The findings of this part of the review will be presented in this report.

2. METHODOLOGY

2.1 Research design

This study used a mixed methods approach that involved quantitative and qualitative data collection. The quantitative component used a non-experimental descriptive design which aimed to support qualitative data with descriptive statistics. Survival analysis was employed to identify survival probability within the QLD Health system as well as the survival probability for serving in rural or remote locations. The qualitative component comprised an exploratory descriptive study using a phenomenological approach (Patton, 2004) to collect information from the interviewees. The phenomenological approach allowed an in-depth understanding of the experiences of the participants and helped expand the understanding of the quantitative data.

2.2 Ethical considerations

Participation in the Queensland Health Allied Health Pre-Entry Scholarship Program Review was completely voluntary. All participants received an information sheet (Appendix Two) and signed a consent form (Appendix Three). Ethics approval was obtained prior to the commencement of the study from the JCU Human Ethics Subcommittee - Number H3906 (Appendix Four) and from Queensland Health – Number QTHS138 (Appendix Five). All information obtained in the study was de-identifed. Overall themes from the interviews were identified rather than issues specific to an individual. No hard copies of names were recorded on any documents. Only aggregated data from the scholarship database was compiled and presented in this report. Following National Health and Medical Research Council guidelines, the data will be stored securely for five years with the study coordinator, Ms Sue Devine, at the School of Public Health, Tropical Medicine and Rehabilitation Sciences at JCU.

2.3 Participants and sampling

Participants in this study were current Queensland Health employees who were either present or past scholarship holders or managers/employers/leaders of the scholarship holders. Scholarship holders and managers/employers/leaders were potentially employed across fifteen Queensland Health Districts and were from one of the following disciplines: physiotherapy, occupational therapy, speech pathology, social work, podiatry, psychology, pharmacy, radiography, sonography, dietetics/nutrition, orthotics/prosthetics.

2.3.1 Scholarship Holders

A purposive sampling technique was used. Records of current and former QHRSS scholarship holders were checked by the AHWACU Principal Workforce Officer against current payroll records to identify those scholarship holders who remained Queensland Health employees at the time of recruitment. Research Governance approval was requested of all relevant Queensland Health Districts which employed a current or former QHRSS scholarship holder in October 2010. Research Governance approval was received from all relevant Districts except Central Queensland Health Service District and the Ipswich/West Moreton cluster of the Darling Downs-West Moreton Health Service District. Potential participants from these two Districts consequently could not receive an invitation to participate. The AHWACU Principal Workforce Officer sent all other identified individuals an invitation to participate and information sheet electronically (via their Groupwise email address). If they were interested in participating in the study they were instructed to contact a member of the JCU research team to arrange a mutually suitable time to be interviewed.

2.3.2 Employers/managers/strategic leaders of rural allied health scholarship holders:

A purposive sampling technique was used and the AHWACU Principal Workforce Officer contacted allied health employers/managers/strategic leaders from their own records of these staff. This group of participants had experience in managing rural scholarship holders and/or were responsible for a rural allied heath workforce (e.g. District Directors of Allied Health, Allied Health Team Leaders, discipline directors professionally responsible for rural employees). The process of information provision, contact and consent was as per the scholarship holder group described above.

2.4 Data Collection Methods

2.4.1 Quantitative data

Data was provided in two electronic data sets. Data set 1 was provided by Rural Health Connections while data set 2 was staff member tracking data based on employee numbers. Both data sets were matched and collated to a single Statistical Package for the Social Sciences (SPSS) data set. The data was then analysed by the JCU research team to include the following.

- Number of Scholarships provided both QHRSS and AHAOPSS
- Scholarship commencement year

- Details of scholarship holders including basic demographic information (age, gender), discipline
- Where these scholarship holders practiced, for how long did they remain with Queensland Health and where they worked during their Queensland Health tenure.
- Number of scholarship holders who did not undertake rural practice or did not complete their service period
- Queensland Health service survival

Employee tracking data ranged from July 2003 – October 2010 and included fortnightly pay runs for recipients of both QHRSS and AHAOPSS. The tracking data also recorded employment locations for the period of Queensland Health employment. The data range corresponds to the 2001-2008 QHRSS scholarship intake accommodating the 2 year study period prior to entering the Queensland Health workforce.

2.4.2 Qualitative Data

Interviews with Scholarship Holders

Semi-structured in-depth telephone interviews with rural allied health scholarship holders (both current and past scholarship holders) were conducted. This methodology was chosen as it was not feasible to travel to the rural locations where participants were located and interviews allow the collection of rich data. Prior to participating in the interview, participants were required to mail, fax or email a copy of their signed consent form. All participants were sent the questions to be asked in the interviews prior to participating in the telephone interview (Appendix Six). At the time of the interview, the interviewer provided a brief explanation of the project and drew the participants' attention to the information sheet which they had already received. All interviews were taped with the participants' permission and each interview took approximately thirty minutes.

Interviews with employers/managers/strategic leaders of rural allied health scholarship holders

Semi-structured in-depth interviews were conducted with either employers/managers of scholarship holders or with strategic leaders such as District Directors of Allied Health or Allied Health Team Leaders. The same process as that described above used for the scholarship holders was used. The questions asked with employers/managers/strategic leaders of rural allied health scholarship holders are shown in Appendix Seven. All interviews were taped with the participants' permission and each interview took approximately thirty to forty-five minutes.

2.5 Data analysis

2.5.1 Quantitative Analysis

Queensland Health scholarship tracking data was provided in an excel format. Tracking data was recorded in an electronic format from 2003 to the most recent data run of October 2010. Prior to 2003 data had not been recorded in an electronic format however the current data did provide commencement years for Queensland Health scholarship recipients. Data was imported into an SPSS data set (SPSS version 18) for ease of analysis and all data was de-identified upon import. All numeric data was checked for normal distribution and reported accordingly. Data showing normal distribution was reported using means and standard deviations while data that was not found to have a normal distribution was reported using the median and interquartile range.

2.5.2 Qualitative Methodology Analysis

Each interview was transcribed in note form and interview texts were then organised using ***QSR NVivo8***. The question areas guided the initial organising categories. The scholarship holder and manager transcripts were analysed separately and each was categorised question by question. The responses to the questions were read and sorted into main sub-categories, which related to the salient themes which answered the questions. These were then reclassified into higher level categories of broader themes. Demographic data was tallied to provide profiles of each group.

1. RESULTS

3.1 Quantitative Outcomes

3.1.1 Overall summary

The tracking data included a total of 194 recorded scholarship recipients. Of the total group who were awarded a scholarship, 75.3% were QHRSS (Allied Health) with the remainder being AOPSS recipients. Data was adjusted to account for participants who had not yet recorded a service location or service time in either Rural or Remote locations or Regional or Metropolitan locations. Graduates recruited after 2008 were removed from the sample to allow calculations of service more representative of reality. Adjusted sample numbers have been included where necessary. An overall summary of the data is included in Figure 1. The mean age of all scholarship recipients at intake to the scholarship programs was a 28.15 ±7.81 year with 80.4% being female.

Table 1: Overall summary of univariate analysis results

Variable Characteristic **Total Scholarship Recipients n=194** **QHRSS n=146** **AHAOPSS n=48**	**Summary Statistics; Measure of Dispersion**		
Total mean age at intake; SD; (range) QHRSS mean age; SD; (range) AHAOPSS mean age; SD; (range)	28.15 years; 7.81; (19-65 years) 28.58 years; 7.86; (19-65 years) 26.85 years; 7.61; (21-64 years)		
% Female (All holders) % Female (QHRSS) % Female (AHAOPSS)	80.4% 81.5% 77.1%		
% QHRSS	75.3%		
% Scholarship Commencement Year	Total	QHRSS	
2000	6.2%	8.2%	
2001	5.2%	6.8%	
2002	5.7%	7.5%	
2003	4.6%	6.2%	
2004	5.2%	6.8%	
2005	4.6%	6.2%	
2006	9.3%	12.3%	
2007	21.1%	17.8%	
2008	16.0%	13.7%	
2009	12.9%	8.2%	
2010	9.3%	6.2%	
% Discipline	Total	QHRSS	AHAOPSS
Occupational Therapy	12.4%	12.3%	12.5%
Physiotherapy	23.2%	21.2%	29.2%
Speech Pathology	12.4%	12.3%	12.5%
Podiatry	6.7%	8.2%	2.1%
Radiography	8.2%	9.6%	4.2%

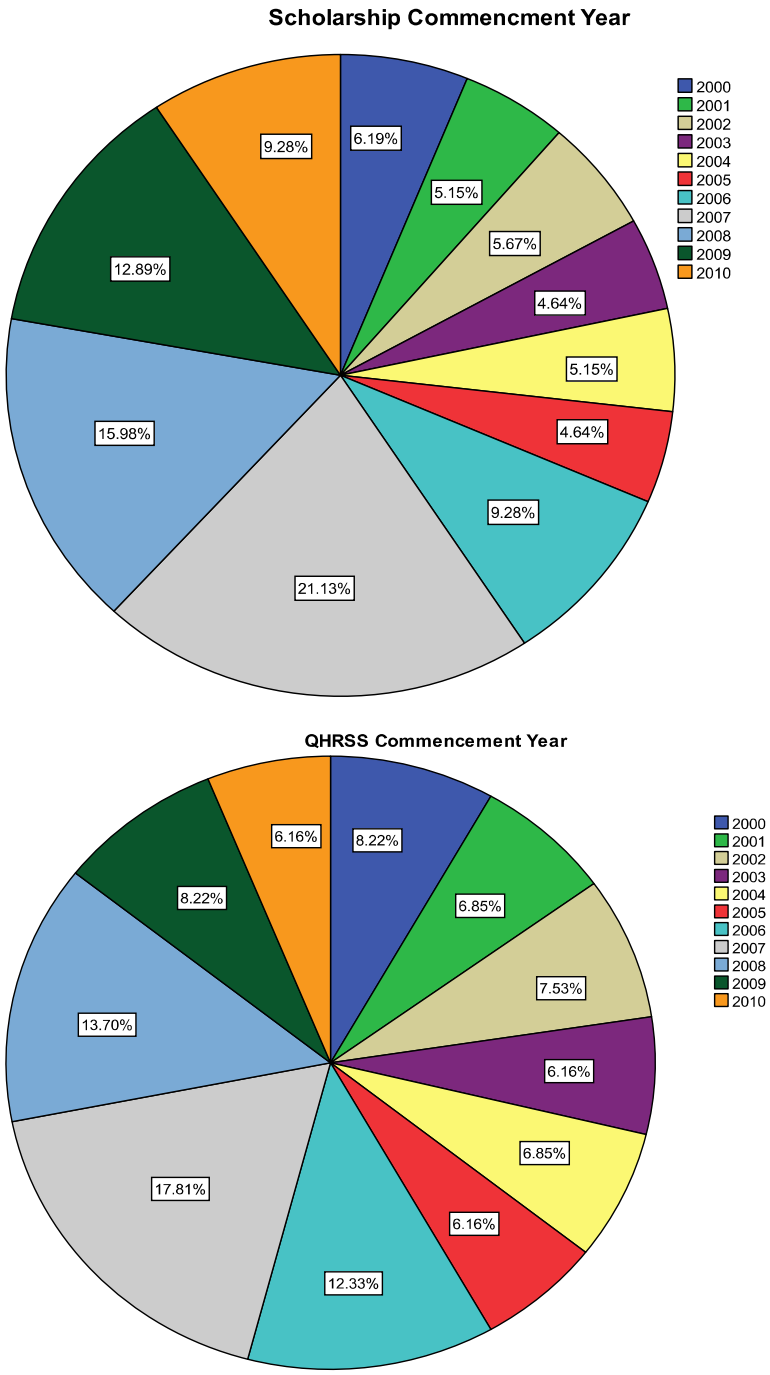
Pharmacy	19.1%	19.9%	16.7%
Clinical Psychology	3.6%	4.8%	0.0%
Social Work	11.3%	11.0%	12.5%
Prosthetics/Orthotics	2.1%	0.0%	8.3%
Dietetics/Nutrition	1.0%	0.7%	2.1%
% Service Completion	Total	QHRSS	AHAOPSS
Broken Bond	11.3%	13.7%	4.2%
Post Bond	41.2%	41.1%	41.7%
Serving Bond Period	29.4%	28.1%	33.3%
Study Period	15.5%	14.4%	18.8%
Deferred	2.6%	2.7%	2.1%
Initial service location records excluding 2009/2010 scholarship offerings and no recorded service location **Total (n=142)** **QHRSS (n=118)** **AHAOPSS (n=24)**			
% Initial Service Location	Total	QHRSS	AHAOPSS
Rural	44.4%	48.3%	25.0%
Remote	7.7%	8.5%	4.2%
Regional	32.4%	28.8%	50.0%
Metropolitan	15.5%	14.4%	20.8%
56 scholarship recipients recorded a second service location during the recording period **Total (n=56)** **QHRSS (n=44)** **AHAOPSS (n=12)**			
% Change Service Location (n=56)	Total	QHRSS	AHAOPSS
Rural	41.1%	40.9%	41.7%
Remote	8.9%	9.1%	8.3%
Regional	23.2%	20.5%	33.3%
Metropolitan	26.8%	29.5%	16.7%
QLD Health Service Time			
Median QLD Health Service Time; [IQR]; (range)	36 months; [24-60 months]; (12-120 months)		
QHRSS	48 months; [36-72 months]; (12-120 months)		
AHAOPSS	24 months; [24-36 months]; (12-36 months)		
Current QLD Health Employee (n=114) (As of October 2010)	36 months; [24-48 months]; (12-120 months)		
Exited QLD Health (n=41)	48 months; [36-60 months]; (12-96 months)		
Broken Bond	42 months; [24-51 months]; (12-120 months)		
QHRSS	42 months; [24-51 months]; (12-120)		
Post Bond	48 months; [36-72 months]; (24-120 months)		

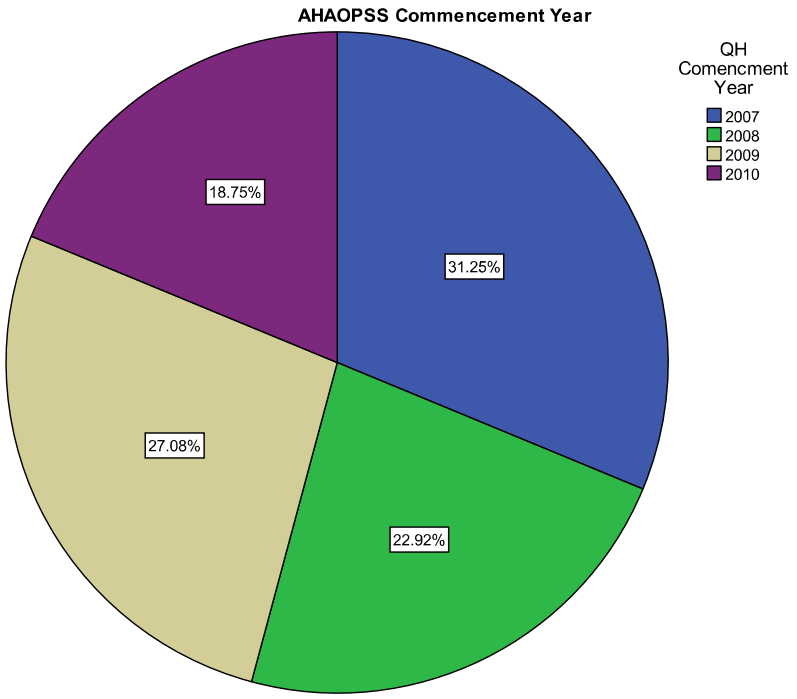
QHRSS	72 months; [48-84 months]; (24-120 months)
Serving Bond Period	24 months; [24-36 months]; (12-48 months)
QHRSS	36 months; [24-36 months]; (24-48 months)
Rural Service Time Median Rural Service Time; [IQR]; (range)	23.7 months; [12-31.7 months; (0-96 months)
QHRSS	24 months; [9.7-32.7 months]; (0-96 months)
AHAOPSS	12 months; [12-12.2 months]; (8.6-23.49 months)
Current QLD Health Employee (n=83)	20.7 months; [12-32.6 months]; (4.2-96 months)
Exited QLD Health (n=40)	24 months; [8.27-29.97 months]; (0-63.97 months)
Broken Bond	1.8 months; [0-9.08 months]; (0-12.42 months)
QHRSS	1.8 months; [0-9.1 months]; (0-12.4 months)
Post Bond	24.4 months; [23.6-35.8 months]; (12-96 months)
QHRSS	32 months; [24-42.4 months]; (24-96 months)
Serving Bond Period	9.6 months; [8.7-20.7 months]; (4.2-29.9 months)
QHRSS	10.1 months; [8.7-20.7 months]; (4.17-29.93 months)
Survival Probability calculated for QHRSS	
QLD Health Survival Probability at median survival point	0.408: median survival: 96 months
Rural Service Survival Probability at median survival point	0.482: median survival: 42.4 months

3.1.2 Year of Commencement of Scholarship

Of the 194 scholarship recipients, the greatest number of recipients (21.1%) commenced in 2007, with the lowest number commencing in 2003 and 2005 with both years recording 4.6% uptake. The rest were spread out over the time period from 2000 - 2010 and ranged from 5.2% - 16% (Figure 1). 2007 also showed the greatest recipient numbers for both QHRSS (17.8%) and AHAOPSS (31.3%).

Figure 1: Year of commencement of scholarship

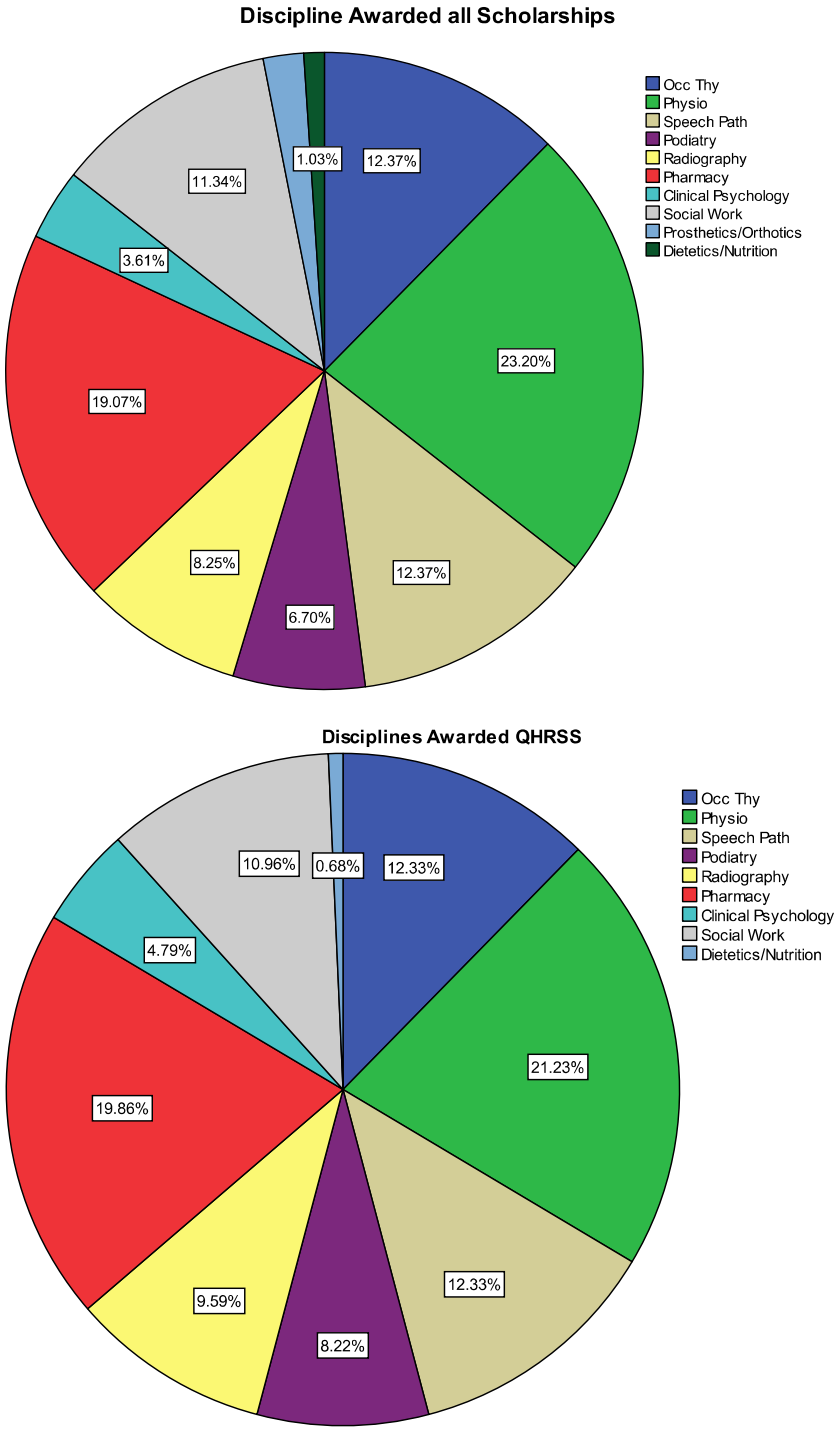


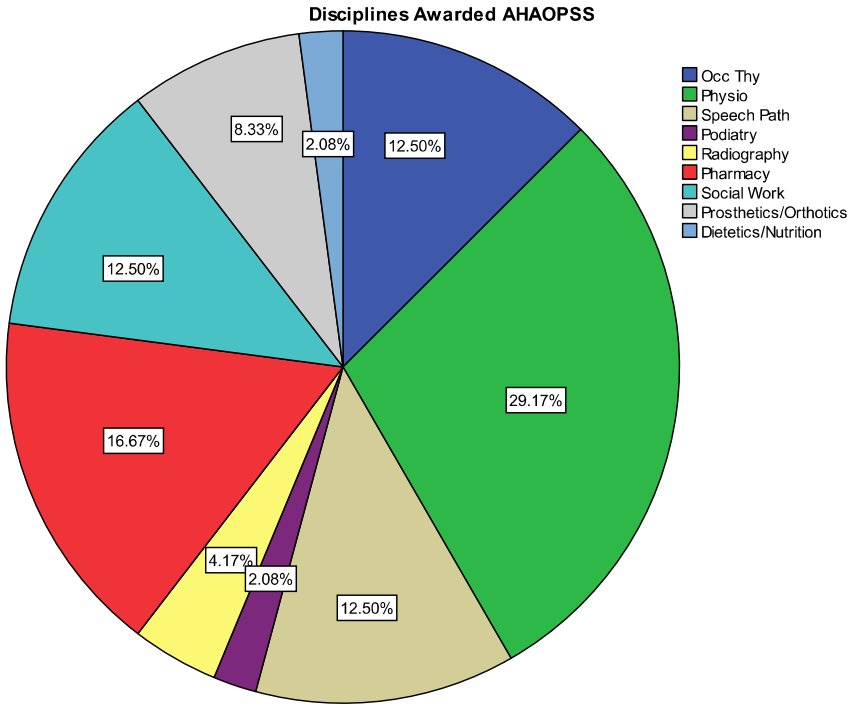


3.1.3 Disciplines Awarded Scholarships

A total of 10 health disciplines were recorded as receiving scholarships. Physiotherapy was the largest recipient of total scholarships (23.2%) as well as for the QHRSS (Allied Health) (21.2%) and AHAOPSS (29.2% (Figure 2). Regarding the QHRSS this was followed by Pharmacy, Occupational Therapy, Speech pathology and Social Work (19.9%, 12.3%, 12.3%, and 11% respectively). These 5 disciplines accounted for over three quarters of QHRSS recipients (78.4%), while Radiography, Podiatry, Clinical Psychology and Dietetics/Nutrition accounted for the remaining QHRSS scholarships. Prosthetics/Orthotics recorded no scholarship recipients for the QHRSS within the available data. AHAOPSS followed a similar pattern with Pharmacy, Occupational Therapy, Speech pathology and Social Work being the next largest recipients (16.7%, 12.5%, 12.5%, and 12.5% respectively).

Figure 2: Disciplines awarded scholarships

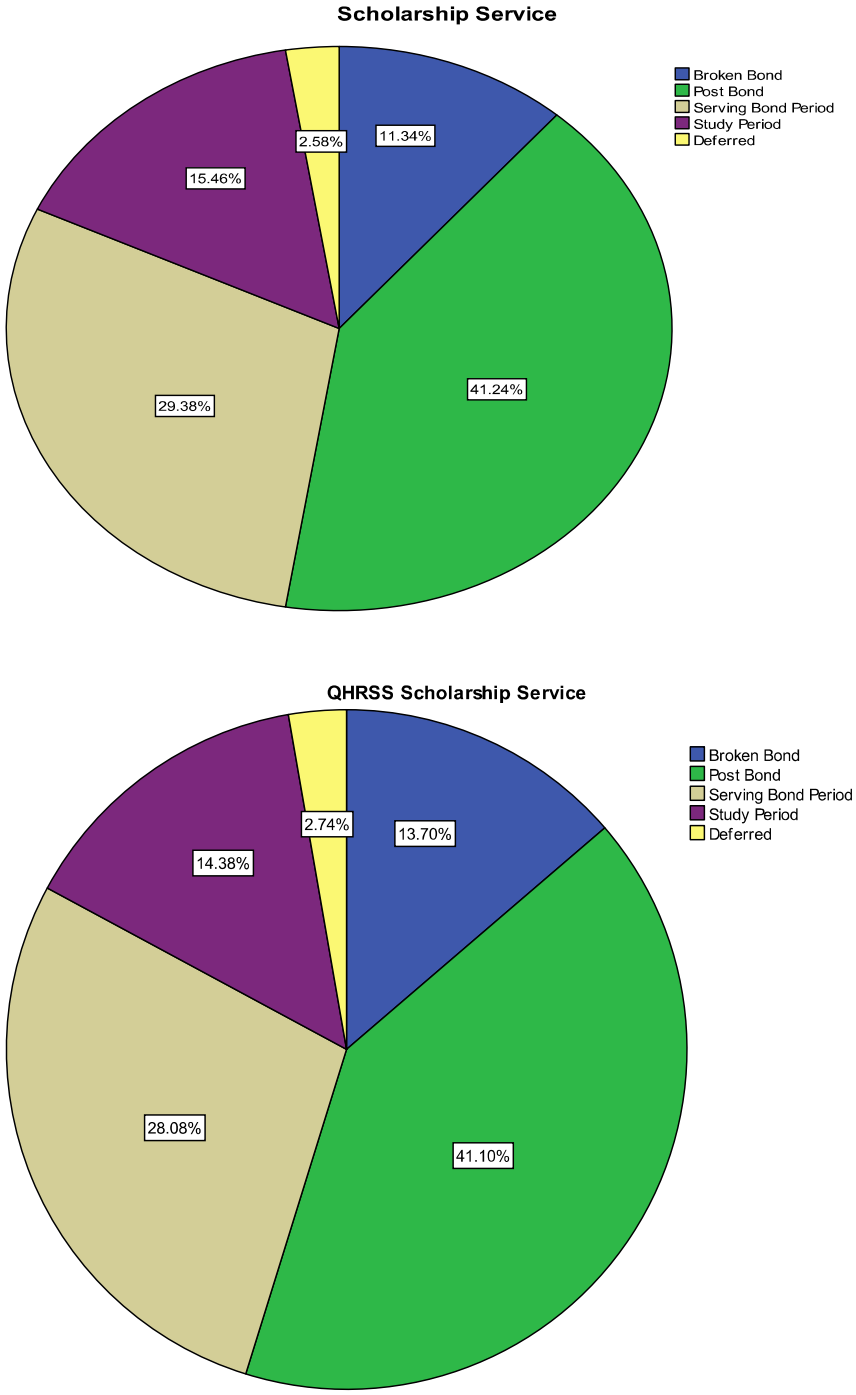


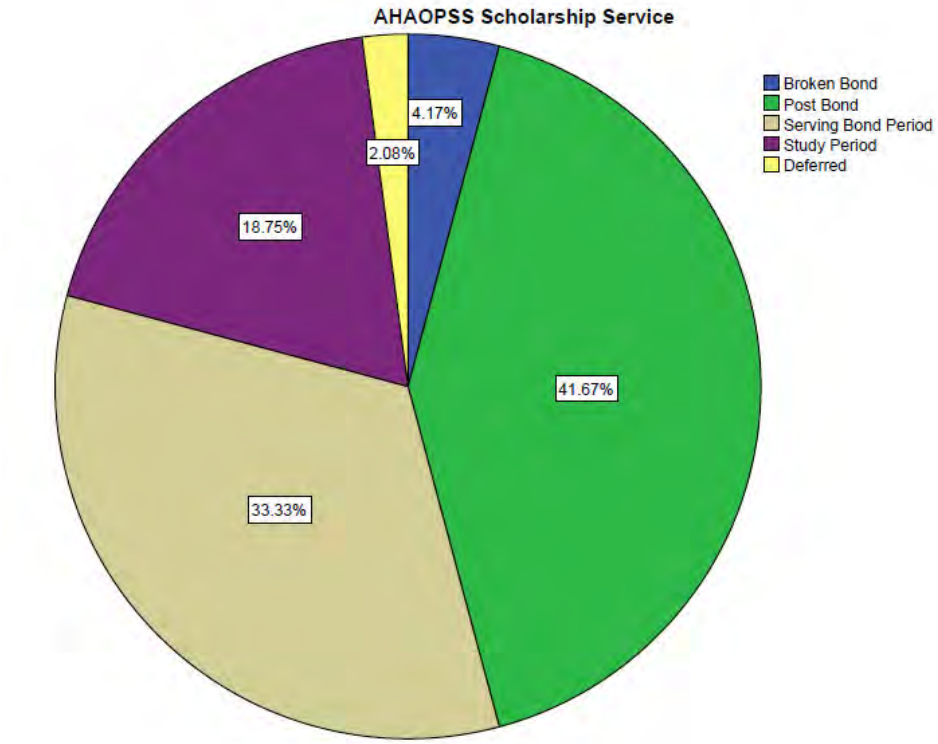


3.1.4 Scholarship Service Status

Of the 194 participants (scholarship commencement years 2000-2010) 86.1% completed either the service period (41.2%), or were currently completing the service period (29.4%) or still completing the study period (15.5%) (Figure 3). Deferred service periods accounted for 2.6% of recipients while broken service periods accounted for 11.3% of the total recorded recipients. QHRSS recipients differed slightly with 83.6% completing either the service period (41.1%), currently completing the service period (28.1%) or still completing the study period (14.4%). In regards to QHRSS recipients 2.7% of participants deferred service periods while 13.7% broke service periods. AHAOPSS followed a similar pattern with 93.8% completing either the service period (41.7%), currently completing the service period (33.3%) or still completing the study period (18.8%). In regards to AHAOPSS recipients 2.1% of participants deferred service periods while 4.2% broke service periods.

Figure 3: Scholarship service





3.1.5 Service Location of Scholarship Holders

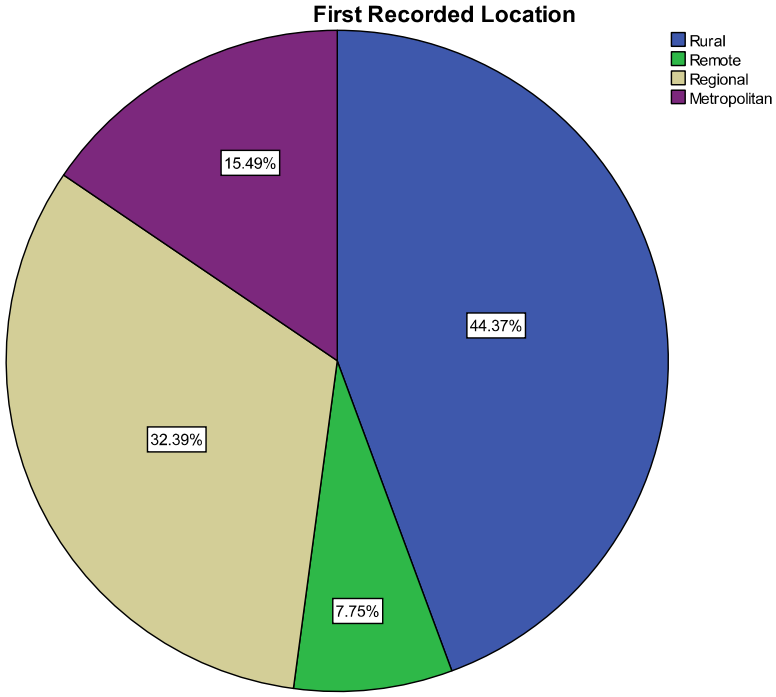
Tracking data was able to capture initial service location along with any change of location. Locations were recorded as Remote, Rural, Regional and Metropolitan. Location categories were defined from the Queensland Health source data. Rural and Remote categories align to Category A and Category B locations respectively as listed in the Queensland Health Human Resource Policy C42 which is available from: http://www.health.qld.gov.au/qhpolicy/docs/pol/qh-pol-146.pdf.

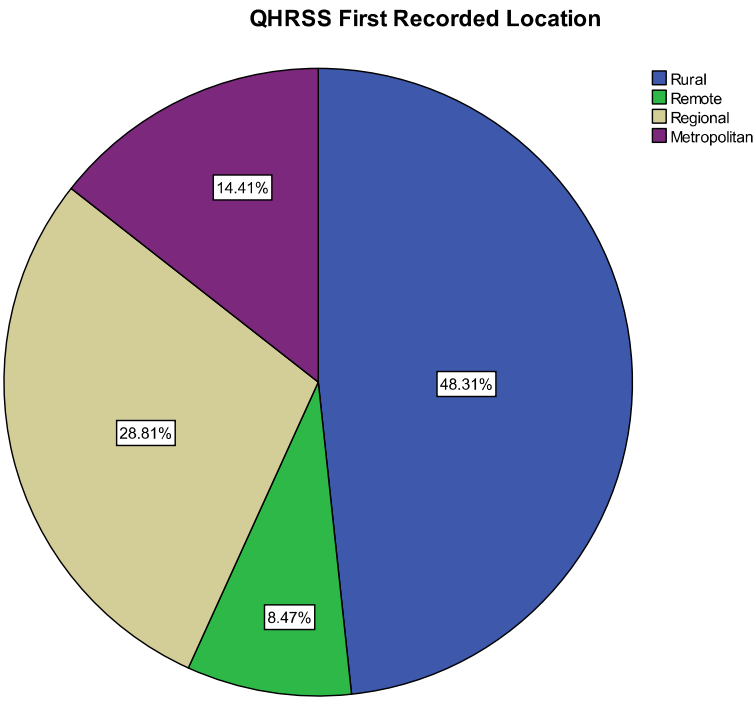
The non-Category A and B locations were divided between Metropolitan and Regional categories by the AHWACU Principal Workforce Officer. The distinction relates to proximity to the major centres of south-eastern Queensland. All metropolitan Brisbane (Brisbane City Council locations) Gold Coast and Sunshine Coast locations were listed as Metropolitan. The Metropolitan category was also used for facilities located within approximately 100km of Brisbane CBD.

Regional was applied to all other centres. Initial service location recorded that 52.1% of all scholarship recipients served in rural or remote locations (44.4% and 7.7% respectively) (Figure 4). Second service location data recorded that 50% of scholarship recipients served in rural or remote locations (41.1% and 8.9% respectively) (Figure 5). QHRSS recipients

recorded similar first service locations with 48.3% recording a rural first service location and 8.5% recording a remote first service location. QHRSS second recorded service location recorded 40.9% rural and 9.1% remote. AHAOPSS recorded 25% rural first service location and 4.2% remote first service location. AHAOPSS second recorded service location showed 41.7% rural service location and 8.3% remote service location.

Figure 4: First service location of scholarship holders




QHRSS First Recorded Location
Rural
Remote
Regional
Metropolitan
14.41%
48.31%
28.81%
8.47%

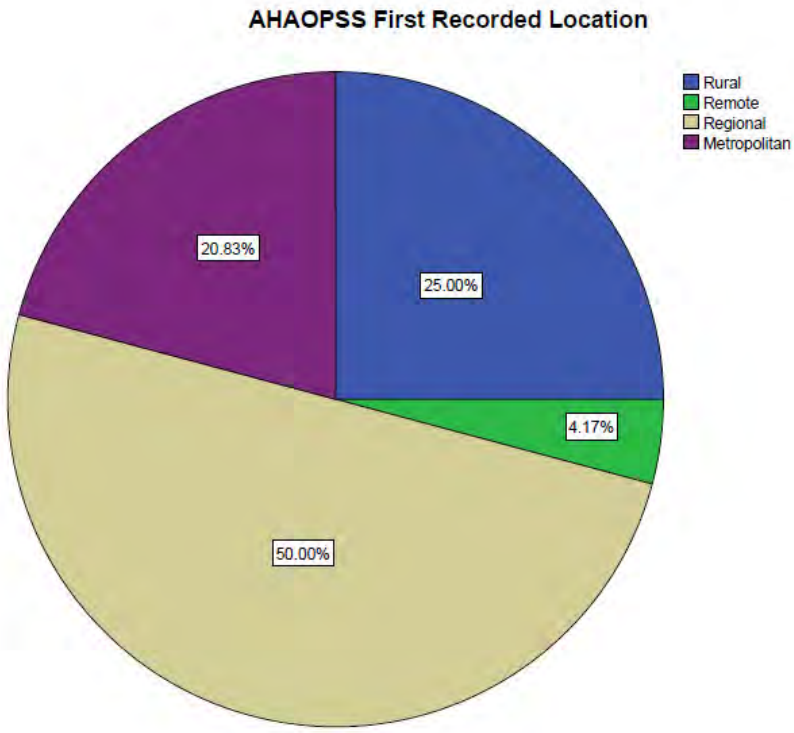
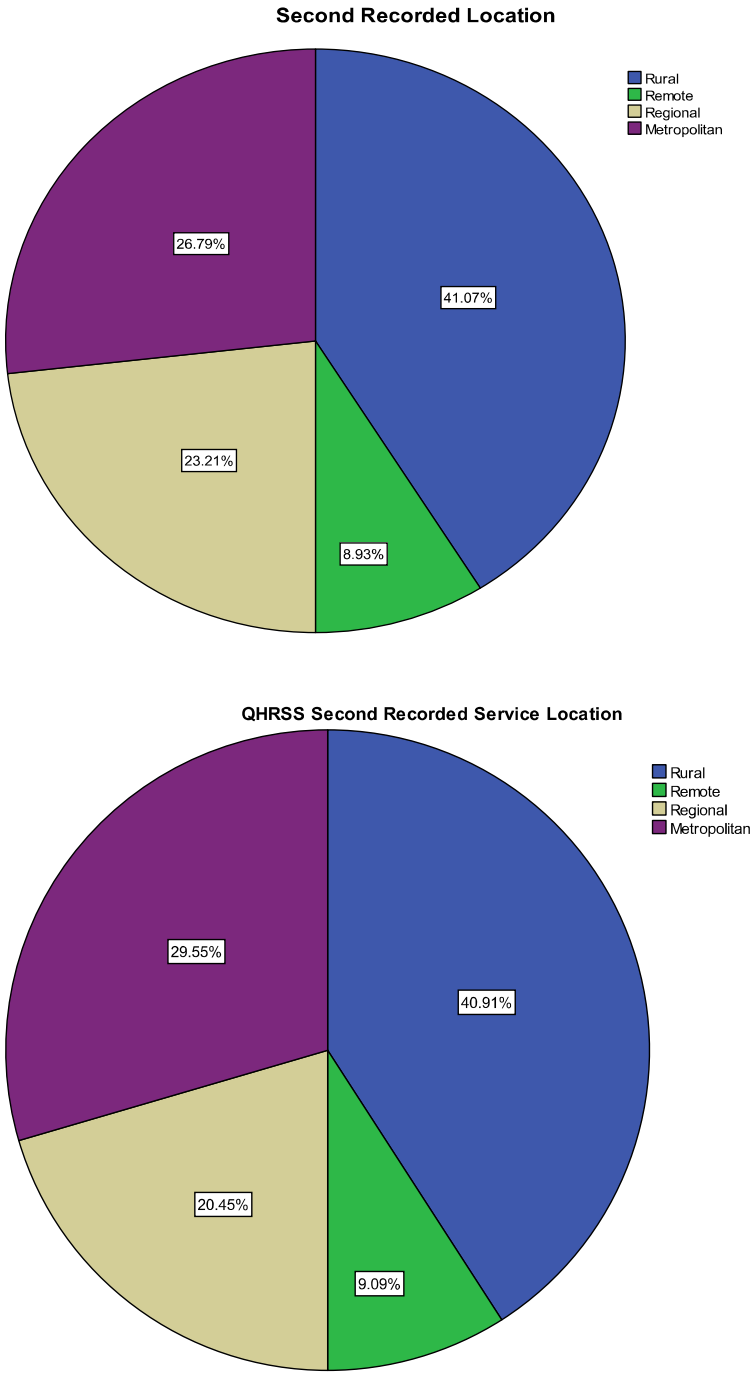
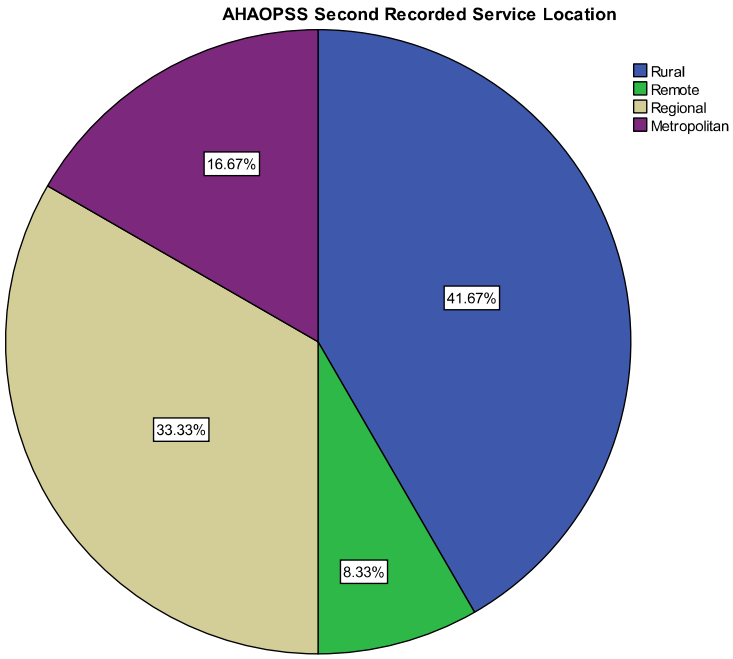

AHAOPSS First Recorded Location
Rural
Remote
Regional
Metropolitan
20.83%
25.00%
4.17%
50.00%

Figure 5: Second service location of scholarship holders





3.1.6 Time Spent Working for Queensland Health Overall and Time Spent in a Rural Location

The median time spent working for Queensland Health overall was 36 months; [IQR: 24-60 months]; (Range: 12-120 months), shown in Figure 6 and median time spent in a rural location was 23.7 months; [IQR: 12-31.7 months]; (Range: 0-96 months) shown in Figure 7 Service times were calculated excluding new scholarship holders and participants yet to record any service time. QHRSS overall service time within Queensland Health showed a median of 48 months; [IQR: 36-72 months]; (Range: 12-120 months) while AHAOPSS showed a median service time of 24 months; [IQR: 24-36 months]; (Range: 12-36 months) shown in figure 8. QHRSS median rural service time was calculated at 24 months; [IQR: 9.7-32.7 months]; (Range:0-96 months shown in figure 9.

Figure 6: Time spent working for Queensland Health overall

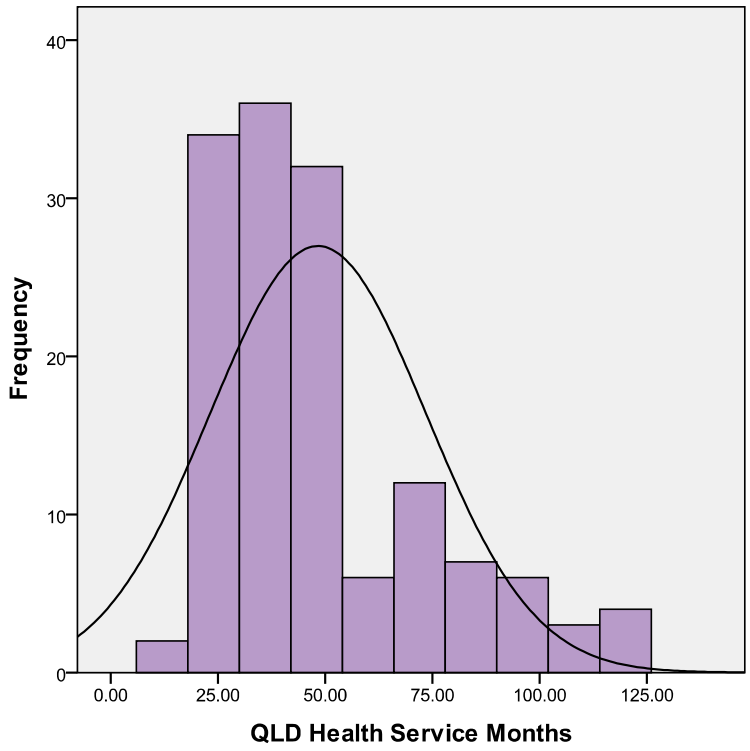


Figure 7: Time spent in a rural location

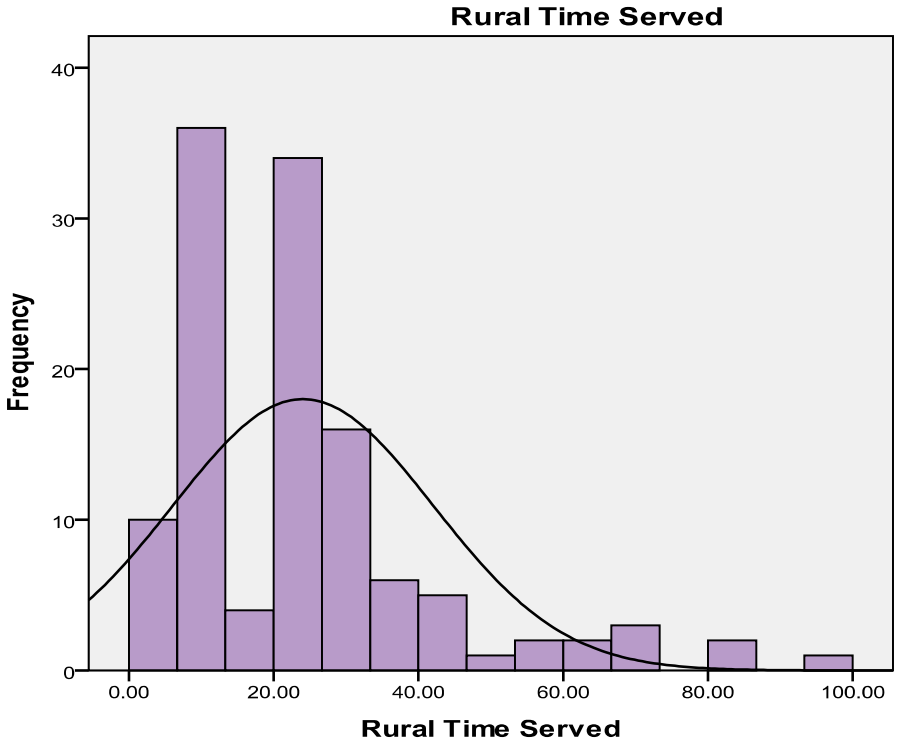
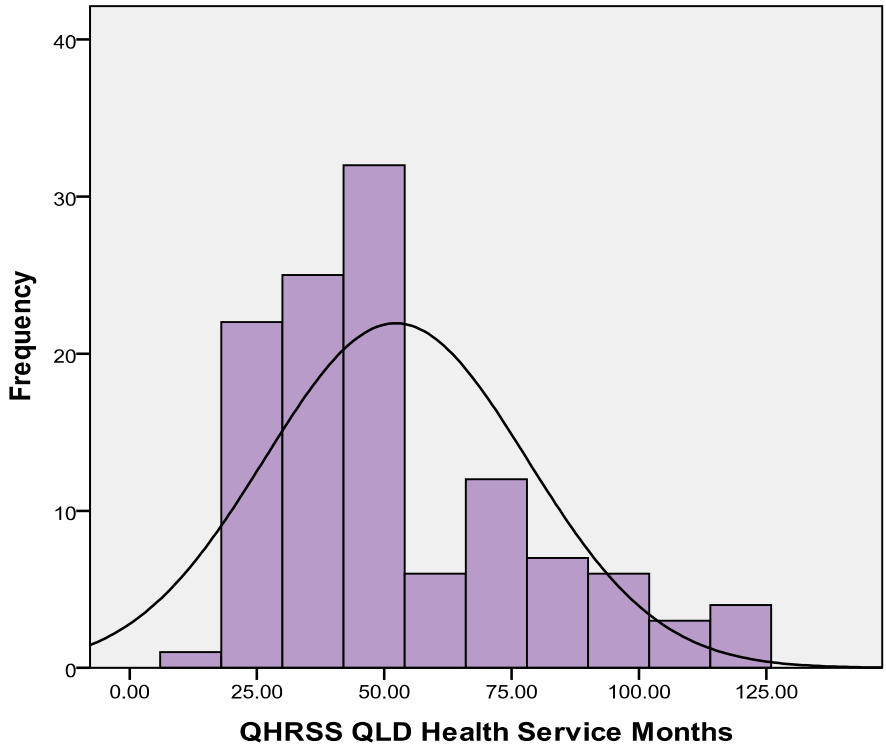


Figure 8: Time spent working for Queensland Health (QHRSS and AHAOPSS)



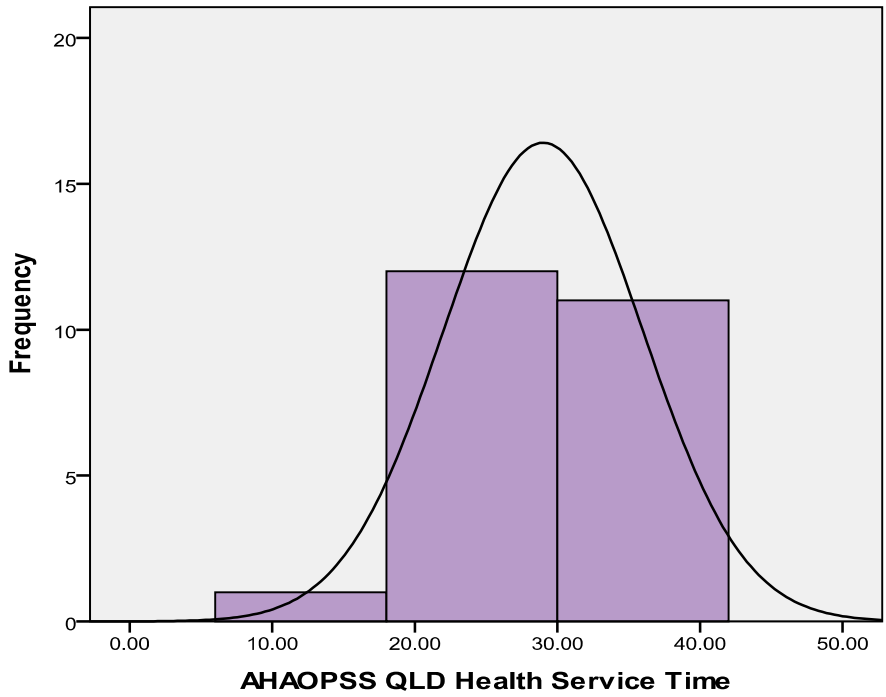
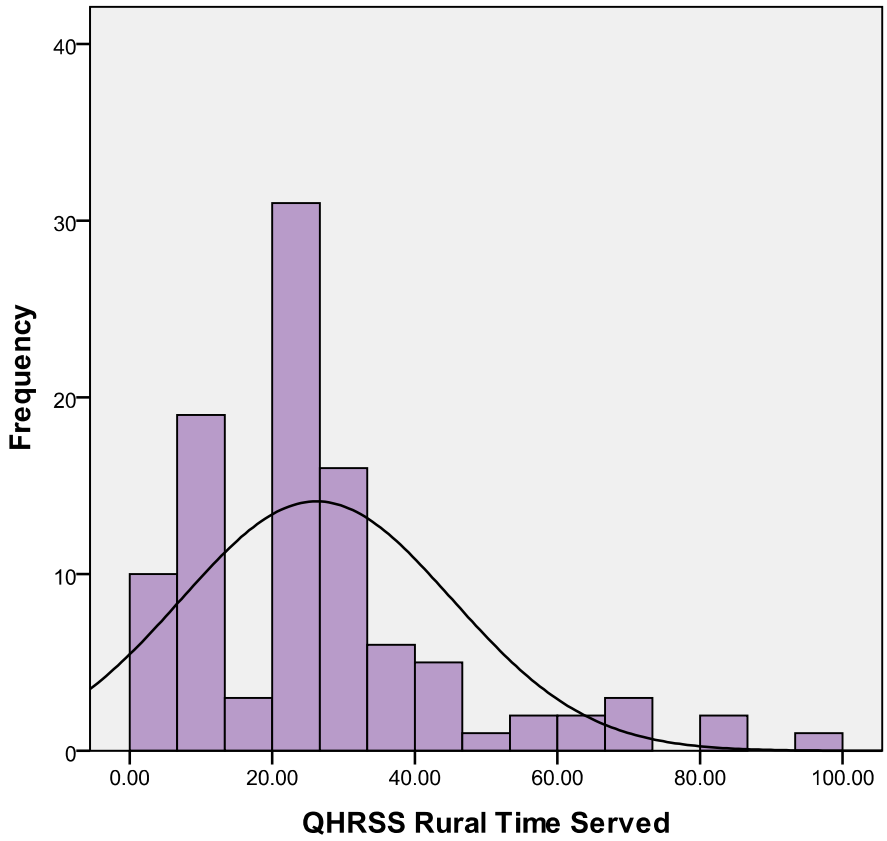


Figure 9: QHRSS recipient's time spent in a rural location

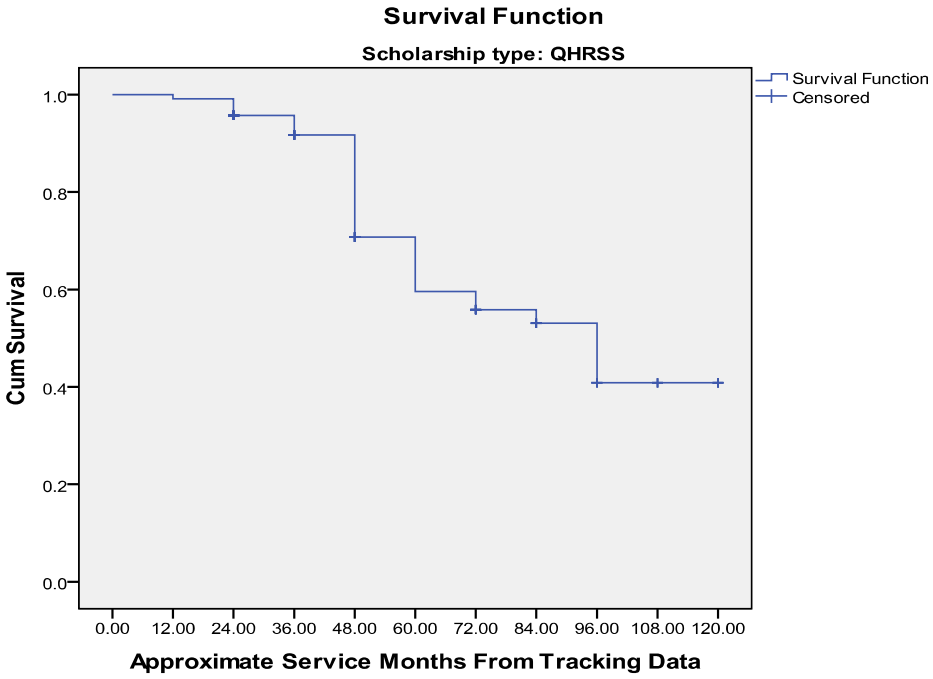


3.1.7 Queensland Health Service Survival

Kaplan-Meier survival analysis was also performed regarding both Queensland Health service and rural service in order to identify the survival probability within the Queensland Health system as well as within rural service. Cumulative probabilities were based on maximum service time for each scenario, 120 months for Queensland Health service and 96 months for rural service. Data was censored to compensate for participants entering the data recording phase at different stages during the time period. Survival probability is calculated after each event in this case an event is defined as leaving Queensland Health prior to the end of the data collection period. Probabilities are recalculated after each event providing cumulative probabilities as each event occurs. The cumulative survival probability for Queensland Health service over a 120 month period was found to be 0.408 at the median survival point of 96 months. The most noticeable event occurred at 48 months shown in Figure 10 with the cumulative survival probability dropping from 0.917 at 36 months to 0.708 at 48 months. Cumulative survival tables are shown in Appendix Eight. Survival estimations should not be associated with median service times when interpreting reports. Median service times are a reflection of the available recorded observations where as Median

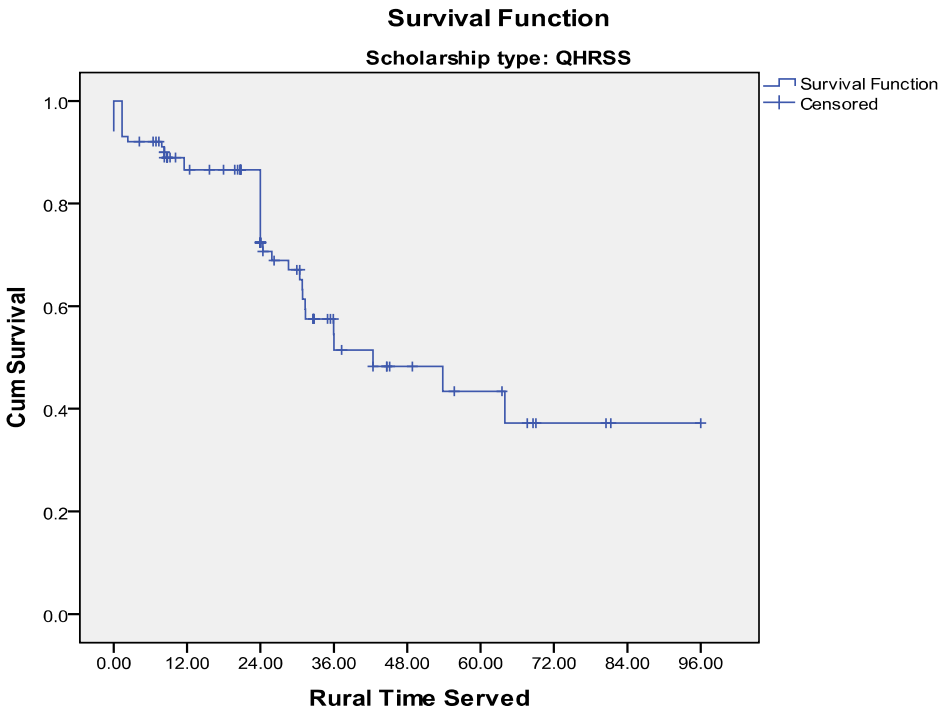
survival times are statistical estimations of service survival based on probabilities calculated at each exit point. For Queensland Health service the probability of completing 96 months service (estimated median survival time) is estimated to be 40.8%. Probabilities for all Queensland Health service increments are shown in the survival tables in appendix 9.

Figure 10: Queensland Health service survival probability



The cumulative survival probability for rural service over a 96 month period was found to be 0.482 at the median survival point of 42.4 months. The most noticeable event occurred at 24 months shown in Figure 11 with the cumulative survival probability dropping from 0.866 at 11.5 months to 0.724 at 24 months. For rural service the probability of completing 42.4 months service (estimated median survival time) is estimated to be 48.2%. Probabilities for all rural service increments are shown in the survival tables in Appendix Eight.

Figure 11: Rural service survival probability



3.2 Qualitative Outcomes

Results are presented separately for the rural allied health scholarship holders and the employers/managers/strategic leaders of rural allied health scholarship holders and will be presented under the headings of the questions asked.

3.2.1 Scholarship Holders

Demographic details

Seventeen past or current rural scholarship holders participated in the interviews. The majority (76.5%) of participants were female and their mean age was 30 years (SD ±13.68.7; range 23-51). Eight different disciplines were represented including occupational therapy, pharmacy, physiotherapy, podiatry, psychology, radiography, social work and speech pathology. Eleven of the participants grew up in metropolitan or regional centres with some participants moving between the two, and six grew up in a rural town or area. Twelve participants completed high school in a metropolitan or regional centre and five completed high school in a rural town or area. Demographic data is presented in Table 2.

Table 2: Demographic details of scholarship holders

Demographic factors	**(n=17)**
Mean age (SD) [years]	30±8.7; (32-51)
Female	13 (76.5%)
Discipline	
Occupational Therapy	3
Pharmacy	1
Physiotherapy	2
Podiatry	2
Psychology	2
Radiography	2
Social work	3
Speech pathology	5
Area type where grew up	
Metropolitan centre	5
Metropolitan and regional centre	2
Regional centre	4
Rural town or area	6
Where high school was completed	
Metropolitan centre	7
Regional centre	5
Rural town or area	5

Question One - Motivating influence for choosing rural scholarship program

The first question explored the motivating influences for participants choosing a rural scholarship program. The key categories that emerged were: economic reasons, social reasons, work related reasons or a desire to be located in a rural location. As Table 2 shows, economic motivators were strong for the majority of respondents. Scholarship holders appreciated having financial support and it reduced the pressure of having to work

and study at the same time which allowed more time to focus on their studies. Work related motivations included the assurance that there was a position to go to once the undergraduate degree was completed and the desire for variety in their work (this included participants discussing a desire for a generalist caseload, a desire to work autonomously, a quest for adventure or generally looking for something different to mainstream practice and life in a larger centre, not wanting to work in a metropolitan centre, and an overall enjoyment of rural life). Some participants felt that rural communities needed more health staff and this was a motivation to apply for a scholarship. Social influences such as enjoying a rural lifestyle, having a partner working in a rural area, having grown up in a rural area, family experiences of rural life and practice and knowing of others who had received scholarships were also motivators. Some participants had always intended to work in a rural area and had no interest in metropolitan work.

Table 3: Motivating influences for choosing the Rural Scholarship Program

Major Theme*	Related sub themes*
Economic factors as motivation	Financial Reduced need to work
Social factors as motivation	Grew up in rural community Enjoyed a rural lifestyle Partner worked rural Family experience of rural practice and life Knew others who had participated in program
Work related motivations	Assurance of a job Liked or wanted a generalist caseload Looking for adventure or something different Social justice – perceived a need for health professionals to work rurally Autonomy within job
Rural location as motivation	Did not want to work in city Always wanted to work rural or opportunity to work rural

*Themes are ranked in order of most mentioned

Question Two - Rural Clinical Placement Status & Impact on Rural Work Choice

The second question asked whether the scholarship holder completed a rural clinical

placement during their undergraduate degree and if so, in what way did it impact on their decision to work rurally. All but one had done a rural placement. Most participants received support from their university to arrange rural placements but two participants had to organise their own clinical rural placement which was challenging for them.

Overall the experience of rural placement confirmed the participants' choice to practice in a rural area was a positive one. Participants felt they were exposed to the reality of rural work and that it confirmed and reinforced their enthusiasm for future rural practice. Only two participants expressed a neutral feeling about their placement and its influence on their desire to practice in a rural area mainly due to their intention to live rurally anyway.

One scholarship holder suggested that students would also benefit from having an urban placement with which to compare so that a clear and realistic understanding of both metropolitan and rural practice was developed.

Question Three - Was student placement in the location that they went to as a graduate and its usefulness

Question Three asked scholarship holders if they did a placement in the location that they went to as a graduate and if so, was that a useful experience.

Ten out of the seventeen scholarship holders interviewed did not get a graduate placement in the same location as their undergraduate placement. The remaining seven had either previously worked or currently worked in a location that they experienced as a student. Of those seven, six found it useful in relation to being already familiar with both the work location and overall community as well as knowing staff, having some already established networks and knowing that life outside of work was also positive. The remaining person found similar advantages but also felt that it was somewhat of a disadvantage because when they took up the professional role as a new graduate, no orientation was provided probably due to her previous presence in the location.

Question Four - Bonded Service Status & Location worked as New Graduate

The fourth question asked scholarship holders if they had or were currently completing their bonded service agreement and where they worked as a new graduate.

Table 3 shows the Rural, Remote and Metropolitan Areas (RRMA) location of where scholarship holders who had completed their bonded service period worked as a new

graduate and the RRMA location of where scholarship holders who were currently fulfilling their bonded service period worked. The RRMA Classifications are included in Appendix Nine. No respondents had failed to complete the bonded period up until the time that the interviews took place.

Table 4: Completed or currently fulfilling bonded service by RRMA

RRMA Classification	RRMA location of scholarship holders who had completed bonded service (n=10)	Number of Scholarship Holders Currently fulfilling Bonded Service (n=7)
3	1	1
4	0	1
5	5	2
6	4	1
7	0	1
Unstated	0	1

Because all the participants had worked rurally they were then asked further questions in relation to this.

Was the decision to work rural based solely on being a Scholarship Holder

Scholarship holders were asked whether their decision to work rurally was based solely on receiving a scholarship or whether they would have gone into rural and remote practice upon graduation anyway. Most participants felt that rural practice was always appealing regardless of having a scholarship or not. Only three participants indicated that they chose rural practice solely because of the scholarship. For one of these respondents the actual application process prompted them to undertake research into rural practice and rural locations and as a result they found that rural work was appealing. Without the motivation of applying for the scholarship however the participant felt it was unlikely that rural practice was something they would have normally considered. Other than the three who indicated that they chose rural practice solely because of the scholarship, all remaining participants had other motivations that influenced their decision to work in a rural area including having a partner working in a rural location, having always wanted to work rurally, being motivated by the professional and personal challenges, seeing rural practice as a viable professional career pathway, having family nearby or wanting to work away from the city somewhere different.

Length of time stayed in position placed as a graduate and in total in a rural or remote area

Of the participants seven were still completing their bonded service, a further seven had stayed on in the area that they were placed in or in another rural area, and three had completed their service and left for personal reasons such as a desire to travel, moving close to family or to maintain a relationship. The range of time worked in a rural location for the whole group ranged from having just commenced to five and a half years.

What would persuade rural practice retention if not still practicing rural

Those who were not currently in rural practice were asked whether there was anything that would have made them stay in rural practice for a longer period. Most of those working in the metropolitan area at the time of interview suggested that they would consider taking up a rural position in the future, even though they had made a decision to leave at the time. The most commonly cited reason for leaving was in relation to personal relationships and family issues. One participant stated that although she loved her time practicing in a rural area she had reached a stage in life where she felt a strong need to reconnect with family and friends. One participant mentioned aspects of practice that might have impacted on her staying in a rural location and this included having a better orientation, being provided with more clinical support and mentoring and having more defined health profession pathways. Only one felt that rural practice wasn't professionally stimulating for her profession.

Strategies for support when commencing rural practice

Participants were asked if there were any strategies that could have been used to provide better support when rural and remote practice was first commenced. Three main categories emerged including having a supportive work environment/culture, having supportive living conditions and having professional support strategies. These are presented in table 4.

Having a supportive work environment and culture was important. This included having fair work conditions that did not place an unreasonable work load on a new graduate and having good communication between staff at a District level and staff on the ground in more isolated

positions so that there was a common understanding of the issues experienced and support needed. Some participants felt that there was limited communication between Rural Health Connections and the scholarship holders and felt having more contact after they were placed in graduate positions would be helpful. When this comment was explored participants were not specific in relation to what support they were looking for but did mention some of the difficulties that they experienced in relation to accommodation issues. It was also felt that the Rural Health Connections could play more of a role in ensuring that the position that they were assigned to had a supportive structure in place for new graduates. The importances of having good supervision was highlighted and there were mixed examples given by participants with some stating that they had excellent supervision and some having limited supervision. This seemed to vary across Districts and disciplines. The importance of a good orientation was mentioned with one participant experiencing a very poor orientation to the workplace.

Living conditions and particularly accommodation was an issue mentioned by several participants and this again seemed to depend on where they practiced with some participants stating that they were provided with excellent accommodation at a very reasonable cost and others stating that they received no support at all in finding accommodation or that it was very costly. The experience of graduates seemed related to the District into which they were placed. One graduate in particular described the difficulty of finding affordable accommodation in a mining town and was clearly stressed by the experience and the perceived lack of support that was received in relation to this.

A number of professional support strategies were raised. Four participants identified that they needed greater professional support to assist them in the transition into their new roles. A need for good orientation was also discussed. There was also a need expressed for more clinical supervision with a focus on this being provided by a member of their own discipline. For those in more isolated areas it was felt that there was a need for more regular onsite supervision support visits. A number of participants also suggested that there was a need for more professional development opportunities although in contrast some participants felt that they had access to excellent professional development opportunities. For example, one participant noted that she had limited access to professional development in her district but that anecdotally she had heard of good opportunities in other Districts. Professional development opportunities such as the Allied Health Professional Enhancement Program (AHPEP), and Allied Health Rural and Remote Training and Support (AHRRTS) were welcomed and a number of participants felt that Queensland Health should be congratulated on such initiatives. It was suggested that sustained funding for professional development

was needed and greater access to existing professional development programs was needed for some.

A supportive peer learning network was an identified need for one AHP whereas another described an excellent supportive peer learning network. Again there appeared to be a difference in what is available due to the discipline involved, the District in which the AHP is and the engagement of the individual in their own professional support and development processes.

Table 5: Strategies for support when commencing rural practice

Major Theme	Sub-themes
Entering a supportive work environment	Rural Health Connections vetting positions Fair work conditions Heavy work load Good communication between Districts and on the ground staff Improved communication between the Rural Health Connections and scholarship holders after placement Supportive District level administration necessary Need for good supervision
Supportive living conditions	Accommodation availability and access (?) Good support in finding accommodation No support in finding accommodation Affordable accommodation Costly accommodation
Professional support strategies	Professional role support transition and new role requirements Orientation Clinical supervision Supervision from own profession Onsite supervision support visit Professional development opportunities Supportive peer learning network

Question Five – Postgraduate Location known at scholarship application time

Participants were asked whether knowing the location that they would be placed in when they graduate would be a positive or a deterrent. There were mixed reactions to this

question. Most participants thought it to be a positive thing to know the location since it allowed planning and preparation. Planning was felt to be important from the perspective of researching and understanding the community, as well as for psychological preparation. One participant discussed its relevance to partner relocation planning and one further participant felt it would take the worry and stress out of not knowing where you would end up and not being able to prepare both psychologically and more generally.

Only one participant thought not knowing would be a positive thing and felt that it helped to keep an open mind about where one would end up. The greatest concern raised was the possibility that a scholarship holder might be allocated to a place that had no appeal to them or that they had heard negative things about and therefore did not want to go. One participant stated that they would have no hesitation in breaking the scholarship agreement if the location proved a source of unhappiness.

Five participants stated it did not matter to them whether they knew or not. There was suggestion that a flexible approach could be taken regarding what locations were available thus allowing scholarship holder's options for where they could go. It was acknowledged that there could be practical issues with such an approach. One participant took the approach of going on a "road trip" to explore the possible communities in which service may have been allocated and felt this gave a clear view of where they did and did not want to go. This was an important consideration that influenced location preference. Themes regarding the impact of knowing location of placement at the time of scholarship allocation are shown in Table 5.

Table 6: Location known at time of application – a positive or negative

Main theme	Sub-themes
A positive effect	Allows planning for that community Allows personal psychological preparation A choice is a good thing Partner relocation and work planning Would have prevented worry or stress
A negative effect	Possible negative thing to know – a deterrent if location is unappealing Could lead to scholarship bond being broken

A neutral effect	Doesn't matter
Need for flexibility	Scholarship holders having choices where they could go

Question Six - Advice to Queensland Health Strategies for Recruitment & Retention of Allied Health Professionals

Question six asked participants for advice that they would give to Queensland Health regarding what were the best strategies for attracting and retaining AHPs into rural and remote practice.

Several respondents were very positive about the range of supports already being offered by Queensland Health and felt that the organisation was already doing a very good job in relation to recruitment and retention of AHPs. They included examples such as financial incentives and education and support programs that are accessible to rural and remote professionals.

Of the extra suggestions to enhance the recruitment and retention of AHPs the main categories these suggestions fall into are:

- Living conditions/accommodation
- Professional support
- Working conditions.
- Transitional support factors
- The District administration Context
- Miscellaneous recruitment & retention Issues

Living conditions/accommodation

Accommodation has previously been discussed when scholarship holders were asked what strategies were needed to support them when commencing rural practice. The importance of this area was reinforced by the responses to this question. Once again, there was a significant variation in responses depending on the District that the AHP was in with some participants describing excellent support for accommodation and relocation and others describing minimal to no support. While Queensland Health was congratulated by a few respondents in relation to support with housing and accommodation, others mentioned a range of issues relevant to this area. Access to appropriate and affordable accommodation was identified as an important aspect of recruitment and retention. The cost of living in rural settings was identified as an issue particularly in relation to specific settings such as mining

towns. Costs associated with family relocation were also discussed. It was suggested that assistance in finding accommodation was important as well as having access to financial support for accommodation and consideration of relocation costs.

Professional Support

Professional support was identified by a majority of respondents as an important aspect of rural and remote recruitment and retention. Opportunities for professional development were important and were cited as a factor by nine participants. Again, there was a wide variation in responses depending on location and discipline with some AHPs stating that professional development opportunities were excellent and even better at times than if they were in a metropolitan position. It was felt that opportunities for ongoing professional development were a priority. One suggestion was that new graduates should be allowed to spend time during their rural placement in a larger regional centre where they could be exposed to different cases and have a different level of supervision and support. This was seen as particularly important for those who were in smaller rural centres. It was also seen as an ideal strategy to allow the graduates to develop networks that would enhance later communication and support when the AHP returned to their rural placement location. Supervision and support were also cited by seven participants as important strategies and suggestions to improve this included the establishment of formalised mentoring processes. The level of responsibility that was placed on some new graduates was raised as an important issue and it was felt that there needed to be greater professional and remunerative recognition for the amount and type of work done in these situations. One participant mentioned “the need for accelerated progression linked to remuneration level". This was supported by the view that the complexity of rural positions resulted in skill levels increasing more quickly, resulting in work being conducted at a more advanced level which deserved remuneration.

Working conditions

One scholarship holder discussed the importance of the Rural Health Connections understanding the area into which they were being placed and ensuring that it was suitable for a new graduate in terms of the District’s capacity to support staff. This included the Rural Health Connections having an understanding of the overall “culture” of the workplace. This particular graduate expressed a sense of exploitation in relation to the work environment.

There was discussion regarding whether new graduates should be in sole practitioner positions and generally this was not considered an appropriate situation. There was

discussion about the impact that the new health practitioner career structure would have on this and it was felt that it was increasingly unlikely that new graduates would be in these positions.

Flexible working arrangements were suggested as being worthwhile particularly if it allowed for new graduates to take long weekends thus enhancing opportunities to maintain social connections with family and friends. It was felt that flexibility in work hours would allow for more time to maintain distance relationships. Travel incentives when situated rural or remotely were also seen as important.

Transitional Support Factors

The importance of a comprehensive orientation when starting in new positions was seen as essential, even if the scholarship had undertaken the placement in the same location as a student. In some situations this was done very well whereas in other situations there was room for improvement. This again appeared to be related to District and discipline specific issues. Participants from some disciplines described a very good process where they were introduced into the more rural communities after spending time in the larger District centre. This allowed for confidence to be built, relationships with staff developed and the identification of skills that needed developing. It was suggested that the Rural Health Connections follow up scholarship holders once they were in their position as a new graduate in order to assess their experience in the new position and to assess if further support was needed. This was however only raised by one participant.

The District administration context

There was a number of scholarship holders who indicated some dissatisfaction with the support received at a District level with one in particular indicating significant concern regarding what they saw as dysfunctional District leadership. This graduate emphasised the need for Districts to have supportive processes in place for the new graduate entering their work context in relation to orientation and ongoing professional support. One scholarship holder felt there was inconsistent communication between the Rural Health Connections and the District administration regarding accommodation, salaries and responsibilities of new graduates. The importance of good District leadership was emphasised as a necessary requirement for recruitment and retention.

Miscellaneous recruitment & retention points

The availability of the Rural Allied Health Relief Pool was mentioned as an excellent program

that provided opportunities for AHPs to get away to try other types of work and increase case experience diversity. One participant suggested that the Rural Health Connections should liaise with universities at placement time to ensure those students who desire to practice rurally or are on a rural scholarship actually get the opportunity to complete a rural placement. It was seen as unreasonable that some students had to do this themselves and do the placement in their own time. Placements are seen as an opportunity to scope the location for future professional work and assist the scholarship holder to identify preferred locations following graduation.

It was suggested that students from rural areas should be encouraged to apply for a scholarship as they were more likely to stay on in a rural area due to their knowledge and comfort in this situation. Age was mentioned as a retention factor and it was perceived that younger graduates would be more likely to move on to continue their career development in a metropolitan centre.

The importance of providing social networking opportunities within the community was highlighted. This would prevent people from "living and breathing" their work and allowed networks to be formed outside of the working sphere.

The advice from scholarship holders to Queensland Health regarding recruitment and retention strategies are presented in Table Six.

Table 7: Advice to Queensland Health – recruitment and retention of Allied Health Professionals

Main Theme	Sub-themes
Living conditions	Accommodation issues Cost of living adjustment for rural residency Good conditions currently, e.g. support, finance & accommodation Some districts have no accommodation Family relocation financial support Relocation costs to and from Need for assistance in finding accommodation Need financial assistance for accommodation
Professional support	Opportunities for professional development

Main Theme	Sub-themes
	Allow time in regional areas before commencement of rural practice – allows for skill development and network establishment Supervision and support Formal mentoring programs Professional recognition – for additional responsibilities and remuneration
Working conditions	Flexible work arrangements New graduates and sole practitioner positions – not appropriate Rural Health Connections need to understand work culture and District capacity to support new graduates
Transitional support factors	Orientation – positive and negative experiences – District and discipline specific experiences Benefits of spending time in a regional centre before commencing rural practice Rural Health Connections follow up with graduates to assess coping and support needs
The District administration context	Districts & Rural Health Connections conflicting information Districts play a vital role in establishing supportive processes for new graduates Good District leadership is essential
Miscellaneous	Rural Allied Health Relief Pool Rural Health Connections to liaise with Universities for placement opportunities Rural students more likely to want to practice rurally Try and recruit rural students for scholarships Social networking opportunities with community

Question Seven - Anything further related to experience as a scholarship holder

At the end of the interviews the scholarship holders were asked if there were any further points they wished to add that had not previously been raised. Some of the responses are

captured and contained in previously discussed points but there was a strong view expressed regarding the importance of the scholarships with participants emphasising that the scholarship program is a good and important scheme that provided opportunities for rural experiences and resulted in improved recruitment and retention.

3.2.2 Managers – qualitative results

Demographic details

Eleven interviews were conducted with employers/managers/strategic leaders of rural scholarship holders. For practical purposes the term “manager” will be used. All participants were in senior leadership roles that had operational or professional management responsibilities for allied health workforce in the District concerned.

The participants were from a range of disciplines including:

- Medical imaging
- Occupational therapy
- Physiotherapy
- Social work
- Speech pathology
- Pharmacy
- Health administration

Participants were located in the following Queensland Health Districts:

- Cairns and Hinterland District
- Townsville District
- Mount Isa District
- Mackay District
- Wide Bay District
- South West District
- Darling Downs-West Moreton District

The number of staff that participants were operationally responsible for ranged from 8 – 250 with an average of 69 staff. The number of staff that participants professionally managed or supervised ranged from 1 – 400 staff with an average of 79.

Participants had been in their current positions for between two and seven years with an

average of four years and had worked in a rural and remote area during their career for between three and thirty years with an average of 15 years working in rural and remote areas over their career span. None of the managers were rural scholarship holders themselves.

Question One: Role of Manager with new graduate AHPs

The first question asked what role the manager had with newly graduated AHPs. Managers were either directly or indirectly involved with new graduates. For those who had a direct responsibility, their roles included line management of the new graduate, provision of professional and clinical supervision and support, being a first point of contact for advice and support, mentoring and orientation. Orientation was described as covering an introduction to the area, the position, the expected roles and responsibilities, the role within the multidisciplinary team, and management issues especially for sole providers such as how to manage workloads and departments. Some managers also discussed their role in providing personal support in relation to ensuring that new graduates were linked into social networks and had appropriate accommodation.

Those managers who indirectly played a role with new graduates had a more strategic role where they were responsible for establishing processes and structures at a District level to ensure that new graduates were adequately supported particularly in relation to orientation, mentoring, supervision and professional development. These managers delegated direct supervision to other managers and provided line management to those who were directly responsible for new graduates.

The main themes in relation to the role played by the managers with graduate AHPs are provided in Table 7.

Table 8: Role of manager with graduate Allied Health Professionals

Major Theme	Sub-themes
Direct support	Line management for new graduates Professional supervision and support Clinical supervision First point of contact Mentoring Orientation to area, position, roles and responsibilities, role within the multidisciplinary team, management issues

Major Theme	Sub-themes
	especially for sole providers (how to manage workloads, departments) Provision of personal support settling into community – linking into social networks, accommodation
Indirect support	Delegates to others to manage new graduates Operational manager for managers of new graduates Establishing structures and processes within the District to support new graduates – orientation, mentoring, supervision, professional development

Question Two - Proportion of the team who are new or recent graduates (less than 3 years experience), and how many scholarship holders

The second questions asked about the proportion of the team who were new or recent graduates, which was defined as less than three years experience, and of those how many were scholarship holders. Three of the participants did not give numbers but indicated that 40-70% of their staff were new graduates. These participants were from the South West, Mackay and Wide Bay District Health Service areas. Of these participants, one had five, one had six and one had ten scholarship holders. Of the others, between 1-10 staff were new graduates with between 0-3 being scholarship holders.

Question Three - Expected new graduate recruitment trends. Reasons for prediction

The third question asked whether participants thought that the new graduate recruitment would increase, decrease or stay the same in the next 3-5 years.

Most managers see the graduate recruitment staying the same (n=9) due to funding restrictions and the fact that there is a regular two year cycle of restaffing at the new graduate level. Some indicated that they hoped for change particularly in view of health system restructure at the local level. There was discussion regarding the impact of the health practitioner scale with some participants expecting that the differences between Health Practitioner Level Three (HP3) and Health Practitioner Level Four (HP4) would be an issue

of concern in relation to recruitment. There was some concern that the remuneration of HP3 (for new graduates) was not commensurate with the level of responsibility that they are given. In relation to pharmacy there was discussion about the anticipated over supply of pharmacy graduates in the future and it was felt that recruitment was less likely to be a concern because of this.

Question Four: Most important issues and advantages for the work unit when new graduates commence rural practice

The fourth question asked participants to describe the advantages and issues for their work unit when employing newly graduated AHPs. The diversity of work units, their functioning and capacity and the number of graduates being managed influenced the responses to this question.

Generally participants were enthusiastic and supportive of employing new graduates and saw lots of advantages including that it allowed vacancies to be filled. New graduates were seen to be enthusiastic, passionate and motivated. It was thought that they injected new energy into the team. New graduates were considered to be technically competent who brought new and current ideas which reflected up to date best practice. They were quick to pick up new technology. Having new graduates impacted positively on senior staff who were put into a position where they needed to teach and this in turn improved their knowledge and skills. It allowed staff in regional areas who might be responsible to staff in rural areas to have a greater link into the rural and remote areas which leads to a greater understanding of the issues being experienced by rural practitioners. This helped ensure that sound plans were made in relation to the needs of new graduates. It was also seen as a positive for succession planning and enabled vacancies to be filled.

There was some discussion regarding the strain put on staff who had to spend considerable time ensuring that new graduates were safe and competent. Some participants felt that new graduates were not always able to “hit the ground running,” were not “work ready” and that their clinical reasoning was still developing. Such graduates needed extra training, supervision and support which put a strain on staff who needed to do this.

Generally the positives were seen to mitigate any potential negatives. However the challenges that were highlighted for the work units were ensuring that there was capacity to ensure that the new graduates were work ready, that there was appropriate and sufficient

clinical and professional support and mentoring and that there was discipline specific support available (some managers were supporting staff that were in a different discipline from their own). One concern that was raised was the potential for new graduates to de-skill in rural practice unless opportunities for ongoing professional development were provided. However this concern was only raised by one participant. The advantages and challenges are presented in Table 8.

Table 9: Important issues for work unit when new graduate commencing

Themes	Sub-themes
Advantages	New graduates technically competent and current bringing new ideas New graduates enthusiastic Benefits local staff having new graduates Senior staff adopting a teaching role Enables vacancies to be filled
Challenges	Not work ready – training time needed Pressure on existing staff who had to provide training and support Clinical reasoning still developing Need for appropriate clinical and professional support and supervision Need for discipline specific support Need for mentoring support Sole practitioner positions need extra support Social or personal support Potential for deskilling Lack of enforced professional development

Question Five: Current successful support strategies for new graduate AHPs

The fifth question asked managers what current support strategies worked well for supporting newly graduated AHPs. Three themes emerged related to professional, social and work context support strategies.

At a professional level good orientation was seen as a vital strategy to support new staff. A number of managers described well structured approaches to orientation and one mentioned

a very comprehensive manual that had been developed in their District that all new staff received. One manager ensured that she was present on the new graduates first day so that she could undertake the orientation and set the overall culture and expectations for the workplace. Providing opportunities for new graduates to spend time in a larger regional centre was described as a valuable strategy that allowed networking to occur and allowed face to face interaction between the new graduate and staff in the regional centre who might later provide support from a distance. It was felt that this face to face engagement increased the likelihood of the new graduate feeling comfortable in establishing contact and seeking advice at a later time.

Some managers conducted regular face to face meetings in the early phases of the new graduates' employment to ensure that the new graduate was coping and to help sort out any issues that may arise. As the new graduate settled in and became more confident these meetings happened less frequently. A number of the managers emphasised the importance of regular contact and provision of support. Where possible it was seen as desirable if this support was provided by a professional from the same allied health discipline. The utilisation of videoconferencing was seen as useful but the point was made that it never fully replaces face to face contact. Videoconferencing was also discussed as playing a role in professional development.

The establishment of buddy systems were mentioned as a useful strategy. One District had employed a new graduate support officer and this was viewed as being a very successful strategy as it was this position's responsibility to work closely with and support the new graduate. The importance of providing good clinical supervision was also highlighted.

At a social level it was seen to be important to provide avenues for social integration. This included providing opportunities for staff to interact with the broader community to allow them time to really switch off from work. Other strategy examples that were provided included welcome morning teas and overall orientation into the community. The importance of ensuring that safe and comfortable accommodation was available was also discussed.

One work context support factor was identified. Allowing flexibility in working hours to support staff to balance their lives was discussed. It was felt that this would allow them greater flexibility in what they do in their out of work time. For example it might allow them sufficient time to travel and see family and friends and maintain these important personal relationships or to explore the area in which they were working. The current support strategies are presented in Table 10.

Table 10: Current successful support strategies for new graduates

Themes	Sub-themes
Professional support mechanisms	Orientation Orientation manuals Allow for time in regional centres Professional Development Opportunities New graduates need support from own discipline Supervision and support – face to face preferred in early stages Tele-health for professional and clinical support Buddy system New graduate support officer Other new graduates on team Welcoming activities to local health unit
Social support mechanisms	Avenues for social integration Socialising with wider community Availability of safe and comfortable accommodation
Work context support factor	Flexible work hours

Question Six: Additional support that could enhance recruitment and retention of new graduate AHPs

In the sixth question managers were asked whether they could think of additional support that could be provided to enhance the recruitment and retention of newly graduated AHPs. Themes were identified in relation to the transition from university to rural practice and how best to support this, continuing support needs and work context factors. As found with previous questions, a very broad range of factors were identified but several themes were becoming recurrent (from past question responses) regarding support for new graduates.

Three of the participants expressed that they felt that very good support strategies were already in place. One made the comment that there had been an enormous improvement in the last 10-15 years with AHPs generally being well supported in rural practice. Another participant commented on the improved recruitment situation now and that universities were producing so many graduates.

Several participants discussed the issue of work readiness and there was a general feeling expressed that there needed to be an improved transition process in place between graduating and commencing rural practice ("from theory to practice"). One participant expressed concern that not all scholarship holders seemed to have a rural placement during their undergraduate studies and this was viewed as being essential. Another suggested that in an ideal world graduates would spend 12 months in a regional centre before being placed in a more rural area. This is in line with the process used by pharmacy where pharmacy graduates spend one year in a regional centre before being placed in a rural area. At the very least it was suggested that the new graduate spend three months in a regional centre before commencing rural practice. Another suggestion was to have opportunities for new graduates to regularly come into a larger regional centre for short periods of time to refine clinical skills and establish networks. Furthermore, where a position has been dormant for a while there was a clear need for additional support. Ensuring that there was supervisor training available was suggested as a way of ensuring that new graduates received adequate support to assist with the transition into rural practice. One participant felt strongly that if Districts were going to take new graduates they needed a strategic vision as to how they can make this the best experience for both the new graduate and the employer. This would help new graduates adapt to practice and would aid in retention. It was felt that support structures needed to be built into the strategic processes of the District.

The importance of having an appropriate work structure for new graduates was raised as an issue and a number of participants raised concerns in relation to the new health practitioner stream. One manager suggested that job descriptions needed to be re-written for rural practitioners that had clearly defined and realistic expectations of what an HP3 AHP was expected to do. There was concern expressed about new graduates being placed into HP4 level positions and this was seen as inappropriate.

The next phase of support was "continuing supports". Videoconferencing and telehealth were suggested as a good means of providing ongoing support but it was limited by the broad band capacity in many areas. The need for ongoing professional development strategies and allowances was discussed and the need for ongoing education specific to the rural and remote context was seen as important.

In relation to work context factors, there was ongoing discussion regarding the HP3 and HP4 pathways and there was concern about new graduates being placed in HP4 positions. There was also concern that not all managers understood new graduate capacity and capabilities.

Table 11 contains managers' suggestions of the support that is needed to enhance recruitment and retention of new graduates.

Table 11: Support to enhance recruitment and retention of new graduates

Themes	Sub-themes
Work readiness and university to work transition	Need professional support to enhance transition from university to professional practice Need time in a regional area before rural practice commences Need for supervisor training Support structures for new graduates needs to be built into strategic processes of the District Need for clearer expectations regarding HP3 roles and responsibilities.
Continuing supports	Videoconferencing and telehealth limited broadband capacity Professional development strategies Professional development allowance Rural and remote focused education
Work context factors	HP3 HP4 pathway Don't place in HP4 positions Rural managers lack of understanding of new graduate capacity and capabilities

Question Seven: Perceived effectiveness of rural scholarship scheme in addressing manager's workforce needs (recruitment and retention

Participants were asked if the rural scholarship scheme was effective in addressing workforce needs from a recruitment and a retention perspective. Responses are organised around three main themes: the context of the current situation, the scholarship scheme operation and the graduates employed. These are summarised in Table 11.

Most participants felt that the scholarship scheme was a good recruitment strategy although some commented that it was more relevant in the past. A number of participants felt that the situation now regarding new graduate supply differs to several years ago. As a result of universities producing more graduates recruitment was generally viewed as less of a

problem. This was specifically mentioned for pharmacy and physiotherapy. The two exceptions to this were in relation to dentists and mental health workers where significant gaps remained.

Retention was still considered a problem. This was seen to be related to candidate selection and the importance of having the right graduate in the position and selecting a candidate that will stay. The challenge of supporting scholarship holders was discussed and there was concern raised about new graduates being allocated to sole practice positions. One participant stated that some of her colleagues believed that newly graduated scholarship holders were not ready for rural practice and needed time in a larger centre before they were placed rurally. She did not agree with these beliefs and felt that given the correct support they coped well. Once again the Health Practitioner stream was raised as an issue. One participant felt that the real decider for retention was recruiting someone who had a preference and passion for rural practice regardless of whether they were a scholarship holder or not.

The scholarship scheme operation received some critique. Some managers found the rural scholarship scheme difficult to engage with and were concerned that the local district had no role in the recruitment process. Having District involvement in the recruitment process was seen to be an advantage for both the District and the scholarship holder. One participant felt that taking a scholarship holder was a risk because "you didn't know what you were getting - you got what you got". This person felt involvement in the recruitment process would make a big difference.

Table 12: Perceived effectiveness of scheme to address workforce needs from a recruitment and retention perspective

Themes	Sub-themes
Recruitment - the situation now	A good recruit strategy in the past Labour market changed – recruitment not a problem now Surplus of candidates - pharmacy and physiotherapy specifically Gaps in dentistry and mental health Retention still a problem
The graduates employed	New graduates and solo practice positions not ideal Newly graduated scholarship holders need extra support Health practitioner stream issues Selecting a candidate with a preference and passion for rural practice

Themes	Sub-themes
The Scheme operation	Lack of District involvement in recruitment Difficulties in engaging with the rural scholarship scheme

Question Eight: Recommended changes to Rural Scholarship Scheme to better meet needs of rural services and the organisation

In question eight managers were asked if they would recommend any changes to the rural scholarship in its current form to better meet the needs of rural services and their organisation.

The main themes were related to: the process of recruiting scholarship holders , graduate work readiness and ongoing professional development needs, and the conditions of employment including professional support. These are summarised in Table 13.

A number of improvements were suggested in relation to the process of acquiring new graduates. This included an early recruitment connection between the undergraduate and the scholarship location centre so that preparation and planning educationally and personally can be carried out. Another recommendation was that the District should be involved in the recruitment process so they can have a say in selecting their candidate. Another suggestion was that particular professions should be targeted for recruitment to meet current employment shortfalls or priorities.

In relation to the conditions of employment, it was suggested that the Rural Health Connections assess work locations to ensure their suitability for a new graduate. Some Districts were seen as having better systems and structures in place than other Districts in relation to supporting new graduates and scholarship holders and it was felt that the Rural Health Connections could offer more support to Districts in this area.

There was continued discussion about the HP3 - HP4 structure with ongoing concern about placing new graduates into HP4 sole practitioner positions. Not all comments about the HP3/HP4 stream were negative and one participant felt that it was useful for career advancement.

Pharmacy seemed to be in a different situation to most of the other disciplines because of graduates spending their first year in a larger centre before commencing rural practice

(although some may start in smaller areas if the right support is present). There was discussion about the greater level of responsibility that is taken by some pharmacists following their registration year and it was suggested that some pharmacists are taking these higher level responsibilities from the time of commencing employing in a rural location. It was felt that these responsibilities were beyond the HP3 level at which they were being employed.

The need for increased support for new graduates and scholarship holders was discussed, particularly for sole practitioners. This was seen to be a District responsibility and one participant suggested that it should be a mandatory requirement that all Scholarship holders are provided with access to a supervisor and mentor support at the District level from orientation period onwards.

In regards to graduate work readiness and ongoing professional development it was recommended that universities prioritise rural placement experience for scholarship holders in areas similar to where they will be placed. Universities were also seen to play a key role in ensuring that education about the reality of rural practice was received. Ensuring good processes for ongoing professional support was seen as very important and it was felt that newly graduated scholarship holders needed professional development plans. There was one suggestion that a professional development allowance be established for new graduates. Having access to the educational opportunities for AHPs through the Cunningham Centre in Toowoomba was congratulated. Again the recommendation was made for scholarship holders to begin practice in a regional centre in preparation for transition to rural practice. This would allow competency to be assessed, support needs to be identified and skill development to occur where needed.

Table 13: Recommended changes to Rural Scholarship Scheme to meet the organisation and rural services needs

Themes	Sub-themes
Recruiting scholarship holders	Early recruitment of graduate Involve District in scholarship holder recruitment Targeting professions for recruitment to meet current priorities
The conditions of employment including professional support	Work locations scoped by Rural Health Connections for suitability for new graduates Rural Health Connections to support Districts HP3 HP4 issues

Themes	Sub-themes
	Increased support needs for new graduates and scholarship holders
Graduate work readiness and ongoing professional development	University and Scholarship Program alignment regarding placements Placement in area similar to scholarship location New graduates education about variety and reality of rural practice Need for ongoing professional development Need for professional development plans New graduates to commence in regional centres Access to supervisors and mentors via Cunningham Centre

Question Nine: Other feasible recruitment and retention strategies beyond the scholarship scheme

Participants were asked if they could think of other strategies besides scholarships that could be used to attract and grow their rural and remote allied health workforce. The main themes were: Ensuring a source of recruits, social issues, professional development opportunities and working and workplace conditions.

The importance of sound strategies for ensuring a source of recruits was identified as a priority and a range of strategies were suggested. One suggestion was providing work experience opportunities for school students that was linked to an allied health degree pathway. It was also felt that rural practitioners needed to promote rural practice when attending professional development opportunities such as conferences. Further to this rural practitioners should be encouraged to maintain their connection with universities and engage with allied health students where possible to promote rural practice. The importance of rural curriculum in undergraduate allied health degrees was highlighted.

Professional development opportunities were identified as being very important for rural practitioners. Access to local clinical educators and other types of supervision was necessary particularly for new graduates. Having linkages to education institutions such as local university units (for example, the Mount Isa Centre for Rural and Remote Health) were identified as being useful for professional development. An increase in the professional development allowance was mentioned and a locum service that allows rural AHPs to have recreation leave and urban practitioners to be exposed to rural practice was suggested.

Strategies to support relocation, travel and accommodation were identified as being important for recruitment and retention of AHPs. The importance of strategies that introduced new graduates to social networks in rural communities was also highlighted.

The overall culture of work places and the working conditions were identified as influencing recruitment and retention. Entering a positive workplace culture was considered important. Good District level leadership that establishes and maintains operational procedures that benefit staff was seen to be necessary. Remuneration equivalent to responsibility was also identified. Strategies for managing workloads were suggested including the use local community assistants in communities and adopting a team approach to work.

A summary of the suggested recruitment and retention strategies suggested by managers is in Table 14.

Table 14: Feasible recruitment and retention strategies beyond the Scholarship Scheme

Themes	Sub-themes
Ensuring source of recruits	Work experience – opportunities for school students to link with allied health degree pathway Promotion approach - promoting rural practice by rural practitioners to undergraduates Rural staff maintaining university connections Rural curriculum in undergraduate AHP university courses
Professional development opportunities	Ensuring District level professional development supports in place for new graduates and others Access to clinical and other types of supervision Increased professional development allowance Locum service for rural allied health professionals and an experience pathway for urban health professionals
Social issues	Social support incentives - accommodation, travel & communication Cost of living in rural areas Relocation costs Introduce to social networks within rural communities

Themes	Sub-themes
Working and work place conditions	Entering a positive workplace culture Good leadership at District level to establish operational procedures Remuneration equivalent to responsibility, e.g. pharmacy Reorienting workload by utilising community assistant workforce Team approaches to work

Question Ten: Any other Issues

The final question provided managers with the opportunity for final comments in relation to the topics discussed in the interview. In summary comments indicated that managers viewed the rural scholarship program as a worthwhile strategy but that further consultation was required between the Rural Health Connections and District Directors to fine tune the Scholarship Scheme given the changing working context and the changing supply and demand issues relevant to some disciplines. .

4. DISCUSSION

This report discusses the findings and the implications of the review of the Queensland Health Allied Health Pre-Entry Scholarship program. The review analysed existing Queensland Health quantitative data and used one on one in-depth telephone interviews with scholarship holders and their managers to explore attitudes and perceptions regarding the scholarship itself as well as exploring broader issues related to the support needs of new graduates and recommended strategies for recruitment and retention.

The aims of the review were to assess:

1. The association between undergraduate scholarship schemes and enhanced allied health recruitment to rural and remote services and retention of early career allied health professionals in rural and remote areas and the organisation.
2. The structural and organisational features that influence the success of existing undergraduate scholarship schemes in relation to:
    a. Structure e.g. year at entry, duration, support (financial, organisational) during scholarship period
    b. Service (bonding) periods and administration of same-inclusion or absence of a service period, duration, location (rural/remote or with preliminary metro/regional training) support and development during the service period
    c. Components of the scholarship program which support the recipient to gain rural and remote practice skills and positively influence early career retention outcomes
3. The direct and indirect benefits and costs of the undergraduate scholarship schemes.
4. The perceived barriers and impediments that exist for health services accepting scholarship holders.
5. The support issues for new graduates and how support can be enhanced to retain graduates in rural practice.

The key findings from the review are summarised below.

Scholarship Holder Perspectives

- Positive support for rural scholarships
- Key motivators for applying for a scholarship are financial and job security upon graduation, although the general appeal of and preference for rural practice is an underlying motivator.
- Not all scholarship holders receive support during their undergraduate degree to undertake a rural placement.
- Doing undergraduate placements in an area where they practice in the future is useful for familiarity of the community and position and for establishing networks.
- Ambivalence exists regarding whether students should be allocated a predetermined practice location at time of scholarship application.
- Regardless of receiving a scholarship, most scholarship recipients reported they would have gone into rural and remote practice.
- Health professionals leave rural practice for personal and family relationship reasons more than because of dissatisfaction with rural practice.
- Districts play a key role in having well defined strategic processes that orient and support new graduates.
- Flexibility in working hours enhances opportunities to maintain long distance relationships.
- New graduates are presented with additional challenges if working as a sole practitioner and need additional support when first commencing practice.
- Professional and clinical support and supervision, supportive work environment and culture, mentoring and professional development are important for retention.
- Support for safe and comfortable accommodation is important and for social integration into communities.
- Rural Health Connections needs a process for ongoing engagement with scholarship holders following graduation and placement in rural practice.

Manager Perspectives

- Positive support for rural scholarships generally.
- Districts play a key role in having well defined strategic processes that orient and support new graduates particularly in relation to supervision, mentoring and professional development.
- New graduates bring enthusiasm, passion, motivation, energy, up to date knowledge, skills and best practice and well developed technical skills
- New graduates need extra support to assist in the undergraduate to practice transition.
- Having new graduates places additional work load pressures on existing senior staff in the early phases of new graduate tenure.
- Regional work placements **before** rural practice could improve work readiness for the rural role.
- Concern exists regarding potential de-skilling as a result of rural practice.
- Regional placements **during** rural practice could assist in skills development and network development.
- From a small number of managers there was concern that some rural position accountabilities were inconsistent with HP Level 3.
- Scholarships are a positive recruitment strategy but future oversupply of some disciplines need consideration and more targeted scholarships may be needed for disciplines were recruitment gaps continue.

  Managers did not see physiotherapy and pharmacy as an issue for recruitment but suggested that some areas, such as mental health, needed to be targeted to address workforce shortages.
- Districts need opportunities to be involved in scholarship holder recruitment processes to ensure that the scholarship holder is suitable for their needs.

As identified in the literature review that was conducted as Stage One of this review, there is a paucity of robustly designed studies that have assessed the efficacy of scholarship programs. This review is unable to show a direct relationship between undergraduate scholarship schemes and enhanced allied health recruitment to rural and remote services and retention of early career allied health professionals in rural and remote areas and the organisation due to the nature of the data but it does provide some insight as to the value of the program.

This review identified that overall 11.3% of scholarship holders (13.7% of QHRSS and 4.2% of AHAOPSS) broke their bond during the 2003-2010 period. This is considerably less than was identified in a review study undertaken by Bärnighausen and Bloom (2009) who examined the impact of financial incentives on recruitment and retention to rural practice. Although a range of student incentives were examined in this review (service requiring scholarships, educational loans with service requirements; service-option educational loans) it does allow for some comparison. Bärnighausen and Bloom (2009) found that most programs had substantial drop out rates before the start of the service obligation. That is, on average, 3 in 10 participants did not fulfill their commitment but the drop-out rate was highest among students who committed to service (e.g., service-requiring scholarships and educational loans with service requirements). In comparison to this data the QHRSS (Allied Health) and AHAOPSS has a low dropout rate.

Previous research on compulsory service programs conducted by Frehyot et al., (2010) identified that health professionals objected to compulsory service programs with a range of reasons cited including cost, poor rural facilities and resourcing, lack of transport and basic services, and difficulty in implementing the skills learned in their training (Frehywot et al., 2010). Frehywot et al., 2010 concluded that the high turnover associated with many compulsory service programs needs to be seen as the reality of rural practice rather than as a weakness of the program however the data from this current review shows that graduates do stay in rural practice for a reasonable amount of time with the median rural service time being 23.7 months.

Results from the interviews in the current review indicate that both scholarship holders and managers generally view the scholarship program positively. For scholarship holders the scholarship program provides financial support during their undergraduate degree allowing them time to concentrate on their studies as well as providing them with a guaranteed position in which to commence practice. Managers perceive a range of positives that come

from employing scholarship holders including the enthusiasm, passion, motivation, energy and up to date knowledge and skills that they bring with them.

It does appear however that most scholarship holders would have chosen to practice in rural locations regardless of receiving a scholarship. This review was unable to explore this issue in depth but it is possible that having a rural background may have been an influencing factor and there are a number of studies from Canada (Easterbrook, Godwin, Wilson, Hodgetts, Brown, Pong, et al. 1999), the United States, (Rabinowitz, Diamond, Markham, Paynter, (2001); Fryer, Stine, Vojir, Miller, (1997); Kassebaum, Szenas, (1993); Brooks, Mardon, Clawson, (2003), and Australia (Wilkinson, Beilby, Thompson, Laven, Chamberlain, Laurence, (2000); Laven, Beilby, Wilkinson, McElroy (2003) that demonstrate that people raised in rural communities are more likely to ultimately work in rural areas. The literature review conducted for Stage One of this review also highlighted that strategies such as recruiting students from rural backgrounds, delivering regional training, exposing students during this training to rural curriculum and placements, and then building regional postgraduate training pathways were all identified as useful strategies for rural recruitment (Dunbabin & Levitt, 2003; Henry, et al., 2009; Hsueh, et al., 2004; Stagg, et al, 2009; Playford et al, 2006).

Despite these positive views of the scholarship program there were a number of issues identified in the review in relation to the structural and organisational features of the existing Queensland Health rural undergraduate scholarship schemes. Some managers were concerned that employing scholarship holders (or any new graduates) placed additional work load pressures on existing senior staff in the early phases of new graduate tenure. This was due to new graduates not being “work ready” and needing additional support and time to feel comfortable and confident in their role. It was suggested that regional work placements before rural practice commenced could improve work readiness for rural practice.

The context in which the rural scholarships are offered also appears to have changed with participants discussing that the potential future oversupply of some disciplines may need consideration and suggested the possibility of needing targeted scholarships for disciplines were recruitment gaps continue. The changing professional roles were also discussed in relation to the HP3/HP4 levels. It was suggested that in light of these changes graduate roles, responsibilities and position descriptions may need to be reconsidered and adjusted to reflect the HP3/HP4 career structure. While this would appear to be a District responsibility, Rural Health Connections could play a role in defining these roles and responsibilities.

The support issues identified for new graduates by both scholarship holders and managers were similar to what has been previously described in the literature and reflect both professional and personal support issues. At a professional level, both professional and clinical support and supervision was highlighted as being very important as well as provision of a supportive work environment and culture, mentoring and professional development. Again the potential for regional placements during rural tenure was suggested as a means of developing both skills and networks. At a personal level support with accommodation was the most mentioned issue as well as support for social integration into communities. A number of participants discussed the importance of having flexibility in working hours to enhance opportunities to maintain long distance relationships with family and friends.

It was clear that both scholarship holders and managers identified that Districts play a key role in the provision of support for new graduates but responses indicated that there are differences between Districts as to how well this support is provided. Some Districts appear to have very strategic processes in place to ensure scholarship holders and new graduates generally are introduced to rural practice and supported when commencing rural practice. Other participants suggested that this could be improved in some Districts. It was suggested that Rural Health Connections needed a clearer understanding of what District processes existed and that this might assist in identifying where scholarship holders are placed and potential problems and the support that might be needed by scholarship holders in some areas.

Limitations

Due to the qualitative nature of the research and the diversity of the disciplines involved and extent and diversity of rural practice locations, this review is not able to identify any definitive association between the undergraduate scholarship schemes and enhanced allied health recruitment to rural and remote services and retention of early career allied health professionals in rural and remote areas and the organisation. Seventeen scholarship holders from eight different disciplines and eleven managers from seven different disciplines participated and all were spread across nine Queensland Health Districts. This diversity has made thematic saturation of the data impossible. Due to this we must infer that there may be a range of issues as yet not identified in this report for the scholarship holders and managers.

The qualitative evaluation component of this study is based on self-report, and it could be argued that the voluntary nature of participation may have led to some level of bias with

respondents having a particular interest in the topic or a specific motivation to respond. However, participants provided upfront responses that included both positive and negative reflections which suggest that respondents provided a frank assessment of their experiences.

The following recommendations are made as a result of the review findings:

1. Interviewees (both scholarship holders and managers) see the Queensland Health Rural Scholarship Scheme (Allied Health) as a valuable program that should continue but suggested the need for some refinement and modification that takes into account current workforce trends.
2. The scholarship should target specific discipline workforce shortages in rural and remote areas particularly in relation to mental health.
3. Scholarship holders, where possible, should practice in locations that are similar to their undergraduate placements.
4. Scholarship recipients should be allocated to rural and remote locations that are suitable and appropriate for new graduates in regards to their roles and responsibilities.
5. Queensland Health needs to look for opportunities to influence universities to support students to undertake a rural placement within their undergraduate training, preferably in a location similar to graduate placement, if known.
6. The potential for new graduates to spend time in a larger regional centre **before** being placed into rural practice needs further exploration.
7. The potential for new graduates to spend time in a larger regional centre **during** their rural practice needs further exploration.
8. There needs to be greater standardisation across Queensland Health regarding strategic processes to support new graduates with an emphasis on orientation, supervision, mentoring and professional development.
9. Queensland Health needs to scope the District capacity to provide adequate support to new graduates.
10. New graduates, including scholarship holders, require enhanced support in the early stages of their rural practice. Opportunities for involvement of both Districts and Rural Health Connections in relation to this require further discussion and negotiation.
11. Queensland Health needs to provide accommodation support for new graduates.
12. Opportunities for greater District involvement in the recruitment of scholarship holders requires further exploration.

5. CONCLUSIONS

The results of this review demonstrate positive support for the rural scholarship program both from the perspective of the scholarship holder and the managers of the scholarship holders. Despite this there are aspects of the scholarships in their current form that have been identified by participants that require consideration in light of current workforce supply and demand and changing professional structures within Queensland Health. The issue of supply and demand has been highlighted and managers identified a possible future over supply in some disciplines. This is further reflected in the data with 42.3% of scholarship uptake accounted for by physiotherapy and pharmacy. Targeting future scholarships may provide an opportunity to tailor recruitment specifically to the needs of both Queensland Health and communities. Concerns exist regarding requirements for rural placement at an undergraduate level and the absence of rural placements for some scholarship holders. Undergraduate rural placements combined with other interventions such as regional work placements before rural practice could play a significant role in addressing concerns of work readiness expressed by managers. While many scholarship holders feel well supported as a new graduate entering rural practice, others have identified gaps that exist in relation to their experiences and the support they receive. Opportunities exist for more standardised approaches across all Districts that will strengthen the support structures that are in place. Support structures may also extend beyond the workplace and address personal support needs of new graduates in areas such as accommodation, working hours and social networking.

REFERENCES

Allen, O. (2005). SARRAH: In a nutshell. Australian Journal of Rural Health, 13:60.

Australian Health Workforce Advisory Committee (2004), The Australian Allied Health Workforce – An Overview of Workforce Planning Issues, AHWAC Report 2006.1, Sydney.

Australian Institute of Health and Welfare: Rural, Remote and Metropolitan (RRMA) Classification. Accessed online 24.03.2011 from: http://www.aihw.gov.au/rural-health-rrma-classification/

Battye, K., Hines, J., Ingham, C & Roufeil, L. (June, 2006). The NSW Central West Allied Health Service Network: A model to increase access to public and private allied health services. Bathurst: NSW Central West Division of General Practice. A report prepared for the Commonwealth Dept of Health and Ageing.

Brooks R.G., Mardon R., Clawson A. (2003). The rural physician workforce in Florida: a survey of US- and foreign-born primary care physicians. ***Journal of Rural Health,*** 19(4):484-91.

Dunbabin, J.S. & Levitt, L. (2003). Rural origin and rural medical exposure: Their impact on the rural and remote medical workforce in Australia. Rural Remote Health, 3:212.

Easterbrook M, Godwin M, Wilson R, Hodgetts G, Brown G, Pong R, et al., (1999). Rural background and clinical rotations during medical training: effect on practice location. ***Canadian Medical Association Journal*** 1999; 160(8):1159-63.

Forster, P. (2005). Queensland Health Systems Review: Final report. Accessed online 21.03.2011 from: http://pandora.nla.gov.au/pan/54345/20051125-0000/www.thepremier.qld.gov.au/news/media_matters/2005/30_09_05.html

Frehywot, S., Mullan, F., Payne, P.W., & Ross, H. (2010). Compulsory service programs for recruiting health workers in remote and rural areas: Do they work? Bulletin of the World Health Organisation, 88: 364-370.

Fryer, GE, Stine, C, Vojir, C, & Miller, M. (1997). Predictors and profiles of rural versus urban family practice. Family Medicine, 29(2), 115-118.

Health Professions Council of Australia (HPCA) (July, 2005). The Allied Health Professional Workforce in Australia: Challenges and opportunities. Submission to the Productivity Commission of Australia. Melbourne: HPCA.

Henry, J.A., Edwards, B.J. & Crotty, B. (2009). Why do medical graduates choose rural careers? Rural and Remote Health, 9:1083.

Humphreys, J., Wakerman, J., Pashen, D. & Buykx, P. (2009). Retention strategies and incentives for rural and remote areas: What works? Canberra: APHCRI.

Kassebaum DG, Szenas PL. (1993). Relationship between indebtedness and the specialty choices of graduating medical students: 1993 update. Acad Med, 68(12):934-7.

Laven, G, Beilby, J, Wilkinson, D, McElroy, H 2003. Factors associated with rural practice among Australian-trained general practitioners. ***Medical Journal of Australia***, 179(2), 75-79.

Lowe, S. & O'Kane, A. (June, 2004). ***National Allied Health Workforce Report***. Accessed 1/10/2010 from http://www.sarrah.org.au/site/index.cfm?leca=283&module=FILEMANAGER&did=85710984&page_category_code=1843&page_id=84779Patton, (2004)

Playford, D., Larson A., & Wheatland, B. (2006). Going country: Rural student placement factors associated with future rural employment in nursing and allied health. ***Australian Journal of Rural Health, 14:*** 14-19.

Rural and Remote Allied Health Inc (SARRAH) / National Rural and Remote Allied Health Advisory Service (NRRAHAS). Accessed online 1/10/2010 from: http://www.sarrah.org.au/site/index.cfm?leca=283&module=FILEMANAGER&did=85710984&page_category_code=1843&page_id=84779

National Rural Health Alliance (NRHA) (2004). Under pressure and under-valued: Allied health professionals in rural and remote areas. NRHA. Accessed 7/10/2010 from http://www.ruralhealth.org.au/nrhapublic/Index.cfm?Category=PositionPapers

Services for Australian Rural and Remote Allied Health (SARRAH) (2005). Submission to the Health Workforce Productivity Commission Issues Paper. Canberra: SARRAH.

Services for Australian Rural and Remote Allied Health (SARRAH) (2010). Principles of recruitment and retention of allied health professionals servicing remote Australian communities. Position Paper. Canberra: SARRAH.

Smith, T., Cooper, R., Brown, L., Hemmings, R. & Greaves, J. (2008). Profile of the rural allied health workforce in Northern NSW and comparison with previous studies. Australian Journal of Rural Health, 16: 156-163.

Stagg, P., Greenhill, J. & Worley, P.S. (2009). A new model to understand carer choice and practice location of medical graduates. ***Rural and Remote Health, 9:***1245.

Wilkinson, D. (2003). Bonded training places: Evidence-based policy or a stab in the dark? Australian Journal of Rural Health, 11: 213-214.

Wilkinson, D.W., Beilby, J.B., Thompson ,D.J., Laven, G.A., Chamberlain, N.L., Laurence, C.O.M. (2000). Associations between rural background and where South Australian general practitioners work. ***Medical Journal of Australia***, 173(3),137– 140.

Wilson, N., Couper, I., DeVries, E., Reid, S., Fish, T., & Marais, B. (2009). A critical review of interventions to redress the inequitable distribution of healthcare professionals to rural and remote areas. Rural and Remote Health, 9:1060.

World Health Organisation (2010). Increasing Access to Health Workers in Remote and Rural Locations through Improved Retention: Global Policy Recommendation. Geneva: WHO.

APPENDICES

Appendix One: Terms of Reference

Terms of Reference

Project Steering Committee:
Queensland Health Rural and Remote Allied Health Pre-Entry Scholarship Review Committee

1. Name

Queensland Health Rural and Remote Allied Health Pre-Entry Scholarship Review Steering Committee (referred to as 'Scholarship Review Steering Committee' in the remainder of this document)

2. Purpose

The purpose of the Scholarship Review Steering Committee is to oversight the work on and completion of the external review of Queensland Health Rural Scholarship Scheme (Allied Health), by James Cook University (JCU), School of Public Health, Tropical Medicine and Rehabilitation Sciences (SPHTMRS). The Committee will provide a communication link between the review team and key Queensland Health staff to facilitate efficient transfer of information and to provide a forum of collaborative activity.

3. Role

- Promote collaboration in the planning and management of the review.
- To provide a mechanism for reporting on project status between the service providers, JCU SPHTMRS and the sponsor, Allied Health Workforce Advice and Coordination Unit (AHWACU), referencing key deliverables in the Service Provider Agreement.
- To promote the efficient transfer of information and data between the project sponsor and service provider.

4. Membership

Name	Position	Organisation
Rick Speare	Director,	Anton Breinl Centre, SPHTMRS, JCU
Sue Devine	Senior Lecturer	Anton Breinl Centre, SPHTMRS, JCU
Gary Williams	Lecturer	Anton Breinl Centre, SPHTMRS, JCU
Jennifer Cox	Project Officer	JCU - SPHTMRS
Ilsa Nielsen	Principal Workforce Officer	Queensland Health - AHWACU
Sue Little	Manager	Queensland Health – Rural Health Connections - Roma
Cathy Kirkbride	Principal Project Officer	Queensland Health – Rural Health Connections, Roma

Chair – JCU (Sue Devine OR Gary Williams)

5. Membership Eligibility

Initial membership is determined by mutual agreement of the parties and will represent key personnel from both organisations with responsibility for contributing to the review.

The Chair should be notified in writing of any change to membership (resignation, change of representative).

6. Secretariat

- Minutes will be kept of the Scholarship Review Steering Committee meetings including a list of actions and resolutions. A project status report will be tabled at each meeting.
- JCU will provide secretariat functions
- The Scholarship Review Steering Committee Secretariat notifies members of meeting schedules and teleconference/venue arrangements.
- A fixed meeting agenda will be used (can be developed at the first meeting)
- The Scholarship Review Steering Committee Secretariat will provide minutes to all members within 5 workings days of the meeting.

- The Scholarship Review Steering Committee Secretariat will ensure distribution of the agenda and supporting documentation within no less than three business days prior to the date of meeting.
- The Principal Workforce Officer (Ilsa Nielsen) will coordinate links between the Committee and relevant Queensland Health units e.g. provision of status reports to AHWACU.

7. Links with Allied Health Workforce Advice and Coordination Unit

The Scholarship Review Steering Committee will link to the AHWACU through the Principal Workforce Officer. Where requested by either AHWACU or JCU members, the Director AHWACU (Julie Holcombe) may join committee meetings.

8. Frequency of Meetings

Monthly – to be decided at the end of each meeting

Extraordinary meetings may be called by the membership where emergent issues require attention.

Meetings will be via teleconference unless face to face contact is possible.

9. Quorum

A quorum is the Queensland Health Principal Workforce Officer plus one other Queensland Health representative and two member from the SPHTMRS.

10. Reporting

The Scholarship Review Steering Committee will provide status minutes of meetings and brief status reports to the Director, AHWACU, through the Principal Workforce Officer following monthly meetings.

JCUs review of Queensland Heath Allied Health Pre-entry Scholarship programs is governed by a Service Provider Agreement. Where the Scholarship Review Steering Committee identifies issues related to the Agreement, this will be minuted and referred to contacts listed in Section 18 and 19 of Schedule 2.

11. Communication – will be via email to all members of the Scholarship Review Steering Committee (ensure that all members are copied into all communication.

Appendix Two: Information Sheet

JAMES COOK UNIVERSITY
AUSTRALIA

INFORMATION SHEET

PROJECT TITLE: Queensland Health Allied Health Pre-Entry Scholarship Review

You are invited to take part in a study that will review the Queensland Health Allied Rural Health Scholarship Scheme and the Area of Priority Scholarships Scheme and their effect in enhancing early career recruitment and retention into rural and remote areas and areas of critical need. This study is being conducted by the School of Public Health and Tropical Medicine at James Cook University as part of an external review commissioned by Queensland Health. The study will use semi-structured in-depth interviews with rural allied health scholarship recipients and employers/managers of scholarship holders including strategic leaders such as District Directors of Allied Health or Allied Health Team Leaders. The study aims to assess the association between undergraduate scholarship schemes and recruitment and retention of allied health professionals into rural and remote Australia. The positive and challenging aspects of your experience either as a graduate or as an employers/managers or strategic leader will be explored.

Findings from this review will be used to inform the future strategies that Queensland Health's Allied Health Workforce Advice & Coordination Unit will use to enhance the recruitment and retention of allied health professionals into rural and remote practice in Queensland.

The study is being conducted by Professor Rick Speare who is the Principal Investigator along with Mr Gary Williams and Ms Sue Devine who are co-investigators, from James Cook University.

If you agree to be involved in the study, you will be invited to be interviewed via telephone. The interview, with your consent, will be audio-taped, and should only take approximately 20-30 minutes. The interview will be conducted at a time that suits you.

Taking part in this study is completely voluntary and you can stop taking part in the study at any time without explanation or prejudice. You may also withdraw any unprocessed data from the study.

Your responses and contact details will be strictly confidential. The data from the interviews together with a literature review that has been conducted on this topic, will be used to compile research publications and reports to Queensland Health highlighting issues related to the recruitment and retention of allied health professionals to rural and remote services. You will not be identified in any way in these publications.

If you have any questions about the study, please contact **Ms. Sue Devine.**

Principal Investigator:
Professor Rick Speare
School of Public Health and Tropical Medicine
James Cook University
Phone: 4781 5335
Email: Richard.Speare@jcu.edu.au

Co-Investigator:
Ms. Sue Devine
School of Public Health and Tropical Medicine
James Cook University
Phone: 4781-6110
Email: Sue.Devine@jcu.edu.au

If you have any concerns regarding the ethical conduct of the study, please contact:
Sophie Thompson, Human Ethics and Grants Administrator, Research Office,
James Cook University,
Townsville, Qld, 4811. Phone: 4781 6575, Sophie.Thompson@jcu.edu.au

Appendix Three: Informed Consent Form

JAMES COOK UNIVERSITY
AUSTRALIA

INFORMED CONSENT FORM

PRINCIPAL INVESTIGATOR	Professor Rick Speare
PROJECT TITLE:	Queensland Health Allied Health Pre-entry Scholarship Review
SCHOOL	Public Health, Tropical Medicine and Rehabilitation Sciences

I understand the aim of this research study is to evaluate the Queensland Health Allied Rural Health Scholarship Scheme and the Area of Priority Scholarships Scheme and their effect in enhancing early career recruitment and retention into rural and remote areas and areas of critical need. I consent to participate in this project, the details of which have been explained to me, and I have been provided with a written information sheet to keep.

The findings of this study will assist us to understand issues related to workforce recruitment and retention to rural and remote areas and will be used to develop recommendations for future strategies in this area.

I understand that my participation will involve a **telephone interview,** and I agree that the researcher may use the results as described in the information sheet.

I acknowledge that:

- taking part in this study is voluntary and I am aware that I can stop taking part in it at any time without explanation or prejudice and to withdraw any unprocessed data I have provided;
- that any information I give will be kept strictly confidential and that no names will be used to identify me with this study without my approval;
-

I consent to be interviewed via telephone	☐ **Yes**	☐ **No**
I consent for the interview to be audio taped	☐ **Yes**	☐ **No**

Name: *(printed)*	
Signature:	**Date:**

Cairns - Townsville - Brisbane – Singapore
CRICOS Provider Code 00117J

Appendix Four: James Cook University Ethical Clearance Notification

JAMES COOK UNIVERSITY AUSTRALIA

James Cook University
Townsville Qld. 4811 Australia
Sophie Thompson, Human Ethics and Grants Administrator
Research Services Ph: 47816575; Fax: 47815521
email: Sophie.Thompson@jcu.edu.au

Human Research Ethics Committee
APPROVAL FOR RESEARCH OR TEACHING INVOLVING HUMAN SUBJECTS

Application ID: **H3906**

PRINCIPAL INVESTIGATOR	Richard Speare				Staff
SCHOOL	Public Health & Tropical Medicine				
CO-INVESTIGATOR(S)	Sue Devine, Gary Williams and Jennifer Cox				
SUPERVISOR(S)					
PROJECT TITLE	Queensland Health Allied Health Pre-entry Scholarship Review				
APPROVAL DATE:	**27/10/2010**	**EXPIRY DATE:**	**31-Mar-11**	**CATEGORY:**	**1**

This project has been allocated Ethics Approval Number H3906, with the following conditions:

1. All subsequent records and correspondence relating to this project must refer to this number.

2. That there is NO departure from the approved protocols unless prior approval has been sought from the Human Research Ethics Committee.

3. The Principal Investigator must advise the responsible Human Ethics Advisor, appointed by the Ethics Review Committee:
   - periodically of the progress of the project,
   - when the project is completed, suspended or prematurely terminated for any reason,
   - within 48 hours of any adverse effects on participants,
   - of any unforeseen events that might affect continued ethical acceptability of the project.

4. In compliance with the National Health and Medical Research Council (NHMRC) "National Statement on Ethical Conduct in Human Research" (2007), it is MANDATORY that you provide an annual report on the progress and conduct of your project. This report must detail compliance with approvals granted and any unexpected events or serious adverse effects that may have occurred during the study.

Human Ethics Advisor :	Brown, Louise
Email :	

This project was Approved by Meeting on 27 Oct 2010

Dr Anne Swinbourne
Chair, Human Research Ethics Committee

Approval_Form_H

Printed on 01 Nov 2010

Appendix Five: Queensland Health Ethical Clearance Notification

Queensland Government

TOWNSVILLE HEALTH SERVICE DISTRICT

Enquiries to: Cate Donovan - Medical Administration Officer
Queensland Health
Telephone: 07 4796 1140
Facsimile: 07 4796 1051
Email: TSV-EthicsCommittee@health.qld.gov.au
File Number: Ethics - Protocol_198/10
Our Reference: dbs/ethics/Protocol/2010/138

5 November 2010

Professor Rick Speare
Australian Rabbit Control for Public Health & Tropical Medicine
School of Public Health, Tropical Medicine and Rehabilitation Sciences
(DB41-130)
James Cook University
Townsville, QLD
4810

Dear Professor Speare

HREC Reference number: THREC/10/QTHS/138
Project title: **Queensland Health Allied Health Pre-entry Scholarship Review**

Thank you for submitting the above protocol for single ethical review.

At their meeting held on 4 November 2010, the Townsville Health Service Human Research Ethics Committee gave ethical approval for the commencement of this study at the following sites:

- The Townsville Hospital.
- The Mt Isa Hospital.
- The Mackay Base Hospital.
- The Cairns Base Hospital.
- Central Queensland.
- Gold Coast Hospital.
- Mater Health Services Brisbane.
- Metro North – Redcliffe – Caboolture
- Metro North – Royal Brisbane & Women's Hospital.
- Metro North – The Prince Charles Hospital.
- Metro South
- Central Office.
- The Nambour General Hospital.
- Princess Alexandra Public Hospital.
- The Rockhampton Hospital.
- Royal Children's Hospital
- Toowoomba & Darling Downs
- West Moreton & South Burnett.

The following documents have been approved for use by the Townsville Health Service District THREC:

- Low & Negligible Risk Application, version 2, dated 11/10/2010.
- Proposed Questions for Interviews with Scholarship Holders.

You and your research team are informed that Townsville Health Service District HREC approval of the above mentioned sites is subject to continuing conditions which require all researchers to comply with certain requirements throughout the duration of the research.

Appendix Six: Rural Allied Health Scholarship Holder Questions

Background Information - de-identifiable – so no need for name to be recorded.

i. Discipline?
ii. Age?
iii. Gender?
iv. Where did you grow up?
v. Where did you complete your high school education?

1) What was the motivating influence for choosing a rural scholarship program?

2) Did you do a rural clinical placement during your undergraduate degree? If so, in what way did it impact your decision to work rurally (i.e. did it confirm that it was a good choice / did it make you concerned you had made a bad decision applying for scholarship)

3) Did you do a placement in the location that you went to as a graduate? If so, was this a useful experience (i.e. meeting staff, understanding local processes etc)?

4) Did you complete your bonded service agreement? Where did you work as a new graduate?

   If Rural:

   - Was the decision to go rural based solely on being a scholarship holder or did you have other motivations?

   - Would you have gone into rural or remote practice as a graduate if you were not on a rural scholarship?

   - How long did you stay in the position you were placed in as a graduate? ….. and in total in the rural or remote area?

   - If not currently in rural practice, would anything have made you stay longer in rural practice?

- Are there any strategies that could have been used to provide better support when you first commenced rural and remote practice?

If urban/metro:

- What influenced your decision not to take up a rural position?

- Would you consider going to a rural position in the future? Why/why not?

5. Imagine that when you applied for the scholarship you knew exactly which location you would be placed in when you graduate – would this be a positive thing or a deterrent or would it not really matter?

6. What would be your advice to Queensland Health regarding the best strategies for attracting and keeping allied health professionals in rural and remote practice?

7. Do you have anything further that you would like to add regarding your experiences as a scholarship holder?

Appendix Seven: Employers/managers/strategic leaders of rural allied health scholarship holder's questions

i. Background Information - de-identifiable – so no need for name to be recorded.
ii. Discipline?
iii. Role?
iv. How many staff (FTE) are you operationally accountable for?
v. How many do you professionally manage / professionally support?
vi. Where are you currently located?
vii. How long have you been in your current position?
viii. How long have you worked in a rural and/or remote areas during your career?
ix. Were you a rural scholarship holder yourself?

These questions relate to your rural or remote work unit/s:

1) What role do you have with newly graduated allied health professionals?
   If need prompting – e.g. operational management only, professional management of all / some, provide professional support/supervision/mentoring for all/some etc.

2) What proportion of your team are new or recent graduates (less than 3 yrs experience), and of those how many are scholarship holders?
   Note: for Directors of Allied Health they will respond regarding their District – so numbers may be approximate for them)

These questions relate to your experiences with NEW GRADUATE RECRUITMENT to your work unit/s:

3) In the next 3-5 years do you foresee any changes to your new graduate recruitment – increased, decreased or stay the same? What are your reasons for this prediction?

4) What are the biggest issues and advantages you see for your work unit when newly graduated allied health professionals commence rural practice?

5) What current support strategies work well for newly graduated allied health professionals?

6) What additional support could enhance recruitment and retention of newly graduated allied health professionals?

These questions relate to your experiences with RURAL SCHOLARSHIP HOLDERS in your work unit/s:

7) Is the rural scholarship scheme effective in addressing your workforce needs (both recruitment and retention)

    a. If so, how?

    b. If not, how?

8) Are there any changes would you recommend should take place in order for the current Rural Scholarship Scheme to better meet the needs of rural services and the organization?

These questions ask you to consider rural and remote workforce more generally:

9) Scholarships are one strategy for assisting the recruitment and retention of allied health professionals. What do you think are other strategies that could be useful for you to attract and grow your rural/remote allied health workforce?

10) Is there anything else you would like to add?

Appendix Eight: Queensland Health Service Survival Table

Survival Table

Scholarship type	Time	Status	Cumulative Proportion Surviving at the Time		N of Cumulative Events	N of Remaining Cases
			Estimate	Std. Error		
QHRSS	12.000	Exit	.992	.008	1	117
	24.000	Exit	.	.	2	116
	24.000	Exit	.	.	3	115
	24.000	Exit	.	.	4	114
	24.000	Exit	.958	.019	5	113
	24.000	Current	.	.	5	112
	24.000	Current	.	.	5	111
	24.000	Current	.	.	5	110
	24.000	Current	.	.	5	109
	24.000	Current	.	.	5	108
	24.000	Current	.	.	5	107
	24.000	Current	.	.	5	106
	24.000	Current	.	.	5	105
	24.000	Current	.	.	5	104
	24.000	Current	.	.	5	103
	24.000	Current	.	.	5	102
	24.000	Current	.	.	5	101
	24.000	Current	.	.	5	100
	24.000	Current	.	.	5	99
	24.000	Current	.	.	5	98
	24.000	Current	.	.	5	97
	24.000	Current	.	.	5	96
	24.000	Current	.	.	5	95
	36.000	Exit	.	.	6	94
	36.000	Exit	.	.	7	93
	36.000	Exit	.	.	8	92
	36.000	Exit	.917	.027	9	91
	36.000	Current	.	.	9	90
	36.000	Current	.	.	9	89
	36.000	Current	.	.	9	88
	36.000	Current	.	.	9	87
	36.000	Current	.	.	9	86
	36.000	Current	.	.	9	85

	36.000	Current	.	.	9	84
	36.000	Current	.	.	9	83
	36.000	Current	.	.	9	82
	36.000	Current	.	.	9	81
38	36.000	Current	.	.	9	80
39	36.000	Current	.	.	9	79
40	36.000	Current	.	.	9	78
41	36.000	Current	.	.	9	77
42	36.000	Current	.	.	9	76
43	36.000	Current	.	.	9	75
44	36.000	Current	.	.	9	74
45	36.000	Current	.	.	9	73
46	36.000	Current	.	.	9	72
47	36.000	Current	.	.	9	71
48	36.000	Current	.	.	9	70
49	48.000	Exit	.	.	10	69
50	48.000	Exit	.	.	11	68
51	48.000	Exit	.	.	12	67
52	48.000	Exit	.	.	13	66
53	48.000	Exit	.	.	14	65
54	48.000	Exit	.	.	15	64
55	48.000	Exit	.	.	16	63
56	48.000	Exit	.	.	17	62
57	48.000	Exit	.	.	18	61
58	48.000	Exit	.	.	19	60
59	48.000	Exit	.	.	20	59
60	48.000	Exit	.	.	21	58
61	48.000	Exit	.	.	22	57
62	48.000	Exit	.	.	23	56
63	48.000	Exit	.	.	24	55
64	48.000	Exit	.708	.050	25	54
65	48.000	Current	.	.	25	53
66	48.000	Current	.	.	25	52
67	48.000	Current	.	.	25	51
68	48.000	Current	.	.	25	50
69	48.000	Current	.	.	25	49
70	48.000	Current	.	.	25	48
71	48.000	Current	.	.	25	47

72	48.000	Current	.	.	25	46
73	48.000	Current	.	.	25	45
74	48.000	Current	.	.	25	44
75	48.000	Current	.	.	25	43
76	48.000	Current	.	.	25	42
77	48.000	Current	.	.	25	41
78	48.000	Current	.	.	25	40
79	48.000	Current	.	.	25	39
80	48.000	Current	.	.	25	38
81	60.000	Exit	.	.	26	37
82	60.000	Exit	.	.	27	36
83	60.000	Exit	.	.	28	35
84	60.000	Exit	.	.	29	34
85	60.000	Exit	.	.	30	33
86	60.000	Exit	.596	.060	31	32
87	72.000	Exit	.	.	32	31
88	72.000	Exit	.559	.061	33	30
89	72.000	Current	.	.	33	29
90	72.000	Current	.	.	33	28
91	72.000	Current	.	.	33	27
92	72.000	Current	.	.	33	26
93	72.000	Current	.	.	33	25
94	72.000	Current	.	.	33	24
95	72.000	Current	.	.	33	23
96	72.000	Current	.	.	33	22
97	72.000	Current	.	.	33	21
98	72.000	Current	.	.	33	20
99	84.000	Exit	.531	.064	34	19
100	84.000	Current	.	.	34	18
101	84.000	Current	.	.	34	17
102	84.000	Current	.	.	34	16
103	84.000	Current	.	.	34	15
104	84.000	Current	.	.	34	14
105	84.000	Current	.	.	34	13
106	96.000	Exit	.	.	35	12
107	96.000	Exit	.	.	36	11
108	96.000	Exit	.408	.079	37	10
109	96.000	Current	.	.	37	9

	110	96.000	Current	.	.	37	8
	111	96.000	Current	.	.	37	7
	112	108.000	Current	.	.	37	6
	113	108.000	Current	.	.	37	5
	114	108.000	Current	.	.	37	4
	115	120.000	Current	.	.	37	3
	116	120.000	Current	.	.	37	2
	117	120.000	Current	.	.	37	1
	118	120.000	Current	.	.	37	0

Rural Service Survival Table

Survival Table

		Statistics					
				Cumulative Proportion Surviving at the Time		N of Cumulative	N of Remaining
Scholarship type		Time	Status	Estimate	Std. Error	Events	Cases
QHRSS	1	.000	Exit	.	.	1	100
	2	.000	Exit	.	.	2	99
	3	.000	Exit	.	.	3	98
	4	.000	Exit	.	.	4	97
	5	.000	Exit	.	.	5	96
	6	.000	Exit	.941	.024	6	95
	7	1.380	Exit	.931	.025	7	94
	8	2.300	Exit	.921	.027	8	93
	9	4.172	Current	.	.	8	92
	10	6.440	Current	.	.	8	91
	11	6.899	Current	.	.	8	90
	12	7.359	Current	.	.	8	89
	13	7.852	Exit	.910	.028	9	88
	14	8.279	Exit	.900	.030	10	87
	15	8.279	Current	.	.	10	86
	16	8.279	Current	.	.	10	85
	17	8.280	Exit	.890	.031	11	84
	18	8.280	Current	.	.	11	83
	19	8.739	Current	.	.	11	82
	20	8.739	Current	.	.	11	81
	21	8.739	Current	.	.	11	80
	22	8.739	Current	.	.	11	79

23	8.739	Current	.	.	11	78
24	8.740	Current	.	.	11	77
25	9.199	Current	.	.	11	76
26	10.119	Current	.	.	11	75
27	11.500	Exit	.	.	12	74
28	11.500	Exit	.866	.035	13	73
29	12.419	Current	.	.	13	72
30	15.639	Current	.	.	13	71
31	17.938	Current	.	.	13	70
32	19.778	Current	.	.	13	69
33	20.271	Current	.	.	13	68
34	20.730	Current	.	.	13	67
35	20.731	Current	.	.	13	66
36	20.731	Current	.	.	13	65
37	20.731	Current	.	.	13	64
38	20.731	Current	.	.	13	63
39	20.731	Current	.	.	13	62
40	20.731	Current	.	.	13	61
41	24.000	Exit	.	.	14	60
42	24.000	Exit	.	.	15	59
43	24.000	Exit	.	.	16	58
44	24.000	Exit	.	.	17	57
45	24.000	Exit	.	.	18	56
46	24.000	Exit	.	.	19	55
47	24.000	Exit	.	.	20	54
48	24.000	Exit	.	.	21	53
49	24.000	Exit	.	.	22	52
50	24.000	Exit	.724	.050	23	51
51	24.000	Current	.	.	23	50
52	24.000	Current	.	.	23	49
53	24.000	Current	.	.	23	48
54	24.000	Current	.	.	23	47
55	24.000	Current	.	.	23	46
56	24.000	Current	.	.	23	45
57	24.000	Current	.	.	23	44
58	24.000	Current	.	.	23	43
59	24.000	Current	.	.	23	42
60	24.380	Exit	.707	.052	24	41

61	24.411	Current	.	.	24	40
62	25.840	Exit	.689	.054	25	39
63	26.250	Current	.	.	25	38
64	28.560	Exit	.671	.055	26	37
65	29.930	Current	.	.	26	36
66	30.400	Current	.	.	26	35
67	30.440	Exit	.652	.057	27	34
68	30.840	Exit	.632	.058	28	33
69	30.900	Exit	.613	.060	29	32
70	31.320	Exit	.594	.061	30	31
71	31.360	Exit	.575	.062	31	30
72	32.690	Current	.	.	31	29
73	32.690	Current	.	.	31	28
74	32.690	Current	.	.	31	27
75	32.690	Current	.	.	31	26
76	32.690	Current	.	.	31	25
77	32.690	Current	.	.	31	24
78	32.690	Current	.	.	31	23
79	32.740	Current	.	.	31	22
80	34.990	Current	.	.	31	21
81	35.450	Current	.	.	31	20
82	35.910	Current	.	.	31	19
83	35.960	Exit	.545	.065	32	18
84	36.000	Exit	.514	.068	33	17
85	37.290	Current	.	.	33	16
86	42.400	Exit	.482	.071	34	15
87	42.400	Current	.	.	34	14
88	44.650	Current	.	.	34	13
89	44.650	Current	.	.	34	12
90	45.110	Current	.	.	34	11
91	48.840	Current	.	.	34	10
92	53.820	Exit	.434	.079	35	9
93	55.690	Current	.	.	35	8
94	63.510	Current	.	.	35	7
95	63.970	Exit	.372	.089	36	6
96	67.650	Current	.	.	36	5
97	68.570	Current	.	.	36	4
98	69.030	Current	.	.	36	3

	99	80.530	Current	.	.	36	2
	100	81.300	Current	.	.	36	1
	101	96.000	Current	.	.	36	0

Appendix Nine: Rural, Remote and Metropolitan Areas (RRMA) Classification

Zone	RRMA Code	Code used in the report	Category
Metropolitan zone	M1	1	Capital cities
	M2	2	Other metropolitan centres (urban centre population > 100,000)
Rural zone	R1	3	Large rural centres (urban centre population 25,000-99,999)
	R2	4	Small rural centres (urban centre population 10,000-24,999)
	R3	5	Other rural areas (urban centre population < 10,000)
Remote zone	Rem1	6	Remote centres (urban centre population > 4,999)
	Rem2	7	Other remote areas (urban centre population < 5,000)

Source: Modified from the Australian Institute of Health and Welfare: Rural, Remote and Metropolitan (RRMA) Classification. Viewed online 24.03.2011 from: http://www.aihw.gov.au/rural-health-rrma-classification/